

# 1. THINKING THROUGH SOCIAL ENGINEERING FOR SOCIAL JUSTICE

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## ABSTRACT

*Affirmative action has been at the heart of public policy towards the socially disadvantaged sections in India. The paper explains how exclusion has been created as a result of discrimination practised in India for a long time. It points out further that the unequal distribution of social opportunity has left a significant portion of the society in a low income trap. Moreover, economic reforms initiated since 1991 have resulted in widening the gap between the haves and the have not's. The progress or the regress of the country depends on social justice consequent upon the smooth implementation of the social engineering techniques. The paper points out some of the opportunities and tries to show how a great deal of social justice remains to be done, even within the constraints posed by globalisation. One of the important planks of the stabilisation of the society and the Indian economy was through the implementation of social engineering techniques in full spirit so as to salvage the prestige of depressed classes. These are the tasks that only the government can do.*

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## INTRODUCTION

**S**ocial Engineering is a subject matter in social science that refers to efforts to persuade particular attitudes and social behaviours on a major scale, whether by governments, media or private groups in order to produce desired features in a target population. Social engineers use a scientific method to analyse and to understand social systems in order to formulate an appropriate method to achieve the desired results in a society. Focusing on the techniques of social engineering such as reservation in employment and education for the socially excluded classes, the paper attempts to show how far social justice remains to be fulfilled in India.

## CONTOURS OF SOCIAL ENGINEERING

J.C.Van Marken, a Dutch industrialist used the word "Social Engineering" for the first time in an essay in 1894. He has stated that modern employers required the assistance of specialists known as social engineers in dealing with human problems just as they required the assistance of engineers to deal with the problems of materials and machines. Pre-requirement of social engineering is a body of dependable information about the

society that is to be engineered as well as an efficient tool to carry out the engineering. In authoritarian regimes such as Russia, China and North Korea, extremely intensive social engineering campaigns have been carried out to manipulate the attitudes of the society according to the ideology of the government. However, non-authoritarian regimes tread carefully relying on gradual, sustained but finally far-reaching social engineering campaigns resulting in social justice. Democratic countries have realized that social engineering without the consent of the society is not only possible but also a violation of culture and constitutes an assault on the society.

Roscoe Pound made a far-reaching contribution in his best known work on social engineering. According to him, a law maker is a social engineer who attempts to solve problems in the society using law as a tool. Another note worthy social thinker is John Rawls (1971) who has propounded Equal Opportunity Principle. The law states that offices and positions must be open to everyone under the conditions fair equality of opportunity.

In addition, Rawls (1971) has also stated in the same book, Equal Liberty Principle

which says that morally arbitrary factors such as family status should not be allowed to determine one's life chances or opportunities.

Amartya Sen eulogises Rawls for reinvigorating the interest in the above ideas of what justice means and the stress put on fairness, objectivity, equality of opportunity, reduction of poverty and the freedom (Sen, 2009)

Marginalised sections could be uplifted through affirmative action (actions favouring those who tend to suffer from past discrimination), pro-active policies and over-arching programmes of the government. The use of affirmative action is an attempt to manage social change and regulate present and future development as well as the behaviour of the society. It helps to compensate for the past discrimination leading to preferential selection. Affirmative action refers to an increase in the levels of representation of marginalised people in the areas of education, employment and culture from which they have been excluded historically for a long time. Government of India was the first to have initiated Reverse discrimination in 1950 and the U.S.A followed it by enacting Civil Rights Act in 1964. The U.S. President Lyndon Johnson's Executive Order No.11246 required all the departments to take affirmative action to resolve the problems.

### **PERSISTENT POVERTY**

Poverty is one of the causes of multiple deprivations which leads to lack of voice and marginalisation because poverty is trans-caste, trans-gender and trans-ethnicity. The important question of how persistent poverty is to be abolished is one of the most disturbing problems which agitate modern society (Chandhoke, (2012).

### **INEQUALITY**

Inequality or the highly unequal society in India produces and reproduces poverty. Society needs equality or redistributive justice. It refers not only about provision of resources but also mainly enabling the poor a sense of self worth so that people can participate in the multiple transactions of society with a degree of confidence. The concept of equality takes several forms such as the equality of opportunity and

the equality before the law. Hegal's above statement on the abolition of poverty brings out the following paradigm.

Since the publication of Philosophy of Right by Hegel in 1820, the world has witnessed histories of marginalisation. He has pointed out that poverty is the outcome or the result of primary components of civil society, which is the system of needs. The economic ordering of the society is responsible for poverty and therefore, the society is obliged to remedy the wrongs. Even society is in collusion in the creation of poverty. Moreover, poverty leads to unfortunate detrimental life suffering which demoralises human beings. Poor are resentful because they are excluded from the benefits of civil society and furthermore, existence of a large number of poor has become a threat to the law and order as well as to peace.

Poverty traps: Poverty traps are the situation where human beings are in a never ending spiral of want and deprivation which further reduces their status and humiliates them. Poverty is the effect of inequality as well as the prime signifier of inequality.

### **MILLENNIUM DEVELOPMENT GOALS**

Among the eight Millennium Development Goals adopted by the United Nations Organization in the year 2000, the foremost is the eradication of extreme poverty which aims at halving extreme poverty by 2015. Poor do not have access to basic resources which would have facilitated them to consume nutritious food, avoid ill health, attend school, take up a job, and own a home. They are not only poor but also unequal to other people in the society. Hence, poverty is not only the effect of inequality but also the prime signifier of inequality. These inequalities are reinforced and compounded because poverty breeds multiple deprivations. Unless inequality is removed, poverty will be produced and reproduced continuously. Socially marginalised people have been denied access, humiliated and subjected to intense disrespect, all as a result of discrimination. Equal rights cannot be continued in situations of extreme poverty. Therefore, the government has to take steps necessarily to reduce factors that perpetuate inequality and poverty.

### **DOCTRINE OF SUFFICIENCY**

Indian society is not only plural but also deeply unequal. Poverty has been extremely implicated in social hierarchies and discrimination has been based here on caste. Though it is difficult to deal with both social marginality and economic marginality, it is utmost important to convince the members of the society on reverse discrimination through reasoning, persuasion, dialogues than imposing the laws strictly on them. In this way, resources could be transferred from the well-off to the worse-off sections through intentional political interventions, namely progressive taxation, land reforms and ceilings on property. It is natural that all human beings should be given a fair chance to access opportunities to improve their skills and talents for getting sufficient benefits which is known as the 'doctrine of sufficiency'.

### **JOBLESS GROWTH**

Poverty has been produced and reproduced not only through the existing social practices but also is a product of present day market economy wherein income, capital and employment are not proportionately dispersed among the sections of population as a result of uneven pattern of ownership of resources. Hence, unemployment produces poverty both in urban and rural areas. Due to zero marginal productivity of labour as a result of disguised unemployment, the contribution of agriculture to the national income has fallen where the rural labour market has witnessed zero elasticity of employment. This has forced the rural labour to migrate to urban areas and join the unemployed army of the informal sector which is marked by low wages with abundant supply of labour. Though the advent of economic reforms has led to an increase in GDP, there is no corresponding increase in the level of employment which is described as jobless growth.

Indian Constitution part IV provides social and economic rights to all. But, however, they cannot be enforced in a court of law. Similarly, Article 14 of Indian Constitution grants political rights such as equality before the law but, it has not given equal economic and social rights to its people.

Added to this problem is the social discrimination against depressed

community which has led to wilful denial of skills and resources, pushing them to below the poverty line. Though the government has banned discrimination and introduced protective discrimination in education and employment, the legacies of history cannot be neutralised in a short period of time without corresponding problems.

### **CONCLUSION**

In the last 66 years, the government has achieved moderate success, in achieving the objectives of reverse discrimination. Without affirmative action, the situation would have been worse. Moreover, affirmative action also ensures reduction of inequality and poverty among depressed classes. This requires that all citizens enjoy the same right to basic goods on non-market principles such as guarantee of income, free education, and free health, accommodation, political and civil rights. The sad part is that employment quotas remain unfulfilled for want of employable people in respect of SCs and STs as well as in higher education for want of students in respective category. Moreover, these discriminated sections were largely found in low wage class IV service and not in high wage class I service. In the education sector, dropout rates are high while the completion rates are also small in respect of higher education. However, those excluded were first generation learners who cannot compete with other groups. Spread of education, particularly school education to those excluded people on account of embedded discrimination would enable the oppressed sections to access social opportunities for empowerment.

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## 2. IMPACT OF WATER POLLUTION ON HEALTH, WILLINGNESS TO PAY AMONG THE HOUSEHOLDS IN KANCHIPURAM DISTRICT: A STUDY

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### INTRODUCTION

Water pollution is arguably the worst kind of pollution as far as its widespread impact is concerned. It instantly affects every water user, irrespective of the person's gender, age, class, etc though, it is humanly possible to avert its impact. Factories are mostly located in areas, such as the peripheries of large cities, where the surrounding population uses untreated water from streams and lakes for domestic purposes. This paper analyses the health impact of water pollution among the households in Kanchipuram district. Kanchipuram district in Tamil Nadu is popular for its silk industry, in which the dyeing industries discharge their untreated effluents directly into the Vegavathi river, which is the main source of drinking water for this town. The polluted water directly affects the health of the water using households causing various kinds of water borne diseases and this paper analyses the health impact and their willingness to pay (WTP) for pure drinking water with the help of Contingency Valuation Method (CVM). For this purpose, a total of 350 sample households have been selected, 175 households from the East zone which is identified as highly polluted and another 175 households from the West zone which is less polluted. Moreover, the sample households are classified on the basis of their monthly income and the mean scores of the variables are compared both intra-zone and inter-zone.

### THE PROBLEM OF WATER POLLUTION

In India, the main source of river pollution is city sewage. In the year 2008, it was estimated that some 30,000 million litres of

pollutants were entering the river systems every day, 10,000 million litres from industrial units alone. With increasing industrial development, industrial pollution accounted for 33 per cent of total pollution as against 20 per cent a decade ago (Kaccur et al, 2009). The study made in the Nandesari Industrial Estate of Gujarat in order to assess the potential benefits from pollution abatement. The urban survey covered 386 households for user value and 366 households for non-user value. The average WTP was of Rs.74 per capita per annum for user value and Rs.57 for non-user value. The rural survey covered a population of 7,890 households. 405 household were covered for user value, making an average estimate of the WTP equivalent to Rs.2,709 per capita per annum. This disparity in the WTP between the urban and rural households reveals how rural households are more directly exposed to the adverse effects of environmental degradation (Misra, 1999).

In Tamil Nadu, ground water contamination was reported in the districts such as Coimbatore, Erode, Salem, Karur, Vellore, Kanchipuram and Chennai. In Erode, Komarapalayam and Kanchipuram, dyeing units' effluent water treatment plants are not functioning. Tiruppur town in Coimbatore district of Tamil Nadu state is famous for its hosiery and knitting products, closely associated with numerous dyeing and bleaching units located along the Noyyal river. Wastewater from these units is discharged either into river Noyyal or in nearby open lands and agricultural fields, without treatment (Ravichandran and Pundarikanthan, 1991).

Govindarajalu (2003) made a study to

examine the nature and impact of water pollution in the Noyyal river basin in Coimbatore, Erode and Karur districts. Almost all the 31 sampled villages were affected by the industrial effluents. Health problems such as skin allergy, respiratory infections, general allergy, gastritis and ulcers were the common diagnosis by the medical team. The impact of water pollution was significant on the rural community in the areas of health, agriculture, livestock and drinking water.

**DESCRIPTIVE ANALYSIS**

This section presents the descriptive statistics regarding the monthly income, days lost due to poor health, medical treatment cost, time loss cost and also the

WTP of the sample households in the East zone and the West zone separately. Table-1 presents the descriptive data for East zone which is classified on the basis of the monthly income of the households. It can be inferred that the mean number of days lost due to poor health decreases along with the rise in the monthly income of the households, while the amount of medical treatment cost and time loss cost due to poor health also vary inversely with their income levels. For instance, the mean total cost incurred by those who earn upto Rs. 5000 per month is Rs. 577.7, while it is Rs. 525.2 among those who earn in the range of Rs. 5001-10000 and Rs. 413.7 among the income earners of Rs. 10001-20000.

Table - 1 Monthly Income-Wise Descriptive Statistics: East Zone

Particulars	Monthly Income	Days Lost	Cost Incurred On			WTP
			Medical Treatment	Time Loss	Total Cost	
<b>Upto Rs.5000</b>						
Mean	1858.9	2.83	388.4	189.3	577.7	185.76
SD	429.49	1.45	178.8	146.8	241.9	43.84
Minimum	1000	1	50	40	130	20
Maximum	2500	9	1150	1000	1450	190
Count	67	59	59	59	59	59
<b>Rs. 5001-10000</b>						
Mean	3555.3	2.70	365.0	160.2	525.2	156.0
SD	667.0	1.45	408.1	79.4	411.6	75
Minimum	2525	1	50	50	150	25
Maximum	5000	7	950	600	3100	120
Count	71	64	64	64	64	64
<b>Rs. 10001-20000</b>						
Mean	7286.7	2.53	284.6	129.1	413.7	95.0
SD	1468.7	1.4	213.4	92.6	262.4	36.32
Minimum	5200	2	40	50	175	45
Maximum	10000	4	840	400	1120	100
Count	37	22	22	22	22	22

Source: Computed from field survey data

The amount of WTP also varies inversely with their income levels, since the households which earn less are those who live along the bank of the polluted river Vegavathi and thus, they are the worst affected due to water pollution. This impact decreases as their income levels increase and so also their WTP. This suggests that the level of

WTP varies on the basis of the degree of health impact rather than with the income levels of the households. Moreover, the data also indicate the number of persons affected also varies in each income level. Table - 2 presents the descriptive data for the households who reside in the West zone which is less polluted compared to those in

the East zone, since the former reside quite far away from the river. Table-2 indicates that the mean monthly household income of the sample households in each income group is higher than their counterparts in the East zone, which suggests their better economic condition.

**Table – 2 Monthly Income-Wise Descriptive Statistics: West Zone**

Particulars	Monthly	Days Lost	Cost Incurred On			WTP
			Income	Days	Total Cost	
<b>Upto Rs. 5000</b>						
Mean	4333.3	1.8	102.0	108.0	210.0	62.0
SD	1211.1	1.2	39.8	79.7	66.5	8.37
Minimum	2000	2	50	75	125	55
Maximum	5000	3	350	225	275	75
Count	36	5	5	5	5	5
<b>Rs. 5001-10000</b>						
Mean	8646.8	1.1	107.8	91.8	199.6	30.36
SD	1371.4	1.05	160.7	40.6	158.7	13.22
Minimum	5500	1	50	50	125	15
Maximum	10000	3	300	200	775	60
Count	64	14	14	14	14	14
<b>Rs. 10001-20000</b>						
Mean	13754.3	0.5	90.8	75.0	165.8	25.0
SD	1376.9	0.28	41.9	22.4	59.2	13.42
Minimum	10500	1	75	100	175	30
Maximum	15000	1	200	150	350	60
Count	75	6	6	6	6	6

Source: Computed from field survey data.

The mean number of days lost due to poor health among the sample households in every successive income group declines in this zone also. But, the striking factor being the difference in the mean number of days between the East zone and West zone, as it is quite less in the latter. This is reflected in the amount of medical treatment cost, time lost cost and also the WTP. Here too, all these levels come down along with the rise in the income levels, but the mean scores of all three variables are clearly less in this zone than that of the East zone. Moreover, it is also clear that the number of affected person in each category of income in the West zone is typically low compared to that of the East zone.

**CONTINGENT VALUATION METHOD AND WILLINGNESS TO PAY**

This section analyse the factor influencing the variations in the WTP among the sample households with the help of a CVM. This method involves directly by asking the respondents, how much they would be willing to pay for specific environmental services

or commodities, rather than inferring them from observed behaviours in regular market places. The variables selected to be included in the regression model and the variables are explained below.

$$WTP_i = \beta_0 + \beta_1 AREA_i + \beta_2 AGE_i + \beta_3 COM_i + \beta_4 SEX_i + \sum_{j=5}^7 \beta_j DLIT_{j-4} + \beta_8 \log INC_i + \beta_9 MED_i + \beta_{10} TIME_i + u_i \dots\dots (1)$$

where WTP<sub>i</sub> The amount the ith respondent willing to pay to receive pure drinking water which is taken as the dependent variable as the WTP amount is expressed in rupees; AREA<sub>i</sub> is the study area in which the respondent resides and it is taken as a dummy variable. The east zone which is heavily polluted is the reference category and given a value 0, while west zone is given the value 1; AGE<sub>i</sub> is the age of the ith respondent whcih influences the amount he/she is willing to pay; COM<sub>i</sub> is the dummy variable, where SC households are taken as the reference category and thus given a value of 0 and for the non-SC households the value of 1 is given; SEX<sub>i</sub> is the sex of the ith

respondent which is also a dummy variable, in which male = 1 and female = 0; LIT<sub>i</sub> is the literacy level of the respondents. On the basis of their literacy levels, respondents are classified into four categories: category 0 (those who are illiterates); category 1 (DLIT-1: literates upto primary level); category 2 (DLIT-2: literates upto higher secondary level) and category 3 (DLIT-3: graduates and others). INC<sub>i</sub> is the monthly household income of the i<sup>th</sup> respondent which is an important variable in determining his/her level of WTP and it is expressed in log form. MED<sub>i</sub> is the health care/medical treatment cost and TIME is the time lost cost of the i<sup>th</sup> household. Moreover, β<sub>0</sub> is the intercept term, while all other β-s are

slope co-efficients and 'u' is the normal error term. The model specified in equation-1 is estimated for the sample households in both zones and the linear regression and the result is presented in Table-3.

Result indicates that among the selected variables, except LIT-1 which stands for the respondents with primary level of education, all other variables are significant. The dummy variable for AREA is significant at 1 per cent level with a negative sign, which implies that the mean WTP level of the households in the east zone is significantly higher than that of the west zone households. AGE is also inversely related with the dependent variable and significant at 10 per cent level.

**Table – 3 Linear Regression Estimates of Willingness to Pay**

Independent Variables	β	t- value	p-value
AREA	-69.55	4.49***	0.000
AGE	-0.36	1.72*	0.086
COM	-7.89	2.23**	0.021
SEX	-16.58	5.93***	0.000
DLIT-1	-6.23	1.13	0.253
DLIT-2	-26.54	2.04**	0.042
DLIT-3	-32.79	3.63***	0.000
log INC	-18.95	3.33***	0.000
MED	6.80	3.94***	0.000
TIME	2.76	2.96***	0.000
Intercept	181.49	5.18***	0.000
Adj.R2	0.759		
F-value	74.21***		
N	350		

Note: \*\*\*, \*\* and \* indicates 1 per cent, 5 per cent and 10 per cent levels of significance respectively.

Source: Computed from field survey data.

This inverse relationship suggests that the younger respondents would be willing to pay more than their older counterparts in a significant manner, since the level of awareness about pollution is higher among the former than among the latter. Similarly, COM with a negative sign indicates that the mean WTP of the Non-SC respondents is less than that of the SC respondents. Among the three sets of dummy variables in literacy level, all have attained the expected signs, though category DLIT-1 is not statistically significant. This suggests that the mean WTP of the respondents in the DLIT-1 category (literate upto primary level) is less than that of the reference category

(respondents who are illiterates) by only Rs. 6, but it is not statistically significant. Other two categories, viz., DLIT-2 and DLIT-3 are statistically significant, which indicates that the mean WTP levels of the respondents in these two categories are significantly less than the mean WTP of the respondents who are illiterates.

This shows that the respondents with no/less education would be willing to pay more than the higher educated, due to the 'impact' factor. Income of the respondent does influence his/her WTP mainly through the 'impact' factor, since both are inversely related. Moreover, as the level of income goes up, the level of WTP declines. The



'impact' factor is directly tested with the help of two variables viz., MED and TIME. Both these are positively linked with the dependent variable and also significant at 1 per cent level. Hence, higher the health impact due to water pollution, respondents would also be willing to pay more to avert the same. Also, the F-value of 74.21 which is significant at 1 per cent level indicates that the model is a good-fit and the adjusted R<sup>2</sup> value of 0.759 suggests that over 75 per cent of the change in the estimated dependent variable is explained by the selected independent variables.

*Oxford University Press, New Delhi.*  
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## **CONCLUSION**

The application of the OLS method using the 'Contingent Valuation' clearly explains that the level of WTP of the respondent is highly influenced by the 'impact' factor rather than by the 'income factor'. The poor people have already started getting medical treatment from private hospitals, instead of government hospitals. People are losing faith in government doctors and hospitals, as the services are poor. People do not want to take up the risk as life is more important than money. Those who are affected more by the polluted water are willing to pay more than the others. The vulnerable people, who are living near the river bank, with very less income, low level of literacy and employed in low-paid occupations are the worst affected by the water-borne diseases. And, these are the households, whose mean WTP is significantly higher than the others.

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### 3. SOCIAL ENGINEERING OF TAMIL NADU IN PROMOTING EMPLOYMENT OPPORTUNITIES OF THIRUVALLUR DISTRICT THROUGH MICRO, SMALL AND MEDIUM ENTREPRENEURSHIP

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#### ABSTRACT

The study is aimed to bring out the social engineering of Tamil Nadu promoting employment opportunities in Thiruvallur district through Micro, Small and Medium Entrepreneurship. "Micro, Small and Medium Enterprises sector has emerged as a predominant and growing sector of Indian economy over the last six decades. Micro, Small and Medium Enterprises not only play major role in industrialization but also create large employment opportunities at competitive lower cost than large industries, In terms of employment generation, place of Micro, Small and Medium Enterprises is next to agriculture." [1] "The District has 16 Industrial Estates, all in operation: 11 developed by the Government and 5 by Private Organization. This district also has 16940 Small Scale Industries." [2] The major schemes are being implemented in the State through District Industries Centers are Prime Minister's Employment Generation Programme), Unemployed Youth Employment Generation Programme and New Entrepreneur-Cum- Enterprise Development Scheme. There are identified backward blocks of Thiruvallur district for the implementation of the above mentioned schemes are Kadambathur, Pallipattu, Ellapuram, R.K.Pet, Sholavaram, Poondi, Thiruvalangadu.

Keywords: Social Engineering, Employment Formation, Thiruvallur District, MSMEs

#### INTRODUCTION

The classification of Micro, Small and Medium Enterprises is defined under the Micro, Small and Medium Enterprises Development Act 2006. The enterprises are classified in Manufacturing and Service enterprises based on the investment in plant and equipment (excluding land and building).

Classification	Manufacturing (Plant and Machinery)	Services (Equipments)
Micro Enterprises	Upto Rs.25 lakh	Upto Rs. 10 lakh
Small Enterprises	Rs.25 lakh to Rs.5 Crore	Rs. 10 lakh to Rs.2 Crore
Medium Enterprises	Rs. 5 Crore to Rs. 10 Crore	Rs.2 Crore to Rs. 5 Crore

Source: "Ministry of Micro, Small & Medium Enterprises, Government of Tamil Nadu"

"Micro Small and Medium Enterprises produce a wide variety of products in almost all sectors. The prominent among them are the textile, electronic products, engineering products, auto ancillaries, leather products, chemicals, plastics, garments, jeweler etc.

Tamil Nadu has implemented an online system for filing Entrepreneur Memorandum-II through the website [www.msmeonline.tn.gov.in](http://www.msmeonline.tn.gov.in). Since the introduction of this system around 5.80 lakh entrepreneurs have filed Entrepreneur Memorandum Acknowledgement Part-II, providing employment opportunities to about 33.26 lakh persons with total investment of Rs.74662.27 crore. The Micro, Small and Medium Enterprises Sector play a vital role in the economic development of the country. This sector contributes about 45% of the Industrial Production, 40% of exports and it forms part of about 95% of the total industrial units in the country. There are nearly 11.10 lakh registered Micro Small and Medium Enterprises in Tamil Nadu as on 31.3.15 providing employment to 69.69 lakh persons with a total investment of about Rs.91,480 crore. Further, this sector is a major employment provider next to Agriculture."

"Thiruvallur district is one of the fastest developing districts in Tamil Nadu in terms of Industrial Development. The district

has many leading industries like Madras Refineries, Madras Fertilizers, Manali Petro Chemicals, MRF, Ashok Leyland, TI Cycles, Britannia India Ltd, Parry India Ltd and Hindustan Motors. It also boasts of the Ennore Thermal Power Station and the Avadi Tank Factory. The District has 16 Industrial Estates, all in operation: 11 developed by the Government and 5 by Private Organization. District also has 16940 Small Scale Industries."

"Maximum units have been established in metallurgy (750 units) followed by computer and computer related activities (700 units). Manufacturing of machinery have also taken up a large share of investment in the district. Other than these, industries relevant to construction materials like brick manufacturing, wood and paints are also available in this region."

"There are 178 Large and 21 Medium Scale Enterprises and there are 27319 Micro and Small Enterprises engaged in the manufacturing of various products like Leather / Textiles / Chemical / Engineering. Some of the economic activities undertaken by the rural artisans are manufacturing of jute, coconut shell products, and palm leaf based products, paper cups, leather, Rexine works etc."

The major schemes are being implemented in the State through District Industries Centers are Prime Minister's Employment Generation Programme, Unemployed Youth Employment Generation Programme and New Entrepreneur-Cum- Enterprise Development Scheme. There are identified backward blocks of Thiruvallur district for the implementation of the above mentioned schemes are Kadambathur, Pallipattu, Ellapuram, R.K.Pet, Sholavaram, Poondi, Thiruvallangadu.

## REVIEW OF LITERATURE

**Priti Gowswami and Yashwant Singh Jhakur (2015)** had reviewed "the motivating factors of women to be the entrepreneur in the growth of Micro, Small and Medium Enterprises in India. Women Entrepreneur are facing problems but as now scenario is fast changing with modernization, urbanization and development of education and business more and more women are successfully running the business. Thus it is necessary to increase the opportunities

of self-employment for educated unemployed women through development of entrepreneurship."

**D.Hepzibah Vinsyah Jeyaseeli, E. Raja Justus (2014)** assessed "the performance of MSMEs in Indian terms of number of enterprises, investment, production, employment and exports. They concluded that MSMEs constitute an important and crucial segment of the industrial sector in the Indian economy. By contributing to the overall growth of the gross domestic product, employment generation and exports, the sector is emerged as the engine of growth for Indian economy."

**Ganguly.S. (2013)** showed the importance of MSMEs in West Bengal. "The MSMEs (basically micro and small enterprises) in West Bengal face very tough situation due to utmost competition in national and international level from large industries due to lack of infrastructure, lower volume of capital, lack of product standardization, lack of access to modern technology etc. Another important problem of MSMEs in West Bengal is the number of unregistered MSMEs is much higher than the registered units."

**K.Vasanth Majumdar, M.K.Krishna (2012)** "in their paper have stated that since several successful models of the sustainable small and medium sized enterprises are gradually evolving, networks of small and medium sized enterprises would become essential for addressing the systemic problems under lying the industrial ecology, enterprise resilience, and global supply chain sustainability."

**Subrahmanya Bala (2011)** has probed "the impact of globalization on the exports potentials of the small enterprises. The study shows that share of small scale industries export in total export has increased in protection period but remain more or less stagnated during the liberalization period. However, the correlation co-efficient in liberalization period is higher than that of protection period suggesting that the relationship between the total export and small scale industries export has become stronger in liberalization period. This may be due to the drastic change in composition of small scale industries export items from traditional to non-traditional and growth in its contribution to total export through trading

houses, export houses and subcontracting relation with large enterprises. Thus, the current policy of increasing competitiveness through infusion of improved technology, finance, and marketing techniques should be emphasized."

### **OBJECTIVES OF THE STUDY**

1. To study the Social Engineering of Tamil Nadu Promoting Employment Opportunities in Thiruvallur District through Micro, Small and Medium Entrepreneurship.
2. To find out the problems faced by the micro, small and medium enterprises in Thiruvallur district and measures to overcome the major problems.
3. To identify the potential areas of existing service industry and new potential area of micro, small and medium enterprises in Thiruvallur district.

### **RESEARCH METHODOLOGY**

This study is "a descriptive one and mainly depends on secondary data published by the Ministry of Micro, Small and Medium Enterprises, Government of India, Results of the Economic survey, Results of various All India Censuses of Small Scale Industries and Micro, Small and Medium Enterprises, Small Industries Development Bank of India Report on Micro, Small and Medium Enterprises Sector, Annual Reports on Small Scale Industries and Micro, Small and Medium Enterprises sector etc. The statistical tool Percentage is used to analyze the data collected from these sources and thus assessed the growth trend of employment in the Micro, Small and Medium Enterprises Sector. The Methodology adopted is collection of data from Micro, Small and Medium Enterprises Department, Government of Tamil Nadu and Thiruvallur District."

### **DISCUSSION**

The employment opportunities in Thiruvallur district through micro, small and medium entrepreneurship is facilitated through District Industries Centers. The functioning of District Industries Centers and their performance is monitored by the Principal Secretary / Industries Commissioner & Director of Industries & Commerce. The review of the General Managers is organized periodically to evaluate the performance

and also help in resolving difficulties in implementation of various schemes.

The following Schemes are being implemented in the State through District Industries Centers are Prime Minister's Employment Generation Programme, Unemployed Youth Employment Generation Programme and New Entrepreneur-Cum-Enterprise Development Scheme. There are other schemes in order to strengthen the Tea Sector, Match Industry, Handicrafts, Tailoring, Co-operative Industrial Estate, Labor Contract, Sago Serve, Tamil Nadu Industrial Co-operative Limited Bank, Engineering, Coir, Tamil Nadu Coir Co-operative Marketing Federation Limited, Tamil Nadu Rubberized Coir Manufacturing Industrial Co-operative Society Limited, Polythene, Printing, Auto, Brick, Metal, Leather, Coal & Coke, and other Special Types. There are identified backward blocks in Thiruvallur district for the implementation of the above mentioned schemes are Kadambathur, Pallipattu, Ellapuram, R.K.Pet, Sholavaram, Poondi, Thiruvalangadu.

### **NEW ENTREPRENEUR-CUM- ENTERPRISE DEVELOPMENT SCHEME**

"The educated youth will be given Entrepreneurship Development Programme training, assisted to prepare their business plans and helped to tie up with financial institutions so as to set up new Manufacturing and Service ventures. The beneficiary must be a First Generation Entrepreneur. The project cost above Rs.10.00 Lakh and not exceeding Rs.5.00 Crore, project cost includes capital expenditure and margin money for working capital; cost of land may be included in the project cost at Guideline Value or Market Value, prevailing as on the date of filing loan application, whichever is lower. The subsidy includes 25% of the project cost subject to a ceiling of Rs.25.00 lakh i.e., for projects costing more than Rs.1.00 crore, the subsidy will be restricted to Rs.25.00 lakh and 3% Interest Subvention during the entire re-payment period."

### **PRIME MINISTER'S EMPLOYMENT GENERATION PROGRAMME**

"Government of India has approved a new credit linked subsidy programme called Prime Minister's Employment Generation Programme by merging the two schemes

that were in operation till 31.03.2008 namely Prime Minister's Rojgar Yojana and Rural Employment Generation Programme for generation of employment opportunities through establishment of micro enterprises in rural as well as urban areas. Prime Minister's Employment Generation Programme will be a central sector scheme to be administered by the Ministry of Micro, Small and Medium Enterprises. The Scheme will be implemented by Khadi and Village Industries Commission, a statutory organization under the administrative control of the Ministry of Micro, Small and Medium Enterprises as the single nodal agency at the National level. At the State level, the Scheme will be implemented by State Khadi and Village Industries Commission Directorates, State Khadi and Village Industries Boards and District Industries Centres through banks."

### **UNEMPLOYED YOUTH EMPLOYMENT GENERATION PROGRAMME**

"The Micro, Small and Medium Enterprises Department, Government of Tamil Nadu introduced the scheme Unemployed Youth Employment Generation Programme which aims to mitigate the unemployment problems of socially and economically weaker section of the society, particularly among the educated and unemployed to become self employed in their native places itself and to prevent the mass migration from rural areas to urban areas due to unemployment by setting up Manufacturing / Service / Business enterprises by availing loan up to the maximum of Rs.10 Lakhs, Rs. 3 Lakhs and Rs. 1 Lakh respectively with subsidy assistance from the State Government up to 25% of the project cost (Maximum to a limit of Rs.1.25 Lakhs)"

### **PROMOTION OF ENERGY AUDIT AND CONSERVATION OF ENERGY**

"The Government has introduced Promotion of Energy Audit and Conservation of Energy scheme for promoting Energy efficiency in Micro, Small and Medium Enterprises units. Under this scheme the Government will reimburse 50% of the cost of conducting energy audit and 25% of the cost of machinery & equipments replaced, retrofit and technology acquired for the purpose of improving the energy efficiency, based on the recommendation of Energy Audit.

Create awareness & educating Micro, Small and Medium Enterprises about benefits/ advantages of new techniques / technologies for saving energy. Undertaking in-depth studies of high energy consuming Micro, Small and Medium Enterprises clusters and identify gaps and potential barriers for energy conservation, and promoting adoption of suitable techniques/technologies to achieve energy efficiency. Encouraging Micro, Small and Medium Enterprises for adopting energy audits to improve energy efficiency, fuel substitution and monitoring the implementation of recommendations."

### **AMMA SKILL TRAINING AND EMPLOYMENT SCHEME**

"The proactive and farsighted policies of the Government of Tamil Nadu, headed by the Hon'ble Chief Minister, coupled with the indomitable entrepreneurial spirit of the people of this great state, has made Tamil Nadu the Micro, Small and Medium Enterprises capital of India. Tamil Nadu has over 11 lakh registered units, the highest in any state in India, and a leadership position in several industries such as leather and leather goods, engineering goods, automotive components, castings, pumps and readymade garments. One of the major issues that need to be addressed is availability of skilled manpower to the Micro, Small and Medium Enterprises. The objective of the scheme is to fulfill the skilled man power requirement of Micro, Small and Medium Enterprises by imparting necessary on the job training by the Micro, Small and Medium Enterprises themselves and thereby creating employment. The scheme will assist the Micro, Small and Medium Enterprises sector by sharing the training cost which otherwise would be borne by the enterprises themselves."

### **PROBLEMS FACED BY THE MICRO, SMALL AND MEDIUM ENTERPRISES IN THIRUVALLUR DISTRICT**

The major problems faced by the micro, small and medium enterprises in the Thiruvallur district are a) power shortage, b) lack of supply of skilled laborers, c) proper transport facility for the transmit of goods, d) the money lent for the working capital at the higher rate by the financial institutions, e) communication facilities and

the infrastructure facilities are not sufficient enough, f) lack of financial support for the research activities related to the productivity, g) lack of proper facilities to conduct small scale industries and micro, small and medium enterprises programmes for skill development, h) insufficient facility centers, i) making the small industries development bank of India to do compulsory funding for the project of micro, small and medium enterprises, j) no proper common tracking software are available to find out the sick industries, k) lack of centers with technology facilitation in the industrial estate level.

**MEASURES TO OVERCOME THE PROBLEMS OF MICRO, SMALL AND MEDIUM ENTERPRISES IN THIRUVALLUR DISTRICT**

“These are some of the suggestive measures to overcome the problems of micro, small and medium enterprises in Thiruvallur district a) adequate flow of credit from financial institutions and banks, b) support for technology up gradation and modernization, c) integrated infrastructural facilities, d) modern testing facilities and quality certification, e) access to modern management practices, f) entrepreneurship development and skill up gradation through appropriate training facilities, g) support for product development, design intervention and packaging, h) welfare of artisans and workers, i) assistance for better access to domestic and export markets and j) Cluster-wise measures to promote capacity-building and empowerment of the units and their collectives.”

**POTENTIAL AREAS OF EXISTING SERVICE INDUSTRIES OF MICRO, SMALL AND MEDIUM ENTERPRISES IN THIRUVALLUR DISTRICT**

“In Thiruvallur district there are some of the potential areas of existing service industries related with the micro, small and medium enterprises are hotels and hospitality enterprises, hospitals, crèches, fitness centres, glass engraving, interior decoration, industrial design and layout making, logistic centres, security services, housekeeping, cell phone servicing, repairing of electro-medical equipments, domestic repairing services, marketing consultancy, industrial consultancy, entrepreneurship development institutions, internet browsing, data base

services, cyber marketing, industrial, laundry, power laundry, documentary, film making, beauty parlours, sporting and other recreational activities, safety disposal of hospital medical waste, postal and courier activities, cable tv, freight transport, printing and book binding, auto, two wheeler service centres, recharging and reconditioning of batteries and educational services.”

5.9 Potential areas of new micro, small and medium enterprises in Thiruvallur District

“Biotechnology Industry Food Processing Industry Tool room, IE Enable services, Auto components, Heavy Fabrication, Aluminous structural fabrication, Pressed components, machine tool manufacturing, Electrical items, Insulation, Paints and adhesives, Plastic industrial components, Surgical Dresses, Non-woven bags Electronic Industry Hotel Industry, Processed milk products , Readymade garments, Integrated corrugated box manufacturing units, cargo and containers, Marine products , cosmetic items, Home appliances.”

**CONCLUSION**

In a developing country like India micro, small and medium enterprises sector can play a crucial role in creating employment avenues to the unemployed and underemployed people. More than 80 percent of the employment generated in this sector is contributed by unregistered enterprises. This emphasizes the need for social engineering in giving priority to unregistered sector in future policies and plans for the promotion of micro, small and medium enterprises. Thus, it can be concluded that other developing nations of the world can also adopt the strategy of promoting micro, small and medium enterprises through social engineering for employment generation and reducing unemployment.

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## **4. SOCIALENGINEERINGANDAGRICULTURALDEVELOPMENT -CHALLENGES AND STRATEGIES**

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### **INTRODUCTION**

**A**gricultural development is indispensable for economic development. Producing more agricultural produces is not only warranted to off - set the ever growing demand for food grains due to still-growing population but also for industrial development. Everybody knows that we have to produce more and protect people from starvation, malnutrition and famine and it is must for human and social development. But the agricultural sector and its people face several problems which in turn slow down the process of economic development.

### **AGRICULTURAL SCENARIO IN INDIA**

Natural resources and human resources play major role in agricultural development. Both of them are beyond our control. Soil and water are two major natural resources facilitate agricultural development. But, both of them are qualitatively and quantitatively being degraded and declined further and further. It is estimated that for every minute 26 hectares of forest is being lost due to illegal logging, land clearance and forest fires. Every year 20 million hectares of tropical forests are grossly degraded or completely cleaned in the under developed countries in 20 years. 1960-80 Asia lost almost one third of its tropical forest cover which is the highest rate of forest conversion in the world. India has an area of 752 lakh hectares notified as forest. About 19 percent of the total geographical area of the country is estimated to be under forest cover.

### **AVAILABILITY OF WATER**

According to Tata Energy Research Institute (TERI) the loss of economic resources, due to soil degradation caused by pollution

and forest degradation is valued in terms of Rupees between Rs. 100,000 crs. to 4,50,000 crs. per annum. Regarding water, it is to state that the earth is covered mostly by water, but only 2.5 percent of the World's water is fresh, while 97.5 percent is formed as ocean. Out of this only 0.3 percent of fresh water is available in the form of rivers, lakes and reservoirs, 30 percent in the form of ground water, while the rest is stored in the distant glaciers or in inaccessible areas. Therefore, the condition requires proper water management system, regulating water flows, deepening lakes and ponds etc. must be planned.

### **NEED FOR AGRICULTURAL DEVELOPMENT**

Ever growing population becomes a major problem to economic development. It is to state that 150 babies are being born every minute world - wide. That is 2,16,000 people are being added to the current population every day. In India, 40 babies are being born every minute and every day 57,600 people are being added to the total population. In fact, India is home for 16.7 percent of the world population. Due to over population, nearly 800 million people do not get enough food and almost 500 million people are chronically malnourished almost one- third of the population (1.3 billion people) live in poverty. Therefore, increased agricultural output is mandatory for economic development.

In addition, the supply of agricultural inputs is being reduced while the demand for agricultural produce is increased more and more gradually and thus the level of agricultural productivity is very low in India. Indian agricultural output is less by 40 times compared to USA and tow and half times to China. The supply of agricultural produce is more or less constant



rapid growth of population. In fact, a single American farmer could provide enough food to feed nearly 100 people where as an Indian farmer is struggling a lot to meet out his own demand.

### **CAUSES FOR LOW PRODUCTIVITY IN INDIA**

A major reason for the relatively poor performance of agriculture in India has been the neglect of primary sector in the development priorities of the central government. For instance, less than 20 percent of investment for development has gone to the agricultural sector. In fact, over 80 percent of poor who live on \$1 a week depend on agriculture.

No qualified scientists available at the village level or Panchayat level to guide the village farmers. Transfer of technology is very much limited to agriculture. The concentration of investment in industry, tax incentives and subsidies to industry and exchange rates keep the domestic prices of agriculture low. Central government, Tariff and Quota protection for industry raises the prices of fertilizer, seeds and equipments. In urban areas, on education, training, housing, nutrition and medical provision which affect the productivity and the quality of people in agriculture. Thus, wrong policy of the Central government increases the level of rural poverty which becomes urban poverty gradually ultimately results in huge amount of urban expenditure by the State government.

Demand for food is rising faster than the population growth. Reduced agricultural subsidies and environmental cost of agricultural intensification will be threat to agricultural sustainability. This in fact, aggravates the problem of rural – urban migration. In addition, increased competition for water from the rapidly growing urban areas of India will limit the irrigation facilities in the village and increase the level of urban expenditures. Food availability and security is not a question of agricultural policy, but it is also a question of trade policy. Liberalization, privatization and globalization made farmers to replace food crops by cash crops. This will reduce the supply of food grain production in future in India.

### **FOREIGN INVESTMENT IN AGRICULTURE**

Request should be made to International development agencies to increase aid and investment for agricultural projects, especially to where this could lead a significant break through in agricultural production, investment in agro-human resources that influence the level and efficiency of agricultural research and other supporting services as well as the knowledge, skills and innovation of the farm production must be encouraged.

### **AGRICULTURAL EDUCATION**

A paper on agricultural science must be introduced in the school education in such a way to promote agricultural knowledge. Managerial efficiency of farm entrepreneurs must be enhanced through proper training and workshops. Practical programmes on nutritional education will enhance the level of farm productivity. Farm enterprising capacity and farm technical skills must be developed through learning by doing. Massive investment in human capital through nutritional health and family planning services in the village must be encouraged. This will provides services to small farmers and their development.

### **AGRICULTURAL TECHNOLOGIES**

Investment in rapid technical change is appropriate to these small farmers in order to raise agricultural output and rural incomes simultaneously. Significant concern for the structure of incentives for agricultural development lies in rural development and powerful market mechanization. Agricultural development calls for government policy interventions into market outcomes and it should use market as the vehicle for those policy interventions.

The factors inducing the agricultural transformation to make agriculture moving, involves a complex mix of appropriate new technology, flexible rural institutions and market orientation that offers farmers material rewards for the physical effort and for the risks they face from both nature and markets. Contract farming system must be adapted to the dual objectives of increasing food production and promoting a wide distribution of the benefits of agrarian progress. Establishment of Bio-fertilizer unit can be encouraged in each

village. Farmers Credit Association can be encouraged and organized in all the villages. Farmers co-operative marketing society can be encouraged in all the villages. Poor people participation in the panchayat board must be mandatory. Organized agricultural market must be established in all villages.

### **CONCLUSION**

Agricultural development cannot be realized unless the government provides the necessary incentives, economic opportunities and access to credit and inputs to enable small cultivators to expand their output and raise their productivity. Rural real incomes must be improved (a) through job creation, rural industrialization and the increased provision of education, health and nutrition, housing and variety of related social welfare services (b) by reducing inequality in the distribution of rural incomes and lessening of urban rural imbalances in incomes and economic opportunities. (c) by improving the capacity of the rural sector to sustain and accelerate economic development in rural villages.

There should not be any levies and taxes on agricultural inputs. For example, no levies and taxes on chemical fertilizers, tractors, pump sets and other agricultural implements. Therefore, agricultural innovation, new ways of doing things, well-resourced agricultural extension education and training services in the villages must be encouraged.. Ultimately, resource shifts must be taken place in the villages from low productive to more productive activities. There should be appointment of agricultural graduates at the grass root level.

Ownership of land will increase the degree of farms empowerment. With help of VAO existing government lands in the particular panchayat must be identified and distribute the same to the landless people irrespective of caste, community and religion. Owning a land in the village is a status symbol and makes them to feel proud. Ownership gives some kind of confidence to them. Generating employment opportunity in the village also gets facilitated.

"Farmers Self-Help group" must be formed. This group will be guided and the members will coordinated by the Village Development Officer (VDO). The function of VDO is to motivate, guide and

create awareness among the people on government policy, educate them and train them as well as guide them to pursue their higher studies according to their ability and interest. He has to build the data base of the village. He must prepare data on socio-economic profile of people in all the villages of the panchayat. Farmers savings and credit organization must be established in each panchayat. Crop insurance should be extended to all the crops and also to cattle. Agricultural loan must be given to farmers and at the differential rate of interests.

Admissions in the professional course 20% of the seats must be allocated in the professional course admission for the children from farming families and labourers. An identity card with information of total extent of land with survey number must be issued for all the farmers. Pension scheme must be introduced for aged farmers. Farmers who have crossed 60 years are eligible for this scheme. There should be a separate BUDGET for agriculture. It is to conclude that the self – realization in food production and better standard of living of farmers will be the spring board for the over all development of India.

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## 5. EMPLOYMENT OPPORTUNITIES AND SOCIAL ENGINEERING FOR WOMEN WORKERS IN SALEM DISTRICT

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### ABSTRACT

*Women play a significant and crucial role in agricultural development and allied fields. It is most unfortunate that the role of women in agriculture has not highlighted. By and large they have remained invisible workers. Therefore, efforts were made to analyze the work performed by women in agriculture. The study was undertaken in Salem district of Tamilnadu. A total of 200 farm women selected as respondents through proportionate random sampling. The selected respondents were interviewed personally using pre-tested well structured interview schedule. The data were analyzed using appropriate statistical tool. The findings showed that cutting, picking, cleaning of grains, drying of grains, storage, processing, weeding, winnowing are the major farm operations mainly performed by farm women. Participation of farm women in agriculture was significantly affected by socio-economic variables like –age, family income, land holding.*

*Keywords: Participation of farm women, Role performance, Invisible workers*

### INTRODUCTION

There is increasing realization of the critical role of women in agriculture and of the fact that empowerment of women is necessary for bringing about sustainable development at a faster pace. However, much need to be done to ensure that women get direct benefit particularly those from underdeveloped areas and underprivileged communities. The farming systems are more complex in resource poor, rainfed areas and socio-economic factors influence production systems. Illiteracy, lack of awareness, low level of skills, suppression, lack of appropriate technology, extension and training programmes are the main factors which need be tackled for empowerment of women.

### WOMEN IN AGRICULTURE AND RURAL AREAS

In the rural areas, the work participation rate as a percentage to the total population in 2001 was 53 per cent male workers and 27 per cent female workers. Women's contribution to farming is insufficiently recognized and agriculture policy is still dominated by the false view that 'farmers are men', women are only housewives. Their work in agriculture tends not to be recorded as 'work' or as 'production' because it falls outside the so-called 'production boundary'. Studies with gender perspective prove that

women in India are major producers of food in terms of value, volume and hours worked. Whether it is subsistence and low input agriculture or high external input agriculture, women work longer and harder than men. Yet their control over resources is not necessarily assured. Even among women recorded as "cultivators", three out of four do not own or cultivate land independently. They assist in family production units. With increasing deforestation and declining common property resources, women devote longer hours on fuel and fodder collection. Land redistribution has historically ignored both the existence of female-headed households and the rights of married women to a joint share in land. Women's access to credit is severely restricted. They do not have the collateral (land title and cattle) required for agricultural loans. Not only do all occupations in which females are engaged carry a lower wage rate, but even in similar occupations, such as harvesting, reaping and weeding, the male wage is higher than the female rate for equal hours of work. There is a close relationship between rural poverty and the high incidence of female agriculture labour. The majority of landless women labourers in agriculture have poor literacy, irregular employment and a heavy work burden. Thus a growing imbalance exists between women's access to land, labour, capital, services and facilities on the

one hand and the demands of production on the other.

It is not an exaggeration, that women in India are the backbone of food security. Women are playing a significant and crucial role in agricultural development and allied fields including crop production, livestock production, horticulture, post harvest operation, agro/ social forestry, fisheries etc. There is a greater involvement of women under various agricultural operations along with house arrangement out of the total 329 million hectares geographical area of the country, net shown area is 142 million hectare. It is estimated that women are responsible for 70 percent of actual farm work and constitute up to 60 percent of the farming population. But it is most unfortunate that the role of women in agriculture has not highlighted. By and large they have remained invisible workers. Over the years women cultivators are typically and wrongly characterized as economically inactive and

women cultivator play only a supportive role in agriculture as farmers' wives (Samanta; 1994).

**OBJECTIVE**

1.To Analyze the Participation of Women in Farming Operations in Salem District.

**METHODOLOGY**

The study was undertaken in Salem district of Tamilnadu, to analyse the participation of women in agriculture. The population of study consisted of farm women involved in agriculture and allied activities. A sample of 200 farm women was selected through proportionate random sampling. Selected respondents were interviewed personally using well structured pre tested interview schedule. The amount of work done by farm women in various farm activities was found by using the following criteria score category and the mean weighted score was found out for individual farm activities.

<b>Amount of work done</b>	
<b>Category</b>	<b>Score</b>
Least	1
Less than half	2
More than half	3
Major	4
Completed	5

Data thus collected were analyzed using appropriate statistical tool to infer results.

**RESULTS AND DISCUSSION**

The Table 1 depicts that majority (52.5 %) of the respondents belonged to middle age group followed by young age (30 %) and old age (17.5 %) group. It was also revealed that majority (60%) of respondents were belonged to nuclear family and followed by (40 %) were from joint family. Result on family income shows that majority (44.5 %) of respondents were belongs to income group Rs. 60000-90000 followed by (27.5 %) income group below Rs. 30000, (25%) income group Rs. 30000-60000 and (3%) income group above Rs. 90000 annually.

Results on cast categories indicate that maximum (45%) were from other

backward class and (42.5%) were from schedule tribe category and rest of respondents (7.5%) were belonged to schedule class.

While looking at their educational status, results revealed that majority (57%) respondents were illiterate, (35%) were literate and (5%) were from primary level (2.5 %) were from middle level and only (0.5 %) were graduate.

Result on land holding depicts that majority (42.5%) were had medium scale land followed by small (37.5%) scale land and only (20%) had large scale land.

**Table 1. Socio personal characteristics of respondents (N=200)**

VARIABLE	CATEGORIES	N	PERCENTAGE
<b>Age</b>	Young (<30)	60	30
	Middle (31-40)	105	52.5
	Old (>40)	35	17.5
<b>Type of family</b>	Joint family	80	40
	Nuclear family	120	60
<b>Annual family income (Rs.)</b>	Below 30,000	55	27.5
	30000-60000	50	25
	60000-90000	89	44.5
	90000& above	6	3
<b>Caste</b>	General	10	5
	OBC	85	42.5
	Schedule caste	15	7.5
	Schedule tribes	90	45
<b>Education</b>	Illiterate	114	57
	L iterate	70	35
	Primary	10	5
	Middle	5	2.5
	Graduation	1	.5
<b>Land holding</b>	Small	75	37.5
	Medium	85	42.5
	Large	40	20

**Table 2. Participation of farm women in farm activities(N=200)**

S.No.	Farm activities	N	percentage
1	Ploughing of field	4	2
2	Cleaning of field	170	85
3	Leveling of field	10	5
4	Raising nursery for seedling(okra,chilly,tomato, pea)	110	55
5	Sowing	51	25.5
6	Transplanting	41	20.5
7	Mannure application	65	32.5
8	Fertilizer application	2	1
9	Weeding	151	75.5
10	Thinning	121	60.5
11	Gap filling	161	80.5
12	Irrigation	52	26
13	Plant protection measures (Insecticide, pesticide used)	0	0
14	Cutting	200	100
15	Picking	200	100
16	Shifting production to	179	89.5
17	threshing floor	100	50
18	Threshing	190	95
19	Winnowing	200	100
20	Drying of grains	200	100
21	Cleaning of grains	180	90
22	Grading	200	100
23	Storage	0	0
24	Marketing	200	100

The data in Table 2 reveals that cutting, picking, cleaning of grains, drying of grains, storage and processing are the major farm operations wherein women participation was 100 percent. Singh et.al. (2004) also reported that the farm operations in which the participation of women was 100 percent were cleaning the produces, cutting, picking, storage and processing. It was observed that winnowing, weeding, gap filling, grading, shifting produce to threshing floor and cleaning of field farm operations in which the participation of women was more than 75 percent. The tasks in which women participation was varied between 50-75 percent were thrashing, raising nursery for seedlings and thinning. The results also show that sowing, manure application and irrigation were performed on field by women 25 to 32.5 percent. Least involvement of farm women was found in ploughing of field (2%) and in fertilizer application was (1%). There was no participation of women reported in marketing, plant protection measure.

**Table 3. Amount of work done by farm women in various farm activities (N=200)**

S.No	Farm Activities	Work Done (Mean Score)
1	Ploughing of field	1
2	Cleaning of field	4.9
3	Leveling of field	1
4	Raising nursery for seedling (lady finger, green chilly, tomato, cauliflower)	4.5
5	Sowing	3.4
6	Transplanting	5
7	Mannure application	3.5
8	Fertilizer application	1
9	Weeding	4.21
10	Thinning	3
11	Gap filling	4
12	Irrigation	2
13	Plant protection measures	0
14	Cutting	2.9
15	Picking	4
16	Shifting production to threshing floor	4.9
17	Threshing	2
18	Winnowing	4.5
19	Drying of grains	5
20	Cleaning of grains	5
21	Grading	4.1
22	Storage	4.59
23	Marketing	0
24	Processing	5

The data in Table 3 shows that the transplanting, drying of grains, cleaning of grains and processing were major farm activities which were completely done by farm women. Similar results were reported by Singh et.al. (2004). The farm operations including cleaning of field, raising nursery for seedling ,weeding, gap filling, picking, shifting production to threshing floor,

winnowing, storage& grading in which major amount of work done by farm women. They do more than half work of sowing, thinning, and manure application. The farm women do less than half work of irrigation, cutting and threshing operations. In case of ploughing of field, leveling of field, and fertilizer application least amount of work was performed by women. Choudhary and

Singh (2003) also reported that the role of women in ploughing of field, application of manure and fertilizer was found to be very less. The work was also not done in marketing and plant protection measure by farm women.

**Table 4.**

Relationship of personal variables of women with their participation in agriculture activities (N=200)

S.No	Personal variables	Coefficient of correlation "t"
1	Age	- 4.76*
2	Type of family	1.28 NS
3	Family income	2.13 *
4	Land holding	3.63 *
5	Education level	1.4 NS
6	Caste	1.08 NS

\* Significant at 5 percent level of significance  
NS - Non significant

Efforts were made to find out the relationship if existed between the personal variables of women with their participations. Table 4 depicts that women age was negatively correlated with agriculture operations. Obviously the young aged farm women are more prone to change. Their physical strength enables them to perform more agriculture activities. The findings are supported by Choudhary and Singh (2003). Type of family, education level, caste were found non significant with women participation in agriculture. It is also shows by data that land holding and family income were also effects the participation farm women in agriculture activities significantly.

**CONCLUSION**

The present study concludes that the women play an significant and crucial role in agriculture and allied fields. Research showed that farm women’s participation was maximum in Cutting, Picking, cleaning of grains, drying of grains, storage , processing operations and major part of cleaning of field, raising nursery for seedling ,weeding, shifting production to threshing floor, winnowing, & grading operations are also done by farm women . In case of leveling of field, fertilizer application they do least amount of work, whereas there is no participation of farm women in ploughing

of field, plant protection measures and marketing activities. The study also depicts that age, family income, land holding influence the women participation in agriculture. Type of family, education level, cast were not affected by the women participation in agriculture.

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## **6.RURAL MARKETING IN INDIA: CHALLENGES AND OPPORTUNITIES**

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### **ABSTRACT**

*The concept of rural marketing in India Economy has always played a significant role in the lives of people. This concept is larger than the concept of agro marketing. It includes the inflow and outflow of goods from urban sectors to the rural regions of the country as well as the marketing of various products manufactured by the non-agricultural workers from rural to urban areas. The rural market population in India accounts for around 700 million, which is approximately 70 percent of the total population. There are several difficulties encountered in exploring rural markets. The concept of rural markets in India is still in evolving shape, and the sector imposes a variety of challenges, including understanding the dynamics of the rural markets and varied strategies to attract and retain the rural consumers. This paper is an attempt to highlight and underline major opportunities and challenges in Rural India with respect to marketing of major business products.*

*Key Words: Rural marketing, Marketing, Challenges, Strategies, Development, Rural Sector.*

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### **INTRODUCTION**

**M**arketing is the process used to determine what products or services may be of interest to customers, and the strategy to use in sales, communications and business development. It generates the strategy that underlies sales techniques, business communication, and business developments. It is an integrated process through which companies build strong customer relationships and create value for their customers and for themselves. It is a function which manages all the activities involved in assessing, stimulating and converting the purchasing power to effective demand for a specific product and service. This moves them to the rural areas to create satisfaction and uplift the standard of living.

Rural Marketing is defined as any marketing activity in which the one dominant participant is from a rural area. This implies that rural marketing consists of marketing of inputs (products or services) to the rural as well as marketing of outputs from the rural markets to other geographical areas.

### **WHAT IS RURAL MARKETING?**

The term 'rural marketing' used to be an

umbrella term for the people who dealt with rural people in one way or other. This term got a separate meaning and importance after the economic revaluation in Indian after 1990.

The concept of rural marketing in India is often been found to form ambiguity in the minds of people who think rural marketing is all about agricultural marketing. However, rural marketing determines the carrying out of business activities bringing in the flow of goods from urban sectors to the rural regions of the country as well as the marketing of various products manufactured by the non-agricultural workers from rural to urban areas.

According to the census of India village with clear surveyed boundaries not having a municipality, corporation or board, with density of population not more than 400 Sq.km and with at least 75% of the male working population engaged in agriculture activities would qualify as rural. According to this definition there are 6, 38,000 villages in the country of these 0.5% has a population about 10,000 and 2% have population between 5,000 and 10,000 around 50% has



around 50% has a population less than 200. Interestingly, the FMCG and consumer durable companies, any territory that has more than 20,000&50,000 population respectively in rural market so for them it is not rural India which is rural.

### **OBJECTIVES OF THE STUDY**

The following are the important objectives of the present study.

- To study the present scenario of rural market in India.
- To study the major challenges faced by marketer in rural market.
- To identify the major opportunities available in the rural market.

### **METHODOLOGY OF THE STUDY**

The study is a descriptive method. The Secondary data were collected from different sources, such as, text books, magazines, articles and websites.

### **BRIEF OVERVIEW OF RURAL MARKET OF INDIA**

Rural marketing is now a two-way marketing process. There is inflow of products into rural markets for production or consumption and there is also outflow of products to urban areas. The urban to rural flow consists of agricultural inputs, fast-moving consumer goods (FMCG) such as soaps, detergents, cosmetics, textiles, and so on. The rural to urban flow consists of agricultural produce such as rice, wheat, sugar, and cotton. There is also a movement of rural products within rural areas for consumption.

The Indian rural market with its vast size and demand base offers great opportunities to marketers. Two-thirds of countries consumers live in rural areas and almost half of the national income is generated here. It is only natural that rural markets form an important part of the total market of India. Our nation is classified in approximately 630000 villages, which can be sorted in different parameters such as literacy levels, income levels, penetration, distances etc.

The main reason why the companies are focusing on rural market and developing effective strategies is to tap the market

potential, that can be identified as follows:

#### ***Large and scattered population***

Nearly 70 per cent of India's population live in rural areas. The rate of increase in rural population is also greater than that of urban population. The rural population is scattered in over 6 lakhs villages. The rural population is highly scattered, but holds a big promise for the marketers.

#### ***Higher purchasing capacity***

Purchasing power of the rural people is on rise. Marketers have realized the potential of rural markets, and thus are expanding their operations in rural India. In recent years, rural markets have acquired significance in countries like China and India, as the overall growth of the economy has resulted into substantial increase in purchasing power of rural communities.

#### ***Market growth***

The rural market is growing steadily over the years. Demand for traditional products such as bicycles, mopeds and agricultural inputs; branded products such as toothpaste, tea, soaps and other FMCGs; and consumer durables such as refrigerators, TV and washing machines has also grown over the years.

#### ***Development of infrastructure***

There is development of infrastructure facilities such as construction of roads and transportation, communication network, rural electrification and public service projects in rural India, which has increased the scope of rural marketing.

#### ***Low standard of living***

The standard of living of rural areas is low and rural consumers have diverse socio-economic backwardness. This is different in different parts of the country. A consumer in a village area has a low standard of living because of low literacy, low per capita income, social backwardness and low savings.

#### ***Traditional outlook***

The rural consumer values old customs and traditions. They do not prefer changes. Gradually, the rural population is changing its demand pattern, and there is demand for

branded products in villages.

### **Marketing mix**

The urban products cannot be dumped on rural population; separate sets of products are designed for rural consumers to suit the rural demands. The marketing mix elements are to be adjusted according to the requirements of the rural consumers.

### **RURAL MARKETING STRATEGIES**

The market strategies aimed at an urban or industrial consumer significantly differs from the rural market strategies and the dynamics of the rural market make it different from other markets. This, along with many other related issues, have been subject matter of powerful discussions and debate in countries like India and China and focus of even international symposia organized in these countries. Rural markets and rural marketing involve a number of strategies which includes following:

- Bundling of inputs
- Client & location specific promotion
- Unique selling proposition
- Joint or cooperative promotion
- Management of demand
- Developmental marketing
- Business ethics
- Partnership for sustainability
- Extension services

### **PROBLEMS IN RURAL MARKETING**

There are many problems to be tackled in rural marketing, despite rapid strides in the development of the rural sector. Some of the common problems are discussed below:

#### **Transportation**

Transportation is an important aspect in the process of movement of products from urban production centers to remote villages. The transportation infrastructure is extremely poor in rural India. Due to this reason, most of the villages are not accessible to the marketing man. In our country, there are six lakhs villages. Nearly 50 per cent of them are not connected by road at all. Many parts in rural India have only kachcha roads. During the monsoons, even these roads become unserviceable. Regarding rail transport, though India has the second largest railway system in the world, many

parts of rural India however, remain outside the rail network.

#### **Communication**

Marketing communication in rural markets suffers from a variety of constraints. The literacy rate among the rural consumers is very low. Print media, therefore, have limited scope in the rural context. Apart from low levels of literacy, the tradition-bound nature of rural people, their cultural barriers and their overall economic backwardness add to the difficulties of the communication task. Post, telegraph, and telephones are the main components of the communication infrastructure. These facilities are extremely inadequate in the rural parts of our country. In rural areas, the literacy percentage is still low, compared to urban areas. In India, there are 18 recognized languages. All these languages and many dialects are spoken in rural areas. English and Hindi are not understood by many people. Due to these problems, rural consumers, unlike urban consumers do not have exposure to new products.

#### **Availability of Appropriate Media**

It has been estimated that all organized media in the country put together can reach only 30 per cent of the rural population of India. The print media covers only 18 per cent of the rural population. The radio network, in theory, covers 90 per cent. But, actual listenership is much less. TV is popular, and is an ideal medium for communicating with the rural masses. But, it is not available in all interior parts of the country. It is estimated that TV covers 20 per cent of the rural population. But, the actual viewership is meager. The cinema, however, is a good medium for rural communication. But, these opportunities are very low in rural areas.

#### **Warehousing**

A storage function is necessary because production and consumption cycles rarely match. Many agricultural commodities are produced seasonally, whereas demand for them is continuous. The storage function overcomes discrepancies in desired quantities and timing. In warehousing too, there are special problems in the rural context. The central warehousing corporation and state warehousing, which

constitute the top tier in public warehousing in our country, have not extended their network of warehouses to the rural parts. It is almost impossible to distribute effectively in the interior outlets in the absence of adequate storage facilities. Due to lack of adequate and scientific storage facilities in rural areas, stocks are being maintained in towns only.

### ***Village Structure in India***

In our country, the village structure itself causes many problems. Most of the villages are small and scattered. It is estimated that 60 per cent of the villages are in the population group of below 1,000. The scattered nature of the villages increases distribution costs, and their small size affects economic viability of establishing distribution points.

### ***Rural Markets and Sales Management***

Rural marketing involves a greater amount of personal selling effort compared to urban marketing. The rural salesman must also be able to guide the rural customers in the choice of the products. It has been observed that rural salesmen do not. Properly motivate rural consumers. The rural salesman has to be a patient listener as his customers are extremely traditional. He may have to spend a lot of time on consumer visits to gain a favorable response from him. Channel management is also a difficult task in rural marketing. The distribution channels in villages are lengthy involving more intermediaries and consequently higher consumer prices. In many cases, dealers with required qualities are not available.

### ***Inadequate Banking and Credit Facilities***

In rural markets, distribution is also handicapped due to lack of adequate banking and credit facilities. The rural outlets require banking support to enable remittances, to get replenishment of stocks, to facilitate credit transactions in general, and to obtain credit support from the bank. Retailers are unable to carry optimum stocks in the absence of adequate credit facilities. Because of this problem, they are not able to offer credit to the consumers. All these problems lead to low marketing activities in rural areas. It is estimated that there is one

bank for every 50 villages, showing the poor banking facilities in rural areas.

### ***Market Segmentation in Rural Markets***

Market segmentation is the process of dividing the total market into a number of sub-markets. The heterogeneous market is broken up into a number of relatively homogeneous units. Market segmentation is as important in rural marketing as it is in urban marketing. Most firms assume that rural markets are homogeneous. It is unwise on the part of these firms to assume that the rural market can be served with the same product, price and promotion combination.

### ***Branding***

The brand is the surest means of conveying quality to rural consumers. Day by day, though national brands are getting popular, local brands are also playing a significant role in rural areas. This may be due to illiteracy, ignorance and low purchasing power of rural consumers. It has been observed that there is greater dissatisfaction among the rural consumers with regard to selling of low quality duplicate brands, particularly soaps, creams, clothes, etc. whose prices are often half of those of national brands, but sold at prices on par or slightly less than the prices of national brands. Local brands are becoming popular in rural markets in spite of their lower quality.

### ***Packaging***

As far as packaging is concerned, as a general rule, smaller packages are more popular in the rural areas. At present, all essential products are not available in villages in smaller packaging. The lower income group consumers are not able to purchase large and medium size packaged goods. It is also found that the labeling on the package is not in the local language. This is a major constraint to rural consumers understanding the product characteristics.

### ***FUTURE OF INDIAN RURAL MARKET***

There are many opportunities waiting to be exploited in the area of rural marketing.

- There is an increasing convergence between urban and rural consumers especially the young consumers, who have almost same aspirations as that of a young urban consumer. Thus, the marketers can

target a certain section of rural consumers in the same manner as they are targeting the urban ones.

- The purchasing power of rural families has grown rapidly. Rural Marketing Association of India (RMAI) confirms that rural income levels are on a rise. Income from non-farm sector is likely to touch 66% of net rural income by 2020. Market size would thus, nearly double. Average rural spending would grow 6 times from current levels in 20 years. Moreover, the percentage of Below Poverty Line (BPL) families declined from 46% to 27%.

- The various infrastructural problems have been tackled to a great extent. Work is in progress for the better connectivity by roads; more than 90% of villages are electrified. Rural telephone density has gone up by 300% in last 10 years. Rural literacy rate has also improved from 36% to 59%.

- As its fact, India's rural population accounts for 12.5% of the world's total population, 600,000 villages with 700 million people; the country side thus, offers a huge consumer base and huge opportunity for rural marketers in India.

- Lastly, the per capita income of top 20%-30% of rural segment is not much different from urban middle class. This means that the affordability of the segment of rural consumers will be almost equal to that of the urban middleclass. Thus, marketers can tap this segment as well with the product he is targeting the urban middle class.

## **CONCLUSION**

The Indian rural market with its vast size and heterogeneous demand base offers great lucrative opportunities to marketers. After all, two thirds of countries consumers live in rural areas and almost half of the national income is generated in the rural hinterland. India is classified into around 450 districts, and approximately 6,30,000 villages, which can be segmented in different parameters such as literacy levels, accessibility, distribution networks, income levels, market penetration, distances from

nearest towns, etc. Rural consumers are fundamentally different from their urban counterparts. The lower literacy levels and limited exposure to product and services are well-known, but there are differences in occupation options, with a direct impact on income levels and income flows, and a high level of inter-dependency affecting the dynamics of rural community behavior. All contribute to make rural consumer behavior starkly distinct from the urban.

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## 7.SOCIAL ENGINEERING THROUGH TRADITIONAL MEDICINE FOR PROVISION OF HEALTH EDUCATION TO THE NEEDY

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### Abstract:

Health is a prime factor of a Country's development. Development of Health and development of Economics are interlinked. The Country's Economic performance is mainly depending on Health status of the Country. Wealthier Countries have Healthier population. Therefore Health Education and Health awareness is very important to make people healthy. In addition to that awareness of Traditional Health Education is much more important to countries like India or any developing Countries. Especially Education and Knowledge on Traditional Medicinal plants are very much useful to overcome the huge Medical expenditure and also to avoid side effects.It is found that 80 percent of the people in India are depending on traditional medicines for their well-being. To enhance that the Central Council of Indian Medicine (CCIM) was established in 1971 under AYUSH (Ayurveda, Yoga & naturopathy, Unani, Siddha and Homeopathy) to monitor the health of the people by doing research and teaching in various aspects of the Alternative Medicine.In this process Medicinal plants are mainly used in the preparation and the usage of Traditional medicines.Especially women are very much in need of medicinal plants during pregnancy, since they are forbidden in taking modern medicines to avoid chemical accumulation. Usage of Medicinal plants is a very vast subject. Hence this study has been restricted to the usage of Medicinal plants for very few common diseases.

Keywords –Health, Economics, Traditional medicine, Medicinal plants, Women health.

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### INTRODUCTION

The development of a Country and the Self is mainly depending on Health. Development of Health and development of Economics are interlinked. Science and technology have revolutionized the life style of man. Increased standard of living has brought great comfort to people and also introduced abnormal degenerative diseases in mankind. Achievement of optimal growth and development of present generation is reflecting damage of genetic potentialof the future generation. Moreover self should be in a position to maintain mental well-being, structural & functional efficiencyto be independent in the World.Coping with ageing disability, Infection resistance, Immunity development, Resistance against toxins & pollutants are some of the threatening facts of Health. For all problems modern medicine

can give instant solutions and will not have permanent remedy. Hence the quality of life of humankind can be achieved by Traditional medicine, which too by increasing as well as using Medicinal plants only.

### RESEARCH OBJECTIVES

To analyze the role of Medicinal plants in the development of Human health, in order to accelerate healthy Economics.

### REVIEW OF LITERATURE

**Manisha Shukla, Y. Rashiya Begum and Manoj Mishra**,stated that the local women of karaikal district depend on the herbal medicines for curing various gynecological disorders. They do not approach thephysicians due to lack of awareness, shyness or hesitation. Therefore a survey was conducted on medicinal plant

species used to manage gynecological disorders..The locals especially women of the area have been using the medicinal plants for many day to day uses for various ailments and are dependent on the plants in their surroundings for food, health, medication and various cultural purposes. A total of 44 important plants belonging to 27 families were recorded which were used medicinally and various other purposes by the local women. People have strong faith in herbal medication and women are leading the men in applying the recipe for medication by these plants<sup>1</sup>.

**Ramasubramania Raja**, This is a perspective review of medicinal plants useful traditionally for women's healthcare in countries like India. Medicinal plants have a significant role in women's healthcare in many rural areas. Kitchen remedies are the easy access for women for their cost effective health care. Many of the dietary health practices by women reflect their health consciousness. Herbal remedies include medicinal herbs and ayurveda herbal remedies for common disorders among women such as urinary tract infection, pubertal changes, post-menopausal syndrome, hot flushes, menopause, polycystic ovarian syndrome, bacterial vaginosis, yeast infections, infertility, delayed labor, low breast milk production, abortion and other female disorders<sup>2</sup>.

**Chelliah Muthu, Muniappan Ayyanar, Nagappan Raja and Savarimuthu Ignacimuthu**, An ethnobotanical survey was undertaken to collect information from traditional healers on the use of medicinal plants in Kancheepuram district of Tamil Nadu. The investigation revealed that, the traditional healers used 85 species of plants distributed in 76 genera belonging to 41 families to treat various diseases. The documented medicinal plants were mostly used to cure skin diseases, poison bites, stomachache and nervous disorders. This study showed that many people in the studied parts of Kancheepuram district still continue to depend on medicinal plants. The traditional healers are dwindling in number and there is a grave danger of traditional knowledge disappearing soon since the younger generation is not interested to carry on this tradition<sup>3</sup>.

## **TRADITIONAL MEDICINE**

During prehistorical times traditional Medical practitioners were using Medicinal plants for various Health problems. It was either used in the form of medicine or diet. Health has to be taken care by nourishing and maintaining. Nourishing can be done according to the requirement of Stamina. Once Stamina is achieved maintenance has to be done. Medicinal plants have the ability to do the both. The Health maintenance is being done by the food we take daily. The crops that we cultivate bring harmony and ensure overall development of human body<sup>4</sup>. There is no need to search a plant with a medicinal quality. Every plant and plant products we use for food acts as a medicine, proving "Food is Medicine". Generally the plants surrounding will definitely have the medicinal qualities to solve the health problems of the domicile as per the law of Nature.

## **LAW OF NATURE**

As per the law of Nature our body has systematic procedures and timings for the function of the body and body organs. Our body is quiet intelligent and that has tremendous power to solve the problems by itself. The 14 reflex functions such as sneezing, coughing, vomiting, yawning, belching, tears, breathing, urine, faeces, fart, semen, hunger, thirst and sleep are the symptoms of human urges. Similarly fever, cold, pains are some of the indications of the disturbances in the normal function inside the body<sup>5</sup>. Any of the above should not be controlled or suppressed to get temporary relief like modern medicine does. Hence the living beings are part of the nature and the solutions can also be obtained from it. Animals and plants are only depending on nature for survival of life at all times. The advanced technology is taking the mankind to poor health. The only way to solve this problem is abiding by the law of nature and to go back to the old system of living. That is why Ralph Waldo Emerson says in his book that the deviation from the Nature means deviation from Happiness.

## **AYURVEDIC MEDICINE**

Ayurveda means knowledge of life in Sanskrit. Ayurveda has been originated in prehistoric times. It is the medicinal system

prehistoric times. It is the medicinal system which has used medicinal plants for all sorts of diseases. Even now for bone jointing after fracture is widely done by using medicinal plants.

According to Ayurveda, the human and all living organisms are governed by three elemental factors called doshas viz. Vata, Pitta and Kapha. The equality of these three in a human results in good health, inequality results in disease. Whereas the medicinal plants keeps the doshas in a balanced state in order to keep the Autonomic Nervous System to function effectively. Respiration, Cardiac function, Digestion, Assimilation, Tissue building, Production of nutrients, Heat production and regulation, Blood pigmentation, endocrine glands activities, Metabolism, Reflex actions, Co-ordination of body system and Regularization of biological processes are some of the functions of Autonomous Nervous System (ANS). Any of the ANS functions would not be possible by humankind. Man can help the ANS by taking natural food instead of spoiling by junk food.

### MODERN MEDICINE

"It is more important to know what sort of person has a disease than to know what sort of disease a person has" – Hippocrates.

Modern medicine focuses on disease care rather than health care. Drugs of modern medicine usually do not cure, but suppress and change the way the body functions. This covers up the condition instead of curing it. Sometimes it helps a lot like with severe pain, but it does not help in regaining health.

### WOMEN'S HEALTH

"The wealth of a nation and the health of the future generation

depends upon women's physical and mental well-being" - Geetha S. Iyengar

"Healthy Women, Healthy World" represents the fact that as caretakers of family health, women play a vital role in preserving the health and well being of their societies.

Nature has endowed her with the responsibility of perpetuating mankind. To fulfill her tasks woman should maintain her physical body, her changing physiological functions and emotional states. There are three important stages and milestones in

woman's life beginning with youth, passing through middle age, and ending in old age.

1. Menstruation
2. Pregnancy and delivery
3. Menopause.

### MEDICINAL PLANTS FOR WOMEN'S HEALTH

The first stage of women life is Menstruation. During the menstrual cycle, hormone levels rise and fall in an effort to prepare the lining of the uterus to thicken for ovulation and then shed if pregnancy doesn't occur. In this period women suffer with stomach pain, tiredness, headache, vomiting, kidneyness, sweating, body pain etc. Deficiency of vitamin B12, vitamin B6, vitamin C and vitamin D can lead to nausea and dizziness during periods<sup>8</sup>.

- Derris trifoliata – Angaravalli in Tamil – For painful periods
- Mentha arvensis – Mint or Pudhina in Tamil – For painful periods
- Melia azadiracta – Common name Neem – Vembu in Tamil – Acts as a Pain killer.
- Black gram – Ullundhu in Tamil – For Uterine strength.
- Dolichos biflorus or Kollu in Tamil – For strengthening the Uterus and to reduce the menstrual pains.
- Vetiveria zizanioides – Vettiver in Tamil – Regulates Menstruation.
- Daucus carota – Common name Carrot – Roots regulate menstrual disorder.
- Desmodium triquetrum – Common name Sakuli – Sakkaraivalli in Tamil – Tender leaves regulate menstrual disorder.
- Trigonella foenum-graecum – Common name Fenugreek – Vendhayam in Tamil – Acts as a pain killer.
- Prunus domestica or Plums – For Irregular menstruation.
- Hibiscus rosasinesis – Common name Hibiscus – Sembaruthi in Tamil - Used for Menorrhagia (Abnormally heavy bleeding at menstruation).
- Saraca asoca or Ashoka or Pinti in Tamil – For Heavy bleeding
- Aloe barbadensis - Common name Aloe vera – Katrazhai in Tamil – Used for Amenorrhoea (Absence of menstruation) and also it balances tri doshas.
- Anethum graveolens – Common name Dill – Satakuppi in Tamil – Fruits

used for Amenorrhoea (Absence of menstruation) and Dysmenorrhoea (Pain with menstruation).

- Ricinus communis – Common name Castor – Amanakku in Tamil – For sterility after Menstruation.
- Piper betel – Common name Betal – Vetrilai in Tamil – Gives relief from perspiration and menstrual odor.
- Caesalpinia bonducella – Kalarchikai in Tamil – Cures PCOD (PolyCystic Ovarian Disease)
- Vitamin C – Can be obtained from Kiwi, Guava, Orange, Papaya, Pineapple, Mango, Banana, Lemon, Grapes, Tomatoes, Strawberries, Broccoli, Cauliflower, Peas, Green bell pepper, Red pepper, Black currant, Parsley, Brussels sprouts, Honey dew.
- Vitamin D – Can be obtained from Orange juice, Soya milk and Cereals.
- Vitamin B6 – Can be obtained from Avocado, Sunflower seeds and Sesame seeds
- Vitamin B12 – Can be obtained from Mushrooms, Broccoli, Soya beans and Asparagus.

### **THE SECOND STAGE OF WOMEN LIFE IS PREGNANCY AND DELIVERY.**

During this period Women face lot of troubles like vomiting, tiredness, hunger, constipation, hypertension, body pain, delivery pain, lactation problem and contraceptive problem.

- Lawsonia inermis – Common name Henna – Marudhani in Tamil – Remedy for heat control and gives cooling.
- Zingiber officinale – Common name Ginger – Inzhi in Tamil – Cures morning sickness during Pregnancy.
- Moringa pterygosper – Common name Drumstick – Murungai in Tamil – Leaf decoction used before delivery for constipation problem.
- Allium sativum – Common name Garlic – Poondu in Tamil – Reduces hypertension and fights against bacterial & fungal infections 9333399.
- Hydrophilla – Common name Kulikhara – Neermulli in Tamil – Roots used for normal delivery.
- Achyranthus aspera – Nayuruvi in Tamil – Helps for easy delivery.
- Ocimum sanctum – Tulasi in Tamil – For urinary disorders.

- Daucus carota – Common name Carrot – Increases lactation in feeding mother.
- Carica papaya – Pappali – Raw fruit increases lactation in feeding mother.
- Michelia champaca – Common name Champak – Senbhagam in Tamil – Bark and root used as contraceptives.
- Mimosa pudica – Common name Touch me not – Thottachinungi in Tamil – Leaf juice used to avoid pregnancy and fever after delivery.
- Curcuma domestica – Common name Turmeric – Manjal in Tamil – Acts as Antiseptic, Painkiller and Blood purifier.

### **THE THIRD STAGE OF WOMEN LIFE IS MENOPAUSE.**

During this period Women face lot of Psychological problems like Stress, Depression, Anxiety, Insomnia, Nervousness, Heavy bleeding and White discharge.

- Centella asiatica – Vallarai in Tamil - Used for Stress relief and White discharge. Increases serotonin levels in brain.
- Ashwagandha – Relieves Stress and Anxiety.
- Mentha arvensis – Mint or Pudhina in Tamil – Menthol helps cure insomnia by keeping the mind calm.
- Mentha piperita – Common name Peppermint – Milagu keerai in Tamil – Used to treat Menstrual pains, Depression, Anxiety, Muscle and Nerve pains.
- Commiphora wightii – Kiluvai in Tamil – Used for White discharge.
- Aloe barbadensis - Common name Aloe vera – Katrazhai in Tamil – Used for White discharge.
- Achyranthus aspera – Nayuruvi in Tamil – Used for white discharge.

### **MEDICINAL PLANTS FOR GENERAL HEALTH**

- Caesalpinia pulcherrima – Mayurkonrai in Tamil - Used for Bronchitis and Asthma.
- Cassia sophera – Sularai in Tamil - Used for Bronchitis and Cough.
- Mimosa pudica – Thottalsinungi in Tamil - Used for Sinus and Piles.
- Alhagipseudalhagi – Kanchori in Tamil - Used for Cough and rheumatism
- Caesalpinia digyna Rottl – Nunugatcha in Tamil - Used for Diabetes.
- Syzygium cumini – Naaval in Tamil - Used for Diabetes.



- Momordicacharantia – Common name Bitter gourd – Paavakkai in Tamil - Used for Diabetes.
- Tephrosiavillosapers–Punaikkaivettlai in Tamil - Used for Diabetes and dropsy.
- Sennaauriculata – Aavaaram in Tamil- Used for Diabetes.
- Costusigneus – Insulin plant –Used to reduce blood sugar levels
- Indigoferatinctoria – Nili in Tamil – Used for Rheumatoid arthritis, Urinary troubles.
- Lathyrussativus – Kekariparuppu in Tamil – Used for Paralysis of legs
- Lens culinaris medic – Misurparuppu in Tamil – Used for Ulcer and gastric troubles.
- Psoraleacorylifolia - Kaarboka in Tamil – Used for Psoriasis
- Azadirachtaindica – Common name Neem – Vembu in Tamil –Used for skin diseases.
- Pisoniaalba – Latchakottai in Tamil – Used for Arthritis and Rheumatism.
- Trigonellafoenumgraecum – Vendayam in Tamil – Reduces enlargement of liver/Spleen
- Abutilon indicum – Thuthi in Tamil – Used for kidney problem.
- Boerhaviadiffusa – Mookurattai in Tamil – Used for kidney problem.
- Linumusitatissimum – Common name Flax seed – Aali in Tamil – Used for High BP.
- Triphala – Kaddukai, Tandrikai&Nellikai– Used for Harmonalimbalance, BP, Immunity.

## CONCLUSION

The traditional food and systematic lifestyle of our older generation kept their health in good condition. But present generation's food habits and negligence of the olden culture results in deterioration of self as well as future generation's health. The advancement in technology is creating new diseases. Some of the diseases do not have remedy in modern medicine. Moreover modern medicines have side effects and cannot be used for long time. Medicinal plants do not have side effects and also it is economically cheaper. Especially at present people get Health awareness and utilize the traditional medicines for their well being.

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## 8. IMPACT OF AGRICULTURAL PRODUCTION BY USING THIRUMANIMUTTAR RIVER IN SALEM DISTRICT

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### Abstract

Salem is one of the commercial hubs of Tamil Nadu and is the leading centre for producing and marketing of handloom / power loom goods. The objective of this study was analyzed the production of paddy by using water of Thirumanimuttar river. Thirumanimuttar river is (TM river) is the only ephemeral stream passing through the heart of the city and flows towards southwest and joins river Cauvery in the south near Paramatti forms the spinal chord for urban development. Primary data was collected through structured questionnaire. The two blocks of Ayothiyapattanam and Verapandy of salem district were selected. A total sample size of 330 respondents were randomly selected. For comparison, Cost-Benefit Analysis approach was used. The total cost for cultivation of paddy to Rs. 20699 in Ayothiyapattanam block and 17924 in Verapandy block; The total return is 34632 and 30989 in Ayothiyapattanam followed by Veerapandy block; The highest Cost Revenue is 13933 in Ayothiyapattinum compared than 13065 in Veerapandy block. The present study has been designed to compare cost and revenue of paddy using Thirumanimuttar river. which could be helpful for farmers and agriculture economists.

Keywords :Agriculture, Production, Thirumanimuttar River, Pollution, Cost and return of paddy

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### INTRODUCTION

Salem is located at 11.669437°N 78.140865°E (1) at an average elevation of 278 m (912 ft). The city is surrounded by hills: Nagaramalai on the north, Jarugumalai on the south, Kanjamalai on the west, Godumalai on the east and the Shevaroy Hills on the northeast. Kariyaperumal Hill is in southwestern Salem (2). The Thirumanimuttar River flows through the city, dividing it in two (3). The fort area is the oldest part of Salem (4). Salem is a major textile centre in Tamil Nadu, with more than 125 spinning mills, weaving units and garment units. Until the 1960s, it had less few spinning mills. Private handloom weaving began to increase in the region after the 1960s and during the 1980s, the textile industry expanded with major spinning mills and dyeing units established supporting the industry (5). Generally salem area is called as Geologic paradise due to the occurrence of many varieties of rocks and minerals, and also famous for its rainfed and irrigated agriculture. In agricultural geography the quantitative measure of crop distribution

is necessary to understand the physical and human interaction of an area (6). One of the oldest river of Thirumanimuttar river in Salem district used for various activities especially agriculture. The moderate concentration of paddy found in Pethanaickenpalayam, Ayothiyapattanam, Panamarathupatty, Edappady, Kolathur and Gangavalli. Yercaud, Mecheri, Nangavalli, Konganapuram, Magudanchavadi and Veerapandi express the low concentrations of paddy (6). The Thirumanimuttar sub-basin forms an important groundwater province in south India, facing serious deficiency in both quality and quantity of groundwater due to increased demand associated with rapid population explosion, agricultural growth and industrial activities. So the present study was to determine the agriculture activity of Thirumanimuttar river fed land in Ayothiyapattanam and Veerapandi block of Salem District.

### MATERIALS AND METHODS

#### Materials

The present study was framed and selected two blocks Ayothiyapattanam

and Veerapandi fed land near by Thirumanimuttar river. Totally 330 sample were selected (136 Ayyothiyapatinam block and 194 Veerapadi block).

### Methods

#### 1.Questionnaire

A semi-structured questionnaire was used to gather the information regarding the agricultural production

#### 2.Focus groups

The community member who assisted with the survey went back to remind the farmers three days before the focus group meeting and collected the information from farmers directly

#### 3.Secondary Data

The secondary data has been collected from various Agricultural report, thesis, articles, and block development office report and books.

### Results

Cost and returns information are required by any production system if the system is to maximize profit. One cannot speak of profit without having a full account of the revenue and cost structure of the business.

**TABLE 1: COST AND RETURN FROM PADDY**

S.NO	Particulars	Veerapandy block	Ayyothiyapatinam block
1	Organic nutrition	1516	1723
2	Chemical fertilizer	560	1623
3	Biological power	11765	12363
4	Irrigation	652	1034
5	Land tax	127	147
6	Seed	807	955
7	Changes on instrumental machineries	1738	1890
8	Repair of machineries	729	964
9	Aggregate cost cultivation	17924	20699
10	Yield per acre	27	29
11	Values	1105	1145
12	Return from main product (Rs)/(10X11)	29835	33205
13	Income from by product/ acre	1154	1427
14	Gross returns/(Rs) (12+13)	30,989	34,632
15	Agriculture Business Income	13,065	13933

Source: Field data

### DISCUSSION

The cost and return analysis of paddy showed high in fed land of Ayyothiyapattinam block compared than Veerapandy block using Tirumanimuttar river. Gross return from the Veerapandi block ( Rs.30989) where using polluted Thirumanimuttar river was

low when compared with Ayyothiyapatinam (Rs,34632) where non polluted water of the Thirumanimuttar river. Agriculture Business Income (ABI) was relatively high in Ayyothiyapatinam block (13933) compared than Veerapandy block (13065). It may be the reason of non polluted water

irrigation process in ayyothiyapatinam study area. Similar results were also studied by Vijayakumar et al (2015) stated that today the ground water (bore well water) resources are contaminated by the constant mixing of industrial waste, the use of fertilizers and pesticides, manure, lime, septic tank, etc. and also observed that the results of Physico-chemical analysis and CCMEWQI (SS) indicates that the upper Thirumanimuttar is unfit for use in irrigation due to various anthropogenic activities, sewage disposal and organic pollution. Here we analyze level of paddy production difference between polluted and non polluted water using in our study area.

### **CONCLUSION**

The cost and return from the paddy showed the highest level in Ayyothiyapatinam block compared to Veerapandiyan block of Salem district. Which indicate non polluted Thirumanimuttar river used as irrigation process gives high production. In our study we revealed that low production of paddy and low return is due to using polluted water of Thirumanimuttar river in veerapandi block of salem district.

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# 9. STUDY ON AGRICULTURAL FINANCE BY COMMERCIAL BANK IN TAMILNADU WITH REFERENCE TO THIRUVALLUR DISTRICT – AN ECONOMIC ANALYSIS

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## ABSTRACT

India is primarily an agricultural country. Agriculture plays a very significant role in the process of economic growth and development. The importance of agriculture is aptly and emphatically described by Wilson Gee thus: "without the fundamental contribution of agricultural industry, all the rest of fabrics of our civilisation would topple into ruins almost overnight". Studies that attempted to predict defaulters and non-defaulters analysed characteristics such as size of land holdings, cropping pattern, farm and non-farm income, consumption expenditure, debt outstanding, family size, and age and education status. The repayment of loans by borrowers depends upon their ability as well as willingness to repay the variables such as income, resource level, technology and repayment structure determine ability to repay. The effectiveness of findings and recommendations made in a majority of these studies in solving loan default problems in rural areas is weak.

Key words: Agricultural Finance, Commercial bank, Economic situation, etc.,

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## INTRODUCTION

Agriculture is a basic and important occupation as it provides not only food-stuff and essential raw materials but also employment to very large proportion of the population. It is the oldest business in the world and nearly two thirds of the population of the world is dependent on agriculture either directly or indirectly for its livelihood. Many advanced countries recognised the need for developing agriculture in the first instance. In these countries a prosperous and expanding agriculture formed the basis for the current and subsequent establishment and expansion of manufacturing industry. In England improvement in agricultural production preceded industrial revolution and provided new industries with such prerequisites as markets, manpower and surplus of food of feed industrial workers. In countries like the U.S.A. Australia and Argentina also have first concentrated their attention on the development of the agricultural sector. But, in Japan there was a rapid expansion of agricultural output combined with speedy industrialisation.

## ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT OF INDIA

The fertile Simon Kuznets classified the contribution of agriculture for economic

development under four heads.

- Agriculture makes a product contribution by increasing the supply of food and fibre production.
- Agriculture makes a market contribution through its trade contact with the other sectors.
- Agriculture makes a factor contribution by releasing labour force for non-farm occupations and
- The fourth notable contribution of agriculture is foreign exchange contribution which helps to earn foreign exchange or at least to avoid imports.

In India ever since the planning has been used as a tool for rapid economic growth, the development of agriculture is given due importance. The importance of agriculture is felt not only to feed additional mouths but also the existence of vast scope for increasing the agricultural production without major investments to earn foreign exchange through exports or at least to avoid imports.

## PROBLEMS OF AGRICULTURISTS

The problems of small and marginal farmers are peculiar with their limited resources; they are not able to switch over to modern

technology, this results in low productivity which limits farmers' resources and repaying capacity low. Indian commercial banks have been unwilling to provide agricultural credit due to the close depends of farming on nature and lack of irrigation facilities in many parts of the country. In the absence of proper accounts, remoteness of farms, difficulties in knowing the integrity and trust worthy ness of the farmers hardships in maintaining close contacts 'have' added to the unwillingness of the banks to provide agricultural Finance.

In India vast majority of farmers are poor, illiterate, ignorant, superstitious, conservative, lack of dynamism and bound by out mode customs are the curses which keep the farmers fully satisfied with their primitive system of cultivation.

The problem of agricultural finance has been the subject of periodical surveys and studies by various Commissions and Committees. Even as early as 1944, the Gadgil Committee indicated that the rural credit system is really very useful and effective so it must be taken into account and its attention should be paid to the entire gamut of agriculturists credit requirements.

The Committee suggested that the requirements of agriculturists could not be viewed and attended a piece meal; an institutional set up must be advised that would cater to all the financial requirements of agriculturists' tor the purposes of consumption, production and other socio-economic purposes.

### **OBJECTIVES OF THE STUDY**

In this Chapter an attempt is made to present the methodology followed for this study. The present study is mainly based on primary data collected from the sample households. In socio-economic studies of this type the reliability of results depends upon the methodology which includes the sample design, the schedules, collection and analysis of data and finally the presentation and logical interpretation of the results. To help in remaining regional imbalances through appropriate credit deployment.

- To study the socio-economic conditions of the beneficiaries in the study area.
- To assess the scheme-wise and caste-wise impact of bank finance on generation of income, employment and assets position

of the beneficiaries.

- To study the repayment performance of the beneficiaries in the study area.
- To identify the various problems faced by the bankers and the beneficiaries with regard to agricultural finance provided by the commercial banks in the study area.

### **HYPOTHESIS**

- The bank loan has no positive impact on income generation, employment creation and assets position among the farmers assisted.
- The amount of bank loan provided is not adequate to finance the activity.

### **SAMPLE DESIGN**

For the selection of sample units the sample design followed is two stages stratified random sampling method which consists of two stages. In the first stage region have been selected and in the second stage the beneficiary households have been selected by applying sampling random technique. The study covers the beneficiaries of different schemes implemented in Thiruvallur district.

### **LIMITATIONS OF THE STUDY**

Relevant information was collected from the sample borrowers for two periods, viz., 1. Pre-loan and 2. Post loan to assess the extent of economic benefits derived by the beneficiary households in terms of increase in their net family income. he data of net income of the borrower's family from all identifiable sources in pre-loan and post-loan period were collected by recall method. Sufficient care was taken while recording net income of the post-loan period in order to realise net incremental income that can be attributed to the bank credit provided and that can determine the productive capabilities of the borrowers.

The respondents who are illiterates and they could not quantify precisely the values of their assets due to various reasons. Therefore, in all such process of re-collection of data relating to past years, assignment of net incremental income to the bank loan, and valuation of assets, some efforts might have crept into the data. However, every effort was made to minimise such errors by exercising some checks and counter checks.

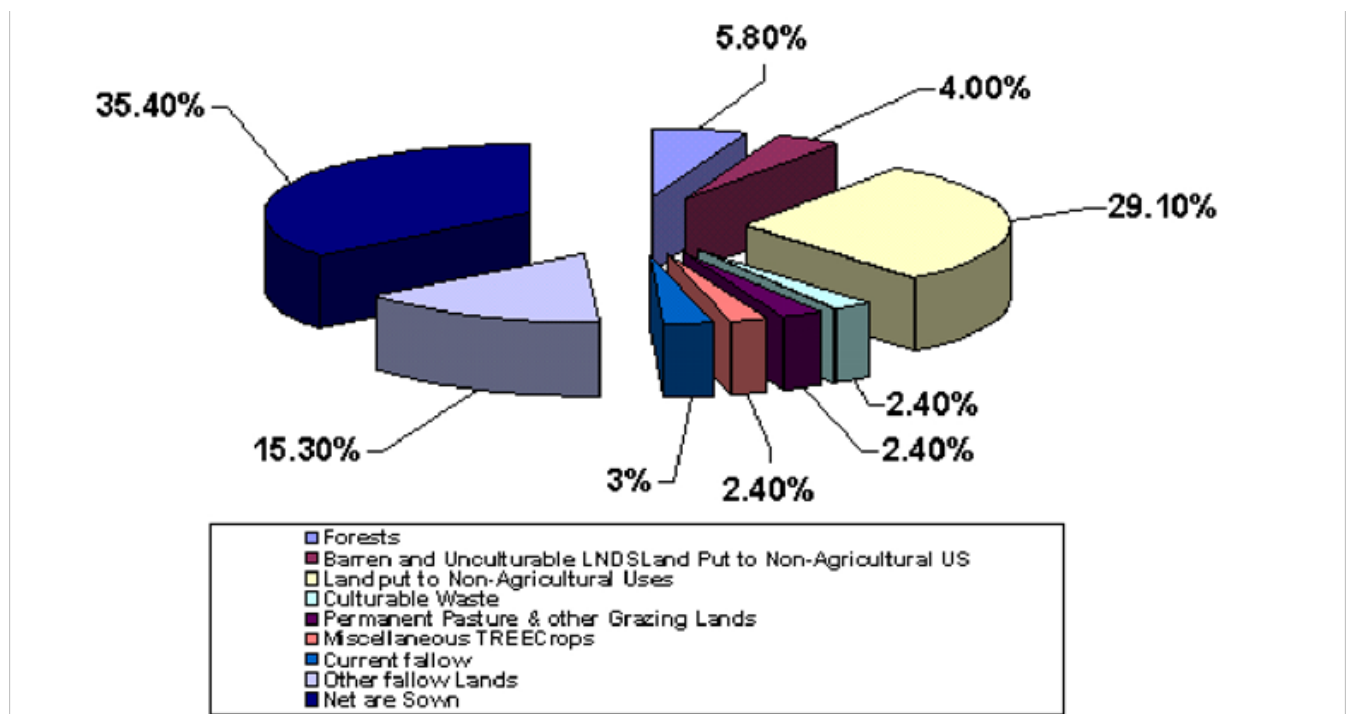
**SOCIO – ECONOMIC PROFILE OF THIRUVALLUR DISTRICT**

Thiruvallur district, a newly formed district bifurcated from the erstwhile Chengalpattu district (on 1st January 1997), is located in the North East part of Tamil Nadu. The district is surrounded by Kanchipuram district in the South, Vellore district in the West. Bay of Bengal in the East and Andhra Pradesh State in the North. The district spreads over an area of about 3422 Sq.kms.

An insight into the early history of this region shows that the region was reined by kingdoms such as the Pallavas, the Golkondas, the Mughals, the French, the Dutch and also the British. The Coastal region is mostly flat while certain areas in Tiruttani and Pallipattu taluks are undulated and even hilly. The types of soil predominantly found are red non-calcareous and coastal alluvial. Also found are sandy soil mixed with soda or other alkali.

**Land Use Pattern**

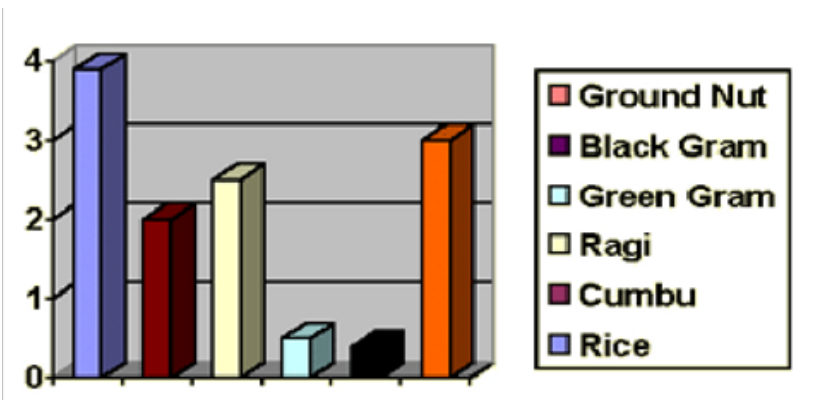
The total geographical area of the district is 3,42,243 hectares of which not sown area constitute 35% whereas forest covers 5.8% of the total area. The nine-fold clarifications of the land are pattern is given below.



**Agriculture**

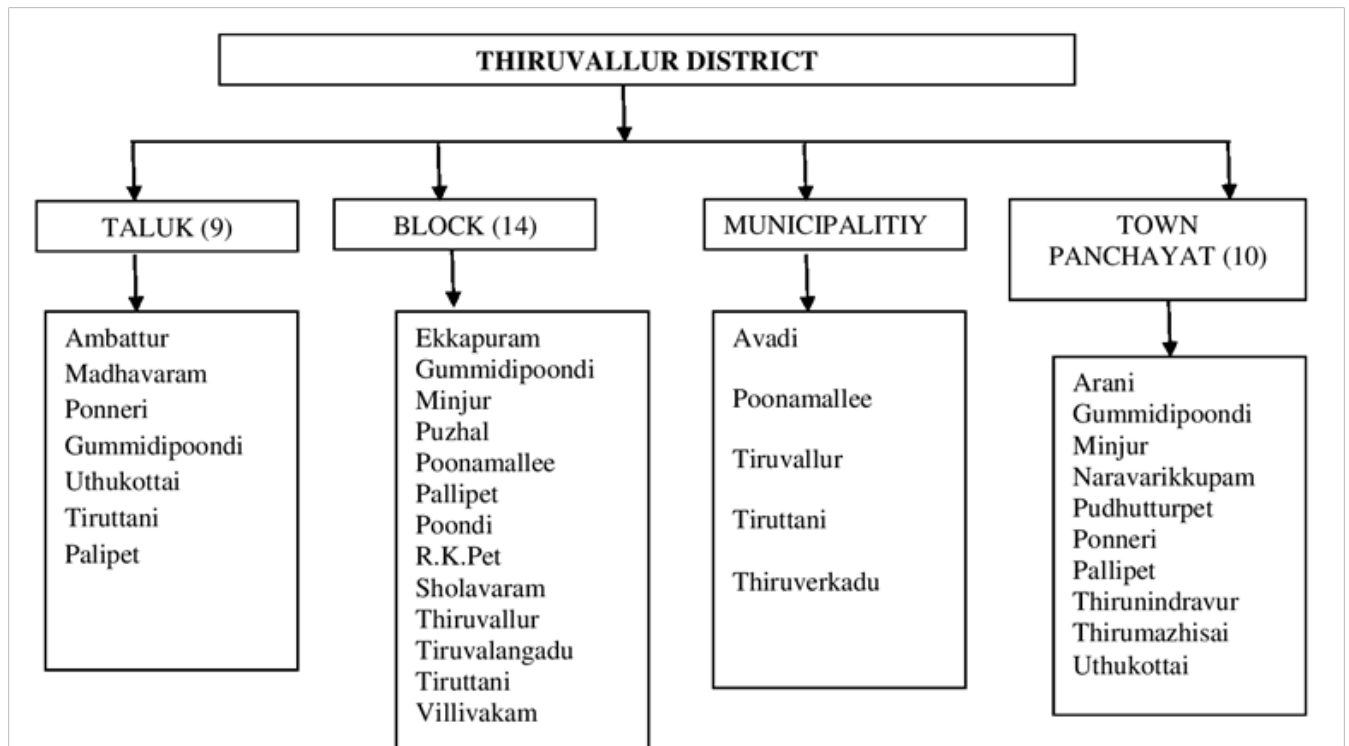
The main occupation of the district is agriculture and allied activities. Nearly 47% of the total work force is engaged in the agricultural sector.

The major crops grown in the district are rice, cumbu - ragi, green gram, black gram, sugar cane and groundnut. Apart from this, certain horticultural crops like mango, guava and vegetables have also been cultivated successfully. The average area, production and productivity of the Principal crops are as follows:



**THIRUVALLUR DISTRICT BLOCK WISE DISTRIBUTION**

The following image shows the administrative profile of the district.



**FAMILY INCOME OF THE BENEFICIARIES - SCHEME-WISE**

An attempt is made to estimate the total family income derived from different sources of the sample beneficiaries in the region. The total family income comprises, net agricultural income and non-agricultural income. This is estimated by additional net farm income, wages earned by hiring out family labour, bullock labour and agricultural implements etc. and the income realised by the secondary occupations to supplement their income from primary occupation. The data on the total family income of the sample borrowers assisted in the pre-loan and post-loan periods are furnished in the following Table 1.

Table 1

**Paired It' Test Table on Income Generation - Scheme-wise –region**

S.No	Scheme	Calculated Value of 't'	Table value of 't' at 5% level	Table value of 't' at 1% level
1	Bullocks	6.3827**	2.052	2.771
2	Electric Motors	6.80131**	2.447	3.707
3	Milch animals	2.3490*	2.262	3.250
4	Sheep rearing	3.5724*	2.776	4.604
5	Land development	1.8369	2.225	3.169
6	Crop loan	7.4026**	2.000	2.660

The Table 1 shows that the impact of bank finance on generation of income in all the scheme is significant except in land development, implying that there is significant impact of bank finance. Since the sample size is two in tractors scheme, it not possible to calculate the 't' to values.

**FAMILY INCOME OF THE SAMPLE BENEFICIARIES - CASTE-WISE**

The caste-wise sample beneficiaries' income distribution is shown in the Table 2. The table shows that among 116 beneficiaries' borrowers in the region the Scheduled castes borrowers work out 35, Backward castes 10 and Other castes 71 respectively.



**Table 2****Paired't' Test table on Income Generation – Caste-wise**

S.No	Caste	Calculated Value of 't'	Table value of 't' at 5% level	Table value of 't' at 1% level
1	Schedule Castes	1.5724	2.021	2.704
2	Backward Castes	6.1953**	2.306	3.355
3	Other Castes	8.0060**	1.980	2.617

It is evident from the above table that the impact of bank finance in Backward castes and Other castes beneficiaries except Scheduled castes beneficiaries works out considerable increase in generation of income which indicates the favourable impact on caste-wise beneficiaries on generation of income.

**EMPLOYMENT LEVELS OF BENEFICIARY HOUSEHOLDS - SCHEME-WISE**

One of the main aims of financial assistance is to provide employment opportunities for the beneficiary households assisted under the different schemes. The particulars relating to the employment generated under each scheme is presented in the Table 3.

Using paired It' test the mean variance in household employment of beneficiaries in the pre-loan and post loan periods were compared Table 3 show the 't' values on employment generation in different schemes. Table 3 reveals that there is significant impact of bank finance on generation of employment in all the acheme8 between pre-loan and post-loan period. As the size of beneficiaries are two in tractors scheme, it is not possible to calculate the 't' values.

**Table 3****Paired't' Test Table on Employment Creation - Scheme-wise**

S.No	Scheme	Calculated Value of 't'	Table value of 't' at 5% level	Table value of 't' at 1% level
1	Bullocks	4.8506**	2.052	2.771
2	Electric Motors	6.2789**	2.447	3.707
3	Milch animals	3.1153*	2.262	3.250
4	Sheep rearing	5.3712**	2.776	4.604
5	Land development	6.8230**	2.228	3.169
6	Crop loan	10.5839**	2.000	2.660

**REGRESSION ANALYSIS**

Regression analysis is applied to measure the elasticity's of bank finance on income, employment and asset position of the beneficiaries.

Table 4 shows the results of regression relating to the sample households assisted for the purchase of bullocks.

**Table 4****Regression Analysis – Bullocks**

Dependent variable	Coefficient	R2	't' Value
Yi	0.4826	0.5623	5.8026**
Ye	0.2278	0.4509	3.1481**
Ya	0.3105	0.3724	7.2900**

Note: \*\* Significant at 1 per cent level.

Table 4 reveals that the impact of bank finance on income, employment and assets of the beneficiaries assisted for the purchase of bullocks is positive, since the Coefficients of bank Finance on income, employment and assets are 0.4826, 0.2278 and 0.3105 respectively. The analysis clearly shows that all the co-efficient<sup>5</sup> was significantly

different from zero at the probability level of 1 per cent.

Table 4.1 shows the regression results to find out the impact of bank finance on income, employment and assets position of the beneficiaries financed for Electric Motors.

**Table 4.1  
Regression Analysis - Electric Motors**

Dependent variable	Coefficient	R2	't' Value
Yi	0.5032	0.6528	4.1170**
Ye	0.1980	0.3958	5.2794**
Ya	0.3526	0.4290	7.3516**

Note: \*\* Significant at 1 per cent level.

It is clear from Table 4.1 that the co-efficient<sup>8</sup> of bank finance in relation to increase in income, employment and asset position are 0.5032, 0.1900 and 0.3526 respectively. It is observed that all the coefficients were significant at 1 per cent level.

The results of regression for the units financed for the Milch animals are presented in Table 4.2.

**Table 4.2  
Regression Analysis - Milch Animals**

Dependent variable	Coefficient	R2	't' Value
Yi	0.1229	0.4198	2.2814**
Ye	0.1681	0.5375	2.6253**
Ya	0.1075	0.3908	2.4051**

Note: \*\* Significant at 1 per cent level \* Significant at 5 per cent level.

From the results given in Table 4.2 the elasticity co-efficient<sup>5</sup> of bank finance with respect to income and assets are significant at 5 per cent level while the employment is significant at 1 per cent level.

**MULTIPLE REGRESSION ANALYSIS**

Understand the relative importance of the various factors responsible in creating overdues at different levels, multiple regression analysis .is used as the analytical tool for the three regions i.e., Ambattur, Tiruttani and Avadi.

The factors are classified into external and internal factors.

The external factors are those which are beyond the control of borrowers and lending institutions such as climate conditions, irrigation facilities, cropping pattern, intensity of cropping whereas the internal factors within the control of borrowers and lending institutions. Therefore, to test the validity of over dues, the factors responsible

have been induced in a regression model. The influence of independent factors responsible for the overdue to banks can be observed through multiple regression analysis rather than contingency tests.

The Table 5 reveals that the coefficient of correlation is (0.5924) significant. ~t indicates that 59.24 Per cent of variation is explained by the independent variables.

The entire estimated coefficient is significant except X<sub>7</sub>. This indicates that the repayment of beneficiaries were not significant by their caste.

**Tiruttani Region**

Table 6 presents the results of multiple regression analysis to find out the impact of independent variables an overdue8 to banks in the sample beneficiaries in Tiruttani region.

Variable	Coefficient	't' Value	R2
X1	-0.5263	5.7036**	0.5499
X2	0.8840	3.4182**	
X3	-0.1397	1.7948**	
X4	3.5418	2.8660**	
X5	0.1925	3.1045**	
X6	2.3709	2.2738*	
X7	0.1682	1.4062NS	
Intercept	173.6491		

Note: \*\* Significant at 1 per cent level \* significant at 5 per cent level  
NS ~Not significant.

The Table 6 reveals that 54.99 per cent of the variation in the repayment performance is explained by the independent variable considered in the analysis. All the estimated coefficients are significant except  $X_3$ ,  $X_7$  are not this shows that the repayment of beneficiaries of different castes were not influenced.

**Avadi Region**

The results of multiple regression analysis to find out the impact of independent variables on over dues to bank in L-he sample beneficiaries in Aavadi region are shown in the following Table 7.

**Table 7**  
**Multiple Regression Analysis – Avadi Region**

Variable	Coefficient	't' Value	R2
X1	-0.6280	8.0735**	0.6318
X2	0.9514	3.5292**	
X3	0.1629	2.2637**	
X4	4.5007	9.2500**	
X5	0.2632	2.8936**	
X6	3.1958	2.3471*	
X7	0.173	0.9524NS	
Intercept	318.2945		

Note: \*\* Significant at 1 per cent level \* significant at 5 per cent level NS ~Not significant.

The Table 7 reveals that the value of  $R^2$  is 0.6318 indicating that 63.18 per cent Of variation is explained by the independent variables The coefficients of  $X_1$ ,  $X_2$ ,  $X_4$ , and  $X_5$  variables was found to be significant at 1 per cent Level and the variables  $X_3$   $X_6$  are significant at 5 per cent level. The coefficient of  $X_7$  was found to be not significant. This indicates that the repayment of beneficiaries

among the different castes were not significant.

**SUMMARY OF SUGGESTIONS CONCLUSIONS**

Inadequate growth of non-agricultural sectors resulted in excessive manpower in agriculture and consequently there exists large scale unemployment and underemployment in the rural sector. Most

of the cultivation are small and marginal farmers who practise subsistence farming. Their meagre farm income hardly permits them to have hand to mouth existence. On the other hand, the number of agricultural labourer, who are asset less is increasing at a rapid rate and they solely depend on wage employment in agriculture. Their employment prospects are crippled by vagaries of monsoons which limit the cropping intensity and productivity in agriculture.

### **SUGGESTION**

Based on the findings of the study, the following suggestions are made which may contribute to the effective formulation, planning and implementation of the suitable schemes by commercial banks for agricultural development.

- It is found in this area that a majority of the beneficiaries due to ignorance and illiteracy are not familiar with the meaning and significance of bank loan facilities. It can be suggested that this handicap on the part of illiterate and ignorant public may be reduced to some extent by advertising the schemes and their benefits through mass media.
- Identification of the needy and genuine beneficiaries is one of the crucial problem which affect the credit sanctioning, disbursement, repayment and the recovery of overdones. This can be avoided through the establishment of customer or beneficiaries' associations. The associations of the beneficiaries must be formed through the initiation of the banks. This would help the bankers to collect the information regarding the nature, behaviour, the social and economic background of the prospective beneficiaries.
- In this study it is observed that the inadequate loans are sanctioned for some of the schemes. Hence it is suggested the participating branches in rural areas should make a realistic assessment of the financial requirements and allocation of funds should be substantially enhanced to match the hike in prices.
- Informal education and training must be imparted to the beneficiaries on maintenance of assets, prompt repayment of loan instalment and on improving their social and economic conditions.

- It is observed that the attention is paid towards evaluation of assistance by either the bank or other sponsoring agency is negligible. This tendency demonstrates only a spend trend but does not call for the detail about the amount spent and result achieved. This situation invites the necessity for a systematic evaluation by district study centre with the concerned authority to have clear glimpse of the impact of bank finance on income, and assets position of the beneficiary household.

### **CONCLUSION**

The repayment performance of the beneficiaries in the study area is not impressive and various factors play in the matter of repayment of loan about which a detailed discussion is made in Chapter. Besides ensuring better quality of lending, some of the suggestions are made for preventing emergence of overdones and improving flow of repayments to the financing bank. They are

- All possible steps should be taken to eliminate or reduce the political inferences in functioning of the credit system.
- The functioning of various agencies directly or indirectly associated with the task of recovering the loan such as the officials of the credit institutions and revenue officials should be streamlined. For this purpose 'Recovery cells' should be created at the district and region level.
- The bank staff in rural areas shall come forward to utilise non-public business working day (NPBWD) properly for better recovery and deposit mobilisation.
- The poor recovery because of wilful default by all household should be strictly dealt with through legal action.
- The beneficiaries who observe credit discipline and regular repayment of the loan should receive a recognition at times giving some mementos in the recovery camps. Wherever village-wise recovery is good the village should be encouraged by extending some community services by bankers. It is concluded that if due weightage is accorded to the suggestions made above by the authorities concerned, it not only triggers off agricultural prosperity but also enables the government(s) to provide socio-economic justice to the people.

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## **10.PARENTS ROLE IN MENTORING MALE CHILD AGAINST FEMALE VICTIMISATION**

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### **INTRODUCTION**

**I**n India a child is sexually abused every 15 minutes and every second reported facing emotional abuse reports National Crime Research Bureau (NCRB) , small children are the victim to sexual abuses as children being dependent for their requirement. . India is home to the largest number of sexually abused children in the world. The concepts of vulnerability to large categories of children are prone of an erosion of exploitation practices. Conflict and displacement of traditional values and cultural norms create a situation where children are at increased risk of exploitation. Children are seemed as the property of their parents in which their care is seen as a purely private matter. Sexual violence may be the main form of exploitation affecting children. So it is important to learn in mind that many children who exploit or abuse other children may themselves have been victim of abuse and exploitation and will therefore need to be addressed in an age-appropriate manner which respects their rights.

The term sexual exploitation can come from a multitude of situation others practices. Hence awareness should be linked to the reaction on identifying children not risk of sexual abuse exploitation. Child abuse reflects the relative absence of the phenomenon or lack of awareness of it.

We say that children especially girls are our future yet we fail to keep them safe. When girl children are abused they carry the trauma with them into adulthood. It is harder for them to live normal, hardly life. Birth of a

baby girl is not a day of celebration and it is made her to think that she should have not been born as a girl but for a boy, who enjoys all the love and fondness for being born a boy. Girls at large automatically consider themselves to be subdued to boys. The girls are under constant pressure by boys. In order to achieve true women empowerment it is important that we begin with girl children this is because girls of today are the women of tomorrow. Male privilege is everywhere in television and movies and gaming and women are portrayed in a certain light and relegated to certain roles.

### **ATTITUDE OF BOYS GRANTED**

The phrase "boys will be boys" and "is he behaving himself?" are often thrown around without much thought and generally boys have been brought up with the belief that women have nothing to do, say and their minds are constantly manipulated into thinking that women are second-class citizens these exemplify male privilege and excuse the ways society devalues and objectifies women while making it clear that this is a man's world. It's a women rights issue – this is the next step in the civil rights movement but It's amazing that we're still fighting on such a basic level,/. It is an urgent need this change archaic mind set of the patriarchal Indian society which views boys as assets and girl has liability this mentality should be changed first, To prove girls are no way less than boys educate boys from a young age by respectful speaking , a pretty basic at young age develops respect like to say please, thank you but this would

be very difficult for a teacher to teach a value system in the life of someone's child, as many parents could not even understand and may find fault with the teacher being partial to the child (showing partiality). Regardless of the reason, more and more of children need moral guidance from parents that starts at home and only parents can do this because it's easier for them to be a child's friend than a good parent. Generally to ensure daughter to be safe, parents try to teach their daughter not to talk to, follow or accept treats from stranger's, difference between a good touch and a bad touch. But this sage advice unfortunately does not keep the little one safe particularly from sexual abuse. Hence to reduce abuses parents role is dominant.

### **ROLE OF PARENTS TO EDUCATE OUR BOYS TO REDUCE – ABUSES**

Today most parents absence themselves to teach morals to their children but for they consider their prime duty to keep food on the table and a roof on their heads by taking up 2 to 3 jobs by which children are left without role models at home. They often go to school with knowing, white polite or respectful? Due to the non- congenial atmosphere in home due to ones over burden, upset and cursing of each other among parents in addition the child sits down before the TV and watches violent games which creates undeniable desensitising impact on the child, studies have also proven that the child playing violent games and viewing violent entertainment shows less empathy or kindness and average age of boys exposure to pornography. Porn teachers boys that women exist to be violently and sexually disrespected. Such attitudes are part of the domestic violence and disrespect problems against girls. Hence children will often live up whatever expected by them. Here the biggest concern is that, why moral values are not being taught at hence. It is the responsibility of that parent to teach matters of a moral nature to children, however many parents are not doing, especially in the case of male child.

Today we know that one of three girls and one in five boys will become victim of sexual abuse before graduating and 95% of this abuse is preventable when children are properly educated and this should be carried

from home especially male child.

All people deserve respect, kindness and compassion. When this value is instilled in ones son from a young age, he will view these virtues as common human courtesies not specific to any gender.

Teaching respect can begin when children are very young as children are incredible mimics and what they see at an early age sticks with them and this can come from a variety of influences.

- Having positive male role models who respect women will demonstrate the importance towards son. As he grows up, this early lesson will help him treat all people with respect regardless of any differences from him.

- Creating a strong bond between mother and son and promoting different areas of respect throughout childhood are great ways to teach sons to respect women.

- Showing ones son mutual respect through love and honesty and expecting it in return.

- Encouraging considerate behaviours from ones son helps create a gentleman. Which includes comforting or helping a friend in need, Friendship offers the opportunity to be caring and supportive towards others, which is vital to future relationships with women.

- Developing and maintaining friendships teaches children how to enjoy someone else's company, accept other's likes, dislikes and opinions, and compromise.

- Being affectionate with your spouse and children will open the door for sons to be affectionate, loving and emotionally available to women later in life.

These behaviours actively expressing love and affection is healthy and a terrific step on the path to respecting women.

### **TEACHING BOYS AT DIFFERENT AGES PLAYS A DOMINANT ROLE.**

**Under 5.** Teach boys under five to speak kindly, not to hit or threaten to hit girls.

**Between 5 – 12.** Teach boys empathy not play character role of the violent movie watched rather minimise exposure to games and TV shows that promotes disrespect and humanity.

**Between 12 – 18** Teach them intimacy there by it helps them to learn relationships, love for one another and to express them in

health way. Helps them to understand and separate physical and emotional intimacy from one another and this will provides soil for sexual miscommunication and sexual coercion. teach them not be too cool and casual about sex teach them the boundaries sex teach them not to wear T-Shirts of vulgar slogans. Stand as an example that makes the impacts on ones sons' respectfulness.

Teach sons the feelings of disrespected victim and the better ways of responding to issues and these teaching will help our boys to develop social awareness and conscience. Which will inculcate social responsibility there by help reduce abuses.

### **SUGGESTIONS**

Boys have to be taught from a young age, by both men and women, how to respectfully interact with girls. This can be done in many ways:

We as individuals can all call out and correct misogynistic language and actions when we see them.

Parents and youth programs can give young people examples of double standards that exist between girls and boys, and between women and men in society.

Teachers can engage youths to work and collaborate with peers from all genders and races, ethnicities and socioeconomic backgrounds in safe and supporting classroom environments.

### **CONCLUSION**

Educating boys about male privilege has the potential to be life changing. Imagine a world where men ask for permission before they walk into a woman's personal space. 'In ancient society they had a rite of passage, it was a sacred moment. We don't have that now. We just send them to school where they learn maths and English. There is a void about their identity. I think it's really important.' The Great Initiative is hoping to teach boys how to grow into young men who respect women, 'I think we have forgotten to explain to boys how to be gentle men,'. Educating young boys and adolescents about the importance of respecting women, the value women and about their own male privilege will go a long way in fixing a misogynistic culture would pave way for change.

We have sex education, but that doesn't cover any of this. This really made me think and write on this issue.



# 11. SOCIO ECONOMIC CONDITIONS OF SUGARCANE INDUSTRY AND SUGARCANE HARVEST WORKERS IN TAMIL NADU

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## ABSTRACT

The sugar industry in Tamil Nadu is an important agro-based industry next to textile industry. It plays a major role in the economic development of rural areas in Tamil Nadu. The sugar industry generates large-scale direct employment, apart from providing indirect employment to thousands of persons in rural areas who are involved in cultivation, harvesting, transport of cane and other services in first step pressing of sugarcane and extraction of juice is completed in engineering section, in second step crystalline sugar is manufactured in manufacturing section of sugar industry. A sugarcane farmer is an owner of a sugarcane field. Plantation of sugarcane is done by farmer from October to March, sometime in June -July. Then sugarcane farmer registers the date of plantation in sugarcane office. After one year of the registered date sugarcane factory sends the sugarcane harvesters for cutting of sugarcane.

Keywords: Seasonal Migration, Sugarcane Harvesting Workers, Agricultural Laborers, industry, cutting, Environmental farms

## INTRODUCTION

India is the second largest producer of sugar over the globe. The bulk of the rural population in India depends on this industry. The sugar industry is the second largest agricultural industry, followed after or by the textile industry. Sugar industry in India is well maintained and is growing at a steady pace. The sugar industry provides direct employment nearly about to 5 lakh peoples. The workplace environment impacts employee morale, productivity and engagement - both positively and negatively. The work place environment in a majority of industry is unsafe and unhealthy. Sugar industry is labor intensive industry employing more percentage of population of the society, covering both organized and unorganized human resources. As in case with any other industry, sugar industry employs multi-skilled workers at different levels of management. It is of prime importance from the management perspective to utilize the skill of the employees in optimum manner.

## OBJECTIVES

1. To know the socio- economic and

educational background of the sugar industry workers.

2. To study the factors effecting work environment

3. To examine the provisions of labour policies of government and social security schemes.

4. To study the present Information system of sugar factory.

## EMPLOYMENT, WAGES, AND LABOUR CONDITIONS:

Employment and wages are one of the most important means through which people may acquire the financial resources they need in order to purchase food. Employment quality and labour conditions are also important, as they may affect who has access to employment and whether (and which) workers benefit from it.

## THE PUSH FACTORS

Those that compel a person, due to different reasons, to leave that place and go to some other place. For instance low productivity, unemployment and underdevelopment, poor economic conditions, lack of opportunities of advancement, exhaustion of natural

resources and natural calamities may compel people to leave their native place in search of better economic opportunities. In most developing countries, due to population explosion landman ratio has declined resulting in significant increase in unemployment and underemployment. Introduction of capital intensive methods of production into the agricultural sector, and mechanization of certain processes reduce labour requirements in rural areas. The non-availability of alternative sources of income (non-agriculture activities) in rural areas is also important factor for migration. In addition to this, the existence of the joint family System and laws of inheritance, which do not permit the division of property, may also force many young men to move out to cities in search of jobs.

### **SUGAR INDUSTRY IN TAMIL NADU**

The agro based sugar mills play an important role in the economic growth of rural areas with the sole aim to generate large scale direct employment. Apart from that, a lot of indirect employment to rural population is also provided. Tamil Nadu sugar industry is responsible for about 10% of the total sugar production in India. The sugar industry faced 9 booms in the 1980s, but the crisis era started from 1990, all after the economic liberalization. With the surge in the procurement price of sugarcane, surplus production and reduction in the open market sugar price directed the industry and the sugar factories, thereafter to have a glut of stocks. In Tamil Nadu the soil is suitable for growing sugarcane and it has unique feature of sub-soil drainage, which is helpful to sugarcane cultivation. The favorable climatic conditions coupled with adoption of modern methods of cultivation by farmers, hard work by them and development efforts by the sugar mills resulted in faster growth of sugars industry in Tamil Nadu. Sugar industry provides direct employment to 0.50 lakh people and about 25 lakh people are indirectly connected with the industry in Tamil Nadu.

### **SAFETY OF THE EMPLOYEES**

The select sugar mills made genuine efforts to provide a fair work place to the employees. Employees are advised not to take chances either on the job or off. All health and safety

measures scribed are strictly followed. In case of any mishap or accident while on work, employees should immediately bring it to the attention of the superiors. Unsafe conditions jeopardizing safety of employees should be reported immediately to the superiors in the select sugar mills. Each sugar mill hits own security procedures and the employees are advised to strictly adhere to clear information regarding security procedures followed in each mill.

### **SOCIAL SECURITY**

The working condition of seasonal migrant workers is not satisfactory; they work more than 8 hours per day without any break of rest for an hour, for which they do not get also overtime rate for excess hours of work in the sugar factory as per the minimum wages Act, 1948. No bonus is paid

### **TYPES OF MIGRANT WORKERS**

Generally, there are two types of migrant workers via cane harvester and cane transporters, which include, bullock carts, tractors and truck or Lorries, etc. For the convenience they can be categorized in to; (a) direct centre harvest workers, linked to tractors and trucks. These workers are also known as head centered workers as they are carrying the cane loads on their heads from farm to the vehicle stationed nearby the farm. These workers are the contract workers of the vehicle owners. The contractors make a contract for the supply of the harvest workers during the sugar season. The wages are fixed by the sugar factories federation on tripartite agreements and (b) hired helping workers associated with the bullock cart owners engaged in assisting the nourishment of the bullocks and owners' households and their child rearing; mostly women and child workers and also for assisting the service to the dairy animals etc. The hiring rates are fixed by the transports / bullock cart workers. Mostly, these rates are fixed on the basis of their original place.

### **REVIEW OF LITERATURE**

The Sustainable Livelihood conceptual framework is also important in this study in Understanding how the cane cutters manage to survive in the midst of many livelihoods Constraints DFID (1999) notes

that the Sustainable Livelihood Framework (SLF) Seeks to gain an accurate and realistic understanding of people's strengths (assets or Capital endowments) and how they Endeavour to convert these into positive livelihood Outcomes

Scoones & Wolmer (2002) noted that a livelihood comprises the Capabilities, assets and activities required for a means of living. The Sustainable livelihood Framework is of value in understanding the linkages between the livelihoods of the cane cutters and the policies and institutions that either support or hinder them in achieving successful and sustainable livelihood outcomes. Despite their vulnerability, cane cutters utilize various livelihood assets and capitals at their disposal for them to survive. This study thus seeks to understand which of these capitals cane cutters draw on to gain a livelihood as well as in responding to the challenges they are facing. It should be noted that these capitals tend to determine access to assets and choice of livelihood strategies devised by cane cutters

## **THE QUALITY OF WORK LIFE FOR THE SUGARCANE CUTTERS**

### ***Daily Task for Individual Sugarcane Cute***

The sugarcane cutters' daily tasks are standardized. The whole sugarcane field is Segmented into standardized is unit areas locally known as 'Zvikwera' by the foremen. A single unit area, on average, produces a 6 tone bundle of sugarcane. Each Sugar cane cutter is assigned to a single unit area 'Chikwera' per day. To begin and end the task the sugarcane cutter should cut and stalk all the sugarcane in that single unit area. The sugarcane cutters revealed that the task was hard and painful. "The task is hard and painful to complete per day. If I fail to complete the task I will be recorded as absent and I will not be paid for the incomplete task. We have little to say over how our tasks are organized since this is done by management" said one sugarcane cutter. This reveals that sugarcane cutting is a very hard livelihood strategy and the sugarcane cutters are also not motivated since they are not involved in designing the tasks. To this end, the designing of tasks is more top – down in nature which

is simply imposed on the cane cutters. It has been observed by the researchers that cane cutting is an extremely hazardous job yet most cane cutters work without any protective clothing. This makes them susceptible to many diseases such as respiratory infections affecting their health. To make matters worse, during rainy days the sugarcane cutters are assigned additional tasks in addition to their usual daily task. These additional tasks are not paid for despite the fact that they are extremely difficult to undertake given the hard labour needed to accomplish them. It emerged from interviews that excess sugarcane leaves are supposed to be removed through burning for ease of milling of the sugar cane. However, if it rains, each sugarcane cutter is required to remove the excess leaves by hand, a process called 'Chihangera' and to carry the sugarcane out of the sugarcane fields 'Musengabere' for onward transportation to the sugarcane mill. This process is also locally called 'Mkondo' by the cane cutters

### ***Part-time Jobs***

In order to augment their meager salaries sugarcane cutters were deploying their labour to other income earning opportunities. This was made possible by the fact that their job has flexible working hours, where the sugarcane cutters are free to work any hours they wish. Thus their job allowed them to do more part-time income earning activities outside the work context. A number of cane cutters interviewed noted that they engage in part time employment as a strategy of supplementing their income. Most of the respondents acknowledged participation in income – earning activities Such as vending and part – time employment in nearby plots. It is against this background that engaging in multiple jobs can be viewed as a deployment of rational calculations and agency by the cane cutters who are realizing that with a single job their livelihoods will not be secure. To this end, the only way to maintain a sustainable livelihood, cane cutters have to augment their income through engaging in Part jobs and other livelihood activities like vending. It was observed that some sugarcane cutters earn some income from informal trading in agricultural produce and selling fruits like mangoes and oranges.

Some well – off casual workers operate flea markets adjacent to the TM Supermarket where they sell clothes and other wares. Others engage in petty trade as vendors at Buffalo Range as well as in and safety nets where sugarcane cutters fall back on in times of adversity and livelihood shocks. Of note is the fact that cane cutters are often not provided with a decent standard of living by the estate, hence around the Estate. It is against this background that such extra livelihood activities become some sort of they are compelled to go out of their way to supplement their income with other livelihood activities.

### **SUGAR INDUSTRY**

The Indian sugar industry uses sugarcane in the production of sugar and hence maximum number of the companies is likely to be found in the sugarcane growing states of India including Uttar Pradesh, Maharashtra, Gujarat, Tamil Nadu, Karnataka, and Andhra Pradesh. There are 453 sugar mills in India. Maharashtra Sugar Industry is one of the most notable and large-scale sugar manufacturing sectors in the country. The pace of growth of sugar manufacturing has been massive over the past few years. The latest statistics of sugar production in Maharashtra indicates that this state this doing better than the other states in the country. The Sugar industry in Maharashtra is highly popular in the cooperative sector, as farmers own a portion in the sugar factories

### **Transport Facilities**

Transport facilities to and from the place of work are given to workers as one of the desirable welfare amenities. This facility is gaining in popularity because of growing urbanization, location of industries, transport loads and traffic congestion. The main purpose of this amenity is to enable the employees of surrounding villages to commute without any difficulty to the nearby towns and cities, adequate numbers of buses are arranged through Tamil Nadu State Transport Corporation/private bus operators. Besides, the employees of the Sakthi Sugars and Prembalur Sugar Mills Limited are provided a transport facility which is operated by the mills.

### **Housing**

Housing is an integral part of worker's welfare. Recommendation o the ILO states that housing should be a matter of national policy. Both the Industrial Commission (1918) and the Royal Commission (1913) realized the importance and necessity of improving housing conditions of industrial workers and made recommendations for the purpose. The employees of the Select sugar mills are given accommodation on rent in the housing colony. About 50% of the employees eligible for quarter accommodation have been provided accommodation in their housing colony.

### **Sugar Cane Recovery Meaning**

Sugar recovery is the most vital economic indicator of any sugar factory. It indicates the sugar production from per metric ton of sugarcane. The sugar recovery mainly depends on the quality of cane that also includes types of cane variety, its maturity at the time of harvesting and total sugar losses during processing. In Western Maharashtra average sugar recovery of sugar factory ranges from 9% to 13.5% per ton. Computerized harvesting helps to improve sugarcane recovery growth.

### **Conclusion**

As has been argued in the foregoing treatise, the life of sugarcane cutters in Triangle Sugarcane Estate has been inundated with a myriad of challenges and livelihood limitations. It has been noted that their wages do not allow them to save and hence they cannot subsist sustainably. Sugarcane harvest produces significant weight and body fat loss, especially in the first harvest season. This loss was even more pronounced in migrants with the largest number of seasons worked previously. The work may cause a slight increase in muscle mass (lean), which occurred in a smaller scale with more experienced workers. The purpose of the study was to investigate the relationship between work environment and job satisfaction of employee's in cooperative sugar factories. Review of literature provided a strong evidence of the relationship between the study variables.

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## 12.SOCIAL ENGINEERING FOR PUBLIC HEALTH AND EDUCATION WITH SPECIAL REFERENCE TO ANTI-AGING MEDICINAL PLANTS -A STUDY IN HEALTH ECONOMICS

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### ABSTRACT

*Health system is a significant branch of national economics. Our Government of India is dedicated to the goal of 'Health for All'. Now a days, global healthcare is in crunch that the natural environment is undergoing widespread destruction, and indigenous herbal knowledge are endangered at rapid frequency. For the purposes of health, we are going to focus on the longevity research from the siddha philosophy that counterparts our longevity potential. In the various traditional medical system around the world, it is documented that certain herbal plants are reasoned longevity-enhancers by virtue of their abundant health benefits. Today traditional system of medicine has reached the threshold of entering into the domain of evidence-based science for endorsing antiaging activity of medicinal plants for healthy longevity.*

*Keywords: social engineering, health economics, health, anti-aging, medicinal plants*

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### INTRODUCTION

**S**ocial Engineering refers to management of human being in accordance with their place and function in the society in which health care system is a major branch of economics. Indian Government is committed to the goal of 'Health for All'. Now a days, global health care is in crunch that the natural environment is undergoing widespread destruction, and indigenous herbal knowledge are endangered at rapid frequency. We all want to live long and healthy. According to Population Census 2011 there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million are females and 51 million are males. Thercent report suggests that the figure of elderly persons is likely to rise to 173 million by 2026. From 5.6% in 1961 the proportion has increased to 8.6% in 2011. Holistic health practitioners consider that many of the ailments that are usually accepted as being part of getting old are in fact largely due to an unhealthy way of life rather than a magnitude of consecutive ageing. In the various traditional medical system in the world, it is acknowledged that certain herbal plants possess longevity properties by virtue of their abundant health benefits.

### WELLNESS OF PEOPLE

The term wellness of people in our society

has been applied in many ways and it is greatly more than just physical health. Wellness is multidimensional including: Spiritual, Physical, Emotional, Career, Intellectual, Environmental, and Social. It is a complete integration and the quest of continued growth and balance in these seven dimensions of wellness. Each dimension contributes to our sense of quality of living, and each affects and overlaps the others. The life expectancy at birth during 2009-13 was 69.3 for females as against 65.8 years for males. At the age of 60 years average remaining length of life was found to be about 18 years (16.9 for males and 19.0 for females) and that at age 70 was less than 12 years (10.9 for males and 12.3 for females). The life expectancy at birth in Kerala is 71.8 years and 77.8 years for males and females respectively as per the SRS Report 2009. Kerala has acquired the highest life expectancy at birth, followed by Maharashtra and Punjab.

The evidence of this is complex but consistent, showing that around a half of life expectancy increases in recent decades stem from improved health care. We should focus on traditional medicinal plant cultivation for herbal based medicines and their sustainable trade as a way to contribute to a better world.

## **HERBAL CULTIVATION AND HEALTH ECONOMY**

India is the largest producer of rice, wheat, pulses and spice products. The 6% of agricultural production is transformed into processed foodstuff, which is focused to achieve 20% in upcoming future. India's exports of raw herbs and Herbal products have increased multi-fold in the past ten years. Increasing agricultural yield is a major concern today and has become a scientific issue. "UnaveMarunthu, MaruntheyUnavu"- The agricultural sector presents key opportunities for improving nutrition and health. There are many herbal plants that can be cultivated by our farmers. But this connection is often not given due attention, despite parallel initiatives across the sectors. The obligation is to ensure the highest possible health status of India's population and access to quality health care has been recognized by a number of policy.

## **LONGEVITY HERBS AND ITS CULTIVATION PROSPECTS**

The most significant secrets of longevity is maintaining best levels of vital hormones as well as other phytochemical factors in our body. For the purposes of health, we are going to focus on the longevity research from the siddha philosophy that complements our longevity potential. The longevity herbal preparation of an elixir in siddha system works as an antioxidant, adaptive medication that normalizes physiological functions, through correction of imbalances in the neuroendocrine and immune systems to increase human health and longevity. The possible impacts of agricultural activities on health and nutrition extend across a number of channels. Lot of government initiatives are there to support the cultivation of medicinal plants by farmers. For instance, Ministry of AYUSH, National Medicinal Plants Board, Forest departments of state government provides farmers with a package of services like access to seeds, plant nutrients and production practices. Given the importance of agriculture for the livelihoods of the rural poor, agricultural growth has the potential to greatly reduce poverty is a key contributor to poor health and under nutrition.

## **INDIGOFERA ASPALATHOIDES**

Indigofera aspalathoides belongs to the

family Fabaceae (Papilionaceae) which is popularly known as Sivanarvembu in Tamil, is a low under shrub with copiously terete spreading branches. This plant is regarded as one used in Kayakalpa-longevity drugs and historically it is the one among them which derived from the Lord Siva and as well as Sakthi. It is found in South India and is traditionally used for treating various skin disorders and tumours. As per Siddha literature this plant is an immunomodulatory drug. Indigofera aspalathoides widely used in traditional medicines has fabulous therapeutic potential owing to its biological functions. It possesses biological activities such as antioxidant, anti-apoptosis, anti-aging, anti-carcinogen, anti-inflammation, antimicrobial agent, cardiovascular protection. The phytochemical studies reveal that there are fourteen major phytochemical compounds which place an important role as anti-cancerous and antioxidant properties. Indigofera aspalathoides can be used as an antibacterial herb against human pathogenic bacteria possessing natural antibiotic by means of anti-oxidant activity without any side effect. The oil prepared by traditional extraction procedure from this plant is widely used by the Siddha practitioners for various ailments and longevity.

## **MUCUNA PRURIENS**

Mucuna pruriens belongs to the family Fabaceae (Papilionaceae) which is popularly known as Ponaikaali in Tamil. The amazing herbal adaptogen that is mucuna pruriens is well known for its wide range of tonifying, strengthening and all around beneficial properties. Mucuna's main longevity benefits stem from the L-Dopa content in this herb. This amino acid helps to produce dopamine in the brain which not only elevates the mood, it stimulates the production of the Human Growth Hormone (HGH). It is extremely important to keep on producing this hormone if we wish to remain youthful and vibrant - most people have stopped producing it at around the age of 50. Mucuna pruriens also stimulates the production of melatonin and serotonin. Dopamine works as one of the best natural Human Growth Hormone releasers by stimulating the pituitary gland to increase its production. High levels throughout life of

the body's own natural growth hormone is known as a major key for human longevity. A new study shows that melatonin is able to correct many of the age-associated malfunctions that stress induces in immune cells from older people. Progressive reductions of melatonin secretion are one of the hallmarks of aging. In fact, whether cells are from a person who is young or old, melatonin is highly protective against stress inducing cell death.

### **TINOSPORA CORDIFOLIA**

*Tinosporacordifolia* belongs to the family Menispermaceae which is popularly known as Porseenthil in Tamil. A deciduous climbing shrub, stem rather succulent with long filiform flesh aerial roots found all over tropical India. The plant has significant medicinal importance and is widely used in the Indian medicine for increasing the lifespan, promoting intelligence, and improving memory and as antiaging agent. Recent studies on *Tinosporacordifolia* reported antioxidant, radical scavenging, hepatoprotective, anticancer, antiallergic, immunomodulatory, and anti-inflammatory effects.

### **CONCLUSION**

Agricultural activities can also generate economy-wide effects such as increasing government revenues to fund health, infrastructure and nutrition intervention programs. In fact agriculture is not only matter of survival with food grain production, but also gives enormous medicinal plants for wellbeing of the public. A more collaborative approach should start with cross-sectorial training and education programs alongside clear stakeholder guidelines and responsibilities. The importance of connection of these perspectives through estimation of the effect of adopting a healthy diet on population health, farming production, trade, the economy, and livelihoods, with a computable general equilibrium approach. An important step in this direction is a new path for agricultural development, one where agricultural development is used not only to increase food production but also to improve nutrition and health of people. In that manner, extensive benefits can be guaranteed to farmers whose earnings are little. The trade in medicinal plants, when

conducted well and ethically, can result in a cascade of benefits for the needy people. In order to promote medicinal plant trade effectively, we should work with herbal based enterprises to explore medicinal plants and to develop and market plant-based remedies. This is what we emphasize in the case of social engineering in order to accelerate overall development in an economy.

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# 13. A STUDY ON PROVISION OF EDUCATION FOR WOMENS EMPOWERMENT IN TAMIL NADU –AN ANALYSIS

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## ABSTRACT

*The Empowerment of the Provision of Education for women depends on many things. The first and the most important source of power for the women are in their depressed nest, the very nature of being Women Empowerment. The World Bank and many other development agencies have emphasised the concept of empowerment, specifically, women's empowerment, in theoretical discussions and policy perspectives.*

*Providing education is the key factor for socio-economic development of any society. In depth studies pertaining to the Provision of Education conditions of the Women's Empowerment in India are very much needed to improve the uplift of them. There have been a considerable number of empirical studies on the Women Empowerment in India since independence. Many social scientists have elaborately analyzed the changing social and economic status of Women Empowerment in Tamil Nadu. The Indian society is known for its inequality social hierarchy and the rich and poor divide. The social hierarchy is the result of Education system. This is unique to India. Empowerment occurs when someone who did not have power earlier is given power- and this power makes the person who is empowered experience a sense of ownership and control over resources. Empowerment is facilitated by a combination of factors, including values, leadership actions, job structures and the rewards system. Therefore, this research paper mainly concentrate on the educational development among Women in Tamilnadu .*

*Keywords: provision of Education, Socio-economic developments, Women empowerment, Social stigma, Women movement, Reservation and status.*

## INTRODUCTION

Since women comprise the majority of the population below the poverty line and are very often in situations of extreme poverty, given the harsh realities of intra-household and social discrimination, macroeconomic policies and poverty eradication programmes will specifically address the needs and problems of such women. There will be improved implementation of programmes, which are already women oriented, with special targets for women. Steps will be taken for the mobilization of poor women and convergence of services, by offering them a range of economic and social options, along with necessary support measures to enhance their capabilities. In order to enhance women's access to credit for consumption and production, the establishment of new, and strengthening of existing micro-credit mechanisms and micro-finance institution will be undertaken, so that the outreach of

credit is enhanced.

The concept of women's empowerment has been broadly used in feminist movement across the globe. But we did not get any particular definition of women's empowerment from the feminist form of advocacy. Advocates of feminist movement think women's empowerment as a synonym of gender equality and it is an end in itself. They viewed the empowerment of women as a set of rights towards equality with men. According to feminist approach empowerment is entirely a subjective matter. The idea of empowerment as an instrument of human development came into discussion after 1980s. The new paradigm concept of women's empowerment was closely related with feminist discourse. In addition to the feminist goals the new idea of women's empowerment had some important policy pay-offs. It was known as instrumentalist form of advocacy towards women's empowerment. Advocates of

instrumentalists tried to define women's empowerment with a broader vision compared to the vision of feminists. They had tried to quantify the concept of empowerment. However, this concept has still not been clearly defined and segregated from other closely related concepts. Sometimes empowerment is a process of improving the qualitative aspects of women; sometimes it is a state or the expected effect of empowering process. Different studies have looked into the concept of empowerment from different angles according to the need of their studies and different social contexts. Many studies have used the term empowerment as the process of empowering groups or individuals. In our study we concentrate on women's empowerment at the individual level and at the community level. Like many other countries, women's empowerment is considered as a social movement in India. First of all, we would, vividly, analyze what the empowerment is. There is an interpersonal variation in meaning and connotation of empowerment depending on the economic, socio-cultural and on many other conditions of the society. The meaning and the process of empowerment, particularly, women's empowerment varies from time to time, region to region, culture to culture.

### **STATEMENT OF PROBLEM**

Tamil Nadu has a relatively Third place in sex ratio in Indian population. As against the national average of Literacy Rate of Female is 15 place in State-Wise ratio. Despite these numbers which should easily help them breach a critical electoral threshold, Women Empowerment have not been able to political mobilize themselves successfully.

### **OBJECTIVES OF THE STUDY**

- 1.To undertake empirical research on Provision of Education for women.
- 2.To study the Women Empowerment dignity and equalities.
- 3.To study the Struggle of women identity in the nation.
- 4.To study the Social-battle against and Atrocity of the Women.
- 5.To study the Contemporary of Women movements in Tamil Nadu.

### **METHODOLOGY**

A part from studying the overall Education, socio-economic condition of the Women Empowerment. Many specialized studies are also needed regarding the overall Women Empowerment, literacy rate, Employment opportunity, placements of Tamil Nadu. This research paper is purely based on secondary sources of information and statistical data with descriptive and diagnostic study analysis. The secondary information and Statistical data are collected and compiled from both Central and State Government reports, reports of the Non Governmental Organizations, published and unpublished materials.

### **ROLE OF EDUCATION IN EMPOWERMENT OF SOCIAL STATUS**

Provision of Education for women of which had been subjected to various social disabilities of extreme nature were exploited and kept subservient mainly because they were illiterates. Their mass illiteracy was in turn, due to religious and social sections imposed on them by caste Hindus. Education is a dynamic agent of social change and social mobility. Education has a major role in enabling a person to acquire modern occupation leading to higher economic status, and thus socio-economic empowerment. "The role of education as a catalyst or agent of social empowerment has been well recognized. Education is said to determine the level of aspiration, technology, productivity, efficiency etc". Which constitute some of the basic factors in the process of empowerment? Both the government of India and the state have been convinced of the crucial role of education and have placed great emphasis on it so as to improve the conditions of the women. Accordingly, they have used education as the prime mover in the welfare policies and programmes intended for the women. This is reflected in the concessions and facilities being provided for the education of women.

### **STATUS OF WOMEN EMPOWERMENT**

- Economic Empowerment
- Educational Empowerment
- Political Empowerment
- Health Empowerment

## STATUS OF WOMEN EMPOWERMENT IN INDIA

Launching the nation-wide campaign to reverse the alarming decline in the ratio of women, in population, in the country, Minister for Women and Child Development, Government of India said, "It is a tragedy that every year, half a million girl children are being killed and prevented from being born, ironically with the help of modern tools of science and technology, leading to the decline in the ratio of women, in the population. It is shocking, that the declining sex ratio has already led to a situation, where brothers shared a wife, and in some cases, even fathers and sons shared a wife in several parts of the country".

**1. Contemporary Status:** Ever since India became free, there have been phenomenal changes, in the condition of women. The constitution has given women the much needed status. They are now equal before law. There can be no discrimination by the state on grounds of gender.

**2. Economic Development:** Women continued to be marginalized both in policy formulation and programme implementation. Low level of skills lead to lower wages and low earning. In terms of employment, she enjoys the same status as men, and has to be given equal pay for equal work.

**3. Political Development:** The reforms in the Panchayat Raj Act have given greater share for women, in rural governance. At present, the concept of Self-Help Groups for women, particularly in rural areas, has given them an opportunity to organize themselves, to engage in productive activities, that could augment their earnings, which leads to their social and political empowerment.

**4. Gender Disparity:** According to Amartya Sen, gender inequality is not one homogenous phenomenon, but a collection of desperate and interlinked problems and the different kinds of gender inequality were displayed in mortality, natality, basic facility, special opportunity professions, ownership, and household matters. We shall look into the classification of gender disparity at birth, growth and survival.

**5. Disparity at Birth:** In being born as female children and in giving birth to children, women experience grave disparity, while the infant mortality reveals, that the right to be born is denied, the maternal

mortality speaks of the lack of medical care and attention to women.

**6. Education:** Education can pave the way for an overall development of individuals and for the society. Female literacy is not only an end itself, but also serves as a catalyst for overall performance, in other segments too. General literacy levels of women in Tamil Nadu (64.55 per cent) have been always above the national average (India's female literacy 54.16 per cent). Even though female literacy in Tamil Nadu has shown considerable increase, the gender gap between male and female literacy rates has continued. The need to narrow down the gap is urgent. The inter-district imbalance in literacy levels ranges from 49.10 per cent in Dharmapuri to 85.39 per cent in Kanyakumari.

## SHG AND WOMEN EMPOWERMENT

\* The Ministry of Rural Development is striving to bring about rapid and sustainable development, through socio-economic transformation, in rural India. It adopts an integrated approach towards improving the quality of life of rural poor and ensuring equity and effective people's participation. In this approach, non-government organizations, self-help groups and Panchayat Raj institutions have been accorded important role, in rural development. Of these, SHG is a 'people's scheme' and its organization is a significant step, towards empowering women. Women SHGs play a vital role in enhancing the knowledge, skill and good attitude of their members.

\* As NABARD has described firstly, the members can transit from dependency to self reliance much faster, through social mobilization and awareness creation than through economic interventions. Secondly, women form the basis of social mobilization. Therefore, aiming for women's empowerment is the most cost effective strategy available, even for economic development and enhancing members to become self-dependent, self reliant, providing a forum for members for discussing their socio-economic problems, developing decision-making capacity and leadership qualities, among members and equipping women with the basic skills required for understanding monetary transactions.

### **EMPOWERMENT THROUGH SHGS**

Empowerment literally means 'becoming powerful'. In view of low literacy rate of women, the success of any strategy of women empowerment depends upon the following factors:

- 1.Level of education, hard work
- 2.Social custom
- 3.Family planning, small family
- 4.Health, medical services, cleanliness
- 5.Environment, tree growing, kitchen gardening.

The members of SHGs are mainly illiterate and do not have access to formal education. They will be unable to follow the accounts maintained by the group, and hence, remain ignorant about the amount pooled individually and in the group, and would be unable to draft an application to represent their case. At this stage, they do not need school or university certificate, Diploma or degrees. They need improvement in their professional skills and solving their day-to-day problems in the working and functioning of SHGs. They should be explained the advantage of group based strategies in poverty alleviation. Importance of savings and opening bank account, marketing of products, timely repayment and repeat loaning. It is important to explain, that she is not alone, and that such problems are being faced universally. Only by self-help, they may fight against their misfortune and improve upon the fate of their family and children.

### **EDUCATIONAL DEVELOPMENT**

Education is an instrument of socialization. It is considered as a powerful catalytic agent for social change and a key factor for socio-economic development. It is most effective mechanism for the overall development of the Women, removal of their disabilities and acceleration of the integrated process. Realizing the importance of education, the framers of the Constitution included in the Directive Principles of State Policy, provisions for free and compulsory education for all children up to the age of 14 years and for promotion with special care also the educational and economic interests of the weaker sections of the people and particularly Scheduled Castes

and Scheduled Tribes and protecting from social injustice and all forms of exploitation. Article 15 (4) enable the state to make special provision for the advancement of any socially and educationally backward class of citizen or for the SC's and ST's.

In pursuance of these Constitutional provisions, a series of measures have been taken both by the Central Government and the state governmental to spread education and literacy among the Scheduled Castes and Scheduled Tribes so that through educational advancement the other two disabilities, social and economic, may also be remedied.

An elaborate programme of pre-matric and post-matric scholarships, reservation of seats in schools and colleges including technical and professional institutions, establishment of hostels and Ashram schools for the children of Scheduled Castes and Scheduled Tribes and other incentives like mid-day meals, free text books and uniform etc. are in operation for the last five decades. Although, there has been a visible increase in the literacy rates of SC's/ST's during the last three developmental decades, the gap between the literacy rates of SC's/ST's and of the general population still persists. Further, this gap was found to the widening, decade after decade. However, the gap in literacy rate between the general population and SC's wider. About 16.6 per cent Scheduled Caste population was reported to be literate against 66.0 per cent literacy rate for the general population. The details of decadal change of Literates and Literacy Rate in India, 2001-2011 are given in Table - 1.

The evidences observed from the table-1 reveals that the educational progress of Scheduled Caste populations is quite remarkable. The total literacy rate for Scheduled Caste for all India is recorded as 54.7 percent in 2001.This has increased to 66.1 per cent in 2011. During 2001 to 2011 the growth of literacy rate for Scheduled Caste is recorded as 11.4 percent. These are much higher than the overall literacy growth rate of 8.2 percent for total population of India.

**Table – 1 Decadal change of Literates and Literacy Rate in India, 2001-2011**

Indicator	Literates		Effective Literacy Rate	
	2001	2011	2001	2011
General Total Population	56,06,87,797	76,34,98,517	64.8	73.0
Rural	36,17,36,601	48,26,53,540	58.7	67.8
Urban	19,89,51,196	28,08,44,977	79.9	84.1
SCs total Population	7,53,18,285	11,37,59,907	54.7	66.1
Rural	5,58,06,266	8,20,20,232	51.2	62.8
Urban	1,95,12,019	3,17,39,675	68.1	76.2

Source: Primary Census Abstract for Scheduled castes and Scheduled Tribes 2011, Census of India

## TIME SERIES DATA

### POPULATION AND LITERACY RATE OF TAMIL NADU

Census Year	Population (In Lakhs)	Percentage of Literacy		
		Total	Male	Female
1951	301.2	20.80	31.70	10.10
1961	336.9	36.39	51.59	21.06
1971	412.0	45.40	59.54	30.92
1981	484.1	54.39	66.05	40.43
1991	558.6	62.66	73.75	51.33
2001	624.1	73.47	82.33	64.55
2011	721.4	80.09	86.77	73.44

Sources: Census of India 2011

### EMPLOYMENT PATTERN

At the time of independence, scheduled castes were mostly engaged in jobs, which were considered to be too menial to be performed by other castes. They were mainly employed as agricultural workers, tanners, flayers and the like in the lower rungs of the society. Since then, supported by the various programmers, the SC's have been able to make slow but steady progress economically though not at par with the general population.

Despite the progress achieved, there has been no significant shift in employment pattern among them. During 2015-16, about half of the SC's, workforce was found engaged as agricultural laborers while 20.1 per cent were self employed

in the agricultural sector.

Around 58 percent rural SC workforce was reported as labourers<sup>25</sup>. In the urban areas, 44.3 percent SC's were engaged as regular wage/ salaried/Government Services, while above one-fourth work force was reported as self employed. Details of occupational pattern in India, 2015-16 are given in table- 2.

It can be observe from the table-2 , clearly stated that the proportion of SC's in Government services has significantly increased due to the provision of reservation policy and other positive discrimination measures. The details of Representation of SCs in Central Government Services are provided in table- 3.

**Table – 2 Occupational Pattern in India, 2015-16 (in percent)**

S.No.	Particulars	SC HHs	ST HHs	OBC HHs	Other HHs	ALL HHs
<b>Rural</b>						
1.	Self-employed in agriculture	20.1	43.8	36.8	38.3	33.7
2.	Self-employed in non-agriculture	17.4	9.4	20.5	19.7	24.2
Total self-employed		37.5	53.2	57.3	58.0	57.9
3.	Agricultural laboureres	32.8	24.5	18.9	18.2	20.3
4.	Non-agri. labourers	24.6	15.8	15.5	13.6	14.0
Total rural labour		57.4	40.3	34.4	31.8	34.3
Others		5.1	6.5	8.3	10.2	7.8
Total		100	100	100	100	100
<b>Urban</b>						
1.	Self-employed	27.2	20.0	35.8	38.0	34.6
2.	Regular wage/salaried/Govt.	44.3	45.5	39.2	45.2	45.9
3.	Casual Labour	20.3	19.0	16.0	7.6	12.4
4.	Others	8.2	15.5	9.0	9.2	7.1
Total		100	100	100	100	100

**Table – 3 Representations of SCs in Central Government Services, 2014-15**

Group	Total	SC	percent	OBCs	percent	Others	percent
A	66142	7923	11.98	5589	8.45	49278	74.50
B	142413	22316	15.67	14876	10.45	97543	68.49
C	2531762	430996	17.02	447564	17.68	1435851	56.71
Total	2740317	461235	16.83	468029	17.08	1582672	57.76

Source: Annual Report, 2015-16, Ministry of Personal, Government of India, New Delhi. The data shown in table- 3, clearly reveals that during 2014-15, SC's constituted 11.98 per cent of Group A category in Central government jobs, 15.67 percent where occupied Group B category jobs and 17.02 percent of them where holding Group C category jobs in Central Government Services respectively. Their representation in this category of services has drastically changed since last one decade.

Years/Levels		General Population		
		Male	Female	Total
<b>2012-13</b>	I – V(6-11 Years)	99.3	102.2	100.7
	VI – VIII(11-14 Years)	82.3	86.9	84.5
<b>2013-14</b>	I – V(6-11 Years)	98.1	100.6	99.3
	VI – VIII(11-14 Years)	84.9	90.3	87.4
<b>2014-15</b>	I – V(6-11 Years)	98.9	101.4	100.1
	VI – VIII(11-14 Years)	87.7	95.3	91.2

Sources: Census of India 2011

The above data shown in table-4, reveals that during 2012-13, enrollment rates among scheduled castes were reported to be 114.6 per cent among males, 116.7 per cent among females and 111.9 per cent among persons for classes I – V (6-11 years). For classes VI – VIII (11-14 years), enrollment rates were reported to be 91.2 per cent among males, 95.9 per cent among females and 93.5 per cent among persons. Importantly enrollment rates among scheduled caste population are lower for class VI – VIII while dropout rates were reported to be higher than general population. Even enrollment of scheduled castes students in higher education is very low as compared to enrollment rate of general population.

### CONCLUSION

In the present study empowerment of women, the major responsible factors are education. The educational mobility is parental pressure, self motivation, and higher level of aspiration of the person, awareness of the advantages of education and government welfare measures. Education of the old women's seemed to be significantly related to educational level of the young women i.e. the higher the old women education, the higher is the educational level of their daughters, and it is known fact that the educated parents are in a better position to provide their children with right guidance and advice and they motivation them for higher education. The education provided by the current education system, specifically schools, colleges and vocational training institutions, does not incorporate the experiences and needs of women. The current system is patriarchal and inaccessible to all. Furthermore, it is impractical for many potential students, and discriminatory. People-oriented and practical education policies are needed to address the expansion of education services to all members of the population.

The trend in occupational changed showed that there is intergenerational vertical occupational mobility. Analyzing these cases, we could identify certain factors contributing to women's empowerment namely, education, and change in attitudes and in the level of aspiration. Education, modern occupation and the welfare schemes

of government are contributing a lot towards changing the socio- cultural attitudes and life – style of women.

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## 14. LOW LEVEL OF AGRICULTURAL PRODUCTION AND POVERTY IN INDIA

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### ABSTRACT

*Agricultural and rural poverty are closely related and they both mutually influence each other's. Hence if agriculture develops it would have a negative effect on the day levels of poverty. Through the cause for poverty are wide and vary across regions, as far as Tamil Nadu is concerned, agricultural development could play a major role in pushing back the level and incidence of poverty. The agriculture and poverty could be looked at under the following four major aspect:*

*(a) food security,*

*(b) Health and Nutrition security,*

*(c) Income and employment security, and*

*(d) Economic and social Security.*

*There has long been a broad consensus amongst donors and developing country governments that agricultural growth will directly benefit the rural poor and also improve the position of the urban poor by reducing food prices. For the poorer developing countries, growth is dependent on increases in agricultural productivity, which provides sufficient food for a growing non-agricultural population. As this structural transformation proceeds, agriculture accounts for a falling proportion of employment and income, but the growth process is driven by the development of the agricultural sector. Thus, agricultural productivity improvements should be both pro-poor and pro-growth.*

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### INTRODUCTION

Poverty has both physical and psychological dimensions. Poor people themselves strongly emphasize violence and crime, discrimination, insecurity and political repression, biased or brutal policing, and victimization by rude, neglectful or corrupt public agencies (Narayan et al. 2000). Some may feel poor or be regarded as poor if they cannot afford the sorts of things available to other people in their community. A review of 43 participatory poverty assessments from four continents concluded that poor people report their condition largely in terms of material deprivation: not enough money, employment, food, clothing and housing, combined with inadequate access to health services and clean water; but they are also liable to give weight to such non-material factors as security, peace and power over decisions affecting their lives (Robb, 1999).

### IMPORTANCE OF REDUCING RURAL POVERTY

Public action was more cost-effective in reducing urban poverty;

- \* The rural poor gained far more from urban poverty reduction than vice versa;
- \* Rural anti-poverty spending discouraged the poor from migrating; or
- \* Rural poverty reduction promoted less economic growth than urban poverty reduction. None of these is usually the case.

### GROWTH EFFECTS OF RURAL AND URBAN POVERTY PRODUCTION

Countries with very unequal assets and (perhaps) income usually experience slower economic growth.<sup>8</sup> This matters for the choice between rural and urban poverty reduction in two ways. First, some inequality of reward seems necessary to create incentives for effort, achievement, or meeting effective demand. But inequality that reflects ascribed position, status



or inheritance reduces earned incomes, and creates barriers to the advancement of capable persons. This happens when more or better schools, clinics, prices, or research inputs are assigned to people just because they are born in towns. So, severe rural-urban inequality probably retards growth. Second, concentrating resources in large units of production is usually bad for equality, but can be good for growth if, and only if, there are economies of scale. Agriculture generally lacks these; many urban activities feature them. Concentrating anti-poverty resources on the rural poor is consistent with small-scale (and labor-intensive) production, and this is likely to promote both efficiency and equality. The apparently higher return which expenditure brings to reducing rural, rather than urban, poverty justifies that commitment, particularly given the greater incidence and depth of rural poverty. Prating, evaluating and comparing facts about the rural poor, and policies affecting them. The rural-urban borderline in a country is seldom changed. It is more reliable to compare rural and urban shares of the population and of the poor, and disparities among them (mean income, dollar-poverty incidence, doctor/patient ratios, or illiteracy) in the same country over time than to compare countries. We can track what is happening to rural population shares and disadvantages in a country; but caution is needed, even here.

**MEASURING CONSUMPTION POVERTY: IDENTIFICATION AND AGGREGATION IDENTIFY THE POOR FIVE TECHNIQUES ARE IN WIDESPREAD USE FOR SETTING THE POVERTY LINE.**

- The food energy method (FEM) estimates a food-energy minimum required to satisfy dietary energy (caloric) requirements and then determines the level of income/consumption at which this minimum is typically met.
- The cost-of-basic-needs (CBN) method sets the poverty line as the level just sufficient to buy an exogenously set low cost adequate diet plus other cheap basic requirements.
- The food-share method (FSM) estimates the minimum cost of a food basket that satisfies the food energy minimum and multiplies this by the share of non-food expenditure in total consumption of a sub-

group defined as poor.

- The international poverty line method is described in endnote .
- The relative consumption method sets the poverty line at a percentage of national mean or median consumption, often half or one third. Often a set of poverty lines is used, ranging from extreme poverty to moderate poverty.

**ADD THE NUMBER POVERTY**

- The headcount ratio measures the incidence of poverty (P0) and is simply the number of poor people divided by the total population. But this fails to show how poor the poor are. Two countries may have the same headcount ratio but the poor in one country may be much poorer than the poor in the other country.
- The poverty gap (P1) index gets over this problem by incorporating the depth of poverty. Each poor person is weighted by his/her proportionate shortfall below the poverty line, indicating how poor he/she is. But neither P1 nor P0 allows for inequality amongst the poor: if a poor person consumes ten rupees a day more but an even poorer person ten rupees fewer, neither P1 nor P0 rises, yet most of us would agree that poverty has got worse.

- The poverty severity (P2) measure solves this by weighting each poor person by the square of his/her proportionate shortfall below the poverty line. The P2 measure is the most comprehensive because it increases when the number of poor people increases, or the poor get poorer, or the poorest get poorer compared with other poor people. All of these poverty measures express values between zero and one, with numbers close to zero indicating little poverty and numbers closer to one suggesting substantial poverty.

**Trends in Prime-Age Dependency Ratios, Rural and Urban**

Country	Year	Urban	Rural
Brazil	1960	125	99
	1991	148	111
China	1989	195	132
	1990	228	161
Egypt	1960	105	104
	1985	135	104
India	1961	121	111
	1995	172	133

Source: UN, Demographic Yearbooks, 1979: 240-66; 1979 (special Issue): 288-372; 1985: 210-45; 1996: 218-61.

## **THE POVERTY OF AGRICULTURAL TECHNOLOGY**

Does technology-led agricultural productivity growth lead to widespread economic growth and poverty reduction? There is a considerable recent literature on agricultural research and poverty alleviation, which is relevant here since it assumes that R&D produces new technologies and looks at the poverty impact.<sup>14</sup> Thus, Hazell and Haddad (2001) list the potential poverty impacts of improved technology:

- \* It can benefit poor farmers directly through an increase in their level of on-farm production. This may involve production of more food and nutrients for their own consumption, and increasing the output of marketed products for increased farm income;

- \* It can benefit small farmers and landless laborers through greater agricultural employment opportunities and higher wages within the adopting regions;

- \* It can increase migration opportunities for the poor to other agricultural regions;

- \* It can benefit a wide range of rural and urban poor through growth in the rural and urban nonfarm economy; It can lead to lower food prices for all consumers, whether from rural or urban areas

- \* It can lead to greater physical and economic access to crops that are high in nutrients that are crucial to the well-being of the poor and to poor women in general

- \* It can empower the poor by increasing their access to decision-making processes, increasing their capacity for collective action, and reducing their vulnerability to shocks via asset accumulation.

Many of these benefits do not necessarily materialize for the poor; there are many conditioning factors that determine who benefits from technological change. Nor do they all necessarily work in the same direction. For example, while many of the poor may benefit from the indirect benefits of technological change, the direct impacts may be disappointing or even perverse. The net outcomes, both for individual poor people and for the poor in total, can be difficult to determine a priori.

## **AGRICULTURAL PRODUCTIVITY GROWTH ON POVERTY AND NUTRITION**

In this section we examine the proposition

that agricultural productivity has a direct impact on poverty headcounts and other poverty measures. This relationship does not appear to have been investigated and is similar to the notion of estimating poverty elasticities for growth. Fan and Hazell, in their investigation into linkages between government spending and poverty alleviation, explored the productivity-rural poverty links in India by modeling the relationship of the \$1 a day poverty indicator against Total Factor Productivity (TFP), but their simultaneous equation approach does not lead to a poverty elasticity.

Following the relationship that appeared in the text, the link between labour and land productivity can be stated in value added terms as an identity. Value added is net of the costs of intermediate inputs, which would remove the cost effects of intensification using increasing amounts of modern inputs. This should make it closer to TFP than the total output-based measure suggested in the text. In this way labour productivity can be decomposed into the product of two components: land productivity, or yield, and the land labour ratio, which can be viewed as an indicator of a country's resource endowment. Thus, the yield contribution to labour productivity can be separated from the relative scarcity of land, which it is not possible to change. This is important because a country such as the USA has several hundred times as much land per unit of labour as a land scarce country, such as Bangladesh, and will have far higher labour productivity as a result.

## **CONCLUSION**

Agricultural productivity growth can stimulate wider growth in the non-farm rural economy, which in turn can contribute to poverty alleviation. However, poverty alleviation through economic growth takes time and depends on favorable conditions such as relatively equitable initial division of assets, widespread access to infrastructure and government services, and promotion of labor-intensive enterprises. While economic growth is not sufficient to alleviate poverty, evidence suggests that it is necessary. Alongside economic growth, poverty alleviation requires special programs targeted to poor people to provide safety nets and give them opportunities. Hence, it is necessary to keep our policy focus towards developing agricultural sector as a measure to eradicate rural poverty.

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## 15.A STUDY ON BEAD MAKING TECHNOLOGIES IN THE INDUS VALLEY CIVILIZATION

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### ABSTRACT

*The study of bead manufacture and changing styles of beaded ornaments is an important method for investigating the social and economic development of a society. The analysis of beads from different periods and areas of Harappa have made it possible to define specific trade networks and the organization of production as well as changing patterns of interaction over the history of the site. Bead making techniques and styles of beads from the major periods at Harappa provide a unique perspective on the complex history of this important settlement. Unlike subsistence activities or the production of utilitarian tools, bead makers were involved in creating ornaments that could be used and in most cases viewed by all members of the society.*

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### INTRODUCTION

The study of bead manufacture and changing styles of beaded ornaments is an important method for investigating the social and economic development of a society. Numerous studies, including our on going work at Harappa (Meadow & Kenoyer 2001) have demonstrated that the careful documentation of bead manufacturing techniques, raw material sourcing and stylistic analysis can reveal valuable information about prehistoric cultures. The analysis of beads from different periods and areas of Harappa have made it possible to define specific trade networks and the organization of production as well as changing patterns of interaction over the history of the site (Kenoyer 2000, 2001).

During the past 15 years of excavation and research at Harappa, all of the major mounds have been systematically surveyed and selected areas have been both horizontally and vertically excavated. In the course of these excavations, large numbers of beads, drills and bead making debris have been recovered from different parts of the city and from all of the major chronological periods. The vast majority of the beads are made of fired steatite, which was a widely used raw material, beginning with the Ravi Period and continuing through the Late Harappan Period. The long use of a raw material combined with changing techniques of production and bead

morphology provide a unique perspective on the technological tradition and the people who used it. Terracotta is a locally available material that was also used to make beads throughout the history of Harappa. The use of faience for making beads starts in the Kot Diji phase and continues on through the Late Harappan phase. Beads that are made of hard stone such as agate, carnelian are relatively less common, with a significant drop in numbers for stones such as lapis lazuli, grossular garnet, serpentine and amazonite. Marine shell, which is relatively abundant at the site in the form of shell bangles and inlay, was not a common bead material, possibly because of the common use of white-fired steatite. Precious metals such as copper alloys and gold were probably quite intensively recycled, so it is not surprising that these materials are not often recovered in the course of excavation. A rare discovery of preserved seeds of the Coix plant comprises the only evidence of organic beads from Harappa. These various materials, regardless of their abundance or scarcity reveal the importance of beads to Harappan culture and the dynamic nature of the bead industry over time.

The largest proportion of beads comes from the Harappa Phase (Period 3, 2600-1900 BC) that has been excavated most extensively, but there are important collections from all of the other periods as well. At this time it is not possible to separate all of

these beads and manufacturing debris into different chronological periods because we are still in the process of analyzing the bead styles and the contexts in which some of them were discovered. However, as will be illustrated below, discrete samples of beads and manufacturing debris from well-stratified contexts in different periods, make it possible to compare specific aspects of bead technology, bead shapes and styles, as well as the organization of bead production over time. Scanning electron microscopy allows for the comparison of sawing and drilling techniques, while basic sequences of manufacture (*chaîne opératoire*) can be defined through the analysis of manufacturing debitage, tools and finished commodities. Preliminary results indicate that some important similarities and continuities link one period to the next. However, distinctive patterns can be identified from each period indicating important changes in the technology as well as the organization of production. Some of the technological features can be used to reliably date many beads found in secondary contexts.

### **ORGANIZATION OF BEAD TECHNOLOGY**

The organization of bead technology is defined to some extent by the nature of the raw materials being used and the complexity of the technology and tools used to process the raw materials. Generally speaking we can divide the production of beads discovered so far at Harappa into the following eight categories Terracotta, soft stone and hard stone bead making is found in all periods at Harappa. It is not unlikely that organic beads were used throughout the history of the site as well, but we have only found them preserved in the Harappa phase. The absence of shell from the Late Harappan phase is significant, as it may reflect the break-down of trade networks to the coast (Kenoyer 1995). Given the abundance of gold and silver ornaments found from Late Harappan sites in India (Khatri & Acharya 1995), the absence of such beads at Harappa during the Late Harappan Phase may be due to the small area excavated. It is also possible that gold objects found on the surface have generally been lumped with the Harappa phase. Bone, antler and ivory beads have not been found, but can

be expected in the future.

### **TERRACOTTA BEAD PRODUCTION**

The manufacture of terracotta beads involves the collection of fine clay and preparation of a bead by hand or with the aid of some tools. Most terracotta beads were made simply by rolling or pinching the form and perforating the bead using a long thin tool, such as a reed or even a porcupine quill. Incising, impressing, or pinching the surface of the bead was often done to create additional decoration. During the Harappa phase some terra-cotta beads were made using different colors of clay to create the effect of banded sandstone or jasper. Finally, the firing of terracotta beads was a relatively simple process and could be done using a small fire or in the course of firing pottery.

### **SHELL BEAD PRODUCTION**

Shell beads were produced using two different processes (Kenoyer 1984, 1995). The most expedient process involved making a hole in a natural shell to create a bead or pendant. Perforation was done by grinding, chipping, or using a drill made from chert or copper. The more complex process of shell bead making involved first breaking or sawing off a segment of the shell body or the whorl and then shaping the bead blank by sawing or grinding. Perforation was done by drilling with a stone or copper drill. After final polishing the bead was ready for use. During the Harappa phase shell and stone were sometimes combined to create layered beads with bands of white shell alternating with different colors of stone.

### **METAL BEADS**

Some copper beads from Harappa have been alloyed with tin, but it is not possible to determine if these beads were made from recycled tools or if they were intentionally alloyed to make a golden colored bead. Gold beads at Harappa are made using a wide range of techniques that include drilling solid discs of gold, hammering thin sheets of gold to make tubular forms, drawing and hammering to make wire beads, or by making thin sheets of gold to cover copper beads. Similar techniques would have been used for silver beads, but we only have a few examples that are heavily corroded. No primary workshop for metal working has been excavated at Harappa, but numerous

small crucibles have been found that may have been used for gold working, and larger copper crucibles have also been discovered.

### **ORGANIC BEADS**

The production of beads from copper, bronze, gold or silver would have involved all of the basic processes used for other aspects of metallurgy (Kenoyer & Miller 1999). There is no evidence for smelting of copper ore at Harappa, so we assume that all of the copper/bronze beads were made using imported copper ingots or scrap

As mentioned above, we have only one example of three preserved Coix seeds (Job's Tear) that were used as beads (Meadow et al. 1998). These seeds were found inside a tiny pot along with carnelian, faience and steatite beads. The association of the natural bead with other more valuable stones and artificial materials suggests that they may have had some specific symbolic meaning. We can assume that other perishable materials were also used for ornamentation and must keep looking for preserved examples.

This brief summary of the different types of bead production shows how each category of raw material requires distinct processing techniques and stands alone as a production technology. It is not unlikely that crafts-men were capable of making beads from different materials and some workshops may have been involved with the production of beads from several related materials. However, the specialization required for some of these technologies, such as metal, faience and hard stone bead working would suggest that they were produced in distinct workshops. In the following section, the major evidence for the different bead technologies during each major occupational period at Harappa will be presented to demonstrate how the technologies are interconnected and how they changed over time. The differences between the specific bead technologies, from raw material acquisition to final distribution of finished beads, are critical to understanding the relative "value" of beads and for defining the different ways in which production could have been controlled by elite groups (Vidale 2000).

### **RAVI PHASE BEAD MAKING**

During the Ravi Phase occupation we

have evidence for terracotta bead making as well as both soft stone and hard stone bead production (Fig. 2). Terracotta bead necklaces and isolated beads provide a wide range of shapes and styles of beads. Necklaces were made with multiple bead shapes, including long barrel, short bicone, long bicone and triangular section bicones as well as both short and long cylindrical beads. Most of the terracotta beads were undecorated, but a few have been impressed with simple weave coarse fabric to create a textured surface. The production of these beads may have taken place in the household or in conjunction with pottery making, but so far we have no direct evidence for terracotta bead production.

On the other hand we have been fortunate to find two distinct areas with evidence for soft and hard stone bead manufacture even though we have excavated only two small areas of the site (Trench 39S; 4  $\mu$  4 m and Trench 39N; 6  $\mu$  11 m). Both types of beads were being made in open areas associated with household debris, pits, hearths and domestic pottery. The distance between the two areas is only 25 to 30 m, with the hard stone beads being made in the northern area and the soft stone (steatite) in the south.

In the southern area, evidence for steatite bead production is seen in the large quantities of unfinished beads, some sawn fragments of manufacturing waste, and numerous finished beads that had been hardened and whitened by glazing and firing at high temperatures. Some of the fired beads had been decorated with a blue-green glaze which was probably made with powdered frit and copper oxide combined with a flux from plant ash (sajji), a process that is well documented for glazed faience (Kenoyer 1994). Steatite bead shapes are less varied than terracotta beads, and short cylindrical or disc beads are the most common. Based on SEM studies of the drill holes, it appears that the longer steatite beads were drilled by slender copper drills (Kenoyer 1997), while the shorter beads could have been perforated with sharp thorns or tiny slivers of chert.

The manufacturing debris and finished hard stone beads found in the Ravi levels reveal the use of three different perforation techniques, but the range of shapes is even more limited than that of the steatite beads.

The main types are short and long biconical beads, and short and long cylindrical beads. Lapis beads were drilled with what appears to have been stone (chert or jasper) drills while carnelian beads were perforated by pecking. Beads made from amazonite, which has a fragile crystalline structure were perforated with a tapered cylindrical stone drill (Kenoyer & Vidale 1992). The presence of different drilling techniques in the same area of the site indicates the virtuosity of craftsmen who had developed specialized ways to effectively perforate different types of raw materials.

Evidence from bead production and other artifacts reveal the establishment of extensive exchange networks during the Ravi Period. Beginning around 3300 BC, Harappa was connected with the agate and amazonite sources in Gujarat and Rajasthan, the lapis lazuli sources to the west and north in Baluchistan and Afghanistan, and copper resource areas in Baluchistan and/or Rajasthan (Kenoyer 1997). It was also connected to the coastal regions to the south for shell used in bangle making. The household production of beads from imported raw materials suggests that some individuals or communities were engaged in entrepreneurial trade that would profit from the local production of specialized ornaments. This pattern of long distance trade and local production beginning in the Ravi Phase continued through the subsequent expansion of the site during the Kot Diji Phase (2800-2600 BC) (Kenoyer 1997).

## **CONCLUSION**

Bead making techniques and styles of beads from the major periods at Harappa provide a unique perspective on the complex history of this important settlement. Unlike subsistence activities or the production of utilitarian tools, bead makers were involved in creating ornaments that could be used and in most cases viewed by all members of the society. The selection of rare and exotic materials and the development of more refined technologies allowed early bead makers to produce objects that had both beauty as well as power.

Since bead making was one of the main crafts used to create objects used to reinforce social and ritual status within the Indus cities, it would have been important for elites

and merchants to be able to control the production of high value ornaments. While the knowledge of specific bead technologies may have been passed on within a single community, the actual production and distribution could have been controlled, either directly or indirectly by merchants or urban elites. One example of more direct control is seen in the faience and steatite workshop excavated in 2000-2001, where beads were being made along with inscribed tablets (Meadow et al. 2001) (see Meadow & Kenoyer in this volume). However, most of the bead production at Harappa appears to have been controlled indirectly by situating craft areas within walled sectors of the city. In addition to protecting the market places filled with valuable goods, the walls and gateways of Harappa would have allowed for the taxation of both bead raw materials being imported into the city as well as finished beads and ornaments leaving the city. As is evident from this brief overview, the general patterns of continuity and change in the bead industry can be outlined on the basis of recent work at Harappa. However, additional work remains to be done on the sourcing of raw materials and specific aspects of technology as well as the distribution of finished beads within the city of Harappa and surrounding sites. Further excavations are also needed to understand the nature of the Kot Diji phase bead industry and Late Harappan bead production. It is clear however, that the study of Indus bead making and its legacy will continue to provide valuable insights on the processes underlying the emergence of Indus urban centers.

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## 16.SOCIAL ENGINEERING AND YOGIC AGRICULTURAL DEVELOPMENT

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### ABSTRACT

*There are various methods of agriculture and crop cultivation applied by the farmers in the World. Science has made easy availability of wheat, pulse, oils, vegetables, fruits, and milk. However, the produce lacks in good taste, nutritional value and in the absence of purity and vegetarian nature of food, our mental and physical health is becoming poor and poorer day by day. In the bygone eras, people enjoyed healthy body and long life. We have to rediscover those processes and virtues again so that our mother earth has blissful state, peace, prosperity, wealth and food-grains in abundance. Yogic Agriculture is the need of the hour to energize the present population as well as to make them healthy and wealthy.*

*Keywords: Yogic agriculture, nature of food, healthy life and agricultural productivity.*

*Results: physical health as well as mental health, agricultural productivity may be improved through the effect of yogic agriculture.*

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### INTRODUCTION

**W**e have been listening for some time about organic farming process. Many a farmers have been using this type of farming technique. However, it is essential at the present day, farmers adopt the Farming Technique that uses Raja yoga Meditation. This is the call of the time. We have heard about Sages entering into penance, i.e. tapasya (meditation) in the ancient time. Some seers and holy men did penance and meditation, seating themselves in any isolated cave in the mountainside. The influence of those seers (saints) reached far and wide. If a person happened to enter into their or Ashram unwittingly, all the internal violent feelings used to get pacified. The person also used to forget all his sorrows and worries entering into the ashram environment. We have also heard and seen in the pictures, that even the violent animals also used to sit peacefully near the seer. By this, we mean to say that there used to get accumulated some sort of wonderful power of penance or tapasya or meditation. This power converts impossible into possible.

God, the supreme soul has taught very easy yoga.

### RESEARCH OBJECTIVE

- To analyze the role of raja yoga meditation on agriculture cultivation , in order to accelerate healthy Economy.

### REVIEW OF RELATED LITERATURE

**Priti Agrawal( July19, 2011)** Shashwat yogic farming BK Sushant, national media coordinator of the Brahma Kumaris, urged people to overcome greed and stop exploiting nature in the interest of common benefit. The future of agriculture lies in blending science with spirituality and adopting yogic farming techniques that are compassionate and eco-friendly. The findings are drawn from the studies conducted both in the Northern High Plains of Colorado and throughout the U.S. Over the past twenty years the quality and quantity of research on sustainable agriculture has increased, providing a body of data sufficient to help discern larger patterns and evaluate specific practices.



**M. Ghose (2007)** in his paper 'Agricultural Development, Agrarian Structure and Rural Poverty' has investigated the effect of agricultural development, agrarian structure and some other variables on rural poverty by using the OLS Method.

**Krishnaraj (2006)** in his paper 'Food Security, Agrarian Crisis and Rural Livelihood – Implications of Women' highlights the contribution of agricultural growth in removing poverty and increasing the per capita income of farmers and per capita availability of food grains across India.

### STATEMENT OF THE PROBLEM

The purpose of the present study was to find out the effect of raja yoga meditation on agriculture cultivation and to create a greener economy.

### RAJA YOGA MEDITATION

Raja Yoga Meditation is a method of relaxing, refreshing and clearing the mind and heart. It helps you look inside to rediscover and reconnect with your original, spiritual essence. Meditation enables you to embark on this inward journey. You start to enjoy moments of silence and to savour periods of introspection and reflection. The process of going within, disconnecting from harmful habits, connecting to your innate spiritual resources, and reconnecting with your external life, is personally empowering in a lasting way.

Meditation stills the mind and empowers the intellect to achieve insight and understanding of the spiritual laws and principles which sustain harmony and can bring natural renewal at all levels of life on earth. "Meditation, accurately directed, makes God accessible to everyone." –Sr. Jayanti, God's Healing Power (Michael Joseph, Penguin Group, 2002). Raja Yoga meditation redefines the self as a soul and enables a direct connection and relationship with the Supreme Source of purest energy and highest consciousness.

### CONSCIOUSNESS

The meditator learns to quiet and control the mind, allowing the conscience to be clearly heard. Conscious awareness of the soul is then developed, allowing full understanding of the self. As meditation helps consciousness move beyond self-

limiting beliefs, the presence of God is experienced in the state of yoga - a mental link with the source of spiritual power. Insights are offered into evolution and creation, illustrating why the world is so fragmented today, and explaining the values, roles and relationship between diverse human interest groups and disciplines such as religion, science, politics and business.

### ENHANCING INNER STRENGTH

As the practice of meditation leads to an experience of inner strength, practical methods are offered to help shape and direct spiritual power into accurate and effective responses and actions in daily life.

#### Seven Steps To Practice Yogic Farming

- 1) Giving saakash (help through vibration) to the crop in the morning from 4 to 4.45am at amritvela and by practicing karma yoga throughout the day while farming.
- 2) Before sowing any seed, give sakaash to that seed, God's powers are entering to the seed and cover the seed with the power of purity, then sow it in sweet remembrance of God into the land. Before casting any type of organic manure into the land, call God to the corporeal world and make it powerful and cast it into the land.
- 3) If you want to sprinkle any resistance, or tonic, first you experiment this method then spray it. While spraying feel that I am spraying along with God directly from sweet home, paramdham.
- 4) Take water in a vessel and keep your finger in it. Now practice "I am knowledge full soul. The rays of the sun of knowledge are coming to me and reaching into the water through the medium of finger". Get concentration in this single thought for minimum five minutes. Then sprinkle that water on the crop - it benefits more.
- 5) These pure vibrations create a special type of energy in vegetation to face any virus or disease which attacks on it. This energy doesn't allow to increase such virus or disease. Remaining in a pure form, keep your finger in water and remember the ocean of purity for five minutes with concentration. Then if we pour that water on the land or sprinkle it on the crop, the disease will be controlled.
- 6) Take 10-15kg cow dung of a pure local breed, 5-10 litre of cow urine, 2kg black jaggery or 4litre of sugarcane juice, 2kg

powder of any pulse, 1kg jiv soil (soil from the borders of the arm or from dam-site) and 200litre of water. Keep all the above-mentioned materials in a barrel for two-seven days under shadow. Everyday churn the mixture with a wooden stick twice. Then use it on the land. In one acre land, sprinkle its small amount by mixing it with water or if the land is wet, pour it using a bucket and sprinkle on the land with a neem branch. The above-mentioned method is called "jivamrit". Do this experiment with an interval of ten-fifteen days or every time while watering the field. [There are one dozen such experiments suggested to improve productivity.]

7) Keeping your hand on the natural fertiliser, think that through the hands of me, the soul, the vibrations of purity and supreme powers are melting in the fertiliser. While spilling on the crop, feel that supreme powers are also falling on the crop and all insects are running out. Crop is also becoming healthy and powerful.

While more and more farmers are taking to organic or chemical-free farming for various reasons, the Brahma Kumaris are claiming that they have combined organic farming with meditation and yoga. It is this combo which has been endorsed by the agriculture minister. So, the next time you are buying grocery, look for a "yogically grown" stamp on a bag of rice or wheat. Perhaps there can be nothing more pure than this.

## **CONCLUSION**

- Improved percentage of seed germination
- Healthier root modulation, enhanced soil microbiological activity
- Higher oil content in groundnuts
- Drop in damage by pests (much lower compared to organic farming)
- Increase in nutritional values
- Increase in energy levels and the shelf life of vegetables
- Appreciable appearance and improvement in taste of vegetables

As the initial positive results and benefits began to be noticed by other farmers, neighbours and the community in general, the practice spread and many farmers all over India are practicing Sustainable Yogic Agriculture techniques. Over the last two years, Italy, Greece and South Africa are amongst some of countries, where these techniques are being experimented and agricultural productivity is also being enhanced.

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# 17.SOCIAL ENGINEERING FOR PROVISION OF LEGAL EDUCATION TO THE NEEDY.- A STUDY ON SCENARIO IN TAMILNADU

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## INTRODUCTION

Education is principally identified with schooling, though in theory it extends far beyond this, being concerned with intellectual and social development. The main emphasis within this is on children, though there is clearly scope for education for all and 'lifelong learning'. Education has been particularly significant as an instrument of social policy, in the sense not only of policies for welfare but also as policies intended to deal with the structure of society. Social engineering is a term that describes non technical kind of intrusion that relies heavily on human interaction and often involves tricking other people to break normal security procedures. According to Pound, 'Law is social engineering which means a balance between the competing interests in society', in which applied science are used for resolving individual and social problems.

Social engineering is based on the notion that Laws are used as a means to shape society and regulate people's behaviour. It is an attempt to control the human conduct through the help of Law. Law, legal education and development have become inter-related concepts in modern developing societies which are struggling to develop into social welfare states and are seeking to ameliorate the socio-economic condition of the people by peaceful means. The same is true for India. It is the crucial function of legal education to produce lawyers with a social vision in a developing country like India. However, the legal education, in modern times is not confined to production of practicing lawyers alone. Today its scope and ambit has got widen up and its impact is felt in every sphere of human life. The law being a tool for the social engineering, legal education can be regarded as an instrument for the social design. For any society, ripening of civilization is attributed through

the social consciousness of the significance of law. The history of our own independence movement, if impartially written, will devote more pages to lawyers than to the votaries of any other vocation. It is well accepted proposition that the Profession of Law is a noble calling and the members of the Legal Profession occupy a very high status.

## OBJECTIVES

1. To analyse the impact of legal studies in the upliftment of the society.
2. To analyse the status of legal education to the needy in Tamilnadu.

## HISTORICAL DEVELOPMENT OF LEGAL EDUCATION IN INDIA

The concept of dharma, in the Vedic period, can be seen as the concept of the legal education in India. The guiding force for the King or his appointee was the upholding of the dharma. The foundations of the rule of law in India can be traced back to ancient times. In more recent times, common law traditions, the Constitution of India, and the pursuant role of the judiciary have contributed to the development of rule of law. But when it comes to enforcement, there is much to be desired. Blatant violation of law is a reality in India, and hence there is a need to seriously work towards establishing a law-abiding society. The rule of law is protected only when there is a fairly predicable legal system that responds to needs and problems in a fair, non-discriminatory, and effective manner, and there is access to justice. The problem of enforcement of laws attacks the very basis of democracy in India, and the time has come to tackle it in a systematic manner. While there is no single solution, it is important to recognise that initiatives should primarily be intended to inculcate a respect for law among the Indian citizenry. This means all legal, institutional, judicial, and constitutional measures to ensure the

rule of law should be oriented towards inculcating a respect for law on the basis of the belief that it will be enforced equally and fairly.

### **RECAPITULATION**

Legal education is a good investment which if wisely made will produce most beneficial results for the nation and catalyse the speed of development. Of late the role of a lawyer in a common law system is more than a skilled legal mechanic; he acts as a social engineer, social reformer, harmonizer and a reconciler. The legal education provided at the law schools must be transformed to the conventional and contemporary needs of the legal profession and society.

Legal education is a human science which furnishes beyond techniques, skills and competences the basic philosophies, ideologies, critiques, and instrumentalities all

addressed to the creation and maintenance of a just society. It provides occasions for articulation of theories of a just society and teaches us that articulation must be grounded in historical realities so that the truth of the working of the legal order is brought to the forefront. It is a subject of great importance in view of its dynamic role in molding and envisioning the legal system of the country-thus being instrumental in the accomplishment of the cherished objectives of justice, liberty, equality and fraternity of a sovereign, socialist, secular, democratic republic. The legal education stands for enhancement of human sensibility and injects a sense of protecting human liberty and equality before law. The legal education is imperative not only to produce good lawyers but also to create cultured law abiding citizens, who are inculcated with concepts of human values, legal ethics and human rights.

### **OBJECTIVES FORMULATED TOWARDS IMPARTING LEGAL EDUCATION**

#### **1. Socialization Objectives:**

The use of education to develop perceptions and understanding of the environment, local and global; to understand the problems of one's society; to influence values and attitudes.

#### **2. Manpower of Objectives:**

The use of total educational system to generate the kinds of skills and knowledge needed for tasks in society.

#### **3. Opportunity objectives:**

The use of education to broaden opportunity and mobility in society- notably among groups who may have been historically deprived or repressed.

#### **4. Research Objectives:**

The use of educational facilities to develop research of value to education and society.

#### **5. Administrative objectives:**

The use of planning in the governance of institutions; the use of more sophisticated methods in budgeting, managing and evaluating programs.

### **LEGAL PHILOSOPHY OF ROSCOE POUND**

Opportunity to modern scholastics to exercise an influence even within the framework of pragmatic legal theory. At the present time there is in America a decided dissatisfaction with the reigning legal theory. Jurists, and Pound among the first, are calling for legal philosophy to direct the new movement.

In the past jurists have rejected natural-law theories because they have been confronted with pseudo theories. The task for scholastics is to present the authentic natural law and allow it to be judged on its own merits.

Another strong movement which can be noticed among American jurists is a sentiment for codification of the law. If such a move should come, it would not necessarily destroy the common-law technique, but it would give a greater stability to the law. Modern scholastics must be prepared to present the traditional Thomistic doctrine of law. The time is ripe and the sentiment is well disposed for it to be received into the law.

We have seen briefly, but in its essential elements, the legal philosophy of Roscoe Pound. For him, law is a process of social engineering, a process of adjusting and compromising conflicting claims so that the maximum of human interest may be satisfied with a minimum of friction and waste. The philosophical foundations of Pound's legal theory is essentially pragmatism; law is defined in terms of function. Natural law and philosophy are admitted as supplying ideal norms which may be used as a critique

of existing law or to formulate positive laws, but they are not admitted as juridical norms. Natural law, in the Thomistic sense, is rejected chiefly because it is not known. When Pound speaks of natural law he is referring to later concepts of the seventeenth and eighteenth centuries. Pound's legal theory is radically deficient because he attempts to create a legal order without juridical norms. Although he speaks frequently of absolute norms of justice, in reality he does not admit of such norms or he confuses them with social or cultural norms. As it is evident from his use of the jural postulates, the law should be designed to meet the reasonable expectations of the society of the time and place. The law then is, for him, an instrument for ordering social life in a determinate society, something which is wholly foreign to the absolute norms of natural law of which St. Thomas speaks. Pound speaks of morality in the law, but on these principles it could be only a morality born of the social conscience of the time and place. A Thomist could not admit such a norm of morality. For a Thomist human nature is the principle not only of individual ethics but also of social ethics, of which legal philosophy forms a part. The legal order must, therefore, enforce a moral conduct which is objective and not born of a particular social or cultural conscience. In practice, however, it is extremely difficult to change an established legal system and theory. If the norm for jurisprudence is to be the individual will, then the task that faces the scholastic legal scholar is one of juridical politics. The principle that the individual will provides the ultimate norm for a legal system can provide the basis for a stable social and legal order only when the individual will is perfectly subjected to the objective norms deriving from human nature.

### **EDUCATION TO THE NEEDY IN TAMILNADU**

The reservation policy of the Government enables the socially and educationally Backward Classes to secure admission in Educational Institutions and to get employment in the services under the State Government. Education forms the basis for the economic advancement of a society. The State Government, with the objective of providing educational advancement to

Backward Classes, Most Backward Classes, Denotified Communities and Minorities, has formulated and implemented many schemes. The reservation policy followed by the State has provided the opportunity to get admission in higher educational institutions. The scholarship schemes provide financial support to the poor students of those communities to pursue their education. Hostels run by this department nearer to the educational institutions provide free accommodation and food. The students are motivated to study with interest through the award schemes.

### **IMPORTANCE AND REGULATION OF LEGAL EDUCATION IN INDIA**

Imparting of legal education has always been considered as one to the noblest profession. Today, legal education derives its impetus from the economic, social and political set up of the society. Legal profession is objectively in the position of producing Statesmen. This is due to two reasons (1) Lawyers belong to an independent profession. They are not subordinate to the government or to anyone else, and (2) They are directly in contact with society in its entirety as they have to deal with all kinds of problems of people from all sections of society, unlike say, doctors who are confined to technical problems. Hence lawyers are the people who are most conversant with the problems of society as a whole.

Legal study promotes accuracy of the expression, facility in arguments and skill in interpreting the written words, as well as some understanding of social values. So 'Law act as the cementing material of society and an essential medium of social change. A well administered and socially relevant legal education is a sine qua non for a proper dispensation of justice. Giving legal education a human face would create cultured law abiding citizens who are able to serve as professionals and not merely as business men.

The quality and standard of legal education acquired at the law school is reflected through the standard of Bar and Bench and consequently affects the legal system. The primary focus of law schools should be to identify the various skills that define a lawyer and then train and equip its students with requirements of the fast growing field

of law. It is pivotal duty of everyone to know the law. Ignorance of law is not innocence but a sin which cannot be excused. Thus, legal education is imperative not only to produce good lawyers but also to create cultured law abiding citizens, who are inculcated with concepts of human values, legal ethics and human rights. The Constitution of India basically laid down the duty of imparting education on the states by putting the matter pertaining to education in List II of the Seventh Schedule. But it now forms part of List III, giving concurrent legislative powers to the Union and the States. Legal profession along with the medical and other professions also falls under List III (Entry 26). However, the Union is empowered to co-ordinate and determines standards in institutions for higher education or research and scientific and technical institutions besides having exclusive power, inter alia, pertaining to educational institutions of national importance, professional, vocational or technical training and promotion of special studies or research.

**CONSTITUTIONAL PROVISION**

The Constitution of India basically laid down the duty of imparting education on the States by putting the matter pertaining to education in List II of the Seventh Schedule. But it now forms part of giving concurrent legislative powers to the Union and the States<sup>19</sup>. Legal profession along with the medical and other professions also falls under List III. Though there is no specific entry in Schedule VII to the onstitution of India that deals with legal education. The regulation of standards of legal education, therefore, is through the more generic entries pertaining to higher education and entitlement to practice before courts. The Supreme Court of India in its landmark judgment such as Deepak Sibal v Punjab Univeristy has held that the study of law should be encouraged as far as possible without any unreasonable intervention. The Supreme Court has realized the importance of discrimination of legal knowledge and tried to impress upon the state to appreciate the same. Manifestly the state or the standing bodies are very frequently found adopting a negative and discouraging policy regulating the legal education.

**LEGAL EDUCATION IN TAMILNADU**

The Directorate of Legal Studies is the Premier Legal Institution which brought vital changes in the set up of Legal Education in the State of Tamil Nadu. It was established in the year 1953 with the twin objectives of administration of Law Colleges and improving the standard of Legal Education in the state of Tamil Nadu by framing new policies and rules. The creation of this Department paved the way for getting an advance Legal Education to poor and downtrodden people of the State of Tamil Nadu. With the sustained support of the Government of Tamil Nadu, The Judiciary, The Bar council of India, University Grants Commission and the Bar Council of Tamil Nadu, the Department has been able to scale greater heights in terms of qualitative as well as quantitative legal Education in the state. It has a vision of establishing new Law Colleges in different parts of the State of Tamil Nadu so as to cater to the needs of the Bar, Bench and the society.

The number of students applying for law courses in the State has increased by almost 15 per cent during the year 2017. The number of law applicants in the State was steadily increasing every year.

The Department of Legal Studies was established in the year 1953 with the object of improving the standard of Legal education in the State. After the creation of the Department, there has been improvement in the standard of Legal education in the State and the Department continues to strive for further improvement. The total sanctioned student strength in all the Government Law Colleges in the academic year 2015-16 is 9366.

**Enrolment at Under Graduate Level in Major Disciplines/ Subjects in Tamilnadu 2016-2017.**

Discipline	Male	Female	Total
Law	235814	114027	349841
Grand Total	14872856	13351734	28224590

The General Universities in India is 48 while 28 in Tamilnadu . Likewise, in case of Agricultural Universities in India, there are 51, but in case of Tamilnadu, only one University. When we take into account of Law University, India, statistics speaks sound as 19, while it is 2 Universities in Tamilnadu.

## CONCLUSION

Legal education is an investment which, if wisely made, will produce most beneficial results for the nation and accelerate the pace of development. The legal education granted at the law schools should be streamlined to the conventional and contemporary needs of the legal profession. It is further recommended to the Bar Council of India to constitute a Commission at regular intervals to review the working of the law schools and to make proposals for reorganizing the syllabi of legal education. The quality of legal education has a direct impact on the prestige of the legal profession. We must, therefore, identify the areas of default and initiate corrective action to repair the damage. Unless a drastic surgery is undertaken without loss of time, the patient, that is legal education, will be fatally wounded and consequently the country's justice delivery system will stand bereaved. All those connected with the maintenance of standards of legal education must, therefore, be prepared to take hard decisions to save the situation. A concerted action on the part of Bar, the Bench and the law teachers is called for to improve the deteriorating standard of legal education. According to Justice A.M.Ahmadi, "Unless we face the bitter truth and come to grips with it, we cannot hope to improve the legal education system. We have failed to attend to the cracks which have since widened and if we fail to take urgent remedial measures, posterity may not pardon us". However, any overnight solution in this regard is not possible. But, at the same time, any dogmatic adherence to the old, traditional and existing system would be suicidal in the days ahead. So, a balance should be maintained in order to change the entire fabric of legal education system in India, keeping in mind the necessity of globalization. Therefore, let us gear up and make sincere efforts for reforming the existing system, so that Indian legal education can face the global challenges. In the end it would be apt to quote here English poet and dramatist James Shirley: "Only the actions of the just Smell sweet and blossom in the dust.

Law schools have to promote social engineering. Indian society is facing serious problems relating to administration of Justice because of extraordinary delay

in Justice delivery system, Governance crises, Poverty and Corruption. In the present research work while analyzing and scrutinizing the reports submitted by the different committees constituted by the government to enhance the level and standard of legal education in India. The legal education in India needs a thorough revamping and modernization to meet over growing demands of society and should be thoroughly equipped to accommodate the complexities of the different situations. There is almost complete unanimity of opinion in the country that legal education needs to be improved in view of globalization.

The introduction of clinical legal education programs in Indian law schools is critical to teaching essential skills to law students and instilling in them the importance of social justice. Effective clinics provide legal services to poor and marginalized groups that would not otherwise receive them. Though the BCI has made it mandatory to have clinical legal education in the curriculum, the institutions are not showing much interest in adopting the necessary skills. But the purpose and scope of legal education is to prepare students for the practice of the profession of law. Therefore, the law and legal education which together constitute the backbone of society should change according to the changing needs and interests of the ever changing society. Hence, not only the law colleges even the authorities have to take steps to initiate clinical legal education in an effective manner.

## RECOMMENDATIONS

- The BCI has to amend rules to allow law professors to practice in the course of teaching a clinical class and encourage law schools to dedicate faculty to teaching clinics and offer students credits for participating in clinics.
- Vice-Chancellors and other law school administrators have to devote resources to hiring clinical faculty and offering clinical courses with low student-teacher ratios.
- Law professors should develop sustainable clinics and work with law school administrations to implement them.
- Non-governmental organizations have to collaborate with law schools to work with communities and advance the social justice mission of education.

- Legal services authorities have to broaden the scope of legal aid by supporting law schools to make legal aid and advice easily accessible to communities within the premises of law schools.
- Grant making or funding agencies have to allocate funds for school based legal clinics to engage with communities in strengthening democracy and improving governance for the advancement of justice and the rule of law.

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# 18.SOCIAL ENGINEERING THROUGH WOMEN'S HEALTH EDUCATION WITH SPECIAL REFERENCE TO YOGA AND MEDITATION

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## ABSTRACT

*In a developing country like India, the women community was not given due attention especially on the health aspect. Women's health involves their emotional, social and physical well-being which is determined by social, political, economic and biological factors. Yoga may offer an alternative treatment option for women health, but rigorous studies are few. By studying the strengths and shortcomings of yogic practices with Health economic assessment, this paper can explore how the chakra energy and the physical body interact depending on the chakra tradition lodged within the physical body relates to the health of women in health education.*

*Keywords: yoga, health economics, women health care*

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## INTRODUCTION

Undernourishment, due to deficiencies of calories, vitamins, and minerals and other poor health and socioeconomic status, affects millions of women and adolescent girls around the world. Around 450 million women are malnourished due to protein energy malnutrition during their childhood in developing countries. The highest incidence of malnourishment among women is reported in South Asia. In a developing country like India, the women community was not given due consideration on the health aspect. Women's health involves their emotional, social and physical well-being which is determined by social, political, economic and biological factors. In Tamilnadu, 49.2% women aged twelve to forty nine are anemic, in which 2.6% are severely anemic. Iron helps with the metabolic enzyme processes that the body carries out to digest proteins and absorb nutrients from food. Iron supports ongoing energy by helping enough oxygen to reach cells. Hence, energy is the interface between the mind and the physical body. The chakras are energy centers in the body that take in energy and distribute it to the physical human body. They also serve as organs of psychic perception, and as recording discs of information from our lives. There are many chakras in the

body, but Energetic Enabling mechanism synchronize mostly with the main six chakras. Together with sahasraram, the seven chakras provide a profound formula for wholeness, one that bridges mind, body, and spirit. The chakras are organizational centers that receive, assimilate, store, and transmit life force energy, at each of their respective levels.

## EMPIRICAL EVIDENCE FOR CHAKRA SYSTEM

Biological theories focus on evolutionary aspects and underlying mechanisms for life and typically define chakras as the potential life energy. Yoga training may affect both physical and mental well-being and be useful for preventing somatization and mental disorders. This paper explores how the chakra energy and the physical body interact depending on the chakra tradition, but there is general agreement that the energy system, called the energy body, bio field, or subtle body, is lodged within the physical body and is fundamental to the functioning of the physical body. Chakras are commonly considered to be centers of concentrated metaphysical energy. The important chakras are stated in Buddhist and Hindu texts to be arranged in a column along the spinal cord, from its base to the top of the head, connected by vertical channels. Chakras have more than

one dimension to them. One dimension is their physical existence, but they also have a spiritual dimension. This means that they can be completely transformed into a new dimension.

### **Root Chakra- Mooladhara**

The word Mooladhara, comes from the words Moola, which means root and Dhara, which means support. This chakra is located at the very base of our spine, near our tailbone. The Root Chakra is associated with stability and security. Physical imbalances in the root chakra include problems in the legs, feet, rectum, tailbone, immune system. Those with imbalances here are also likely to experience issues of degenerative arthritis, knee pain, sciatica, eating disorders, and constipation. If the Mooladhara chakra alone is dominant, food and sleep will be the predominant factors in life.

### **Sacral Chakra- Swadhisthana**

The sacral chakra or Swadhisthana which translates to the place of the self, is located right below the belly button and extends to its center. Physical imbalances in this chakra include depression, impotence, decreased sex drive and a lack of passion and creativity. Also sexual and reproductive issues, urinary problems, kidney dysfunctions, hip, pelvic and low back pain in women.

### **Solar Chakra- Manipuraga**

The third chakra is the Solar Plexus or Manipuraga which translates to "lustrous gem." The solar plexus starts in the center of the belly button and extends up to the breastbone or where two sets of ribs connect in the center of chest. This chakra is where our self-confidence, identity and personal power are born. Physical imbalances include digestive problems, liver dysfunction, chronic fatigue, high blood pressure, diabetes, stomach ulcers, pancreas and gallbladder problems, colon diseases.

### **Heart Chakra- Anahatam**

The Heart or Anahata chakra, which translates to safe and is located at the heart. Physical imbalances include asthma, heart disease, lung disease, issues with breasts, lymphatic systems, upper back and shoulder problems, arm and wrist pain.

### **Throat Chakra – Vishuddhi**

The Throat chakra or Vishuddhi which translates to "very pure" is located in between the collar bone, and it radiates down to the center of the heart and up to the center of the eyes. The Throat Chakra is deeply connected to communication and creativity. Physical imbalances include thyroid issues, sore throats, laryngitis, ulcers, any facial problems (chin, cheek, lips, tongue problems) neck and shoulder pain in women.

### **Third Eye Chakra-Ajna**

The Third Eye Chakra Ajna which translates to "beyond wisdom" is located in the middle of the eyebrows, in the center of the forehead. This chakra opens up our mind to information beyond the material world and the five senses. Extra sensory perception, intuition or psychic energy, all comes from the third eye. Physical imbalances include headaches, blurred vision, sinus issues, eyestrain, seizures, hearing loss, and hormonal dysfunction in women.

### **Sahasaram**

Sahasaram, which translates to "thousand petaled." This chakra is pure consciousness energy. The Crown chakra is one of those energies that's hard to illuminate. Of course, it is the journey of attempting to achieve this balance that brings us happiness, good health and wisdom. Emotional imbalances include issues with self-knowledge and greater power. When this chakra is balanced, we live in the present moment. Imbalances arise from rigid thoughts on religion and spirituality, constant confusion, carry prejudices.

## **CHAKRAS AND WOMEN'S HEALTH**

Yoga has been reported to be effective with respect to negative psychological symptoms, such as anxiety, anger, hostility and depression. When successful women get up, they start the day with some physical activity, not letting sleepiness or lethargy win. Being physically active is one thing that assures strong mind and body, which is essential for a successful life. Yoga and meditation are closely related. Movement, breath, and meditative exercises and healing modalities drawn from both

meridian-based traditions and chakra-based traditions. Controlled breathing is really the foundation of yoga practice which vibrates the subtle body. When we vibrate in closer resonance with the universal elements, our chakras will function better, and that's what yoga practices were designed to do. The understanding of the subtle body is not an easy task. But this manner may hold the key to evolving useful patterns for understanding how to optimize subtle energy in the body, and certainly bring more depth to our understanding. The clearing of the energy can also balance our emotional state of mind. At different levels, these energy centers produce different qualities of wellness in a human being. In fact, research in teens has found that practicing yoga along with breathing and meditation exercises may help improve relaxation and focus.

## **CONCLUSION**

While millions of women in India, suffer from pain in the low back and pelvis, many hormonal imbalance and menstrual issues are actually the result of sacroiliac instability due to imbalance in the chakras. Yoga is extremely helpful with these hormonal imbalances in women because of its design. And if we can understand the application of the chakra system through the lens of traditional teachings, I think it can offer us a more expanded, holistic model of human health, potential, and thriving. Both physical and energetic wisdoms, including the role of the female framework with ovaries, uterus etc. in our energetic and spiritual wellbeing can be achieved. The programming of the mind, largely unconscious, similarly tells the energy where to go and where not to go in the body. It was moreover pointed out that women who were ignorant of the instructions of the body would not only harm themselves, but also producing weak and deficient children to the society. While more rigorous research is needed to underpin these outcomes, yoga can be preliminarily recommended as an additional intervention for women who suffer from psychological complaints associated with health. Looking at the chakras through the perspective of liberating current, which runs from the base chakra to the crown, we gain the tools to liberate our self from fixed patterns, trapped

emotions, and hard bound body shield. As good health is a strategic benchmark, which contributes to human wellbeing and economic growth.

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## 19. SUSTAINABLE TOURISM –A DRIVING FORCE OF JOB CREATION, ECONOMIC GROWTH AND DEVELOPMENT

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### ABSTRACT

*Tourism is fast emerging as an instrument for economic development and employment generation. This trend is more prominent among the developing nations. The case of tourism in the Asia-Pacific region in general and India in particular may be looked upon as a classic example in this regard. However, globally the long-term sustainability of tourism as a means of development is increasingly being questioned, mainly because of its adverse effects on the environment, fast depletion of natural resources etc. As such, the relevance of environment-friendly strategies for long-term sustainability of tourism initiatives need not be overemphasized. Environmental sustainability must remain a key component of sustainable tourism strategies, another challenge for the international community is to devise ways and means to place poverty reduction at the centre of tourism planning, development and management. This will require, amongst other things, genuine community participation, greater technical and financial assistance, human resources development, and institutional capacity building in many developing countries.*

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### INTRODUCTION

Tourism has, in recent years, received increasing attention as a low-impact, non-consumptive development option, in particular for developing countries. This positive view contrasts with the fact that major parts of the tourist industry have remained harmful to the environment and that some aspects, like the use of energy and its global consequences have virtually been excluded from the discussion on sustainable tourism development. In this article, the evolution of tourism paradigms is reviewed with a focus on developing countries. It is shown that tourism has become of prime economic importance for many developing countries, in particular small island states. However, as the cash income generated by tourism is mainly derived from visitors coming from industrialised countries, who have to rely on air travel to arrive at their destination, the issue of energy use is analysed from an ecological perspective. It is shown that the tourism-related use of fossil fuels is significant and has detrimental environmental consequences. Afforestation programmes are discussed as a strategy to overcome the negative effects associated with the emission of greenhouse gases.

Overall, it is claimed that energy use is an issue that urgently needs to be integrated into the discourse on sustainable tourism development.

Tourism can be considered one of the most remarkable socio-economic phenomena of the twentieth century. From an activity "enjoyed by only a small group of relatively well-off people" during the first half of the last century, it gradually became a mass phenomenon during the post-World War II period, particularly from the 1970s onwards.<sup>1</sup> It now reaches an increasingly larger number of people throughout the world and can be considered a vital dimension of global integration.

### SUSTAINABLE TOURISM

Sustainable tourism has to meet social, cultural, ecological and economic requirements. Sustainable tourism holds a long-term view, for present and future generations, ethically and socially just and culturally adapted, ecologically viable and economically sensible and productive. Sustainable tourism is tourism that minimizes the costs and maximizes the benefits of tourism for natural environments and local communities, and can be carried

out indefinitely without harming the resources on which it depends. Tourism is one of the largest global industries, with much of the growing market focused around pristine natural environments such as coastal and marine protected areas.

MPAs are increasingly attracting interest from foreign visitors, as well as local residents. Tourism can benefit local communities and MPAs through revenue generation and employment. However, tourism can also threaten MPA resources by destroying habitat, disturbing wildlife, impacting water quality, and threaten communities by over-development, crowding, and disruption of local culture. In addition, conventional tourism often does not benefit the local community when tourist revenue "leaks" to outside operators. As a result, tourism can destroy the very resources on which it depends. In contrast, sustainable tourism is deliberately planned to benefit local residents, respect local culture, conserve natural resources, direct more of the profits to the local community and MPA, and educate both tourists and local residents about the importance of conservation.

Sustainable tourism is deliberately planned from the beginning to benefit local residents, respect local culture, conserve natural resources, and educate both tourists and local residents. Sustainable tourism can produce the same profits as conventional tourism, but more of the profits stay with the local community, and the region's natural resources and culture can be protected. In many cases, conventional tourism practices of the past have posed a major threat to marine conservation due to lack of management controls and effective planning mechanisms.

In contrast, sustainable tourism deliberately seeks to minimize the negative impacts of tourism, while contributing to conservation and the well-being of the community, both economically and socially. Conventional tourism does not often provide sources of funding for both conservation programs and local communities, while providing incentives for protecting areas from practices and development that are harmful to the natural beauty of an area. Opportunities and threats can only be controlled through well-planned and managed sustainable tourism.

## **SUSTAINABLE TOURISM IN INDIA**

Sustainable tourism practices in India are not new, bound together by the twin travel dicta of Bharat Darshan and Atithi Devo Bhavah, now known the world over through the medium of the Incredible India campaign. When undertaking a journey away from home, indeed that of life itself, we ought to be guided by the quality of life's offering and taking from our environment what is needed, while responsibly leaving behind that which would sustain the destination and future travellers. Today, that balance has been eroded by global shifts in population with resultant quantum leaps in the call on the earth's depleting finite resources, despite innovations in technology and access to information. Quicker access to distant locations, larger disposable incomes and rising lifestyle aspirations now characterise the growing numbers of travellers. When the balance between natural processes is subjected to heavy pressure, the resultant damage can create positions where weather patterns and lifestyles are thrown out of gear. Burning of fossil fuels and the ensuing greenhouse effect has led to global warming while the use of non-biodegradable containers such as aerosols has dented the ozone shield, raising ultra-violet radiation.

Accommodation units, tour operators, MSME providers of visitor services, transporters and nature tour outfitters are all part of the supply chain which must balance biodiversity conservation with the professional quality of visitor experiences. Essentially, this implies meeting the challenge to create a sustainable balance between visitor numbers without sacrificing natural and cultural heritage. For tourism service providers, this also means acceptance of sustainable service agreements, facilitated by the government and targeting sustainable visitor satisfaction. In fragile eco-systems, this takes on another crucial dimension. Local communities become the motive force for sustainable practices, especially in the preservation of cultural identities and natural heritage. While tempering the impact of the ecological footprint, this can also create the pressure point for an equitable local share in the economic benefits of tourism.

These considerations continue to be central to the Ministry of Tourism's priorities for the 12th Five Year Plan. This publication brings

these strands together, with the expectation that tourism today will enable future communities and travelers to also gain from sustainable, inclusive experiences.

### **EMPLOYMENT**

Tourism can bring new jobs to an area, considered one of the greatest benefits to local communities. To meet the demands of tourism in and around a MPA, residents may find employment driving taxis, as lodge owners, concession stand owners or tour guides. An increase in visitation to a MPA also increases the need for rangers, enforcement personnel, researchers and educators. Local residents are in a good position for tourism and MPA-related jobs because they are familiar with the natural and cultural resources of the area. However, they may need training in skills such as language and interpretation, handling of groups, food preparation, first aid, and motorboat maintenance. Tourism also increases the demand for indirectly related employment including service sector jobs, construction jobs and purveyors of goods such as food supplies.

### **EXCESSIVE DEVELOPMENT**

When a location becomes a popular tourist destination, local entrepreneurs will create lodging, restaurant and other services to cater to visitors' needs. In some cases where tourism demand is strong, people from other parts of the country will move to a community to take advantage of the increased economic opportunity. With the increased need for tourism services comes an increased infrastructure demand: hotels, restaurants and homes for recently arrived employees or entrepreneurs. These demands place pressure on basic services such as water supplies, wastewater treatment, electricity, etc. In addition to the burden put on municipal services, increased development typically occurs with minimal planning and can become an aesthetic problem as well as an ecological problem for both the community and the protected area.

### **PRO-POOR TOURISM**

A pro-poor tourism (PPT) approach differs from ecotourism and other sustainable tourism strategies in that its overriding goal is to deliver net benefits to the poor. While PPT and ecotourism may have some

similar objectives, the key difference is that poverty reduction is the core focus of the PPT approach, rather than a secondary component of a mainly environmental sustainability strategy. In other words, although environmental protection remains an important PPT goal, the quality of the environment in which targeted poor groups live is only one part of a broader poverty reduction strategy. There are several reasons why tourism development could be a particularly effective tool of poverty reduction.

First, as discussed earlier, tourism offers considerable employment opportunities for unskilled labour, rural to urban migrants and lower-income women.

Second, there are considerable linkages with the informal sector, which could generate positive multiplier effects to poorer groups that rely on that sector for their livelies.

Third, tourism tends to be heavily based upon the preservation of natural capital such as, wildlife and scenery and cultural heritage, which are often "assets that some of the poor have, even if they have no financial resources". It is increasingly realized that promoting greater community participation in tourism development not only provides stronger incentives to conserve natural capital, but can also lead to a more equitable sharing of benefits and thus greater opportunities for poverty alleviation. But while ecotourism and PPT both aim to increase community participation in general, PPT also goes beyond this goal in that it includes specific mechanisms to enhance the participation of and opportunities for the poorer segments of society. Three key components of the PPT approach are:

(a) improved access to the economic benefits of tourism by expanding employment and business opportunities for the poor and providing adequate training to enable them to maximize these opportunities;

(b) measures to deal with the social and environmental impact of tourism development, particularly the above-mentioned forms of social exploitation, as well as excessive pressure on natural resources, pollution generation and damage to ecosystems; and

(c) policy reform, by enhancing participation of the poor in planning, development and management of tourism activities pertinent to them, removing some of the barriers

for greater participation by the poor, and encouraging partnerships between government agencies or the private sector and poor people in developing new tourism goods and services.

Some of these PPT concepts are beginning to be implemented in several developing countries, such as Ecuador, Namibia, Nepal and Uganda. In Namibia, for example, the implementation of a PPT approach to the development and management of the country's community-based tourism segment appears to have made a significant contribution towards poverty reduction.

Sustainable Tourism Scenario Tourism is one economic sector in India that has the potential to grow at a high rate and ensure the development of infrastructure at the destinations. It has the capacity to capitalize on the country's success in the services sector and provide sustainable models of growth. In India, the travel and tourism sector is estimated to create 78 jobs per million rupees of investment, compared to 45 jobs in the manufacturing sector for similar investment. Along with construction, it is one of the largest sectors of the service industry in India. Apart from providing employment to a wide spectrum of job seekers from the unskilled to the specialized, a higher proportion of tourism benefits, accrue to women. Moreover, emphasis would increasingly be given to organising more short-term courses for the unskilled workforce, as well as unemployed youth, and 'skill certification of service providers'. Besides, strategies followed during the 11th Plan may have to be suitably recalibrated to take care of the challenges from competing countries and to harness the full potential of Indian tourism.

A study conducted by the Ministry of Tourism, Government of India at important tourist destinations, reveals that lack of hygiene and sanitation is a major irritant for foreign and domestic tourists. Therefore, creation of awareness, as well as making the requisite facilities available, will be given high importance during 12th Five Year Plan through the following measures:

- Major social awareness campaign under the 'Atithi Devo Bhavah' initiative
- Involving schools, NGOs, industry associations, etc. in carrying out sustained cleanliness drives at important tourist

destinations. Suitable incentives and awards will be provided to all organizations and individuals involved in this initiative

- Top most priority will be given for sanctioning Central Financial Assistance for setting up of way-side amenities, bio-degradable toilets, etc.

While making efforts for the targeted 12th Five Year Plan growth in Foreign and domestic tourists, the Ministry will endeavour to make the growth sustainable.

### **SUSTAINABLE TOURISM CRITERIA FOR INDIA**

This is proposed to be achieved through the following measures:

Sustainable Tourism criteria for India and indicators for hotels, tour operators have been finalized. Similarly, the criteria and indicators for rural tourism and home-stays are being evolved. Action will be initiated for Tourism industry constituents, not yet covered.

The scope of Market Development Assistance scheme would be enlarged to cover participation of representatives of recognised national associations in workshops/ seminars on sustainable tourism, organised by reputed organisations in India or overseas.

Training of various stake holders under the existing plan schemes of the Ministry. Sustainable tourism development will include advancing some of the following niche tourism products or developing additional niche products such as given below: a) Adventure b) Medical c) Wellness d) Golf e) Polo f) Cruise g) Meetings Incentives Conferences & Exhibitions (MICE) h) Pilgrimage/Spiritual travel i) Film Tourism j) Eco/ Wildlife/ Caravan Tourism As tourism is a multi-sectoral activity, active convergence in the resources of various sectors involved in promotion of tourism at Central and State level is necessary for achieving the optimum results.

The intention is that countrywide experiential tourism attractions get developed for the socio-economic benefit of local communities, especially in order to strengthen inclusive economic growth. It is equally important to ensure that increased socio-economic well-being does not cause permanent or long-term damage to the country's physical, cultural and environmental heritage. The use of existing resources, both tangible and

intangible, has to be undertaken judiciously for the well-being of the present generation, but not at the cost of depriving future generations of any part of our inheritance. The Planning Commission, in the Approach Paper to the 12th Five Year Plan, has mentioned that Tourism and Hospitality Sector has a key role to play in promoting faster, sustainable and more inclusive economic growth.

### **THE TRIPLE BOTTOM LINE OF SUSTAINABLE TOURISM**

Sustainable tourism has three key components, sometimes referred to as the "triple bottom line":

1. Environmentally, sustainable tourism has a low impact on natural resources, particularly in protected areas. It minimizes damage to the environment (flora, fauna, habitats, water, living marine resources, energy use, contamination, etc.) and ideally tries to benefit the environment.

2. Socially and culturally, it does not harm the social structure or culture of the community where it is located. Instead it respects local cultures and traditions. It involves stakeholders (individuals, communities, tour operators, government institutions) in all phases of planning, development, and monitoring, and educates stakeholders about their roles.

3. Economically, it contributes to the economic well being of the community, generating sustainable and equitable income for local communities and as many other stakeholders as possible. It benefits owners, employees and neighbors. It does not simply begin and then rapidly die because of poor business practices. A tourism enterprise that meets these three principles will "do well by doing good".

This means running a tourism business in such a way that it doesn't destroy natural, cultural, or economic resources, but rather encourages an appreciation of the very resources that tourism is dependent on.

A business that is run on these three principles can enhance conservation of natural resources, bring appreciation to cultural values, bring revenue into the community, AND be profitable.

### **CONCLUSION**

As stressed at the beginning of this paper,

tourism is expected to resume its rapid growth in the near future. This growth can be harnessed not only for the enjoyment of tourists themselves but, more importantly, for maximizing economic benefits and thus increasing the living standards of host communities and countries. At the same time, unless corrective measures are taken, it is bound to have negative environmental and socio-cultural impact on those communities. Ecotourism and other sustainable tourism strategies have gone a long way towards minimizing this negative impact and ensuring that the eco A New Approach to Sustainable Tourism Development benefits of tourism can contribute to environmental protection and the sustainable use of natural resources.

There is no general and universally applicable formula to initiate ecologically, socially and culturally acceptable tourism. However, the fundamental agreement is that it is necessary to break through the growth spiral, or tourism will destroy its own base – the natural environment, the regional characteristics and the intact social structures. Beyond that, solutions will differ and depend on the prevalent preconditions, structures and problems in the region. But while environmental sustainability must remain a key component of sustainable tourism strategies, another challenge for the international community is to devise ways and means to place poverty reduction at the centre of tourism planning, development and management. This will require, amongst other things, genuine community participation, greater technical and financial assistance, human resources development, and institutional capacity building in many developing countries. Given the potential importance of tourism activities on national and international efforts to reduce poverty, there is, therefore, a strong case for promoting a PPT approach, particularly in developing countries.



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## 20.CUSTOMERS' PERCEPTION TOWARDS THE HOTEL FRONT OFFICE SERVICES IN CHENNAI CITY

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### ABSTRACT

The customer service satisfaction level of office services is provided by an asterisk and is aimed at analyzing customer satisfaction services. This means there is a service gap to get the service. A survey was conducted with a special reference to a star the hotel to understand customer satisfaction levels. A sample of approximately 74 samples from people was asked and asked questions. The chain staff in the Chennai area progressed in order to find out the areas of their competitors in order to squeeze progress. Moreover, research on providing better inputs and improving competitive strategies has been useful. Key results from this study were happy with the hotel's front office services for customers and they love the quality of service. Customers must satisfy the services, as the hotel is recommended to operate effectively in customer fulfillment. They need to create effective strategies to achieve attractive opportunities for corporate targets and customers. The primary purpose of the hotel is to make every customer happy every time it offers luxurious, satisfying and personalized service to enjoy the service with great pleasure. The results show that most customers are satisfied with the hotel's front office services. The study is aimed at obtaining the first information about the perception of customer satisfaction, the research design of this study. This data was collected using the survey method by answering questions filled with customers who visited the hotel. This study is based on research. The objective of the research was to collect the relevant data for this study in order to meet the objectives of the above research using the completed question.

Keywords: the hotel, Front office service department, customer satisfaction, service gaps, delight.

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### INTRODUCTION

Front Office is considered as a the hotel showcase and it is at this point that the first stage customer develops. This department has a variety of sub-categories (telephones, reservation, registration, lobby and etc.) by communicating with the customer to the recording from the registration of the guest until the guest leaves. Any disadvantages and special needs of the guests are maintained only by this department. So the department officials should be diplomatic, challenging and with a variety of products that deal with various types of customers. The overall personality structure of the former office workers creates a difference, based on the returning customers.

The purpose of the hotel was to examine whether customers were satisfied with providing the hotel services or finding a way to improve the hotel services. The meanings of customer satisfaction have been widely discussed from the perspective of looking

forward to measuring various researchers and organizations.

According to researchers, they can be satisfied with a variety of situations and are associated with both products and services. Researchers were satisfied that the "exceptional personal assessment", credibly impacted by "personal expectations". The model seems to have common sense legitimacy and in addition illustrative capacity. Suggestions talked about and Recommended for researchers and advertisers.

### REVIEW OF LITERATURE

**Review and discussion of Abraham Pizam (1999)** show the customer satisfaction and its use for hospitality and tourism business. This idea is defined, discussing the importance of management as a rule, discussion about hospitality / environmental benefits, and especially in satisfactory measurements and attributes.

primary method of satisfaction, satisfying problems with global research and cross-cultural.

**According to Olorunniwo and Maxwell K. Hsu (2006)**, in their study seeks to investigate the quality of development service in a service factory environment. Further results are a direct result of the quality of service quality in behavioral motivations, a service provider which has a strong driver for conduct purposes in the service factory environment to determine the quality of any inquiry service standards and customer satisfaction and behavioral objectives. Research findings the dominant dimensions of service quality constructions in tanks have detected tanks, recovery, revision and knowledge. Research findings the dominant dimensions of service quality constructions in tanks have detected tanks, recovery, revision and knowledge . Research disorders and clauses focus only on this research service and use only one sector to prove the discovery. Mode factor analysis used in a sample analysis in responders. Then, some representative of the hotel guests

**Jay Kandampully & Dwi Suhartanto (2008)** have Examined, customer loyalty has become a key issue for the hotel business. Research findings from data collected from the hotels indicate the hotel performance and customer satisfaction with the performance of the home scenario; Food and drinking and the cost of the customers' loyalty to the customer. This research brings in the knowledge of selling services in the hospitality industry by understanding customer loyalty, customer satisfaction and relationships with the film. One of the most important considerations for customers is that this research defines the factors of customer satisfaction that are in favor of customer confidence in the hotels.

The primary data collection system comes with questionnaires filled with customers who have visited the hotel. The judgment sampling technique is used. Survey sample size 74 respondents. This survey was conducted in chennai area.

**FRONT OFFICE – LAYOUT AND DESIGN**

Most front desks are located in the hotel lobby. A typical front desk is about 3½ feet high and 2½ feet deep. Layout and design

depend on the front desk and the duties of the hotel size and type. Symptoms may be placed to direct the guests to the right action center. As guest information is considered secret, the front magic design generally publishes shapes / tools from viewers. It's not just aesthetic appeal and the hotel type, but also the type of working class, regardless of whether the hotel is fully automated, semi-automatic or manual accessible.

In a semi-circle system, there is a straight wall behind the back of a desk, leading office support services. Circular and semi-circle front desks allow for greater flexibility; More intelligent. But at the same time, guests can access from any page where guests can access specific places. Nowadays computerized system (complete or semi-automated) has become a choice, however, as the hotel still uses the handwriting system to satisfy the needs of guests and management.

Information Rack, Automated Switchboard, Computer Terminal, Telephone, Cash Drawer, Hold Mail Rack, Date and Time Stamp, Fax Machine, Registration Card Rack, Printer, Posted Voucher Rack, Folio Bucket, Key Drawer, and Automated Alarm Clock.

**OBJECTIVES**

- \* To study the customer satisfaction level.
- \* To improve the quality of service in the absence of the system.
- \* Increase the number of satisfied customers.
- \* To find areas where the hotel services are not available.
- \*

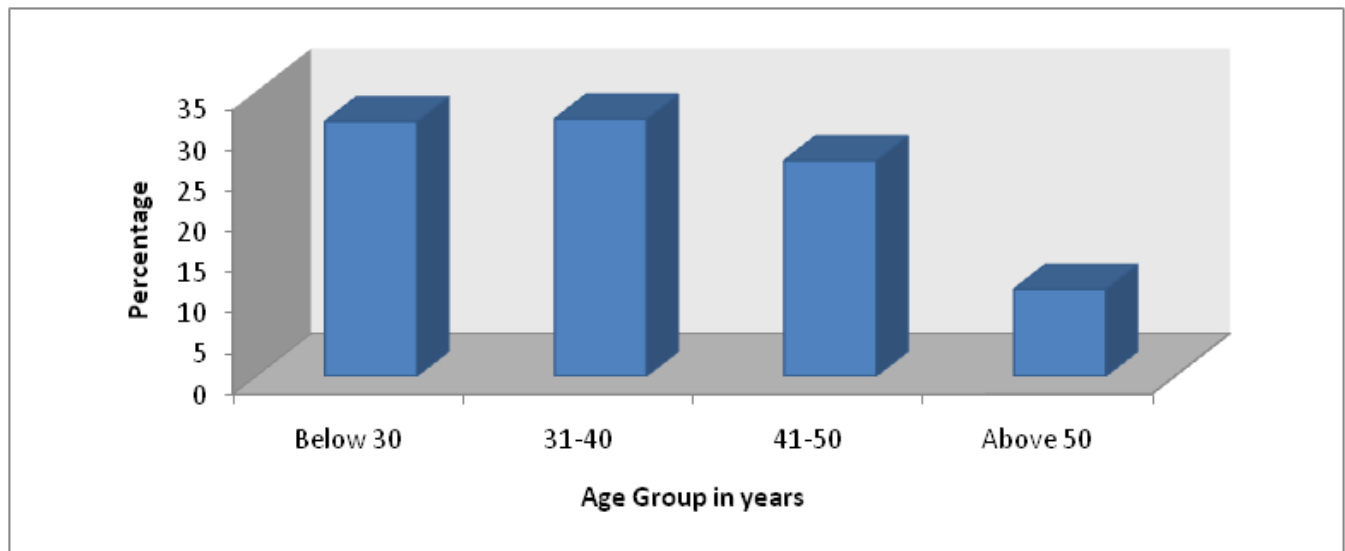
**AGE WISE RESPONDENTS**

**Table 1 Age Group in years of customers in the hotel**

Age Group in years	Frequency	Percentage
Up to 30	23	31.08
31-40	23	31.08
41-50	20	27.03
Above 50	8	10.81
Total	74	100.0

Source: Primary data

Figure 1 Bar diagram represents Age Group in years of customers in the hotel



It is observed from the Table 1 that 31.08% of customers in the hotel front office are the age group in it years up to 30; 31.08% of customers belong to 31 - 40 age groups in years; 27.03% of customers are having 41 - 50 age groups in years; and 10.81% of customers are having above 50 age group in years. Maximum numbers of age group in years are having Upto 30, and 31 - 40 and Minimum numbers of customers are having above 50 age group in years.

**GENDER WISE RESPONDENTS**

Table 2 Gender Wise Respondents Frequency distribution of customer in the hotel

Gender	Frequency	Percentage
Male	44	59.46
Female	30	40.54
Total	74	100.0

Source: Primary data

Figure 2 Bar diagram represents of Gender of the Customer in The hotel

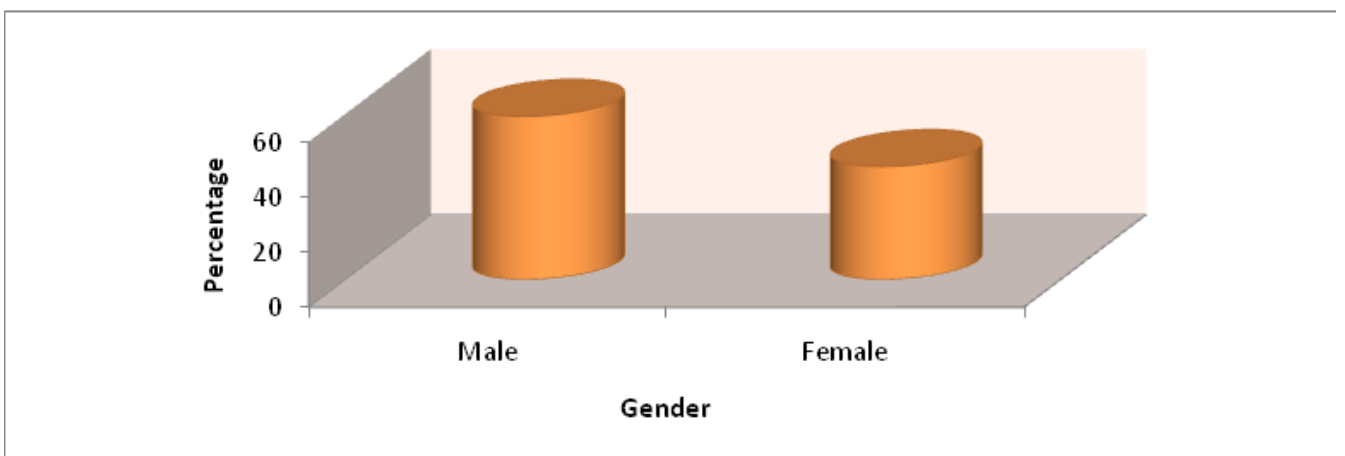


Table 2 shows that 59.46% of customers in the hotel gender in male, 40.54% of customers in the hotel are having female Gender. Maximum numbers of customers in the hotel are male and minimum numbers of customers in the hotel are female. Ho : There is no significant difference between male and female with respect to customer perception of the hotel front office.

## CUSTOMERS PERCEPTION ABOUT THE HOTEL FRONT OFFICE SERVICES

### Table 3 Customers Perception about The hotel front office Services in Chennai City

Customers Perception	A	SA	N	DA	SDA	TOTAL
Front Office performance	28 38%	26 35%	2 2%	10 14%	8 11%	74 100%
Word of Mouth and Friendly Approach	31 42%	25 34%	4 6%	6 8%	8 10%	74 100%
Effective Customer Care and Services	26 35%	23 31%	4 6%	13 16%	9 12%	74 100%
Effective Communication With Domestic and Foreign Customers	24 32%	21 29%	8 11%	13 17%	8 11%	74 100%

Source: Primary Data Calculated

Note: A – Agree, SA – Strongly Agree, N – Neutral, DA – Disagree, SD – Strongly Disagree

Evaluating Customer perception about the Hotels front office services in Chennai city it is found that about front office performance; 38 percent respondents agree with office services, 26 respondents strongly agreed while 14 percent respondent disagreed, 11 percent respondent Strongly disagreed and 2 percent of the respondents remained neutral. 42 percent and 34 percent respondent agree and strongly agree with word of mouth and friendly approach services, while 10 percent and 8 percent respondents disagree and strongly disagree with the hotel front office services. 35 percent and 31 percent respondents agree and strongly agree with effective customer care and front office service of the hotel. 32 percent and 29 percent respondents agree and strongly agree with effective communication with domestic and respondents' foreign customers, while 17 percent and 11 percent of the respondents disagree and strongly disagree with the hotel front office services; and 11 percent said it's neutral. 31 percent and 29 percent of the respondents agree and strongly agree with the national and international consultant services of the star the hotel, while 17 percent and 12 percent of the respondents disagree and strongly disagree

about the services; and 11 percent of the respondents were neutral.

## RESULTS AND DISCUSSION

Provides the results of this study with the personal data to respondents, customers expectations and feedback, and the recommendations about the quality of service of front office workers at the Chennai hotels. Personal information of the respondents this section provides the personal data of 74 customers staying in the hotel between May 1st and 30th 2018. Gender and age content in the hotel (see Table 1 and 2). The findings showed male consumers (59.46%) more than female (49.54%). Very large age the group ranged from upto 30 years and 31 to 40 years (31.08%).

The study focused more on the gaps between customers' expectations and the front office service standards. The overall average score of the results is higher than all the dimensions expected, giving positive SERVQUAL breaks. Therefore, the quality of customer service satisfies all dimensions. In this study, most people identified the respondents as the most important factor in determining satisfaction. Moreover, their expectations violated their service. The

findings of this study differ from previous analysis by Juwahrir and Ross (2003), who surveyed service standards in Muhyiddin the hotels. The hotel will boost satisfaction and service quality by focusing on assurance and reliability.

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# 21.TREND OF HUMAN DEVELOPMENT IN INDIA AND CHINA – A COMPARITIVE STUDY

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## ABSTRACT

A study on Human Resources is vital from the point of view of economic welfare. It is particularly important because human beings and the social infrastructure are not only instruments of production but also ends in themselves. Human development is necessary to know the quantitative terms, the number of people living in a country at a particular time, the rate at which they are growing and the composition and distribution of population. India and China are the two fastest developing countries in the East and South Asia. They mainly focus on the development of social infrastructure. Generally infrastructure can be an Economic infrastructure and Social infrastructure and both are measurable. Social infrastructure accelerates both the country's economic development through education, health, nutrition, housing and water supply and mainly focussing on human development. India and China increased their Human Resource Development and enjoy healthy rates of economic growth, but there are significant difference in Human Development Index. The national average Human Development Index (HDI) for India in 2008 was 0.467 and it increased to 0.519 in 2010. UNDP, the sponsor of Human Development Index methodology, (1990) reported India's HDI was 0.554 for 2012, and it increased by 18 percent when compared with the HDI of 2008. United Nations declared that India's HDI was 0.586 in 2014 and it was more by 5.77 percent compared to 2012. In 2016, HDI for India stood at 0.624. With a human development index (HDI) score of 0.727 in 2017. China has become a country with high levels of human development, emerged from a lower level, by marking a significant improvement in terms of social and economic development.

Keywords: Social and economic Infrastructure - human development index – social and economic development – GDP – UNDP

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## INTRODUCTION

India and China are the two biggest developing countries in Southern Asia. They mainly focus on the development of social infrastructure. Generally infrastructure can be an economic and social infrastructure and both are measurable. Social infrastructure accelerates economic development through education, health, nutrition, housing and water supply and mainly focussing on Human Development. The economic status of India and China is based upon Market system. Centrally planned Economy, Foreign trade and foreign investment are integral part of Indian economy. About 50 years ago, India and China were among the poorest and economically most isolated countries in the world. So the study analyse how India and China emerge as economic giants in world competition.

India and China's growth indicators depend upon Political System, speed of growth areas of specialization in social infrastructure. India and China are multi-party Democracy,

One-party authoritarian rule Economic reforms started in 1991. Average growth rate in past two decades is 6%. Rising power in software, design, services, and precision industry. Economic reforms started in 1978. Average 9.5% growth rate in past two decades. Dominant in mass manufacturing, electronics and heavy industrial plants.

## OBJECTIVES OF THE PAPER

This paper mainly focuses on the development of social infrastructure and its impact on human development. As India and China are the fastest growing countries in the world, my study is to compare and examine the development perspectives of India and China in terms of human development.

1.To examine the human development resources in India

2.To analyses trend and prospects of human development index of India and China

## METHODOLOGY

This paper is a comparative study of two different countries viz. India and China.

This paper is based on the secondary data and estimate made by UNDP on human development index for the countries in the world.

### **REVIEW OF LITREATURE**

China's Human Development Index (HDI) score of 0.727 in 2014. China has become a country with high levels of human development, making it the only country since 1990 to emerge from a low development level, according to the 2016 China National Human Development report published by the United Nations Development Programme in China and the Development Research Center of the State Council, the report uses factors regarding income, health and knowledge level to assess the level of social and economic development.

"China needs clearer and more specific social policy to help disadvantaged groups," said Gong Sen, the lead author of the report and the Director General of the Institute for Public Administration and Human Resource. "It is necessary to focus on social investment policies that improve employment, education and healthcare," said Gong. "We also need to moderately restrain social consumption policies like public pensions. China shouldn't become a welfare burdened state."

As for education, Sen recommended promoting equity in education. "We have policies that enrol students based on non-tests quotas and allow teachers to circulate to other schools. We just need to implement these policies more efficiently," he said. Innovations and improvements in China's education and healthcare system will contribute to the sustainable development of China's economy, and will promote continuous improvement of its inclusive human development, the report concluded. HDI is calculated in the 187 countries, under four bases very high developed, high developed, medium developed and low human developed countries in the world.

India has been ranked 131st place among 187 countries to UNDP and India's HDI value 0.624 placing it as medium human development country. China has been ranked 91st place among 187 countries to UNDP and China's HDI value 0.738 and placed high developed country. On the positive side India's HDI boost up from

0.345 to 0.624 between 1980 and 2015, an increase of 65% or an annual average of 1.5 percent life expectancy increased 10.5 years, mean years of schooling by 2.5 years and expected years of schooling by 4.4 years and Gross National Income per capita went up to 273 percent and other part of China HDI went up from 0.499 to 0.738 between 1980 and 2015, an increase of 66%, an annual average of 1.57 and 10 percent of Life expectancy increased.

The national economic of China and India were at the same level. The Indian economy during that same period recorded better performance both in terms of gross national product (PNL) and PNL per capita. Nevertheless, the opening of foreign investments and the reforms promoted during the Seventies, the Chinese economy recorded enormous progress and has surpassed the Indian economy in every category.

### **HUMAN DEVELOPMENT INDEX IN INDIA**

The national average HDI for India in 2008 was 0.467. By 2010, its average HDI had raised to 0.519. UNDP, Human Development Index methodology since 1990, reported India's HDI to be 0.554 for 2012, an 18 percent increase over its 2008 HDI. United Nations Declared India's HDI as 0.586 in 2014 and 5.77percent increase over 2012. As for the year 2016, HDI for India stood at 0.624.

There are many ways to calculate HDI, and its calculation is sensitive to base data and assumptions. Using another approach, UNDP India and Government of India calculated the HDI nationwide average to be 0.605 in 2006. This data was published by the Indian Government. Note that the 2007-2008 HDI values in the table below is not based on income as is the UNDP standard practice for global comparisons, but on estimated consumption expenditure – an assumption which underestimates the HDI than actual.

### **HUMAN DEVELOPMENT INDEX IN CHINA**

China is currently ranked 90th of 188 countries on the HDI. China's notable achievements include per capita GDP of \$ 7575 in 2014, life expectancy of 74.8 years, well above the world's average of 70 years, universal nine year compulsory education and the elimination of illiteracy among



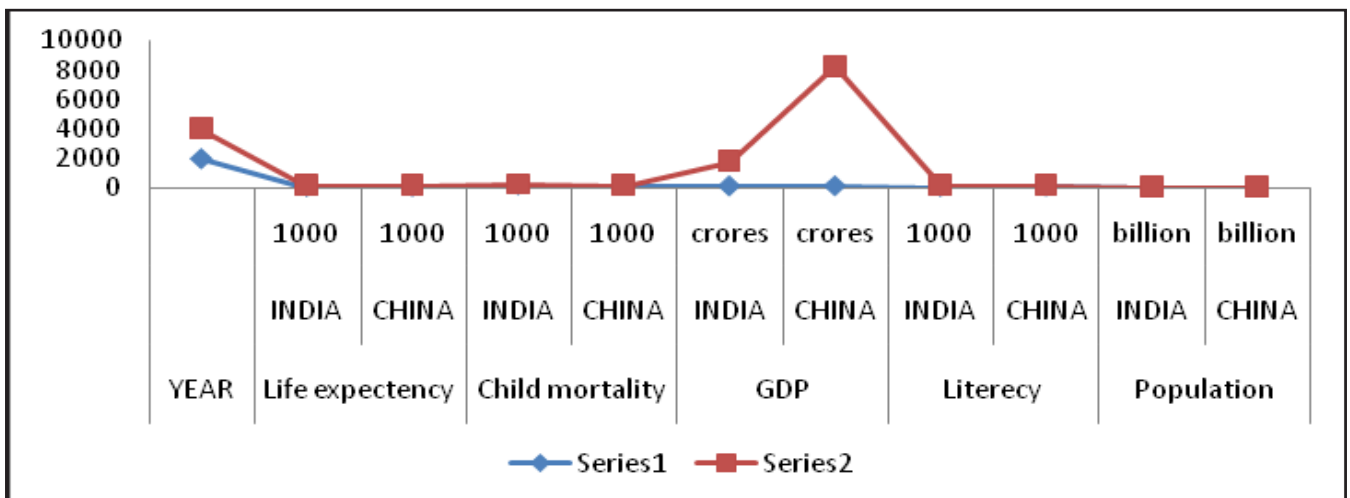
young and middle-aged citizens, said Agi Veres, UNDP Resident Representative. China’s rapid economic growth has played a critical role towards its progress in human development. Between 1980 and 2010, China’s income index ranked first in the world, and the contribution of economic growth to its HDI was 56.26 percent. In three decades, around 660 million people were lifted out of poverty, said the report.

At the current rate, China’s HDI will increase by 16 percent by 2035, reaching 0.902 HDI. In the next 20 years, indicators in education will surpass income as the greatest contributing factor to HDI growth, predicted by the report. However, the report also highlights issues including an aging population, economic slowdown, population migrations and uneven access to educational and health resources.

**Table – 1**  
**Trends in the Human Development Index, 1990-2015**

HDI rank	Country	Human Development Index (HDI) Value								Change in HDI Rank	Average Annual HDI Growth (Percent)			
		1990	2000	2010	2011	2012	2013	2014	2015		2010-2015	1990 to 2000	2000 to 2010	2010 to 2015
131	India	0.43	0.49	0.6	0.59	0.599	0.607	0.615	0.624	4	1.45	1.62	1.46	1.52
90	China	0.5	0.59	0.7	0.703	0.713	0.723	0.734	0.738	11	1.72	1.7	1.05	1.57

**Chart I**



**Human Development Index**

India & China famous for call centres & computer engineering, low priced consumer goods. India – Economic Fact Sheet GDP-real growth rate: 6.5percent in 2012 and 7.7percent 2011 and 11.2 percent 2010. GDP – per capita (PPP – Purchasing power parity) \$3,900 in 2012, \$3,800 (2011.) \$3,600 (2010) the data are in 2012 US dollars GDP – Composition by sector: agriculture was 17.4 percent, industries: 26.1 percent and services: 56.5 percent (2012.)

China – Economic Fact Sheet GDP – real growth rate: 7.8percent (2012), 9.3 percent (2011) and 10.4 percent (2010) GDP-

Per capita (PPP-Purchasing power parity): \$9,300 (2012) \$8,700 (2011) and \$8,000 (2010) the data are in 2012 US dollars GDP –composition by sector: agriculture: 10.1% industries: 45.3% services: 44.6% (2012). India is an agricultural country. Growth of service sector is pushing down the contribution of agriculture. Contributing 17.2 percent of the GDP. Largely depends on monsoon. Provides employment to two-thirds of the total population. 15 percent of export earnings rural women play a vital role, 50 percent of rural labour force. Yields per hectare of crops in India are very low Agriculture accounted for 10.6 percent of the GDP 330 million- over 45 percent of

labour force still makes living from farming. Farming methods have been improved in China.

Manufacturing contributes around 15 percent of GDP of the country. India rank's among top 12 producers of manufacturing value added products. Chinese manufacturing sector accounts for 43 percent of Chinese economy. Its economy growth in average of almost 8 percent every year. There are many Companies who wants to make India as their manufacturing hub, they are: Chinese manufacturing sector ranks 4th in the world after US, Japan, & Germany. Service sector in India and China 54 per cent of GDP Below 41 per cent of GDP Since 1978 to 2011. Average Annual Growth rate is 8.1 percent. Average Annual Growth rate is 10.8 percent Employment Opportunities.

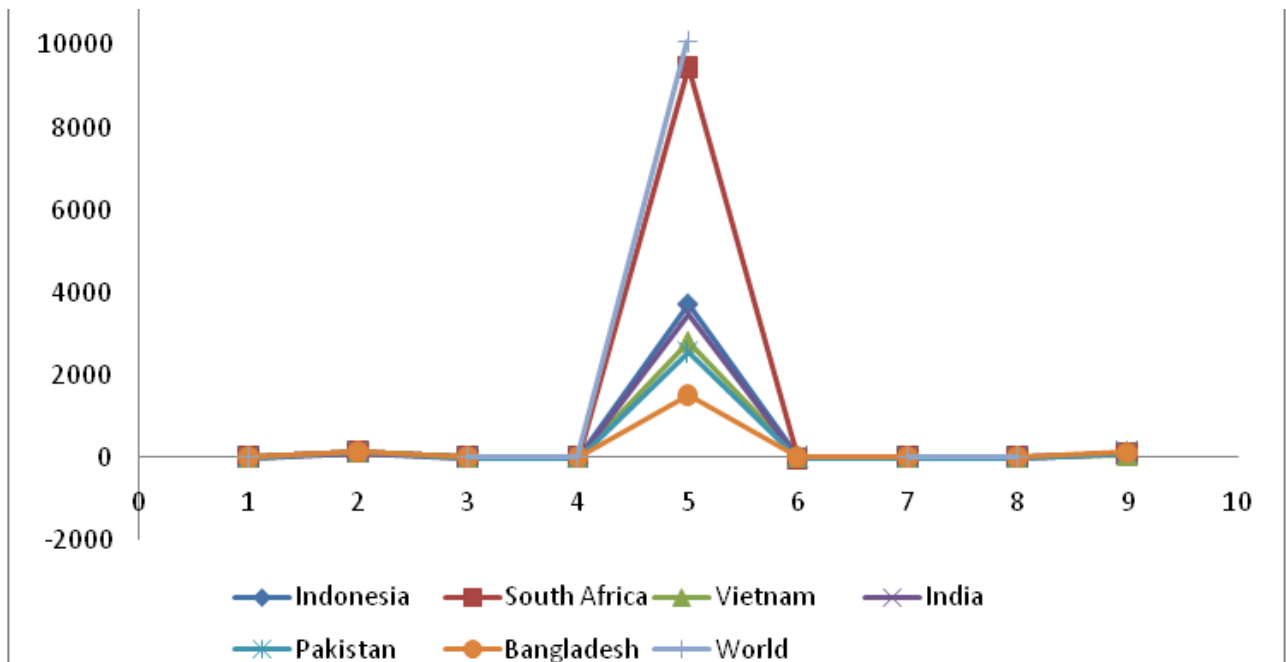
Low Employment Opportunities, High Most advanced service sector: Delhi with a GDP share of 77 per cent most advanced. India and China 2020 - According to a recent report from international economic denotes India and China plans form a trade coalition in Asia and that is projected to boost 65 percent of world trade by near 2020.Both the countries India and China are determined to achieve that and create a huge impact on world economic bodies. India shouldn't try to grow as rapidly as China "Growth has to be aimed within a relevant country context. India has its own unique past, a very different present, and will chart her own version of the future. In that future, the most critical component is to keep democracy safe."

**Table - 2**  
**INDIA'S GLOBAL POSITION OF HUMAN DELOPMENT -2011**

Country	HDI Value	Rank	Average Growth Rate HDI		GNL PCI Income	P-HDI Rank	Non-Income HDI Value	Value	GILL Rank
			1990 to 2011	2000 to 2011					
Norway	0.943	1	0.53	0.29	47,557	6	0.975	0.075	6
Australia	0.929	2	0.3	0.23	34,431	16	0.979	0.136	18
Brazil	0.718	84	0.86	0.69	10,162	-7	0.748	0.449	80
China	0.687	101	1.62	1.43	7,476	-7	0.725	0.209	35
Srilanka	0.691	97	0.81	0.8	4,943	12	0.768	0.419	74
Thailand	0.682	103	0.89	0.78	7,694	-14	0.714	0.382	69
Philippines	0.644	112	0.58	0.62	3,438	11	0.7252	0.427	75
Egypt	0.644	113	1.24	0.88	5,269	-6	0.686	NA	NA
Indonesia	0.617	124	1.19	1.17	3,716	-2	0.674	0.505	100
South Africa	0.619	123	0.03	0.05	9,469	-44	0.604	0.49	94
Vietnam	0.593	128	1.5	1.06	2,805	8	0.662	0.305	48
India	0.547	134	1.38	1.56	3,468	-10	0.568	0.617	129
Pakistan	0.504	145	1.12	1.33	2,550	-7	0.526	0.573	115
Bangladesh	0.5	146	1.69	1.55	1,529	11	0.566	0.55	112
<b>World</b>	<b>0.682</b>		<b>0.66</b>	<b>0.66</b>	<b>10,082</b>		<b>0.683</b>	<b>0.492</b>	

Source: Economic Survey 2012-2013

The Human Development Index of 0.547 ranking of India (134) HDI of 0-687 ranking of China's (101) below the value the obtaining for the world 0.682. Table above show that information of India's and China global position in human development 2011. Calculation of human development index—it is calculated as a weighted average of educational attainment, life expectancy at birth and income. All components of the index measure the relative distance between a country's achievements.



**CALCULATION OF HUMAN DEVELOPMENT INDEX**

$$\text{INDEX VALUE} = \frac{\text{Actual value of } x_1 - \text{minimum value of } x_1}{\text{Maximum value of } x_1 - \text{minimum value of } x_1}$$

- Education attainment (E) is measured as a combination of two indices. One for adult literacy (minimum value = 0. Maximum value = 100 percent) and of the combined primary, secondary and tertiary ratio's (minimum = 0, maximum = 100 percent with.
- $E = 2/3 \text{ adult literacy rate} + 1/3 \text{ combined ratio}$
- Life expectancy (L) minimum 25 years and a Maximum value 85 years.

**Table - 3  
HUMAN DEVELOPMENT IN INDIA AND CHINA DURING 1960 & 2016**

YEAR	Life expectancy		Child mortality		GDP		Literacy		Population	
	INDIA	CHINA	INDIA	CHINA	INDIA	CHINA	INDIA	CHINA	INDIA	CHINA
	1000	1000	1000	1000	crores	crores	1000	1000	billion	billion
1960	41	43	163	119	81.3	89.5	41	66		
2016	68	76	34	9	1709.4	8123.2	71	96	1.324	1.379

**Sources: Indian china comparison study data.**

70 years since independence India made most progressive improving life expectancy, literacy slower improving the level income and reduce infant mortality compare to china India's population increased 21 times and China GDP per capital income (89.5) that is 9 percent more than India and greater labour force more energy per worker in India compared to china.

**SUGGESTION TO DEVELOPMENT OF HRD IN CHINA AND INDIA**

These extraordinary results have been called the "Chinese Miracle". The

development of the manufacturing industry has transformed China into the "factory of the world" and has created an industrial substrate sustainable in the long term. In 2015 foreign investments (IDE) in China amounted to 1.723 trillion USD, while in India that number is decidedly less, equal to some 297.1 billion USD.

In addition Chinese foreign investments have maintained constant growth: in 2015 it was equal to 1.1 trillion USD (in 2014 it was 792 billion USD). The Indian IDE were worth 129 billion USD in 2014 and reached the sum of 137 billion USD in 2015. Even

Chinese foreign commerce has maintained a high growth rate, recording a positive balance of 700 billion USD; on the other hand, India recorded a negative commercial balance of 144 billion USD. In terms of national income per capita, China with 14.300 USD per citizen in 2015 completely blew India away, in which during that same period they registered an average of 6.300 USD a person. In conclusion, as Martin Jacques said, even if the Indian economy were to grow faster than the Chinese, India would need an enormous period of time before.

Moreover, Indian economical development was led by active industry in the technological sector; having a poor infrastructure and without a trustworthy manufacturing sector, India has based its economic growth on its service industries. The percentage of its PIL occupied by the service sector in India is 54%, greater than China by 6%. The main reason why the service industry has had a better performance than the Chinese is found in state investments; in the Eighties, the government of Rajiv Gandhi openly declared that India would be led into the future through a technological revolution.<sup>738</sup>

Lately both China and India are facing the same difficulties in terms of economic growth, namely the impossibility to depend entirely on the industrial and service sectors. Both countries need to reduce their dependence on foreign commerce and promote a more far-reaching economy, extended into the highest number of sectors possible so as to avoid being trapped in the chain of international production. The Indian industrial sector is very weak and even if it had access to a numerous, young work force, it would still be at a deficit of minimum education and training. In addition, even if the national savings rate is rather high, worth 29.3% of the PIL, the majority of savers could see their assets be used to repair the enormous public debt.

Many academics say that having the better financial system, the Indian economy will surpass the Chinese in the long term, but it's also important to remember that the efficiency of the financial sector doesn't translate into greater general economic efficiency. In fact the economic growth of a country is considered efficient when it allows

the majority of the population to see the benefits of development, more specifically; an economy is efficient when it promotes new jobs and a higher employment rate..

Lastly, since economic development is a typically political process, the role the government plays is fundamental in providing sustainable development. An analysis of the growth of the Indian economy since its independence shows how the poor administrative ability of the Indian government has been a key factor in the slowing of the socioeconomic development of the country.

India enjoys an advantage compared to China in terms of economic reliability and fairness, as well a greater efficiency in fighting corruption and an administration that observes the laws. However, when taking into account indications of government efficiency and quality of legislation, China has better results than India. The Chinese government is extremely competent in directing resources and reaching agreements, allowing it to promote an effective and efficient socioeconomic development.

#### **FINDINGS OF THE STUDY**

- Lowering the poverty rate
  - Curb endemic corruption
  - Eliminate violence and discrimination against women and children
  - Implement a more efficient distribution system throughout the territory
  - Promote intellectual property rights
  - Improve transport systems and infrastructure for agriculture
  - Create greater job opportunities in sectors other than agriculture
- Control migration between the countryside and cities; Reform and improve the scholastic system

#### **CONCLUSION**

Indian HRD growth is slower than the Chinese, the Indian economy and its process of development are far from passing their Chinese counterparts. Indian development is constantly slowed by insufficient infrastructure, stagnation of the agricultural sector, internal conflicts, social instability, and political division at the heart of the government. On the other hand, the main role of the Chinese government is to

avoid the “trap of median income”, better the quality of economic growth, promote greater scientific development, and increase the efficiency of the economy in general.

One last difference between the development models of China and India is that whereas the former has based its growth on labour-intensive sectors, the latter tends to promote sectors with high levels of competency. Both countries should concentrate on the importation of advanced technologies and managerial experience, and eventually reduce their dependency on foreign investments and promote internal growth based on domestic consumption and government investments.

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## 22.SOCIAL ENGINEERING FOR ECONOMIC FRAUD – AN UNSAFE AND UPCOMING CRIME

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### ABSTRACT

*Every human being is a social animal and needs a society for their living, working and enjoying life. Social Engineering is an art of handling people, so they give up confidential information. Now a days the fraudulent activities are increasing day by day, especially Social Engineering Fraud. Criminals use social engineering tactics to do the fraud activity. It refers to a variety of practices used by the hoaxersto betray and influence victims into freely performing activities which results in them giving confidential information or transferring funds. Techniques vary person to person and can comprise emails, phone calls, messages. In recent years financial organizations have replied to rising fraud levels by taking a multi layered tactic to safety. A great deal has been financed across the industry into noticing and blockingcons. Business executives, computer security specialists and solicitors, however, do not fully understand the kinds of frauds that can be conducted through or with the aid of the Internet, or the complications of such frauds for the forthcoming of ecommerce. First it will identify the main types of internet frauds that law execution and regulatory authorities are observing. Second, it will explain the major emotional influence techniques that offenders use in steering such frauds including the similarities between those techniques and social engineering methods of hackers. Third it will propose some responses to the problem involving both government and the private sector.*

*The types of information these convicts are seeking can vary, but when individuals are targeted the criminals are usually trying to trick you into giving them your passwords or bank information, or access your computer to secretly install malicious software—that will give them access to your passwords and bank information as well as giving them control over your computer.*

*For example, it is much easier to fool someone into giving you their password than it is for you to try hacking their password (unless the password is really weak).*

*Security is all about knowing who and what to trust. Knowing when, and when not to, to take a person at their word; when to trust that the person you are communicating with is indeed the person you think you are communicating with; when to trust that a website is or isn't legitimate; when to trust that the person on the phone is or isn't legitimate; when providing your information is or isn't a good idea. 17 % of workers fall for Social Engineering attacks and 98% of attacks rely on Social Engineering.*

*Key words: Social Engineering Attack; Phishing; Malware; Scam; Online Fraud; Internet Fraud.*

### INTRODUCTION

**I**n the recent past years, the digitalization has improved the commercial and social relationships. It completely changed the way businesses are steered. Progression in Internet has unlocked an era of chances for the organizations especially the financial institutions like banks & the NBFC's to support their customers. This is has enabled people all over the world to do a various financial transactions as it provides secure and easy way. However with the ease of banking operations arises with various threats and susceptibilities. The banking industry has been exposed to numerous security and privacy threads. Information security breach reports often

focus on the technological failures that enabled the attack; the malware, the patches, and the high-powered password crackers, to name a few. Yet, there is usually a less technology-oriented weakness in the defenses of breached companies, a weakness that cannot be merely patched over a long weekend. It is the human element of organizations.

When a customer leaves an online login & password written down and unprotected, when a customer service agent fails to verify the identity of someone claiming to need an address and phone number, or when an anonymous caller asks the debit / credit card PIN number, these vectors are equally as mortal and perchance more dangerous

than standard technological defenses such as firewalls and two-factor authentication. However billions of dollar have been invested by the banking industries to encounter the cyber-attacks. A survey by Price Waterhouse Cooper (PWC), a multinational professional services network, reported that 93% of financial institutions suffered security breaches in 2016, with a trend indicative of an exponential growth in cyber-attacks.

In an Information Security jargon, "exploiting the weaknesses in a human defense is known as Social Engineering". Although one could argue that the arts of deception are older than language itself, the age of the Internet and the rise of cybercrime provide a new context to these age-old techniques. Given the incredible wealth of information now stored in companies' databases, an advanced attack will often include some aspect of Social Engineering in a layered approach that includes reconnaissance and delivery phase, such as the Intrusion Kill Chain (Hutchins et al. 2010).

This study examines factors preceding Social Engineering vulnerabilities, namely fraud and identity theft, and does so in the context of behavioral economics.

### **BANKING AND CYBER-ATTACKS**

The Banking and the financial institutions are diverse in nature. According to the Central Bank, the financial services comprises of hundreds of banking institutions, financial products like Credit cards, Insurance products, financing arms and their support functions. Financial institutions vary widely in size, ranging from some of the largest global banking companies with thousands of employees and billions of dollars in assets, to small credit unions and cooperative banks that have only a few number of employees but serve individual communities. Due to the advancement of Information and Communication technology (ICT), the volume and the value of transactions amidst the financial institutions have grown up immensely. The complex nature of banking systems and practices makes it hard to respond to or detect threats in the event of an organized cyber-attack, as in the case of Coincheck—a Japanese-based crypto currency platform that was hacked to the tune of US\$530 million. To composite the issue, security specialists believe that the trend and frequency of threats will continue

to grow.

### **SOCIAL ENGINEERING ATTACKS**

According to Christopher Hadnagy, the term social engineering is defined as "the act of manipulating a person to take an action that may or may not be in the target's best interest". In contrast to this definition, SANS Institute describes social engineering as "a euphemism for non-technical or low-technology means—such as lies, impersonation, tricks, bribes, blackmail and threats used to attack information systems". Social Engineering can be divided into two different categories; computer based fraud and human- interaction- based deception. In both categories, the hacker conducts an attack, they perform some kind of background check on their target.

In computer based deception, the hacker depends on technology to deceive the victim into bringing the information needed fulfill the purpose. The human interaction approach of social engineering is based principally on cheating through human interface. The human attack becomes positive by taking an advantage of the victim's natural leaning to be helpful and liked.

### **THE ATTACK LIFE CYCLE**

The Social Engineering attack process was first described by Kevin Mitnick, he described it as an attack cycle of four phases.

**1. Research:** This involves gathering information about the victim. The collected data is utilized in subsequent phases and is of vital position of making the attack the realization.

<b>Types of Personal Information</b>	<b>Description</b>
Basic Information	Name, Gender, Age, Phone Number, and so on
Accounts	Email Account, Online Bank Accounts, Internet Bank PIN, etc.
Social Relation	Friends, Acquaintance, work Information
Privacy	Call Records, Text details, Photos, Personal Videos, shopping Behaviour
Online Behaviour	Chatting logs, Playing Games, shopping & other behaviour
Other Registration Number	Insurance Records, Trading Records, Real Estate Records etc.

**2. Develop Rapport and Trust:** Various types of social engineering techniques are deployed in this phase to ensure the victim trust the hacker.

**3. Exploring Trust:** Hackers manipulate human behaviour and exploit trust and silently steal the desired information.

**4. Utilize information:** This final phase is also referred "cashing in", where the information expanded from the previous phases is used to enact the spell.

**5. Types of Social Engineering Attack:** There are many Social Engineering tactics depending on the medium used to implement it. The medium can be mail, phone calls, suspicious text messages, USB drives or some other thing.

**Vishing:** Vishing is a form of social engineering attack in which an attacker uses a phone call to trick a victim to reveal sensitive information such as credit card number, pin code or detailed home address. The attack exploits voice over IP (VoIP) technology since it is cheap, and the attacker could be calling from anywhere around the world, with their identity concealed.

**Baiting/Trojan Horse:** Baiting uses digital devices such as USB drive or RAM to gain a victim's attention and perpetrate an attack. This technique relies on human curiosity to deploy the attack, which in turn spreads the malware installed on their device. As a result, the organization's internal network will fall under the control of the hacker.

**Fraudulent Websites:** With this attack type, the hacker exploits a victim's trust, leading them to access their fake website, which automatically downloads malicious files onto the victim's computer. As with the Trojan Horse attack, the downloaded file gives the attacker access to sensitive information from the local browser of the victim.

**Pretexting:** This is an exploit that uses a scripted scenario to trick the victim to reveal sensitive information or accomplish other malicious activities unknowingly. Reverse social engineering is the best example for pretexting, in which an attacker creates a scene or situation and an innocent victim believes that the hacker can provide a solution.

**Phishing/Spear Phishing:** Phishing is the most popular social engineering attack in the online banking system. Typically, a

hacker sends an email using the legitimate organization's trademark to get the attention of their target. The fake email appears to be from a trusted bank requesting that the customer updates their account information using the provided link (which is a bogus link). The attached fraudulent website leads the victim to divulge sensitive financial credentials. Phishing is considered one of the most effective attacks and the technique has become more sophisticated over the years. Spear Phishing uses the personal details of a potential victim to tailor the email content, with a higher probability of success.

**6. Analysis of customer behaviour to Social Engineering Attacks:**

The tactics used by hackers reveal how vulnerable users can be when online. Their study showed that the impact of "human factors" in social engineering attacks. Cyber-attackers have historically relied on technical attacks to exploit their victims, but today, there has been a swift change to the use of ingenious social engineering techniques to perpetrate attacks. These techniques include: malware installation, the art of stealthily stealing user credentials, and making fraudulent transactions. The attacks can be international; aimed at victims in specific geographical locations using attachments in their local languages. The impact of every attack relies on how the victims responds to the online malware.

**7. Impact of Social Engineering Attacks in Financial Institutions**

Most cyber security report says that the increasing trend in Social Engineering attacks on the financial sector aims at nation's economic interests and not on specific customers. Any specific cyber-attack affects a bank's financial infrastructure, in addition to reputation damage to customer's trust, while the collective impact of a security breach at few banks can cause significant consequences to a nation's financial markets due to their interconnectedness with a nation's economy.

## **CONCLUSION**

The evolution in technology compromises both opportunities and challenges to the financial sector. However cyber criminals are also becoming ingenious and creative in their attacks, especially as the exploit on



human sentiments. To progress the cyber security bearing of banks, new ways and tools need to be settled and organized to fill the existing gaps created by these clever criminals and to counter the attacks they present. A holistic approach towards cyber threats is needed to elevate the threats to an operational level, which could help in making better decisions quickly and effectively. Not all threats can be analyzed and prioritized as the same, but by examining the analytics of threats retrospectively, banks could foresee attack patterns, and predict the possibility of an attack before it even happens.

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## **23.SOCIAL ENGINEERING AND POVERTY ERADICATION FOR HEALTHY LIFE**

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### **ABSTRACT**

*Poverty refers to a condition where people are not able to meet the basic requirements of life such as lack of food, shelter and clothes. India is one of the poorest countries in the world. Many Indian people do not have proper food to eat, shelter to live. Poor people cannot afford for education. Poverty not only affects the individuals but affects the whole Nation. It's a worldwide issue prevailing in developing and underdeveloped countries. Poverty is the foremost reason for several socio-economic issues like population explosion, child labor and increase in crimes. Poor people do not get proper nutrition and diet. Money plays a main role in the level of health that society enjoys. The relationship between poverty and health is a complex one, many factors go hand in hand with this relationship including lack of proper diet, poor living conditions, lack of education, limited access to medical assistance and the stress caused because of living in poverty which leads to health illness. This article will discuss in detail about health illness due to poverty and Social engineering.*

*Keywords : Poverty, Social status, poor, Health illness, Nutrition, Social Engineering.*

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### **INTRODUCTION**

**P**overty is an undetectable problem which affects people and their social life in many ways. Poverty keeps a person lacking from freedom, mental well-being, physical well-being, and security. Every individual needs to work jointly to remove poverty from the country and world to achieve adequate health both physically and mentally, complete literacy, shelter, and other basic requirements to live a simple life. Poverty is the foremost determinant of ill health . Many poor people in India are not able to get adequate food, shelter and clothes. Because of which they are lacking proper nutrition. Poor people are not able to afford for education; hence many are illiterate. Despite of initiatives taken, there is no satisfactory results shown with respect to the financial condition of poor people. Employees with low salary face rising levels of economic insecurity. The prices of supporting their family, medical aid, child care, and transportation, influence the major budget of the salary. Poverty leads to lack of nutrition and stress which lead to health illness indirectly.

### **RESEARCH OBJECTIVES**

To analyze the Health illness due to poverty and amelioration of poverty through Social Engineering

### **POOR**

A man is poor because he is poor, which can be defined as "Vicious circle of poverty is due to low level of investment on one side and low level of demand on the other side which is due to low level of income, which is the result of economic backwardness and primitive technology".

### **SOCIAL ENGINEERING**

Social Engineering can be defined as "Management of human beings in accordance with their place and function in society, applied social science".

### **MAIN CAUSES OF POVERTY**

The main causes of poorness in India are growing population, poor agriculture, corruption, recent customs, vast gap between poor and wealthy individuals, state, illiteracy, epidemic diseases, etc. Most of the people in India rely only upon agriculture which cause poorness. Since poor people

cannot afford money to use technology in agriculture they are not able to gain full benefits which result in poverty. Increase in population is another cause of poverty. More population means we are in need of more of food, cash and shelter. Due to the lack of basic facilities, poorness grows earlier. Rich people are growing richer and poor people are growing poorer which creates an economic gap between rich and poor. Due to the lack of nutrition poor people are easily prone to health illness.

### **THE EFFECT OF POVERTY ON HEALTH**

Among many countries, the percentage of death among children before the age of five is more in developing and under-developed countries compared to the developed countries. Life expectancy is sixteen years shorter for men and twenty years shorter for ladies in poor countries compared to rich countries. Individuals living in poorness have very little or no financial gain and as a result they suffer from severe distress making an attempt to get the essential necessities to survive. Major factor which effects the health due to poverty is diet and the availability of food. Poor people can't eat healthy diet like fruits and vegetables instead they take low quality fatty foods which leads to many diseases like obesity, heart disease and even cancer. These people use unclean and unsafe water and they live without sanitation which leads to infection. Due to improper shelter, lack of immunization adds to the development of infection.

### **HUNGER**

Hunger is an extreme form of poverty. According to a "UNICEF report published in 2005 about 10.1 million children died before they reached the age of five". Hunger both directly and indirectly contributes to the death as it reduces the immune system and promote malnutrition. According to guidelines developed by an expert working group of the American Institute of Nutrition food insecurity is defined as "Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways". A study on low-income families reported that those who experienced frequent hunger were more

likely to have emotional, behavioral and academic.

### **CHILD MORTALITY**

Poverty is the main root cause for child mortality and child morbidity. It is a common fact that kids who spend their childhood in poverty for prolonged time, experience poor health at the time and in later years. This is because of their poor living conditions and shortage of necessities needed for a basic living. Number of problems these children face is a long and painful. Such problems include low nutrition, less access to immunization programs, exposure to awful living conditions, low life expectancy and limited access to fundamental health care. The "UNICEF report states that one among three children do not have access to adequate shelter, one in five children do not have access to safe water, and one in seven has no access to essential health".

### **LACK OF ACCESS TO MEDICAL ASSISTANCE**

Lack of access to medical assistance and medical care directly leads to poor health. Poor people cannot spend money for medical assistance and they can't afford for health insurance. This factor leads many low-income earners easily prone to health issues. Without health insurance, the poor people have little access to vaccination programs, cancer screening and they can't undergo regular health check-ups. Due to poverty poor people prone to delay in medical assistance until its essential which sometimes become too late to treat which leads to shorter life expectancy and increased cases of chronic and life-threatening illnesses.

### **IMPACT DUE TO HOUSING AND LIVING CONDITIONS**

Effects of poverty can be seen directly due to living condition and shelter on health. Death rate of Poor people are likely higher during the winter season due to inadequate security and shelter. Workers with low-income people tend to live in older homes, which won't have safety regulations, which leads to developmental problems and can also cause cancer. Inappropriate living conditions also give rise to many issues such as deficient sanitation, limited access to pure drinking water and intake of low-

quality food. It's clear that low-quality diet, child mortality, housing and living conditions are all integrated.

### **STRESS**

Stress is one of the factor which affects health. Nowadays, we have lots of evidence that the burden and effort of living due to poverty itself create biological changes in the body and leads to stress. High stress due to poverty, react in our body by triggering a flood of stress hormones which will affect the immune system and leads to cardiovascular diseases. Although this is a natural sequence of events that occur in the body if it happens too often and for prolonged time it damages health. Due to which poor people are easily prone to health issues including dysthymia, more sensitivity to infection, diabetes, high cholesterol, high blood pressure and a greater risk of heart attack and stroke. If we combine the stress associated with poverty, bad diet and poor living conditions, it's no surprise that poor people experience more ill health and die younger than their rich people.

### **CONCLUSION**

It is very clear that poverty has large effects on the well-being of humankind. However, the outcome of socio-economic status with respect to health is slow due to the inadequacy of information systems and the lack of research that has been conducted on the health of poor. People tend to collect information and do research about things that are more important. The fact that we collect less information about the impact of socio-economic factors on health tells that the issue has a low priority. Though people are considering poverty as a sensitive subject, but enough focus is not shown to target the problem. Maintaining healthy life, intaking healthy diet, managing and treating an existing chronic disease can be a challenge for poor people. Those impacted by poverty or food insecurity are likely experiencing additional resource related issues including lack of house and energy insecurity that, in turn, contributes to poor nutrition and health issues. Factors such as poor-diet, child death, standard of living, pressure due to stress and inadequate medical care and insurance have a negative effect on the health of poor people. Literacy, better

living conditions, clean water, immunization programs and increase in government funding will create better and healthier population and a safer environment. Health care among people is not only an indicator of their willingness to preserve life but it is crucial to personal, societal and national development. The health of an individual extends to the family, community, society and the nation. The cost of ill-health is not only borne by the individual but the entire society. Ill-health leads to less time on the job, lowered production and productivity. Health therefore holds a key to social and economic development. Hence, long life must be supported by a healthy individual or population. It is this interrelationship among health, life expectancy, social and economic development that account for a demand in health care services.

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## 24.ROLE OF EDUCATION INEQUALITY OF DALITS IN TAMIL NADU – A HISTORICAL STUDY

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### ABSTRACT

*Varna and caste system is a very unique feature of Hindu religion in Indian Society. Basically Varna are divided in forth part such as Brahmins, kshtriya, Vaishyas and Sudras. Today Dalit are belonging to sudra Varna. The gradual rise and growth of Dalit consciousness and movements was a significant feature of British India. The pace of change was however in different area of India, leading to uneven development of Dalit movement across the regions in before independence period. While part of Southern and Western India experienced strong movement demanding for the improvement in social, economical and political status under the important leaders, like Dr.B.R. Ambedkar and M. C. Rajah, These were conspicuous by their absence in large part of India. As a customary system of social and economic governance based on graded hierarchy, caste in the Indian society exists in tension with the legal systems of the State, which are based on the ideals of liberty and equality. The Dalits who constitute 20 % of the Indian population, suffer most acutely from social and economic violence emanating from the caste system, which prescribes their position as being uniquely located at the bottom of the graded caste hierarchy. The Dalits in the Indian society negotiate social and economic transactions in many spheres of life from this inherited position at the abyss of the caste pyramid, while in the other spheres, untouchability excludes them from transactions with the dominant community.*

*This module attempt to discuss the educational status, problems and issues related to the children from Dalits after independence. Education is the only source for upliftment of the downtrodden sections of Indian society. Therefore, this research paper mainly concentrates on the educational development among dalits in Tamilnadu with special reference to dynamics of struggle for survival.*

*Keywords:; Dalits, Education Inequality of dalit, Dalit movement, Dravidian Movement.*

### INTRODUCTION

India is a unique state of multi culture, caste, religion, custom and conventions based on the hierarchy system of India's age old culture. India's multicultural setup may facilitate the power holder and caste wise high rung people and it may not be suitable to lower class people. The 73rd Amendment of the Constitution is a step forward to ensure and provide empowerment of Dalits in general and Dalit women in particular, and it has given fillip to create political space for them by being the partners of the development process at grass root level. The plural connotations of Indian society has produced variations and differential

participation in the local governance based on the age, sex, caste, class, gender and the patriarchy. It is also pertinent to note how these factors influence the participation of different social categories in the decision making processes. It is also quite interesting that heroically and politically excluded collectivizes respond to the changing conditions and take up the challenges to find their new identities. In this process of identification of 'images' independent of caste, gender and patriarchy have caused holocaust leading to tensions and conflicts. The conflict of interests from traditional-conservative values with that of democratic egalitarian values is a major thrust of enquiry.

### **STATEMENT OF PROBLEM**

Tamilnadu has a relatively high Dalit population. As against the national average of 20 % of Tamilnadu's population consists of Dalits. Despite these numbers which should easily help them breach a critical electoral threshold, Dalits have not been Education Inequality mobilize themselves successfully.

### **OBJECTIVES OF THE STUDY**

- 1.To undertake empirical research of Dalits dignity and Inequality.
- 2.To study the Dalit people will be to give up their own identity in the nation.
- 3.To concentrative and theoretically understand of Dalit.
- 4.To study the Struggle and Strategies of Dalits in Education.
- 5.To study the Contemporary of Dalit movements in Tamil Nadu.

### **METHODOLOGY**

A part from studying the overall historical and socio- economic condition of the dalits, many specialized studies are also needed regarding the overall Dalit population, literacy rate, Employment opportunity, placements of Tamil Nadu. This research paper is purely based on secondary sources of information and statistical data with descriptive and diagnostic study analysis. The secondary information and Statistical data are collected and compiled from both Central and State Government reports, reports of the Non Governmental Organizations, published and unpublished materials.

### **DEFINITION OF DALITS**

Before going in details with other reference let us start with the definition of untouchables or dalits given in the census report 1911. The said census report actually laid down those who were touchable. Under these tests the census super intendeds made a separate enumeration of castes and tribes. Thought it was the first attempt to define dalits in a official government documents, it how even does not give clear picture.

The word 'Dalit', is derived from the Sanskrit word 'dal', which means 'tom-asunder, broken, discriminated, disowned, subjugated, and a victim of apartheid'. But for the Dalit people, the real meaning of Dalit is "The struggle for Human Rights." Today in most of the Indian languages, the

word 'Dalit' represents the oppressed and downtrodden. There are 300 million Dalit people in the world, 250 million in Asia and 150 million of those in India alone. More than 50per cent of the Dalits in India are in the states of Uttar Pradesh, West Bengal, Bihar, Andhra Pradesh and Tamil Nadu. Tamil Nadu has the fourth highest Dalit population in India, 10.7 per cent.

Caste and Untouchability based social exclusion in contemporary India

Even today the Indian society is following the same varna system were the society is categorized in to four namely the Brahmans, kshtriya, vaishya, and the shudra and the practice of the varna system is still in existence which has a practice of discriminating the shudras. . Today in contemporary Indian society the shudras are known as the dalits which is a Marathi word means as "broken men" and presently there are 180 million Dalits categorized and classified as scheduled castes in the Indian constitution. However more than 180 million Dalits are subjected to social, economical, political and cultural exclusion deeply imbedded in social practices. Dalits are social and physically separate they most live in outside areas of the village in rural areas and in specified areas in cities. They are denied basic human rights not allowed to own property rights and to use public and common property such as the wells, tanks and temples. After India's independence when India declared itself as a democratic nation having adopting a written constitution in which the practice of social exclusion in the form of untouchability is been eradicated and made it as a punishable offence under article 17 and 18 of the Indian constitution and have made several developmental provision for the Dalits. In spite of this the practice of social exclusion and discrimination has been practiced in one or the other form the practice still exists in a newer forms and strategies.

### **DRAVIDIAN MOVEMENT STRATEGIES AND STRUGGLE OF INEQUALITY**

The Dravidian movement was successful in allowing women to express themselves on a public platform. Successfully debated on public issues and were involved in social work and were on a par with men in bringing about social reforms. The entire credit for

bringing about this change goes to Periyar. Dravidian Movement was able to function as an independent group in organizing their own conferences.

The movement used these conferences to take up women's issues and encouraged women's participation in politics. The first provincial Self-Respect conference was held at Chengleput, near Madras in 1929. It discussed issues including the Simon commission and caste oppression. A demand for equal property rights for men and women was made. The 2nd conference at Virudunagar in 1931 argued that women should not be recruited only for professions like teaching and medicine but that they should be inducted into the army and police. They also called for local magistrates to identify those temples which encouraged the devadasi system.

The anti-Hindi agitations also elicited considerable participation by women. The women wore sarees with the Tamil flag printed on it and chanted anti-Hindi and pro-Tamil slogans. A meeting was organised in Madras on September 11, 1938 and was addressed by Ramamritham Ammaiyar, Narayani Ammaiyar, Va. Ba., Thamaraianni Ammaiyar, Munnagaara Azhagiyar among others. Activists like Dr. Daramambal, Ramamirthammaiyar, Malar Mugathammar, Seethammal, Unnamulaimmar, Bhuvanewari Ammaiyar, Sivasankari, Sarojini Ammaiyar, Damakoti Ammaiyar, Jayalakshmi Ammaiyar courted arrest. A total of 73 women were arrested, of which 37 went to jail with infants.

E.V.R. Nagammaiar, the wife of E.V. Ramaswami, was a member of the All-India Congress Committee. She organised a group of women volunteers and carried on picketing when her husband was arrested for violating prohibitory orders under Section 144 of the Criminal Procedure Code. She raised public consciousness by carrying on propaganda through the streets of Travancore to fight for the rights of non-Brahmins to walk the streets where Brahmins lived.

Periyar's unparalleled efforts to transform the lives of the people of Tamil Nadu, especially women, brought about a radical change in the lives and aspirations of the women. The efforts of the various women activists have played a role in alleviating the

degree of suppression of women in various spheres. Though many women had actively participated in the Dravidian movement, not much has been written about them.

Framework of Higher Education in India  
The present format of Higher Education in India was started in 1857 with the inception of universities in the three presidency towns. At present, India possesses a highly developed higher education system which offers facility of education and training in almost all aspects of human's creative and intellectual endeavors such as arts and humanities, natural, mathematical and social sciences, engineering, medicine, dentistry, agriculture, education, law, commerce and management, music and performing arts, national and foreign languages, culture, communications etc. For smooth conduction of higher education in India we have the following framework.

### **1. Academic Framework**

- Undergraduate level- After 12 years of schooling education bachelors degree is offered in two streams-liberal i.e. three years of degree course in arts, science and commerce and professional course i.e. agriculture engineering, medicine, pharmacy.

- Postgraduate level- Masters Degree is normally of two years duration in both the liberal and professional course.

- Research programme- A research programme i.e. M.Phil and Ph.D is taken after completion of Master Degree.

- Diploma- Diploma course are also available at the UG and g level.

### **2. Institutional Framework**

The degree and diploma awarding institutions in India for higher education are Central Universities, State Universities, Deemed Universities, Private Universities, Open Universities and Institutes of National Importance.

### **3. Regulatory Framework**

The institutions imparting higher education at different levels are regulated by University Grants Commission (UGC), All India Council of Technical Education (AICTE), Medical Council of India (MCI), India Council for Agriculture Research (ICAR), National Council for Teacher Education (NCTE), Bar Council of India (BCI), Distance Education Council (DEC).

**EDUCATION OF DALIT IN INDIA: A HISTORICAL VIEW**

The major problem of Dalits is poverty superimposed by social discrimination. Dalit's particularly Scheduled castes (Re Untouchable) were denied right to property, right to education and right to bargaining for wages. An attempt is made here to look into the position of Dalits and their access to education in colonial India and their educational development in post independence period in the context of more than 53 years of Independence. Much is Dealt with here Government of Marashtra (1993) Dr. Babasahibs, Ambedkar is writings and speech vol. 12, for enabling the readers to have a clear understanding about the access to education for Dalit in colonial India. Dr. Ambedkar took the Bombay presidency by way of an illustration and examined the position of Dalit and their access to education was concerned during colonial rule. Under peshwas the depressed classes were entirely out of the domain of the education. They could not find a place in state education for the simple reason that the Pehwas government was a theocratic one based upon the canons of Manu, according to which the Shudras and Atishudras were deprived of the right to education the depressed classes who were labouring under such inequalities breathed a sigh of relief at the downfall of this hatred theocracy. The British were silent for long time on the question of promoting education among the native population. In 1814 court of directors suggested that the promotion of Sanskrit. Learning among the Hindus would fulfill the purpose which parliament had in mind. But the depressed classes were Crestfallen as British Government ruled that education was to be a preserve for the higher classes. The Hon'ble court write to Madras in 1930 as follows: No schools were opened for depressed ckasses before 1855 in the Bombay presidency because of the deliberate policy of British was to restrict the benefits of the higher education chiefly to the Brahmins and other upper classes. The depressed classes were not allowed by the Government have their slice in the education.

The resolution of the Government in the department of education dated 21st Feb

1923 which sanctioned the funds to the local Government, mentioned about the educational needs of domiciled community and the Mohammedans community, but no words was mentioned about the matter of education to the depressed classes.

**DALIT AND EDUCATION IN PAST INDEPENDENCE PERIOD**

Since Independence particularly from 1st five years plan onwards various special development measures were initiated in addition to general development programmes for the social and economic development measures were initiated in addition to general development programmes for the social and economic development of Dalits. Education not only improves the skill of people leading to increase in the level of productivity but also plays a major role in school change. Education, particularly technical and vocational education, helps the people in securing employment and increasing the level of income, consumption and living standards and social economic status of people. Hence special attention was paid for the educational development of Dalits by allocating 50% of total welfare funds means for socio-economic development of Dalits, for their education.

**Population Distribution in Tamil Nadu**

**Table: 1 Total Population of the State of Tamil Nadu, 2011**

Pop. Catg.	Total	Male	Female	% of the population
TN	72,147,030	36,137,975	36,009,055	--
SC	14,438,445	7,204,687	7,233,758	20.01
ST	794,697	401,068	393,629	1.1

Source : Directorate of Census operation, Rajaji Bhavan, Chennai.

The population of the Scheduled Castes in Tamil Nadu and others states in India as per 2011 census 14,438,445 consisting of 7,204,687 males and 7,233,758 females. The Scheduled Castes from 20.01 percent of the total population of the state. Tamil Nadu has the highest percentage of the Scheduled Castes in South India. The following are the figures.

Tamil Nadu has the highest percentage of the Scheduled Castes in South India. The numbers SCS peoples represent in the Tamil Nadu the state level as per the 2011 census 1443845 people SC Population in this 7204687 as male and 7233758 are



female. The Scheduled Castes have 20.01 % of the total population in TamilNadu 2011. The 70% of the population is resident into a rear Thiruvarur, Perambalur, Cuddalore, Nagapattinam and the Nilgiris district attracted a large number of Scheduled Castes in the state. The percentage is low in the interior districts of Chennai Dharamapuri and Coimbatore. It is the lowest in Kanyakumari with 4.04% the condition being similar to Kerala.

The sex ratio among the Scheduled Castes is 999, which is much higher than the general sex ratio of the state.

**Table: 2 Total Population of the Scheduled Castes in South India, 2011**

Name of the State	Total Population (In Numbers)	Scs Population (In Numbers)	Total SCs Population (In Numbers)	Literacy Rate (In Percent)
Andhra Pradesh	8,45,80,777	1,38,78,078	16.41	67.0
Karnataka	6,10,95,297	1,04,74,992	17.15	75.4
Kerala	3,34,06,061	30,39,573	9.10	94.0
Tamil Nadu	7,21,47,030	1,44,38,445	20.01	80.1
Pondicherry	12,47,953	1,96,325	15.73	85.8

Source: Census of India, 2011, Government of India, New Delhi

### LITERACY IN TAMIL NADU

Literacy is the key factor for socio economic progress and it is an important indicator for human development. The literacy rate of India grew to 73.0 percent in 2011 from 12 percent at the end of British period 1947. India currently has the largest illiterate population in the world and the country stand well below the world average literacy rate of 84 percent decadal literacy growth is 9.2 percent for 2001-2011 censuses, which is slower than the previous decade.

**Table: 3 Literacy rate of General and SCs in Tamil Nadu during 1961-2011**

Census year	General Population			SCs-Population		
	Total	Male	Female	Total	Male	Female
1961	36.39	51.59	21.06	10.27	16.96	03.29
1971	45.40	59.54	30.92	14.67	22.36	06.44
1981	54.39	68.05	40.43	29.67	31.12	10.93
1991	62.66	73.75	51.33	46.74	49.91	23.76
2001	73.47	82.33	64.55	63.20	73.41	53.61
2011	80.33	86.81	73.86	73.26	80.94	65.64

Source: Census of India, 2011, Government of India, New Delhi.

Tamil Nadu is one of the most literate states in India. The state performed reasonably in terms of literacy growth during the decade 2001 – 2011. The literacy data available from the decennial Censuses indicate that the gap between Scheduled Castes and general population in literacy levels has decreased. The particulars of literacy rate of SCs and general population are furnished in Table. It is reported that during the 1961, the literacy rate of SCs were 10.27 per cent as contrast to 36.39 per cent of general population but it was increased to 29.67 per cent in 1981 at the 54.39 per

cent of national literacy rate. During 1991-2001, the literacy among Scheduled Castes increased by 63.20 percentage points compared to 73.47 percentage points increase for the total population. The more remarkable increase has been noted in female literacy than male literacy among Scheduled Castes. However, low levels of female literacy among Scheduled Castes in rural areas in some of the Districts remains a cause of concern. According to the 2011 Census, the literacy rate of SCs was 70.20 per cent at the national average literacy rate has also been increased to 80.33 per cent.

It is interesting to see that female.

### **INEQUALITY ACROSS SOCIAL GROUP**

One of the important forms of inequality in India relates to disparities across social groups particularly disadvantaged sections like Scheduled Castes (SCs) and Scheduled Tribes (STs). One way of looking at this inequality is to examine the poverty ratios across social groups. Poverty declined much faster for all the social groups during the period 2004-05 to 2011-12 as compared to the period 1993-94 to 2004-05. The rate of decline in poverty is the highest for SCs. The decline in poverty for SCs and OBCs exceeded the national average during the period 2004-05 to 2011-12. Poverty decline for STs was more or less similar to that of national average. It looks like SCs, STs and OBCs benefited equally or more in the high growth phase of 2004-05 to 2011-12. However, the poverty levels are higher for STs and SCs as compared to other groups. Particularly the poverty ratio of STs was two times to that of national average in 2011-12. If we look at the type of household across social groups, the poverty in casual labour in agriculture among SCs (41.3%) and STs (59.7%) was very high compared to other groups (31%).

Asset distribution also shows that the share of SCs and STs is low in the total assets. Landlessness is high among SC households. Discrimination in labour market and business is also found in some of the studies. Lack of basic necessities such as housing, sanitation, education and health is another problem for these groups. However, income inequality is only one aspect of disparities between upper castes and disadvantaged sections. Discrimination, humiliation and violence against dalits and adivasis are examples of inequalities in non-economic factors.

### **NGO'S CONTRIBUTION FOR THE EDUCATIONAL DEVELOPMENT OF DALITS IN TAMIL NADU**

Non-Government organizations play a vital role in the educational development of the state. The Government of Tamil Nadu has safeguarded the interests of the minority and socially weaker sections in the state and allowed generously to open educational institutions for the welfare of them and

others. The various codes, acts and rules empower the state government to fix norms and conditions for the opening and functioning of the private schools.

Majority of the primary and middle schools are managed by the Education Department. However, the maintenance of building is looking after by the panchayat Unions. Non-Government organizations also managed a substantial number of primary and middle schools although majority of them are private aided receiving cent percent grants from the state government<sup>37</sup>. The Christian missionaries are the biggest voluntary organizations managing educational institutions in Tamil Nadu.

### **COMMUNITY PARTICIPATION FOR DALITS EDUCATIONAL DEVELOPMENT**

Community participation is available in the form of village education committees. The village education committees play an important role in meeting the educational needs of the area. The committee cooperates with teacher in enrolment of more children, provide help for acquisition of land, provide buildings facilities and also render assistance for maintenance of school buildings. Parent teachers associations play a key role for the promotion of educational development for the socially weaker sections in Tamil Nadu. Ideological Strategies for Dalit Movements in Tamil Nadu

- The criticism that Dalit movements of Tamil Nadu have identified themselves on caste lines and are proud to exhibit their identity of particular group. But this fragments the collective identity of the Dalit community. Although they have the objective of annihilation of caste and land reclamation and other such objectives, while implementing them, many contradictions, and differences arise because of each one's core principles.

- Viduthalai Chiruththaigal. Thiyagi Emmanuel Peravai, Tamilaga Manitha Urimai Kazhagam, Puratchi Vengaigal. Adhi Tamilar Viduthalai Iyakkam are movements which function and believe in liberation of Tamil Nationality. But, contradictions arise on the question of protection of Tamil and giving Tamil Names.

- Dalit Makkal Munani, Ambedkar Makkal Iyakkam, Puratchi, Bharatham, RPI, Manitha Urimaikatchi, Tamiliga Munnetra

Kazhagam, Puthiya Tamilagam, TADF and Makkal Desam believed in the politics of parliamentary elections. After 1999, Viduthalai Churthathigal entered accepting election politics. Thol. Thirumalvalavan says, "Our main principle in annihilation of caste and retrieval of Tamil identity/ if we want to fulfill it, we have to get political power through elections. This is our practical stand. Beyond this, there is also another reason or compulsion to participate in elections. Anti Dalit forces should not become too powerful in assembly and parliament. Besides, we have to face elections to show that oppressed people are a political force to reckon with".

- 'Thiyagi Emmanuel Pervai' takes a slightly different stand. "We are totally opposed to parliamentary and assembly politics. However we support panchayat Elections. When we think of annihilation of caste, the caste structure and the land owners who maintain it can be defeated only through the panchayat elections."

- Athi Thamilar Peravai, Thiyagi Emmanuel Peravai. Tamilaga Manitha Urimai Kazhagam, Athi Thamilar Viduthalai Iyakkam and other such movements, which do not accept parliamentary politics, believe in People's democracy and act accordingly. Even in this, movements like 'Athi Thamilar Peravai' which to the line of Arundhathiyar Movements argue that reservation for Arundhathiyars is totally snatched away and neglected. Therefore, at the time of elections, a special stand should be taken on Behalf of Arundhathiyars. This particular paper examines the economic growth of various social groups especially Dalit and oppressed people of Tamil Nadu.

## CONCLUSION

The caste dissemination and untouchability somehow and others are still playing negative roles from different parts of the society. Untouchability is a crime against humanity, the constitution of India is designed in such a way that all citizens are equal before it. Our nation facing different sorts of socio economic, educational and political evils in the society and only the effective implementation of the constitution in its real spirit can overcome them. The Dalit's also will have to come forward and to labor hard in all social, economical,

educational, political area to complete with the other members of the society. It may be summarized that educational progress of Dalits is inadequate. Millions of marginalised Dalits are not provided the basic equality of education. There have been specific efforts by central, state governments and voluntary organisations for improving conditions of education of these sections to suffer inequalities in educational opportunities. Economic deprivation, cultural prejudices, social practices and lack of easy access to school, lack of provision of infrastructure, teachers and teaching-learning materials have contributed to the educational backwardness of Dalits. Numerous schemes and programmes have been launched for their educational upliftment but the implementation aspect seems to be lacking. The educated Dalits now prefer nonagricultural activities and the considerable number of such youth is in banking, marketing, education, administration and judicial services. Education is crucial parameter of social and human development of eradicate the inequality of Dalits. Thus, education has emerged as the only hope to deprive and improve their socio-economic status of Dalits Inequality in India.

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# 25.E-BANKING SERVICES AND ITS IMPACT ON CUSTOMER SATISFACTION AND LOYALTY IN VELLORE TOWN – AN ECONOMIC ANALYSIS

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## INTRODUCTION

Banking during Roman times was not as we understand banking in modern times. During the Participate, the majority of banking activities were conducted by private individuals, and not by large banking corporations that exist today. Money lending not only allowed for those people who needed money to have access to it, but that through direct transference between bankers, the actual usage of currency was not needed because it could be done purely through financial intermediation. Large investments were conducted and financed by the federators (trans, financier), whilst those that worked professionally in the money business and were recognized as such were known by various names, such as argentarii (trans, banker), nummularii (trans, money changer), and coactores (trans, debt collector), but the vast majority of money-lenders in the Empire were private individuals, since anybody that had any additional capital and wished to lend it out, could easily do so.

## OBJECTIVES OF THE STUDY

- To study the Socio-economic conditions of respondent households in the study area.
- To analyze the income formation and expenditure pattern of the respondents in the study area.
- To examine the e-banking and its impact on customer satisfaction and loyalty in the study area.

## HYPOTHESIS OF THE STUDY

- There is a significant relationship between the socio-economic conditions of

the respondents and e-banking services in the study area.

- There is a positive association between income, expenditure and occupational status with e-banking services in the study area, and
- There is a correlation between the customer satisfaction and loyalty with e-banking services in the study area.

## LITERATURE REVIEW

*Gazmend Uure (2018)*, analyzed that the operating environment of the banking market is difficult and competitive is changing dimanthically since their focus is the steady growth of profit as well as consumer demand are in a constantly changing trajectory. Therefore, banks are increasingly focused on identifying customer needs, pulling and storing them. Customer Relationship Management is a process that provides banking business with the opportunity to create and maintain long-term relationship with customers. This concept allows the business the bank to identify, segment, communicate and build long-term relationships with customers on an individual basis regarding their needs for banking products and services as well as value added. Using modern technologies, customer relations management has come to an effective strategy to maintain the existing structure and develop a high-quality customer base. The purpose of the research is to evaluate the benefits of presenting the concept of Customer Relationship Management in the Kosovo banking sector bank by defining strategies, adapting the organizational structure, culture and internal processes with the help of modern

technology. The banking sector in Kosovo is at the stage of his development, after the end of the war in 1998, this system began to set out his consolidation steps. The study was done on the basis of quantitative research methods.

**Manoj Kumar Agarwal (2017)**, examined that the progress of e-banking scenario concerned with ATMs, Internet banking, Mobile banking and Credit cards and their impact on customers satisfaction by analyzing the problems faced by the customers in India. The analysis shows that among all the e-banking products, Customer Satisfaction Level (CSL) of ATM is highest and the number of users of ATMs is also highest as compared to other services. Internet banking and credit cards are at second and third position as far as CSL is concerned, but the number of users is more in case of credit cards as compared to internet banking. Mobile banking is at the lowest position in terms of CSL and also in number of users.

**Tran Kiev Nga, Tran Thi Kiev Trang (2016)**, Studied that the factors affecting commercial banks performance according to profitability are broadly categorized into two, internal and external environment. Internal environment is mainly influenced by a bank management decisions and policy decisions and policy objectives whereas external environment focus on industry related and macroeconomics variables reflected in the economic and legal environment where bank operate. Liquidity risk as a factor may arise from the possible inability of a bank to accommodate decrease in liabilities, since it becomes hard to raise funds for increasing demand for loans. This implies that Liquidity risk is a serious factor that has an impact on the performance of commercial bank. It needs further investigation in country specific situations. Loan loss provision to total loans is an indicator of asset quality in commercial banks. This implies that an increase in non-performing loans leads to increase in loan provision and ultimately a negative impact of profitability, and hence an increase in credit risk.

**M.D.Umesha (2015)**, reveals that the rapid technological diffusion makes the internet the best way to provide customers with banking services regardless of the limits of time and geography. The banks

consider the internet as an important part of their strategic plans. Internet technology has changed the design and the way of delivering the financial services and as a result the banking industry has made continuous innovations - especially in the field of communications and information technology - that ultimately led to the emergence of the idea of what is known as the "online banking". Compared to the traditional approach, online banking is an inexpensive straightforward way to conduct banking business, exchange of personalized information and buying and selling goods and services from any place at anytime.

**Rakesh. H. M., and Ramya. T. J. (2014)**, tried to examined the factors that influence internet banking adoption. Using PLS, a model is successfully proved and it is found that internet banking is influenced by its perceived reliability, Perceived ease of use and Perceived usefulness. In the marketing process of internet banking services marketing expert should emphasize these benefits its adoption provides and awareness can also be improved to attract consumers' attention to internet banking services.

#### **METHODOLOGY OF THE STUDY**

This is based on both primary and secondary data. It is a descriptive and diagnostic analysis. The primary data were collected from the field directly with the help of pre-determined and well-structured interview schedule. The secondary data are collected from various reports of the government of India, Tamilnadu and Vellore districts, journal articles, official records, published and un-published materials, books and internets.

The research was conducted using a structured interview schedule. The interview schedule comprised of four sections they are, Customer demographics: The questions in this section were related to gender, age and education.

E-S-QUAL scale: Respondents in this section rated the Web site's performance on each scale item using a 5-point scale (1=strongly disagree, 5=strongly agree).

E-Rec S-QUAL scale: Respondents in this section rated the Web site's performance on each scale item using a 5-point scale (1=strongly disagree, 5=strongly agree).

Customer satisfaction: Respondents in this

section were asked to rate their satisfaction level with the E-Service quality of the banks using a 5-point scale. (1= strongly disagree, 5=strongly agree).

**LIMITATIONS OF THE STUDY**

The study is restricted to the customer’s perspectives. Therefore it does not cover any opinion of banker on e-banking / internet banking services. The area of the study is very vast one, hence any conclusion and inferences drawn from the study are not universally acceptable. Some of the results of the study cannot be generalized to other areas of the state as they are the personal opinions of the customers of the respective banks. The main problems faced by the banks while adopting e-banking services is lack of e-literary among bankers. Banks are also facing challenges like high cost of adoption and customer’s preference for face to face banking. Security and privacy problems are another major issues in e-banking services. But these are not taken in to consideration. This is the main drawback of this research work.

**DATA ANALYSIS AND INTEROPERATION**

The result of the survey conducted as a part of the research has been presented and analyzed in this chapter. Descriptive statistics of the survey respondents has been presented first which includes demographic profile of the respondents and the cross tabulation of the various demographic profile of the respondents. In the second part of this chapter measure of central tendency and measure of variation has been found for each attributes. Third part of this chapter contained the factor analysis of 6 different factors with its attributes. Fourth part of this chapter represents the regression analysis between dependent and independent variables. Fifth and last part of this chapter includes the hypothesis testing and concluded with the summary of this paper.

**Table-1**

**Sex-Wise Distribution of the Respondents**

Particulars	No. of Respondents	Percentage
Male	15	21.42
Female	55	78.58
Total	70	100.00

Source: Computed from the primary data

The data shown in Table -1 clearly stated that the sex-wise distribution of the respondents in the study area. Out of the total of 70 respondents, 15 respondents (21.42 percent) stated to be in Male and the remaining 55 respondents (78.58 percent) were stated to be in Female. The inferences observed from the Table-1 depicts that the Overwhelming majority of the respondents are Female in the study are. The details of age-wise distribution of the respondents are given in Table-2.

**Table-2**

**Age-Wise Distribution of the Respondents**

Particulars	No. of Respondents	Percentage
Below 14 year	-	-
15-30	24	34.3
31-35	26	37.1
46 above	20	28.6
Total	70	100.00

Source: Computed from the primary data

The evidences observed from the table-2, clearly shows that the age-wise distribution of the respondents in the study area. Out of the total of 70 respondents, 24 respondents (34.3 percent) belonged to the age group of 15-30 years, and the 26 respondents (37.1 percent) were belong to the age group 31-45 years. And the remaining 20 respondents (28.6 percent) were in between the age group 46 years and above. It is interesting to note that the majority of the respondents (37.1 percent) were in between 31 to 45 years age group. The details of Cast wise distribution of the respondents are presented in table-3.

**Table-3**

**Caste-wise Distribution of Respondents**

Particulars	No. of Respondents	%
OC	8	11.42
BC	10	14.3
MBC	32	45.71
SC/ST	9	12.85
Others	11	15.71
Total	70	100.00

Source: Computed from the primary data

Table-3, clearly shows that the caste wise distribution of the respondents in the study area. The inferences observed from the Table 5.4i revealed that out of the total of 70 respondents 32 respondents (45.71 percent) were belonged to Most Backward

Classes (MBC), 11 respondents (15.71 percent) were belonged to other category, 10 respondents (14.3 percent) belonged to Backward classes, 9 respondents (12.85 percent) were belonged to SC and ST category, and the remaining 8 respondents (11.42 percent) only belonged to forward category. The details of the Education status of the respondents are given in Table -4.

**Table-4  
Educational Status of the Respondents**

Qualification	No. of Respondents	Percent
Illiterate	6	8.6
Below 5th Std	15	21.42
5th to 10th Std	17	24.3
10th to 12th Std	9	12.85
Diploma	7	10.00
Degree	5	7.14
Others	1	14.72
Total	70	100.00

Source: Computed from the primary data

Data shown in Table-4, explains the details of the educational status of the respondents in the study area. The inference observed from the table -5.6 reveals that out of the total of 70 respondents, 24.3 percent were in between 5th standard to 10th standards, followed by 21.42 percent (15 respondents) were had education up to school level. Only 12.85 percent education up to secondary and higher secondary school levels. And only 10 percent (07 respondents) were Diploma holders. And 5 respondents (7.14 percent) graduation. The remaining 8.6 percent of the respondents are illiterates. Finally 11 respondents (14.72 percent) were others. The details of the dependents of the respondents are stated in table-5.

**Table-5  
Number of Dependents of the Respondents**

Dependents in a Family	No. of Respondents	Percent
1 to 3	21	30.00
3 to 6	14	20.01
6 to 9	19	27.14
9 and above	16	22.85
Total	70	100.00

Source: Computed from the primary data

Table-5, clearly depicts the number of dependents in the respondents family.

The inferences observed from the table 5 revealed that out of 70 respondents 21 Households (30 percent) had 1-3 dependents in their family followed by 27.14 percent had 6-9 dependents members in their House Holds, and 22.85 percent had 9 and above dependents members in their family. And the remaining 20 percent of the respondents had 3-6 dependents members in their House Holds. This is due to prevailing various classification un-employment problem in the study area. The details of Occupational Details of the respondents are given in table -6

**Table-6  
Occupational Details of the Respondents**

Dependents in a Family	No. of Respondents	%
Farmer	26	37.15
Job	15	21.43
Own Business	11	15.71
Agricultural Labor	11	15.71
Others(Including Non-Agricultural)	7	10.00
Total	70	100.00

Source: Computed from the primary data

Data shown in Table-6 clearly reveals the occupational details of the respondents in the study area Regarding the occupation 37.15 percent were farmers and 21.43 percent were having job each 15.71 percent were involved in own business and agricultural labor and the remaining 10 percent were involved in other occupational activities including non-agricultural daily wage earners. The details of monthly savings of the respondents are presented in Table-7.

**Table-7  
Monthly Savings of the Respondents (in Rs.)**

Monthly Savings (in Rs.)	No. of Respondents	%
Less than Rs.500	20	28.60
Rs.500-750	22	31.40
Rs.750-1000	14	20.08
Rs.1001-1250	6	8.60
Above Rs.1250	8	11.40
Total	70	100.00

Source: Computed from the primary data



The inferences observed from the Table-7, explains the monthly savings of the respondents in the study area. The table 28.6 reveals that 31.4 percent of the respondents were having the monthly savings in between the range of Rs.500-750, 30 percent were having the monthly savings of less than Rs.500, 20 percent were having the monthly savings in between the range of Rs.750-1000, 11.40 percent of the respondents were having the savings of above Rs.1250 and the remaining 8.6 percent of the respondents were having the savings in between the range of Rs.1001-1250. In the study area, the habit of savings plays a key role for the socio-economic development of the respondents in the study area. The details of monthly income of the head of the House Holds are stated in Table -8.

**Table-8**  
**Monthly Income of the Head of the HHs (in Rs.)**

Income	No. of Respondents	Percent
Below Rs.5000	5	7.10
Rs.5001-6000	6	8.60
Rs.6001-7000	13	18.60
Rs.7001-8000	19	27.10
Rs.8001-9000	17	24.30
Rs.9001 and above	10	14.30
Total	70	100.00

Source: Computed from the primary data

Data shown in the Table-8 reveals that, an income classification of the respondents revealed the predominant income range to be Rs.7001 to 8000 (27.1 percent), followed by Rs.8000-9000 (24.3 percent) and Rs.4000-6000 (18.6 percent) and Rs.5001-6000 (8.6 percent), Rs.9000 and above (14.3 percent). The details of Distribution of Respondents According to their Usage of E-banking Services are stated in Table -9.

**Table - 9**  
**Distribution of Respondents According to their Usage of E-banking Services**

Awareness about internet banking services		
Status	No. of Respondents	Percentage
Yes	38	54.3
No	32	45.7
Total	70	100

Source :Primary Data

From the table 54.3 percent of the respondents are using e-banking service offered by the bank and the remaining 45.7 percent of respondents are not using. The details of the distribution of the respondents according to their satisfaction level in the e – banking service are given in table-10.

**Table - 10**  
**Distribution of Respondents According to their Satisfaction Level in the E-banking service**

Satisfaction in the internet banking services		
Status	No. of Respondents	%
Highly satisfied	23	33.8
Satisfied	20	29.4
Neutral	17	25.0
Dis-satisfied	8	11.8
Highly dis-satisfied	0	0
Total	68	100

Source :Primary Data

From the table 33.8 percent of the respondents are highly-satisfied with this service 29.4 percent of the respondents are satisfied with this service 25 percent of the respondents are neutrally satisfied with this service and 11.8 percent of the respondents are dis-satisfied with this service, None of the respondents are highly dis-satisfied with this service.

**FINDINGS**

- Out of the total of 70 respondents, 15 respondents (21.42 percent) of the respondents belongs to Male and the remaining 55 respondents (78.58 percent) were belongs to Females.
- Out of the total of 70 respondents, 24 respondents (34.3 percent) belonged to the age group of 15-30 years, and the 26 respondents (37.1 percent) were belong to the age group 31-45 years. And the remaining 20 respondents (28.6 percent) were in between the age group 46 years and above
- Out of the total of 70 respondents 32 respondents (45.71 percent) were belonged to Most Backward Classes (MBC), 11 respondents (15.71 percent) were belonged to other category, 10 respondents (14.3 percent) belonged to Backward classes, 9 respondents (12.85 percent) were belonged to SC and ST category, and the remaining 8 respondents (11.42 percent) only belonged to forward category.

- Out of the total of 70 respondents 19 respondents (27.14 percent) were married 13 respondents (18.6 percent) Divorces and Widows that means there was no financial support from their husband and family members.
- Out of the total of 70 respondents, 24 respondents (34.3 percent) stated to be in below 3 members and 31 respondents (44.3 percent) stated to be in 3-6 members, 15 respondents (21.4 percent) stated to be in 6 and above members. The majority of the respondents are 3-6 members family size in the study area.
- Out of 70 respondents 21 Households (30 percent) had 1-3 dependents in their family followed by 27.14 percent had 6-9 dependents members in their House Holds, and 22.85 percent had 9 and above dependents members in their family. And the remaining 20 percent of the respondents had 3-6 dependents members in their House Holds.
- Of the total 70 respondents (40 percent) stated to be in 1-3 children followed by 22 respondents (31.42 percent) stated to be in 3-6 children and 28 respondents (28.57 percent) stated to be in 6-9 children. The majority of the respondents are 1-3 children in the study area, because most of the respondents in these categories had some knowledge and awareness about the family planning program and they had the knowledge of the cause and consequences of population growth and population explosion.
- Regarding the occupation 37.15 percent were farmers and 21.43 percent were having job each 15.71 percent were involved in own business and agricultural labor and the remaining 10 percent were involved in other occupational activities including non-agricultural daily wage earners.
- 31.4 percent of the respondents were having the monthly savings in between the range of Rs.500-750, 30 percent were having the monthly savings of less than Rs.500, 20 percent were having the monthly savings in between the range of Rs.750-1000, 11.40 percent of the respondents were having the savings of above Rs.1250 and the remaining 8.6 percent of the respondents were having the savings in between the range of Rs.1001-1250.

- Income classification of the respondents revealed the predominant income range to be Rs.7001 to 8000 (27.1 percent), followed by Rs.8000-10000 (24.3 percent) and Rs.4000-6000 (18.6 percent) and Rs.5001-6000 (8.6 percent), Rs.9000 and above (14.3 percent).
- 54.3 percent of the respondents are using e - banking services offered by the bank and the remaining 45.7 percent of respondents are not using.
- 33.8 percent of the respondents are highly-satisfied with this service 29.4 percent of the respondents are satisfied with this service 25 percent of the respondents are neutrally satisfied with this service and 11.8 percent of the respondents are dis-satisfied with this service, None of the respondents are highly dis-satisfied with this service.

## **CONCLUSION**

During the research, the researcher was able to highlights and the different types of factors affected due to the adoption of e - banking in the study area. Adoption of technology towards providing accessibility of routine banking services to customers is inevitably the way forward for the commercial banks. e - banking as tool can be used by the banks towards furthering twin objectives. On one hand banks can optimize its branch operations by doing away with large volumes of routine transactions at individual branches, while on the other hand they can expand their geographical presence by reaching the interior parts of the country hitherto cut -off from the ambit of banking services. The Socio - Economic factors like age, gender, marital status, family size income, family type and level of education. All the Socio - Economic factors are directly and indirectly related to other factors like Perceived security, Internet Experience, Marketing Exposure, Web designing and Reliability.

The survey was conducted with 70 respondents in the study area. So we can't say that this is the real trends of net banking of whole the country. People are not confident enough to whether to rely completely on online banking. There is hesitancy in their minds with regards to preference. So they use both the online and offline banking. At the time of survey when I discussed with

the respondents in the study area, they very casually answered without think of the depth of the study. Another point is people are not disclose their personal data truly. This "customer awareness survey" is conducted to rival the awareness level of the customers towards e - banking service in different parameters as per the respondents having positive attitude towards bank in the study area.

## **SUGGESTIONS**

- To increase use of e - banking, e - banking awareness programs should be introduced and practical training workshops for the customers should be organized.
- For improving the operational efficiency, new technology should be introduced.
- Though the E - banking is an effective tool but many of the customers are not using it due to the awareness of the particular direct banking channel. Now the responsibility lies with the bank to make them aware about various E - banking channels through publicity and advertisement.
- The best way to motivate the customer to use the e- banking is the most efficient customer care service.

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## **26.SOCIAL ENGINEERING FOR ECONOMIC INVESTMENT EDUCATION, PERCEPTION AND PATTERN OF SCHOOL TEACHERS WORKING IN THIRUVANNAMALAI DISTRICT**

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### **ABSTRACT**

*Investor is a person one who invest their money into various economic investment options available in the world like Share Market, Gold and Silver, Real Estate, Tax savings investment in bonds and securities, Mutual Funds, Gold bond issued by government, Fixed Deposits in the bank and Post office, purchase of agricultural land, Farm house, etc., The investor aim to get maximum return and minimum risk from their investment. The Researcher aims to find the socio-economic profile of the investors, Economic investment education, perception, awareness and pattern of economic investment of the School Teachers in Thiruvannamalai District. This study covers the Teachers working in Primary School, Middle School, High School and Higher Secondary School in the district. The objective of this study is to find, analyze, and evaluate the economic investment education, perception and pattern of School Teachers working in Thiruvannamalai District.*

*Keywords: Economic Investment, Investment Educational Perception, Savings, School Teachers*

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### **INTRODUCTION**

The Economic development of a Country is determined by the financial system followed by the country. The Financial system ensures the sustainable and overall growth of a Nation. Financial strength of a Nation is increased by the effective economic investment made by the public people in various economic investment opportunities available in that particular country. For increasing the financial strength the public people must channelize their savings into effective economic investment. Conversion of savings of public people into meaningful investment is essential for the economic development of developing country. Now the service of channelizing the savings into investment is effectively done by various financial institutions in the financial market. Capital market and Money market are the major area for the channelizing of the savings into economic investment. Capital market dealings with long term economic investment and Money market dealings with short term economic investment of fund.

### **ECONOMIC INVESTMENT EDUCATION AND PERCEPTION**

An economic investment is one which give maximum returns from low risk or no risk to the investors. Education for Selection of best economic investment from various

alternatives is called economic investment education. Investor is a person one who invest their money into various Economic investment options available in the world like Share Market, Gold and Silver, Real Estate, Tax savings investment in bonds and securities, mutual funds, Gold bond issued by government, fixed deposit in the bank, purchase of agricultural land, farm house, etc., The investor aim to get maximum returns from their investment. They want maximum returns and maximum security but minimum risk in their investment. Some of the investors like fixed deposit because for the safety investment but not for the interest. The interest of the investors in the capital market and money market is protected by various regulating authorities like SEBI, UTI, RBI, etc., The investment knowledge and awareness differ from one person to another person. The investors get the investment ideas from News Papers, Radio, Magazine, Television, Friends and Relatives, Co-Workers, Announcement by agencies, Internet and Web add. The investor must beware in selection of suitable investment options from various alternatives available in the Capital market and Money market.

### **STATEMENT OF THE PROBLEM**

Selection of best economic investment proposal among the various investment

opportunities available in the financial market is the main problem to the ultimate investor. This study aims to find the socio-economic profile of the investors, economic investment education, perception and habits, awareness and pattern of investment of the School Teachers in that particular district. This study covers the Teachers working in Primary School, Middle School, High School and Higher Secondary School in the district. This study is based on both the Primary and Secondary data. The collection of primary data is through questionnaires and secondary data from published sources like Books, Newspapers, Articles, and others.

**OBJECTIVES OF THE STUDY**

The basic objective of the study is to find the economic investment, investment educational perception and pattern of the Teachers working in school at Thiruvannamalai District. The specific objectives of the study are as follows.

- 1.To study the socio-economic strength of the investing teachers
- 2.To analysis the investment perception of the Teachers
- 3.To analysis the Pattern of investment, investment motive, behaviors, Knowledge and decision of the Teachers.
- 4.To find the factors influencing the investment objectives of the Teachers.
- 5.To provide appropriate suggestion to the investing Teachers.

**SAMPLE DESIGN**

Convenience sampling methods is applied for this study. Samples are collected from the Teachers working in Thiruvannamalai District, Specifically Vandavasi, Cheyyar, Anakkavur, Chetpet and Polur Taluk in Thiruvannamalai District. 100 Teachers are taken in random, of whom 30 are Second Grade Teachers working in Primary School, 30 are Graduate Teachers in Middle School, High School and Higher Secondary School, and 40 are Post graduate teachers in Higher Secondary School. Both Government and Private School Teachers are taken for the study. Data was collected through printed structured questioners supplied to the Teachers. Source of data is based on both primary and secondary.

**STATISTICAL TOOLS FOR ANALYSIS**

The data collected form the Teachers is

analyzed with Statistical tools like Mean, Median, Mode, percentage, and Chi- Square test. The result obtained from the statistical analysis is taken for the conclusion and provide appropriate suggestion to the Teachers working in Thiruvannamalai District.

Limitation of the study

- The study covers only the Teachers working in Thiruvannamalai District.
- Some of the respondents are unwilling to furnish the details of their investment.
- Period of study was carried out only April and May month of 2018
- Sample size is 100 is relatively small for the study.
- The findings and conclusion are applicable only to Thiruvannamalai District.

**Data Analysis Table 1 Socio-Economic profile and Opinion of the Teachers**

S.No	Particulars	No .of respondent	%
1.	<b>Age of the Teachers</b>		
	18-28	06	06
	28-38	27	27
	38-48	49	49
	48-58	18	18
2.	<b>Gender</b>		
	Male	57	57
	Female	43	43
3.	<b>E d u c a t i o n a l Qualification</b>		
	DTED	13	13
	UG with B.Ed.	18	18
	UG with M.Ed.,	11	11
	PG Degree with B.Ed. M.Phil.	39	39
	PG Degree with M.Ed., M.Phil.	16	16
	PG Degree with B.Ed., M.Phil., Ph.D.	03	03
4.	<b>Occupation</b>		
	Second Grade Teacher	30	30
	Graduate Teacher	30	30
	Post Graduate Teacher	40	40
5	<b>Monthly Income</b>		
	20000-40000	21	21
	40000-60000	46	46
	60000-80000	22	22
	80000-100000	11	11

S.No	Particulars	No .of respondent	%
6.	<b>Years of Experience</b>		
	1-10	44	44
	10-20	32	32
	20-30	22	22
	30-above	11	11
7.	<b>Amount of savings as investment p.m.</b>		
	1000-5000	13	13
	5000-10000	29	29
	10000-15000	24	24
	15000- above	15	15
8.	<b>Investment Options</b>		
	Fixed Deposit in Bank	23	23
	Post Office Savings	30	30
	Gold and Silver	61	61
	Real Estate	27	27
	Government Bonds	13	13
	House Buying by Housing loan	43	43
	Share Market	06	06
	GPF, CPS, PPF,RPF,	100	100
	Life Insurance, PLI, RPLI.	78	78
	Mutual Funds	09	09
	(Many of the investor having more the Two option of investment)		
9	<b>Information Sources</b>		
	Advertisement	18	18
	Other Teachers	31	31
	Friends and Relatives	20	20
	Bank Staff and Agents	13	13
	Internet and Web	17	17
10	<b>Reason for Investment</b>		
	Savings	31	31
	Tax Benefits	32	32
	Interest and Capital appreciation	24	24
	Safety & Specific Reason	13	13

The above table analyses the socio-economic profile and opinion of the Teachers towards their investment. 49% of the respondent belongs in the age group of 38-40, and only 06% of the respondents belong in the age group of 18-28. 57% of respondents are Male and 43% of respondent are Female

Teachers.

**Table 2- Average monthly income of the Teachers**

Class (X)	F	M	d= (x-)/i A=30000	Fd
20000-40000	21	30000	0	0
40000-60000	46	50000	1	46
60000-80000	22	70000	2	44
80000-100000	11	90000	3	33
	100			123

$$\begin{aligned} \text{Mean income} &= A+(\sum fd)/(\sum f)\times i \\ &= 30000+ 123/100*20000 \\ &= 54600 \end{aligned}$$

**Chi-Square Analysis**

1. Null Hypothesis Ho- There is no significant difference in the amount of investment among the Second Grade Teachers, Graduate Teachers, and Post Graduate Teachers in various Schools.
2. Alternative Hypothesis H1 - There is a significant difference in the amount of investment among the Second Grade Teachers, Graduate Teachers, and Post Graduate Teachers in various Schools.

**Table 3 - Chi-Square Analysis**

Investment Amount pm	1000 -5000	5000 -10000	10000 -15000	15000- 20000	R o w Total
Grade level					
S e c o n d G r a d e Teachers	13	7	8	2	30
Graduate Teachers	9	12	7	2	30
P o s t Graduate Teachers	11	14	12	3	40
C o l u m n Total	33	33	27	7	100

**Solution**

S.N	O	E	O-E	(O-E)2	(O-E)2 /E
1	13	10	3	9	0.9
2	7	10	3	9	0.9
3	8	8	0	0	0
4	2	2	0	0	0
5	9	10	1	1	0.1
6	12	10	2	4	0.4
7	7	8	1	1	0.1
8	2	2	0	0	0
9	11	13	2	4	0.4
10	14	13	1	1	0.1
11	12	11	1	1	0.1
12	3	3	0	0	0
				Total	3

$$\chi^2 = \frac{(O-E)^2}{E}$$

O=Observed Frequency, E=Expected Frequency, DOF=Degree of Freedom= (r-1)(s-1) Calculated value ( $\chi^2$ ) = 3, Table value =12.59, Degree of freedom(DOF)=6.

## RESULT

The calculated value (3) is less than table value (12.59). Therefore  $H_0$  is accepted. Hence there is no significant difference between the amounts of investment of Teachers working in various grade levels at school.

## FINDINGS

\* 49% of the respondents belong to the age group of 38-48, and only 06% of the respondents belong to the age group of 18-28.

\* 29% of the Teachers invest Rs.5000-10000 per month and 24% of the Teachers invest Rs.10000-15000 per month.

\* 100% of the respondents invest their fund in any one of GPF, CPS, PPF, 78% of the respondents invest in LIC, PLI, 61% of the respondents invest in Gold and Silver, 43% of respondents select construction or buying of House by Housing loan from bank.

\* Only 9% of respondents are aware about Mutual Fund and 6% of respondent having interest in share market investment. Many of the respondents have more than two investment options for their investment. 31% of respondents say that they got investment idea from other Teachers working with them.

\* 46% of the respondents get monthly salary of Rs.40000-60000 per month

\* The Teachers get average monthly income of Rs.54600 and average investment is Rs.12600 per month, majority of the Teachers invest nearly 20% of their monthly salary in various investment options.

\* There is no significant difference in the amount of investment among the Second Grade Teachers, Graduate Teachers, and Post Graduate Teachers in various Schools.

## SUGGESTIONS AND CONCLUSION

Most of the teachers dislike to investing their fund in share market because of the lack of safety for their investment. In share market there are many securities having tax benefits to the investors, so the Teachers are suggested to invest their fund

in share market like Government shares and securities. Only 9% of the Teachers are aware about Mutual fund investment. Teachers are to be encouraged to invest their money in mutual fund, which gives high return, safety, risk free and tax benefits. Teachers those who are not having own house can get housing loan from the bank and construct or purchase own house. They can consider the repayment of housing loan as one type of investment. Both the repayment of principle and interest on housing loan is eligible to get tax benefits to long period. Investment in fixed deposits is useful to the Teachers one who seeks high safety, adequate return and tax benefits for a long duration. It is to conclude that saving is must to everyone and the savings must give benefits to future life. Every investor must consider safety and returns from their investment.

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## 27.A STUDY ON UNEMPLOYMENT PROBLEMS IN INDIA – OVERVIEW

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### ABSTRACT

*Unemployment is almost a universal feature of all societies. It is normally found in all economies irrespective of the level of development. Only the extent and causes vary from country to country. In India there has always been a serious degree of unemployment, underemployment and disguised unemployment. India presently suffers mainly from structural unemployment which exists in open and disguised forms. Whereas the concept of unemployment is restricted only to the working population. Only the adults between the age group of 15-60 years comprise the working population. The word unemployment is used in a special sense.*

*Keywords: Kinds of unemployment, Nature, Causes, Remedial measures.*

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### INTRODUCTION

Unemployment is considered as a bane of India's development particularly the, educated unemployed youth who become unproductive and frustrated are to be paid special attention. The small-scale sector includes village and cottage sectors are found out to be the best means to solve the growing unemployment problem. Self-employment is the only solution to the unemployment policy makers and economists studied and drew conclusion that setting up a small scale unit with a moderate investment has got the potential to provide employment to about 4 to 5 people directly and indirectly. The satisfaction of self-employment and the contentment of contributing to the National Income and proving livelihood to few unemployed can have positive multiplier effect adding to it the SSI sector has got the inherent advantage of utilizing the local resources, technologies for productive-purposes and at the same time could satisfy the needs of the local people and exploit the local market at micro level.

Taking all these into consideration the Central Government initially launched Self Employment Scheme for Educated Unemployed Youth (SEEUY) popularly

known as Gramodaya Scheme introduced by Government of India in 1985 wherein financial assistance of not more than Rs. 35,000 was provided for industries. Rs. 25,000 for service units and Rs. 15,000 for business ventures by way of composite loans to eligible educated unemployed youth to start their small enterprises. By unemployment we mean that state of affairs when in an economy there are large number of able bodied persons of working age, who are willing to work, able to work, but cannot find employment at the current prevailing "wage rate".

### NATURE OF UNEMPLOYMENT IN INDIA

The nature of unemployment in India is entirely different from the nature of unemployment in advanced countries. India is mainly an agricultural country where majority of the people live in villages depending on agriculture. So the rural unemployment is common here. The nature of unemployment can be cited as follows:

#### **(1) Predominantly agricultural or rural unemployment**

Most of the unemployed people reside in villages. Since agriculture is the most important sector of the economy providing



opportunities of employment, naturally unemployment problem in India is essentially rural in character. The increasing proportion of work-force, every year drifts to agriculture for want of non-agricultural occupations. Though there are plenty of cases of urban migration, urban unemployment is only a very small segment of the massive rural unemployment scene.

### **(2) Very large disguised unemployment**

In agriculture, most of the people would be seemingly employed but they would be forced to idleness for most of the days in a year. The contribution of this disgustingly employed workers would be negligible or nil towards productivity in agriculture.

### **(3) Open urban unemployment**

This means that the work-force will not get work opportunities that may yield a regular income. They will be totally unemployed waiting for an opportunity to get employment in the labour market. In the absence of agricultural work opportunities, the rural people will migrate to urban areas to find employment. Most of the people in the work-force will be pushed out of the villages due to poverty and unemployment prevailing in rural areas.

## **KINDS OF UNEMPLOYMENT**

Unemployment may be classified as (a) Cyclical Unemployment, (b) Technological unemployment, (c) Frictional unemployment, (d) Seasonal unemployment (e) Structural unemployment. The second method of classifying unemployment is based on its form as (1) Voluntary unemployment, (2) Involuntary unemployment or Disguised unemployment.

### **(a) Cyclical Unemployment**

Cyclical unemployment is caused by the trade cycles as regular fluctuations are unavoidable and during the downswing, business activities will become inert leading to slowing down of production, which will result in unemployment. Cyclical unemployment is a necessary evil in the depression period of the trade cycles in capitalistic economics.

### **(b) Technological Unemployment**

Technological unemployment is the result

of certain changes in the technique of production which may not warrant much of labour. For instance, rationalisation measures and introduction of a newly invented machine may lead to "technological unemployment".

### **(c) Frictional Unemployment**

Frictional unemployment is caused by improper adjustment between supply of and demand for labour. When the demand for labour comes forth from individual businessmen, there is very possibility of the labour being unemployed either due to immobility of labour or due to non availability of the right sort of labour in the right place. Such type of frictional unemployment arises due to local variations as well as technological changes.

### **(d) Seasonal Unemployment:**

Due to seasonal variations, industrial activities will be affected, and consequently, the labour will remain unemployed. For instance sugar industry is a seasonal industry starting production after the harvest and closing within 100 to 120 days. In the case of agriculture, the labour remains unemployed during the off season.

### **(e) Structural Unemployment**

Structural unemployment arises when there is a drastic change in the economic structure of a country due to abnormal change in demand. In this case, the labour may be too much in supply as compared with other productive resources such as land and 'capital' with which to employ it gainfully.

The Second classification of unemployment is based on its form:

#### **(1) Voluntary Unemployment**

Voluntary unemployment is the result of labour preferring leisure, instead of working at the prevailing wage rate and employment opportunities in any occupation or locality which are not acceptable to him. A person may be voluntarily unemployed if he has permanent sources of unearned income. It may be due to bad relationship between the employer and worker. Voluntary unemployment cannot exist under full equilibrium conditions.

#### **(2) Involuntary Unemployment**

This arises due to non-availability of jobs. It

may assume different forms such as visible and disguised unemployment. Disguised unemployment is described as the adoption of inferior occupations by those who are capable of doing superior occupations.

**CAUSES OF UNEMPLOYMENT IN INDIA**

The following are the causes for unemployment in India are as follows;

**(a) Underdevelopment**

The main reason, besides ever increasing population is the character of Indian economy which is underdeveloped. The volume of economic activities is determined by agriculture alone and this primary sector exhibits low rate of development. The non-agricultural sector, particularly modern industrial sector is growing at a very low-rate and it could not provide increasing avenues of employment. The slow capital formation, overcrowded agriculture, inadequacy of irrigation facilities, shortage of fertilizer, transport bottlenecks unsatisfactory quick industrialisation and also growth in agriculture combined with enormous increase in population has accentuated the problem of unemployment very severely.

**(b) Poor employment and Man power planning**

Another reason for massive unemployment in the country was the gross neglect of 'employment and man power planning' till very recently. The government and the planning commission did not devote much interest in the employment objective of planning. They under-estimated the human resources of the country. The government and planners were such obsessed in achieving financial targets in planning, rather than employment targets. Employment and Man power planning was not integrated with the planning strategy as a time-bound programme; neither was the employment objective mentioned precisely in the long-term perspective of plans. The planners for a long time did not consider about employment creating projects or labour intensive programmes.

**(c) Mass output of Graduates from Indian Universities**

Indian Universities are producing

matriculates, graduates and post-graduates on mass scale, but their standards are much less satisfactory. This is aggravating the problem of educated unemployment. Matriculates join under graduate courses, as they could not get employment; and in most cases higher education is pursued without a sense of direction or ambition. Every year, the employment seekers in this category are increasing with a huge backlog. The percentage of educated unemployed to the total unemployed exceeds 50%. Further, the type of education imparted is neither job-oriented, nor skill-oriented and as such, every year the backlog of unemployment is increasing.

**(d) Other Causes**

The many other causes, inadequate development of non-agricultural sector can be cited, and this sector has not been made labour intensive to absorb unemployed people. Rationalisation and modernisation in some cases resulted in retrenchment and unemployment. Further, slowing down of production rate in some industries, due to import restrictions has resulted in their inability to absorb the growing labour force.

This table clearly shown in the Indian unemployment rate and including the many factors in this table. Unemployment Rate in India increased to 3.52% in 2017 from 3.51% in 2016. Unemployment rate in India averaged 4.05% from 1983 until 2017, reaching an all time high of 8.30% in 1983 and a record low of 3.41% in 2014. The unemployed persons highest in 48.26 million and lowest in 5.10 million. The Youth Unemployment rate highest in 18.10% and lowest in 12.90%.

The wages for highest in Rs. 272.19 and lowest in Rs. 3.87 per day. The living wage family in highest Rs. 17500.00 and lowest in Rs. 17300.00. The living wage individual for per month from highest in Rs. 11000.00 to lowest in Rs. 10300.00. The wages for high skilled labourers in highest Rs. 48100.00 to lowest in Rs. 44000 per month. The wages in low skilled labour in highest Rs.13300.00 to lowest in Rs. 10300.00 per month.

**INDIA UNEMPLOYMENT RATE: (1983-2018)**

<b>India Labour</b>	<b>Last</b>	<b>Previous</b>	<b>Highest</b>	<b>Lowest</b>	<b>Unit</b>
Unemployment Rate	3.52	3.51	8.30	3.41	Percent
Employed Persons	29650.00	28999.00	29650.00	17491.00	Thousand
Unemployed Persons	44.85	48.26	48.26	5.10	Million
Labour Force Participation Rate	52.50	50.90	52.90	50.90	Percent
Population	1283.60	1268.96	1283.60	359.00	Million
Retirement Age Women	60.00	60.00	60.00	60.00	
Retirement Age Men	60.00	60.00	60.00	60.00	
Living Wage Family	17400.00	17500.00	17500.00	17300.00	INR/Month
Living Wage Individual	11000.00	11000.00	11000.00	10300.00	INR/Month
Wages	272.19	255.65	272.19	3.87	INR/Day
Wages High Skilled	44000.00	48100.00	48100.00	44000.00	INR/Month
Wages in Manufacturing	347.30	322.07	347.30	4.86	INR/Day
Wages Low Skilled	10300.00	11900.00	13300.00	10300.00	INR/Month
Youth Unemployment Rate	12.90	18.10	18.10	12.90	Percent

Source: <https://tradingeconomics.com/india/unemployment-rate> (International Labour Organisation (ILO)).

**SOLUTION**

Unemployment in India is a very complex problem requiring attack on a wide front. The following suggestions are made for solving the problem.

**(1) Increase in national wealth through Industrialization**

The national wealth, in increased production of industrial goods. If there are more industries, there will be more avenues for employment, particularly for men and women category with professional and technological training. Already the river valley projects and power-plant projects are finding employment for a large number of men. It is only in a rapid industrialization of the country that we have a key to the solution of our economic problem. If more and more industries are established and more commodities are produced, there will be vacancies not merely for technically trained university men but also for skilled and unskilled labours.

**(2) Establishment of Vocational and Technical training Institutes**

The government should open technical and vocational colleges and manual labour should be made compulsory. Big factories should be attached to these colleges. More stress is to be given to practical side.

**(3) Increased investment in heavy industries**

Investment in heavy and basic industries and consumer goods industries should be increases to provide more employment with more production.

**(4) Revival of Cottage and Small Scale Industries**

The cottage and small-scale industries we can also solve the problem of rural unemployment. The existing cottage industries are to be revitalized and along with them new industries on cottage basis should be started. Cottage industries can serve not only as whole time occupations to many but also as subsidiary means of livelihood to thousands.

**(5) Economic opportunities in Agriculture**

The scope for employment of the educated young men in the field of agricultural is often forgotten. The introduction of better farming methods, cultivation of new crops, running of poultry farms, gardening etc, are possible lines of work which young men with technical training and initiative may take up with profit.

**(6) Control Population Explosion**

However, all these will be of no avail unless population explosion is controlled. Indeed hunger, distress and unemployment will rule the land unless the birth rate is reduced to

and optimum level.

**(7) Improved transport and communication:**

Rural works programs should be increased means of transport and communication should be developed.

**(8) Self-employment should be encouraged:**

The government should take initiatives to encourage self-employment. The Young entrepreneurs should be assisted with hassle free loans.

These are some of the methods, which may be tried for minimizing the effects of unemployment. Since this is a very complex problem, it is hardly possible for combating it by a single remedy. Its solution depends on a variety of economic and social factors.

**CONCLUSION**

One of the most disturbing problems in India has been the mounting rate of unemployment, both in the rural and urban sectors. In case of rural sector, there has been both unemployment and under employment. In urban sector, there has been both educated and industrial unemployment. Unless unemployment problem is solved, the future of India cannot be bright. There will be no peace and prosperity in the country if jobless people do not get a proper channel. More attention should be given otherwise this problem can make jobless youths go to wrong direction. Still, the government should adopt measures to create opportunities for job and self-employment.

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# 28.WATER SUPPLY FOR URBAN POOR –A STUDY WITH THE REFERENCE TO SLUM AREAS IN CHENNAI

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## ABSTRACT

*Water flows through the three pillars of sustainable development – economic, social and environmental. Water resources, and the essential services they provide, are among the keys to achieving poverty reduction, inclusive growth, public health, food security, lives of dignity for all and long-lasting harmony with earth's essential ecosystems.*

*Access to safe water remains a vexed issue for the urban poor living at the bottom of the pyramid. In absence of public services, households depend on multiple sources of water. This ranges from procuring water from private players or some form of provisioning which is difficult to access such as water tankers by public utilities. In addition, nearly one-third of urban households do not have any water source within their premises, and nearly a third depend on shared facilities. Water quality is emerging as a major concern due to ground water dependency of urban poor and its rapid depletion. High levels of Non-Revenue Water and Unaccounted for Water remains a great challenge for most of the cities and towns in India.*

*This paper studies various dimensions of service delivery in water supply to urban poor that determine the effectiveness of the services and ensure that everyone everywhere is able to access sufficient water of safe quality for domestic purposes.*

*Key words:Urban Poor, Chennai Watersupply and dimension of water supply*

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## INTRODUCTION

The world is rapidly becoming more urban. By 2030, the world's population will have increased by as many as 1.7 billion people. 90% of this urban explosion will occur in Asia and Africa. By 2030, more than 400 million people will be living in cities in India. Furthermore, today, one in every six of India's urban households live in slums, a number forecast to rise exponentially over the coming years. Despite impressive progress, inequality remains a core challenge to the Indian growth agenda. Maternal mortality rates for example vary between 61 deaths per 100,000 births in Kerala to over 300 deaths in Assam. Tackling poverty, inequality and rapid urbanisation in India remains critical to the achievement worldwide of the Sustainable Development Goals.

## WATER SUPPLY FOR URBAN POOR IN INDIA

Drinking Water is the first charge on all usages as a matter of policy, for water security itself is dependent largely on other usages (or rather poor management in other sectors such as agriculture and industrial).

Water remains in state subject list as per Indian constitution but transboundary water has also been a subject matter for concurrent list. Although India has recently ratified the UN resolution on acknowledging right to water, no such right exists within the Indian policy framework and government programmes continue to work on vaguely described entitlement standards defined by urban administrators and planners.

The absence of policy framework for slums in general and for water supply in non-notified slums and migrant labourer colonies in particular, has impeded the equitable access to safe water to citizens living in lowest quartile of incomes in urban areas. Separation of drinking water from quality standards by using reverse osmosis-based treatment to ground water and supplying it at a cost to urban poor has hardly resulted in reducing the overall water burden and economic burden for accessing safe water by urban poor.

## CHALLENGES IN WATER SUPPLY FOR URBAN POOR

Most of the slum settlements lack water and sanitation systems and are often

in slum developments operating within the framework of an informal economy. However, not all slum dwellers are poor. Some non-poor people also live in slums because rent control laws have created extreme scarcity of housing for low income groups. All this has profound implications not only for environmental degradation but also for the productivity of those who live in slums with huge under provision of basic urban services.

As per National Sample Survey, 69th Round, it is observed that in 2012, at an all India level, 94.1 per cent households living in slum areas had improved source of drinking water. The proportion was more than 75 per cent in almost all the states, with some notable exceptions like Delhi (53.4 per cent) and Jharkhand (67.6 per cent). At an all India level, 95.4 per cent households living in non-slum areas had improved source of drinking water. It is interesting to note that in Delhi, while 53.4 per cent households living in slum areas had improved source of drinking water, the proportion was 99.3 per cent for households living in non-slum areas. This pattern was also observed in bigger states like Gujarat, Jharkhand, Karnataka, and West Bengal. But in case of states like Kerala and Rajasthan, a reverse pattern was observed. Improved source of drinking water includes: 'bottled water', 'piped water into dwelling', 'piped water to yard/plot', 'public tap/ standpipe', 'tube well/borehole', 'protected well', 'protected spring', and 'rainwater collection'. However, as per WHO-UNICEF JMP data, 2012, the total urban population using improved drinking water facilities is 97 per cent.

### **OBJECTIVES OF THE PAPER**

1. To study the current status of water supply in urban slum areas in Chennai
2. To studies the various dimensions of service to assess the efficiency of water supply in Chennai city in terms of water pricing, reliability, accessibility etc.

### **METHODOLOGY**

The study is mainly descriptive in nature. Secondary data are used for the purpose of the study. Secondary data was collected from websites through Govt. Departments, various articles and journals.

### **WATER SOURCES IN CHENNAI**

The backbone of Chennai's drinking water supply is monsoon. The water stored during this period is used as source for drinking water supply. The drinking water comes from the Redhills lake located in the northwest region of the city along the Grand Northern Trunk road. Apart from the lake, there are four surface reservoirs - Poondi, Cholavaram, Redhills and Chembarambakkam. To avoid any loss of transmission through dry beds of the river, a separate lined channel from Poondi Reservoir connects the upper supply channel.

Due to the urbanization of Chennai, the city's demand started growing. To cater to the need of the Chennai's citizens, Veeranam water supply project was implemented as additional source of water to Chennai. The Project was commissioned in the year 2004 to supply 180 MLD of water to Chennai by drawing water from Veeranam Lake, Cuddalore district. This lake receives water from Cauvery River system. The capacity of the lake is 1465 Mc.Ft.

Apart from these two major sources, the city also relies on Chembarakkam tank for water supply. This is located about 12km from the city in the west. Chennai is entirely dependent on ground water resources to meet its water needs. Ground water resources in Chennai are replenished by rain water and the city's average rainfall is 1,276 mm. Chennai receives about 985 million litres per day (mld) from various sources against the required amount of 1,200 mld. This demand is expected to rise to 2,100 mld by 2031.

Supply of ground water to the residents and sewerage management in Chennai is taken care of by the Chennai Metropolitan Water Supply and Sewerage Board (Metro Water), also known as CMWSSB. As of 2011, Metro Water is catering to a population of 5 million. With the expansion of the Corporation area from 174 sq km to 426 sq km, which increased the number of wards of the Chennai Corporation from 155 to 200 and the number of zones from 10 to 15, Metro Water's customer base is expected to increase by an additional 1.7 million when the new areas are covered.

### Storage as on 7.8.2018 WITH REFERENCE TO MEAN SEA LEVEL

Reservoir	Full Tank Level (ft)	Full Capacity (mcft)	Level (ft)	Storage (mcft)	Inflow (cusecs)	Outflow (cusecs)	Rainfall (mm)	Storage as on same day last year (mcft)
POONDI	140.00	3231	120.55	42.00	0	25	0.0	19.00
CHOLAVARAM	65.50	1081	0.00	20.00	0	13	0.0	0.00
REDHILLS	50.20	3300	36.01	882.00	12	103	0.0	0.00
SUB TOTAL	-	7612	-	944.00	-	-	-	19.00
CHEMBARAMBAKKAM	85.40	3645	69.97	572.00	0	86	0.0	75.00
TOTAL	-	11257	-	1,516.00	-	-	-	94.00
ENTRY POINT	-	-	-	-	0	0	0.0	-
KORATTUR ANICUT	-	-	-	-	-	-	0.0	-
TAMARAIPAKKAM	-	-	-	-	-	-	0.0	-

Source: Chennai metro water Board

As of 2012, Metro Water supplies about 830 million litres of water every day to residents and commercial establishments. Of 800 mld supplied to the city, nearly 710 mld is transmitted through pipeline. It is estimated that the demand of the expanded city would be 1,044 mld. Similarly, Metro Water has to provide infrastructure to treat and dispose an additional 219 mld of sewerage estimated to be generated in the merged areas.

#### Slums in Chennai: A Profile

Chennai is the capital city of the South Indian state of Tamil Nadu and is the fourth largest metropolitan city in the country. A total of 29% of Chennai population resided in slums as of 2011. According to the 2011 slum population Survey of India, 31% of Chennai cities were living in slums. It is second in the list among Mumbai (40%) and Kolkata (30%). The other big cities New Delhi had 15% and Bangalore had 9% people residing in the slums.

#### Demographic Profile

Indicator City	( M u n i c i p a l Corporation)	State (Urban)	I n d i a (Urban)
Total Population	4646732	34917440	377,106,125
Total Population of UA (if)	8653521		
Share of ULB population in District Urban population (%)	100.00		
Population Growth Rate (AEGR) 2001-11	0.67	2.39	2.76
Area (sq. km)*	175		
Share of ULB area in district (%)* #	100.00		
Density of population (person per sq. km)*	26553		
Literacy Rate (%)	90.18	87.04	84.11
Schedule Caste (%)	16.78	14.21	12.60
Schedule Tribes (%)	0.22	0.38	2.77
Youth, 15 - 24 years (%)	17.17	17.12	19.68
Slum Population (%)	28.89	23.15	17.36
Working Age Group, 15-59 years (%)	68.52	67.23	65.27

Source: Census of India, 2011 \* District Census Handbook, Census of India, 2011 # The ULB is spread in more than one district.

#### URBAN WATER SUPPLY SCHEMES GENERAL

Tamil Nadu is a rapidly urbanising State. The urban population of the State stood at 34.95 million as per 2011 census, constituting 48 % of the total population. With the growth in urbanisation and improving quality of life, provision of adequate infrastructural services has

assumed greater importance. The urban areas of Tamil Nadu are classified, depending upon the civic status, except Chennai Corporation, as follows

Sl. No	Categories	Nos
1	Corporations	11
2	Municipalities	124
3	Town Panchayats	528
	Total	663

The Government have provided increased allocation in each plan for this sector for the provision of safe drinking water to urban folk. There is significant coverage increase in each Plan period. However, due to the increase in demand, full coverage remains an eluding factor. Among other notable reasons are, over exploitation of surface/ Sub surface water and quality related inconsistencies. The Government have taken appropriate actions for the protection and for increasing the potential of water bodies by construction of suitable recharge structures.

**AGENCIES INVOLVED**

The task of providing safe drinking water and sanitation facilities for the entire State except Chennai Metropolitan area, rests with the Tamil Nadu Water Supply and Drainage Board. Water supply schemes on a limited scale are being implemented by urban local bodies also. The schemes on completion, are handed over to the respective local bodies for maintenance. Schemes of composite nature covering more than one local body are being maintained by TWAD Board. Here too, the maintenance of the internal arrangements is the responsibility of the respective local body. Chennai Metropolitan Water Supply and Sewerage Board (CMWSS Board) is vested with the responsibility of providing water supply and sewerage facilities within the metropolitan area of Chennai.

**FUNDING AGENCIES**

Water supply to urban towns are funded by i) Govt of India, under JnNURM, UIDSSMT, ii) Govt of Tamil Nadu under Minimum Needs Programme ,iii) World Bank aided through TNUDP III, iv) under KfW (German Bank aid ), Under JICA (Japan aid). The local bodies are also contributing from their funds and collecting from the public as well.

**NORMS ADOPTED**

In Tamil Nadu, the following per capita norms are adopted for Water Supply to urban towns

Corporations 110 litres per capita per day (135 lpcd with UGSS)

Municipalities 90 litres per capita per day (135 lpcd with UGSS)

Town Panchayat 70 litres per capita per day (135 lpcd with UGSS)

**Achievements (Water Supply)during the past six years (Stand Alone Schemes)**

Sl.No	Year	No of Towns	Estimate cost Rs in Crores	Population(in Lakh)
1	2011-12	13	39.33	2.01
2	2012-13	7	15.77	1.88
3	2013-14	11	90.01	4.02
4	2014-15	16	99.97	3.66
5	2015-16	12	81.66	3.65
6	2016-17	6	38.41	1.28
	Total	65	365.15	16.20

**WATER PRICING**

Water pricing is a complex issue because water is merit good. Water pricing policy is intended to serve many objectives such as equity, efficiency financial sustainability, and full cost recovery often inconsistent to each other. The resulting price policy is irrational. The need to fix an appropriate charge of price for urban water has been strongly advocated in recent years. Several reasons have been put forward in support of appropriate price policy.

(1) Urban water is under-priced in relation to the cost incurred on the provision of water resulted in serious concerns about the financial viability and sustainability of urban water utilities. (2) Under-pricing has resulted in poor and unreliable water services.(3) Water is provided at subsidized rate because poor could afford it. In practice, however, it is the rich, not the



poor, who always benefit disproportionately from subsidized water services. Unserved people in urban areas pay much higher price for the water. And it is the poor who are unserved. The subsidies, in fact, favour the rich and middle class. Four: underpricing has seriously affected the finances of the state governments; as a result, the service expansion becomes relatively slow. Almost, all-urban water supply systems are characterized by poor and unreliable water services, the predominance of unmarred connections, high levels of water loss in conveyance and distribution and use in efficiency at the user end, low and biased tariff rate structure with cross subsidization between domestic households and industrial and commercial sectors and low water charge recovery.

### **DIMENSIONS OF WATER SUPPLY SERVICE TO URBAN POOR**

There are various dimensions of service delivery in water supply to urban poor that determine the effectiveness of the services and ensure that everyone everywhere is able to access sufficient water of safe quality for domestic purposes. In this paper have tried to examine these aspects urban slums sites within Chennai Metropolitan areas. The serviceability dimensions looked at in this section through studies are—accessibility, equity, equality, efficiency, reliability and willingness to pay.

#### **ACCESSIBILITY**

Accessibility is understood as anything with a standard quality, and has the capability to reach all the sections of the society. In this part, accessibility to water supply for the marginalized and poor plays a very important role. The slum population in Chennai city suffers distinctly as far as access to drinking water is concerned, when compared to their non-slum counterparts. Only 26% of the Slum population had access to drinking water within their premises, while of the non-slum population was 71%. On the other hand, only 24% of the non-slum population had access to drinking water within 500m of their premises, while the proportion among the slum population was 55%. Moreover, 19% of the Slum population had to go more than 500m to access to drinking water, while of the proportion of non-slum population

who had to go that far away was only 5%. The distribution of households according to the primary source of drinking water reported by Census 2011. Nearly 70 per cent households have access to tap water, out of which 62 per cent have access to treated tap water. Thus, nearly 40 per cent of urban households have no access to public supply, and have to depend on other sources of water.<sup>2</sup> Moreover, not all households that have access to public supply have access to it within the premise. Only 49 per cent of households have access to piped water supply within their premises.

#### **EQUITY**

Equitable distribution forms an absolute parameter to define the allocation of the water among the marginalized section of the society. Equality is about equal distribution of water for the urban poor, for same quality and quantity standards as well as the costs incurred. In real life, water supply scheme equality is missed out often by design and sometimes by default for the urban poor.

#### **EFFICIENCY**

The efficiency of a service is related to how regularly we are able to deliver services ensuring quality, quantity within agreed timelines. For the year of 2026, the City Development Plan for Chennai states a requirement of 2,248 MLD of water supply for the metropolitan area. Compared to the supply number of 1,545 MLD in 2006, this results in a deficit of 703 MLD. In the future, it is not only important to establish more and more sources for water supply but also to look at the objective of saving water. This relates especially to the improvement of leaking distribution systems, the renewal of old water mains and thus the reduction of non-revenue water. Furthermore, the awareness about water conservation and water recycling must be created, especially regarding the use in industries, factories and big buildings such as hotels, institutions etc. Responsibility does not lie solely on the supply side of Chennai Metro Water Board, but also on the demand side.

#### **WILLINGNESS TO PAY**

Willingness to pay is a proxy indicator of how people see the quality of a particular service and its costing and the service being duly

subsidised by responsible public agencies, keeping affordability by poorest of the poor in mind.

9,2007, "Water Consumption Patterns in Domestic Households in Major Cities", *Economic and Political*, pp-2190

### **RELIABILITY**

Reliability of a public service such as water supply means that enough water as per need of people is available at all the times and systems and resources are in place to respond quickly ensuring the minimum disruption of the services. Thus, a proper managed and maintained pipe water network for reliable water supply is required to counteract such cases.

### **CONCLUSION**

This study describes how in urban water supply the subsidies are poorly targeted. Analysing the real-life experiences of urban poor in slums, it shows how the urban poor carry more burden than the well-off citizens in the city, to access water supply of inferior quality and quantity. Providing good quality water in adequate quantity to urban households in developing countries will reduce poverty and increase social welfare considerably. But the reality is that a large number of poor households do not have access to good quality water. When the government fails, the households will have to depend on alternative service providers to meet out their water needs. The increased demand accompanied by huge scarcity of water in urban areas leads to emergence of institutions such as private water markets. In recent years, the private operators are playing an important role in fulfilling the household water requirements in major cities like Chennai.

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## 29.SOCIAL ENGINEERING AND THE STRATEGY OF “DO NOTHING FARMING” FOR AGRICULTURAL DEVELOPMENT

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### ABSTRACT

*Masanobu Fukoka was hugely successful in blending the concepts of Zen Buddhism into farming -the thought do nothing originates from Zen Buddhism and he once had a near death experience which pushed him to pursue the thought “in this world there is nothing at all” and “everything is meaningless”. His farming thoughts were widely accepted around the world and earned him the famous Ramon Magsaysay Award in 1988.He demonstrated a true partnership with nature and shared his learnings and experiences freely with one and all through his various teachings.*

*Keywords –Do Nothing Farming, One Straw Revolution, greening.*

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### INTRODUCTION

The agriculture we envision is based on sustainable, ecologically sound food production and forestry methods, which are responsive to local conditions and human needs. We are inspired by this task largely by the work of Japanese farmer Masanobu Fukuoka, author of The One-Straw Revolution. Although he lived and worked far from our region, he shares a common perspective in his approaches to agriculture. Primary emphasis is on the practical value of minimum tillage, tree crops, perennial plants, and soil-building combinations of grasses, legumes and nitrogen-fixing trees and shrubs. He also stresses the importance of maintaining diversity and complexity, and of integrating plants, animals and human society into whole, self-sustaining agricultural landscapes. We believe that the principles put forward by Fukuoka offer a solid starting point from which we can establish a sustainable regional agriculture.

### STATEMENT OF THE PROBLEM

In today's world were farm productivity through mechanization is the buzz word aided with unmindful usage of fertilizers and pesticides to constantly increase yield thereby putting huge pressure on the land and water resources, which directly causes

long term ecological damage impacting the natural equilibrium between man and other living beings.Huge strides have been made under GMO which further has enabled corporate farming practices and farm to fork consumerization through deepening automation. The world is divided clearly in adopting Modern Farming Techniques vis a vis Do Nothing Farming.

### OBJECTIVES

To create a summary of the famous thought “Do Nothing Farming” of noted Japanese Agriculturist Masanobu Fukoka through his works primarily culled from his book The One Straw Revolution. The idea is to present a synopsis for the curious mind so that further research and expansion of ideology on Do nothing farming can be galvanized.

### REVIEW OF LITERATURE

Masanobu Fukuoka<sup>1</sup>received The 1988 Ramon Magsaysay Award For Public Service. The following biography is excerpted from the award presentation on August 31, 1988 in Manila, Philippines:

The One Straw Revolution <sup>2</sup>was written by Masanobu Fukuoka a farmer and Philosopher was born and raised in Japan, wrote the famous book “the one straw revolution”which spoke about “Do Nothing farming as a

The Future is Abundant, A Guide to Sustainable Agriculture, was one of Masanobu Fukuoka foreign students who has taken up the task of carrying forward his masters ideas.

### **DO NOTHING FARMING**

Masanobu Fukuoka was born on the Japanese island of Shikoku on 2 February 1913. His family had been settled there for hundreds of years. On Iyo's hillsides overlooking Matsuyama, his father, Kameichi Fukuoka, cultivated mandarin oranges (tangerines). These orchards, combined with extensive rice lands below, made Kameichi the largest landowner in the area.

Fukuoka's own education began in Iyo's local elementary school, but for middle and high school he had to travel to Matsuyama. Thus, for many years he rode his bicycle daily to Iyo Station, took the train to the city, and went the rest of the way on foot — about half an hour's walk. He claims to have been an inferior student who infuriated his teachers. Although lessons did not interest him, the boy was impressed by the advice of his literature teacher who urged each student to make five fast friends during his lifetime so that there would be five people to weep for him when he died.

Fukuoka specialized in plant pathology under the eminent Professor Makoto Hiura. In its laboratory perched on top of a hill overlooking the city's port, Fukuoka studied diseases, fungi, and pests found on imported fruits and plants, spending his time, as he later recalled, "in amazement at the world of nature revealed through the eyepiece of the microscope." Every three days he took his turn inspecting incoming plants directly. During his time off, he enjoyed the life of the town and "fell in and out of love" several times. In his third year at Yokohama, however, he was struck down by acute pneumonia, or incipient tuberculosis. Hospitalized, he was subjected to wintry-cold air as part of his treatment. His friends avoided him, fearing contagion. Even the nurses fled after taking his temperature because the room was so cold. Sick and lonely, Fukuoka feared for his life. He was twenty-five.

When he finally recovered and returned to work, Fukuoka remained distracted by his harrowing brush with death and he began

brooding obsessively about life and what it was meant to be. One night during a long solitary walk on the hill overlooking Yokohama he approached the edge of a cliff. Looking down, he wondered what would happen if he fell from the cliff and died. Surely his mother would cry for him, but who else? Overcome by realization of his failure to acquire five true friends, he collapsed into a deep sleep at the foot of an elm tree.

He awoke at dawn to the cry of a heron. He watched the sun break through the morning mist. Birds sang. At this moment Fukuoka had a revelation: "In this world there is nothing at all." There was no reason to worry about life. As he wrote later, he suddenly understood that "all the concepts to which he had been clinging were empty fabrications. All his agonies disappeared like dreams and illusions, a something one might call 'true nature' stood revealed."

Fukuoka embarked immediately upon a new life. The next day quit his job and set off gaily on an aimless journey. He wandered the sea, to Tokyo, to Osaka, Kobe, and Kyoto, and finally to the southern island of Kyushu. For months — he himself doesn't know how many — he lived on his severance pay and the generosity of others he jubilantly broadcast his newfound belief that "everything is meaningless." But people dismissed him as an eccentric and he fine went home and retreated to a simple hut on the mountainside. He entrusted with his father's richly-bearing citrus grove, he beg putting his revelation to a practical test — by doing nothing!

Convinced that everything should be allowed to take its natural course, Fukuoka left the meticulously pruned fruit trees to nature. He then watched as insects attacked, branches interlocked, and orchard began withering away. His father's decimated grove provided Fukuoka his first important lesson in natural farming: you cannot change agricultural techniques abruptly — trees that have been cultivated cannot adapt to neglect.

In 1939, Japan's deepening involvement in military expansion abroad interrupted Fukuoka's rustic existence. Besides the fact his parents' concern over his odd behavior, it was no longer considered appropriate for the son of the mayor to be "hiding" in the hills. About the same time, he was offered

the post of chief of the Disease and Insect Control Section of the Kochi Prefecture Agricultural Experiment Station. Acceding to his father's wishes, he accepted. He moved to remote Kochi, on the other side of Shikoku Island, and remained there for the next five years.

At Kochi, Fukuoka and his colleagues were expected to increase wartime food production, especially through advances in scientific agriculture. While concentrating on research, Fukuoka also advised farmers about chemical farming and wrote a "farming tips" column for a local newspaper. On his own, however, he conducted comparative studies. He compared yields from intensively cultivated crops enhanced with compost and chemical fertilizers and pesticides those achieved from crops grown without chemical additives. His conclusion was that the use of fertilizers and pesticides was not really necessary. Although these additives resulted in a marginally higher yield, the value of the yield did not exceed the cost of achieving. Thus, at Kochi Fukuoka established to his satisfaction the superiority of natural farming over farming with chemical aids. Building upon his earlier revelation that "doing nothing was best," these studies laid the scientific basis for his lifework.

At Kochi, far from home and the battlefields, Fukuoka philosophically pondered the problems of war and peace. At one point, he drafted his ideas in a letter to the president of the United States. He cannot remember whether he mailed it. Later, in *Mu: The God Revolution*, he compared the conflict among animals in nature with war among humans and concluded that only man's conflicts are fought with love and hate, and it is these conflicts that are truly savage. In the tradition of Zen Buddhism, he believes that love and hate are two sides of the same coin, both are qualities of man alone, and both are but clouds of illusion. He concludes that in the final analysis, man's so-called love is merely love of self.

The first months of the Allied Occupation of Japan were traumatic. Local officials like Fukuoka's father were purged from public office, and in October General Douglas MacArthur, head of the occupying forces, proclaimed land reform. Fukuoka's father, in a fit of remorse over his past life as a

prosperous landlord, gave up more land than was required, which left the family with only three-eighths of an acre of rice land. But because land reform applied only to rice lands, the citrus orchards in the hills were still theirs. Here, Fukuoka once more took up his pursuit of a way of farming fully integrated with nature.

What he had learned from his earlier farming experience was that no area, once cultivated, was natural. Orchards were quite unnatural. And trees accustomed to pruning would not fruit well with the sudden withdrawal of pruning care. From this, Fukuoka realized that to grow food by "doing nothing" would require a framework of effort. His task? To create a food-producing environment that diverged as little possible from what he considered a natural one.

To learn how to accomplish this, Fukuoka says, "I just emptied my mind and tried to absorb what I could from nature." For the next few years, therefore, he observed which plants and animals lived naturally on his small piece of earth. He scattered fruit, vegetable and tree seeds randomly and watched as some of them rooted and thrived while others died. (Cypress, cedar, and orange trees grow best in the rich soil of his orchard; cherries, peaches, pears, and plums in the thinner soil.) Proceeding by trial and error, he farmed the land passively. Instead of asking, "how about doing this?" asked, "how about not doing this?" Over the years, his original insight about natural farming was borne out. As a more natural ecology was re-established, the less he did, the better the land responded. This is why his Four Principles of Natural Farming, as he eventually summarized his experience, compose a list of things not to do.

» The earth cultivates itself, observed Fukuoka. There is no need for man to do what roots, worms, and micro-organisms do better. Furthermore, plowing the soil alters the natural environment and promotes the growth of weeds. Therefore, his first principle is: No plowing or turning of the soil.

» Secondly, in an unaltered natural environment the orderly growth and decay of plant and animal life fertilizes the soil without any help from man. Fertility depletion occurs only when the original growth is eliminated in favor of soil-

exhausting food crops or grasses to feed cattle. Adding chemical fertilizers helps the growing crop but not the soil, which continues to deteriorate. Even compost and chicken dung cannot improve on nature, he concluded; moreover, chicken dung can cause the disease rice blast. Therefore Fukuoka's second principle is: No chemical fertilizers or prepared compost. Instead he promotes cover crops like clover and alfalfa which natural fertilizers.

» Weed is everywhere the enemy of the farmer. Yet Fukuoka observed that when he ceased plowing, his weed population declined sharply. This occurred because plowing actually stirs deep-lying weed seeds and gives them a chance to sprout. Tillage therefore not the answer to weeds. Nor are chemical herbicides, which disrupt nature's balance and leave poisons in the earth and water. There is a simpler way. To begin with, weeds need not be wholly eliminated; they can be successfully suppressed by spreading straw over freshly sown ground and by planting ground cover. Eliminating intervals between one crop and another through carefully timed seeding is essential. No weeding by tillage or herbicides is Fukuoka's third principle.

» Finally, what to do about pests and blights? As Fukuoka's grain fields and orchards came more and more to resemble a natural ecology — with the proliferation of plant varieties growing all a jumble — they also created a nature-like habitat for small animals. In such a habitat, Fukuoka noted that nature's own balancing act prevented any one species from gaining the upper hand: snakes eat the frogs which eat the bugs, and so on. Furthermore, insect infestations and diseases attack the weakest plants, leaving the strong to fruit more abundantly. (A blight-reduced rice field, he says, may actually yield larger quantities of grain than one left untouched.) Although chemical solutions can be effective against pests and plant diseases in the short run, in the long run they are hazardous. Wholly aside from the pollution they leave behind, they permit weak, chemical-dependent plants to survive. Left to itself, nature prefers hardier stock. Fukuoka's fourth principle is: No dependence on chemical pesticides.

Thus Fukuoka evolved his techniques for natural farming by the process of elimination.

Along the way he also abandoned the water-filled paddy field and stopped planting seeds beneath the ground in tidy rows. He stopped chopping up straw and laying it neatly upon the fields as most Japanese farmers were wont to do. Straw worked best, he found, if it is scattered whole upon the ground. In these ways, Fukuoka abandoned the artful tidiness of traditional Japanese farms and the regimentation of modern ones, in favor of the unkempt exuberance of natural growth.

Fukuoka's "direct-seeding, non-cultivation, winter grain/rice succession" illustrates the application of his principles to grain growing and shows his natural farming to be both simple and complex. In the fall, as his rice plants reach maturity, Fukuoka scatters seeds among the browning stalks: winter grain (rye, barley, or wheat), white clover, and rice. (Seeding amidst the rice makes it harder for birds to get at the new seed.) After the rice is harvested in October v covers the field with its straw. This protects the seeds and inhibits weeds. Clover and the winter grain soon grow through the mulch; the rice lies dormant until spring. In the months that follow, the grain stalks rise above the clover; the grain matures in May. Fukuoka cuts it, spreading it on the field to dry, and then threshes, winnows, and sacks the grain, re-covering his fields with the stalks.

Now briefly he introduces water into the field. This loosens the clover and weeds and permits the rice seeds to sprout. After he drains off the water the clover recovers and grows heartily beneath the rice plants. Once again in August, Fukuoka briefly floods the field. In October, before the rice is harvested and threshed — all with tradition Japanese tools — the cycle begins again.

It should be noted that Fukuoka is building upon and refining Japanese agricultural practices that are centuries old: planting alternating crops of rice and winter grain each year without depleting the soil. The major differences are, in traditional farming, rice seedlings are transplanted from starter beds, the rice is grown in standing water and the fields are weeded. Straw, for the traditional farmer, as for Fukuoka, has always been an essential mulch. As a compost straw enriches the earth, and as a ground cover it inhibits weeds, fosters

germination, frustrates birds, and retards water evaporation.

A difficulty with Fukuoka's non-plowing, direct-seeding method planting is that exposed seeds become prey to birds and animals. By casting the seeds amidst a standing crop and covering them with straw, the birds can be kept at bay, but moles, crickets, slugs, and mice present another problem. For many years Fukuoka thwarted foraging insects and rodents by pelletizing his seeds, that is, by encasing them in clay. Pelletizing seeds also keeps them from rotting if the season is unusually wet. However, by keeping a natural balance in the animal kingdom Fukuoka now seldom needs to coat his seeds, thus eliminating another task.

Fukuoka has been refining his grain-growing method for over thirty years. Despite the skepticism of agricultural experts his untidy, naturally watered (forty to sixty inches annually) grain fields achieve yields equivalent to and sometimes surpassing those of intensive cultivated and irrigated fields that are treated with the latest commercial inputs. At the same time, as he likes to point out, his soil becomes richer and richer.

His orchards have also thrived under this regime of attentive inattention. As he learned very early, simply abandoning already cultivated fruit trees to grow on their own had disastrous results. It was necessary first to restore a natural environment to the hillside, in which fruit trees could flourish with minimum pruning and, in keeping with his four principles, without tilling, weeding, or applying fertilizers or pesticides. As with his grain fields, years of trial and error passed before Fukuoka could grow mandarin oranges and other fruits by "doing nothing." Beginning immediately after the war with 1.75 (later expanded to 10) acres of his father's aging and depleted citrus trees, Fukuoka addressed two fundamental problems. First was how to restore and enhance soil fertility without using fertilizers. Second was how to restore the heavily pruned trees to their natural form so that eventually, he hoped, they would require no pruning.

To restore fertility Fukuoka proceeded on the premise that ground cover — green manure — might best rehabilitate the clay soil. He experimented by scattering on the

ground the seeds of thirty grasses, crucifers (e.g., turnips, cabbages, radish), and legumes (peas, soybeans), studying their growth carefully. In time, he adopted ladine clover as his primary hillside ground cover. Ladine clover suppresses weeds, improves the soil, and does not compete with the fruit trees for moisture or nutrition; moreover, it is hardy and need be sown only once in six or eight years. He found alfalfa, lupine, and bur clover useful as secondary cover.

The more he departed from monoculture, the more fertile the soil became. He planted myrtle and acacia trees whose roots penetrated to a deeper stratum of the soil, loosening it and adding nutrients such as phosphoric acid, potash, and nitrogen. And he interplanted the trees with shrubs and climbing fruit vines. Although mandarin oranges dominated, eventually some thirty varieties of fruit trees grew amidst the botanic profusion of his three-dimensional (vegetables, shrubs, trees) orchard. Meanwhile, the hard red clay soil, he says, "became loose, dark-colored, and rich with earthworms."

Fukuoka acknowledges that this method of improving the soil takes a long time. In five to ten years, there may be six inches of new topsoil. But, he points out, trees grown under these conditions live much longer than those tended and cared for. What is more, based upon standard criteria for comparison — tree growth and quality and quantity of fruit — he claims his "thirty years of natural farming compare favorably with scientific farming in every respect." (By quality, however, he means his own definition of the word. In his book *The Natural Way of Farming* [1985] he spends a number of pages urging the public to eat foods "nature intended," not those their taste buds desire.)

As regards pruning, Fukuoka learned that once a fruit tree has been pruned, it must be pruned forever after. Consequently he experimented with a new type of pruning designed to mold trees back to their natural shape. Discovering what was the natural shape of an orange or cherry tree was not easy; what was commonly presumed to be natural was really the shape of the pruned tree after it had been abandoned. Because virtually all fruit trees have been cultivated by man and their seeds bear the results of

cross-breeding, Fukuoka concluded that “no one has ever really seen a totally natural fruit tree.”

To discover the natural shape of fruit trees, therefore, Fukuoka studied other kinds of trees that still grew wild in the forest. For instance, forest-grown pines and cedars have straight trunks; the branches are spaced so that they do not cross and so maximum sunlight reaches all the leaves. Under ideal conditions, he insists “no matter how small the plant or large the tree, every leaf, every shoot and branch grows out from the stalk or trunk in an order and regular arrangement.”

Eventually Fukuoka was able to establish “with considerable certainty” the optimal natural forms for many trees in his orchard including several varieties of orange as well as persimmon, chestnut, pear, apple, and loquat. He then sought, by careful and discreet pruning, to induce his trees to conform to the model.

Fukuoka’s interventions in the growth of his fruit trees differ radically from those of conventional orchardists. Whereas the lab seeks to shape the tree to facilitate fruiting and efficient cultivation and harvesting, he seeks to shape trees in accordance with what conceives to be nature’s original design. He maintains that the more his trees are encouraged in a natural shape and provided with greater growing space, the less pruning they require. Increasingly he says, he can take it easy and “let the orchard grow itself.” Vegetables growing semi wild are an important part of this three-layered orchard ecosystem. Fukuoka’s planting technique is to broadcast the seeds and let the plants grow randomly among the clover, weeds, and trees. Here, too, an intimate awareness of natural patterns is necessary. By trial, error, and keen observation Fukuoka has learned how to introduce vegetables into the ecosystem at the right time and in the right way. To sow winter vegetables, for example he waits until the wild summer grasses are drying. Then, after a good rain, he cuts back the grasses, scatters the vegetable seeds, and covers them with the freshly cut grass. The seeds germinate safely beneath the mulch and gain a head start on the winter weeds. The latter Fukuoka cuts back a few times until the new vegetables can compete on their own. Similarly, summer vegetables

are planted just as the winter weeds are losing their vigor. Chickens and birds will eat some of the seeds but many will survive to germinate.

Some vegetables need more help. Fukuoka starts tomatoes and eggplants in a seedbed and transplants them. He soaks and pelletizes the difficult-to-germinate seeds of carrots and spinach. Once they are established, however, he does not pamper them: tomatoes run free along the ground, and cucumbers, melons, and squash stretch out over sticks of bamboo and discarded tree branches. Fukuoka found that vegetables grow heartily in a semi wild state. One planting of chayote can expand over an area of 100 square yards and bear 600 fruits. Moreover, once started, many vegetables come up year after year, e.g., garlic, Japanese pearl onions, Chinese leeks, potatoes, and taro. Unharvested, daikon’s (Japanese radishes), turnips, and carrots reseed themselves and produce first-generation hybrids—giant vegetables whose strong taste, Fukuoka believes, is like that of their wild predecessors. Other vegetables grown in a semi wild state have a “subtler flavor” than the cultivated ones. (The question is, of course, whether consumers are willing to buy either more strongly flavored or less flavorful vegetables than those they are accustomed to.)

Already in his early years at the Kochi Prefecture Agricultural Experiment Station Fukuoka realized that he, and the other scientists and Japan’s highly bureaucratized food authorities whom he views with scorn and often criticizes, were heading in almost diametrically opposite directions.

By the 1970s highly commercialized scientific farming had transformed the Japanese countryside. Farmers no longer produced food for their own families and for local markets but found themselves enveloped in the complex web of modern agribusiness. Prompted first by the need to feed Japan’s growing population, and later by the demands of affluent urbanites, they scurried to keep up with the latest high-yielding varieties of grain, fruits, and vegetables, and with the fertilizers and pesticides to grow them. Eventually farmers also learned to use dyes, waxes, and preservatives to bring “perfect” fruits and vegetables to market. The number of persons engaged in farming



declined dramatically and farms came to resemble mini-factories. Meanwhile, state-sponsored agricultural scientists provided ever newer seeds and chemicals to keep farmers just ahead of the latest plagues, blights, and consumer trends.

In the midst of this huge transformation, Fukuoka's farm and orchard seemed primitive and irrelevant. This was all the more true because, although he occasionally reported some of his findings in agricultural journals and forums, he had little contact with anyone outside his village. He devoted himself instead to what he later called "the road of a dilettantish farmer tilling a lost paradise."

For all its satisfactions this kind of life did not bring him serenity. "I was a disagreeable presence even to those in my family," he recalls. His belief that headlong industrialization of agriculture in Japan was not only wasteful and unnecessary, but also highly destructive to the earth — perhaps irrevocably so — caused him in the mid-1970s to formulate his philosophy to reach a public audience.

In *ShizenNohoWara Ippon no Kakumei* [1975] — translated into English in 1978 as *The One-Straw Revolution* — he distilled his experience of the past thirty years. He not only introduced his principles of natural farming but put forward his understanding of how natural farming related to larger issues. The book bore a powerful message: mankind, seduced by its intellect into thinking it could conquer nature, was launched upon a dangerous path. In the short run, chemical-driven scientific agriculture undeniably produced abundance. But by intervening in nature with machines and chemicals; scientific agriculture would backfire in the long run. Eventually it would deplete the earth's natural fertility, denude its forests, and poison its streams, rivers, seas, and ground with the toxic residues of pesticides, herbicides, and fertilizers. At the same time, weak, chemical-dependent hybrid plants would take the place of the nutritious nature-hardened fruits, vegetables, and grains of the past. The problem was so comprehensive, he avowed, that no amount of tinkering could solve it. (Short-term science-led advances — "safer" pesticides, for example — addressed symptoms of the disease, but not the disease itself.) The

only real solution was a wholly different approach to food production which restored man's subordinate relationship to nature. This, of course, was the fundamental idea behind Fukuoka's "do nothing" farming.

Fukuoka also pointed out that many people had a stake in the scientific approach. These included the manufacturers of agricultural chemicals and equipment and affiliated bankers; politicians who spoke for agribusiness; bureaucrats in the Ministry of Agriculture; and agricultural scientists, virtually all of whom did state-sponsored research in public institutions. Consumers themselves were to blame. By insisting upon blemish-free, cosmetically enhanced produce, and upon fruits and vegetables out of season, they virtually compelled farmers to adopt the latest chemicals and processing techniques. Ironically, he averred, in doing so consumers were passing up the tasteful, nutritious foods of nature's garden — which might, it is true, have a rougher appearance — in favor of the nutrition atrophied products of the assembly line. All of this convinced Fukuoka that modern man was suffering from a pervasive spiritual decay, a barrenness of the soul caused by his lost intimacy with God and nature.

The One-Straw Revolution, in short, was Fukuoka's plea for man to reexamine his relationship with nature in its entirety. In his most utopian vision all people would be farmers. If each family in Japan were allotted 1.25 acres of arable land and practiced natural farming, not only could each farmer support his family, he wrote, but each "would also have plenty of time for leisure and social activities within the village community. I think," he added, "this is the most direct path toward making this country a happy, pleasant land."

Although *The One-Straw Revolution* had little impact on agriculture in Japan, it did establish Fukuoka's popular identity as a guru of natural farming. More frequently than before, he was called upon to speak on radio and television, and he now did so without inhibition. His provocative analysis of the degradation of modern agriculture, along with his proffered solutions, found a worldwide audience when his book was published in English in 1978. Eventually it was translated into seven other languages. As he saw it, the United States was a vast

continent suffering the "relentless injuries of heavy machinery, chemical fertilizers, and pesticides." The huge monocrops of the American heartland, he said, were "fields of death" where crops fattened on petroleum derivatives as the soil was drained of its fertility. Most of these fields, he learned, yielded food grains for cattle and hogs to supply meat for what he considered the grossly indulgent and wasteful American diet. Fukuoka declared the whole process primitive in its disregard for nature.

In meetings with ecologically concerned Americans, Fukuoka found many eager to hearken to his message. Already, at 250 Zen centers, American disciples of Japanese Buddhism grew chemical-free foods. The Rodale Press — American publishers of *The One-Straw Revolution* — was spreading the message of composting and organic farming (characteristically, Fukuoka tried to dissuade it from promoting composting), and a few Americans were experimenting with Asian-style low-meat or vegetarian diets. These hopeful signs cheered him. But the momentum of scientific farming in the United States seemed overwhelming. After a second visit a few years later, he concluded gloomily that "not even one chance in a thousand exists that America will opt for a method of farming that returns to nature."

In India, Fukuoka's ideas preceded him. During his three-month visit there in 1987-88, he was received as the apostle of natural farming. *The One-Straw Revolution* had been widely distributed and read in English, and by the time of his visit the first of three vernacular editions (Malayalam, Marathi, Bengali) was also in print.

With 52 percent of its people still dependent on agriculture and fishing for a livelihood, India recognized the advantages of Fukuoka's low-cost, natural farming. Some groups were already experimenting with his techniques. Spurning visits to Buddhist monuments and other tourist attractions for visits with farmers, Fukuoka made a deep impression. At seven state agricultural universities and thirty other sites, he explained his methods and philosophy, which he linked with the teachings of Gandhi. He praised Indians for knowing the worth of philosophy and for not yet having made a science a dogma; on the other hand, he boldly criticized the Hindu reverence for cows. At Bhisva Bharati,

the university founded by Rabindranath Tagore at Shanti Niketan, he received the Desikottam Award from then Indian Prime Minister Rajiv Gandhi. Translated, the citation read: "You are a shining star in the Universe. . . ."

As word of his work and ideas spread around the world, Fukuoka inevitably attracted visitors to Iyo. Besides scientists, journalists, and farmers from many countries came young people. Arriving with only their backpacks, many of them took up residence, living in rustic huts in the orchards and joining Fukuoka in the work life of the farm.

Although Fukuoka has continually refined his farming techniques over the years, he remains fundamentally inspired by his youthful insight into the futility of man's endeavor. Nature is the true perfectionist, he says. It best provides for man's survival. But man's intellect has distorted his wisdom. Modern science, along with industry and government, is leading man further and further away from nature. Fukuoka believes that Japan is today "so steeped in science that a method of farming which discards science altogether will not be digested." This is why countries like India, which are not fully industrialized and which have large rural populations, offer greater hope for natural farming.

Viewing the rest of the world from the serene, prolific bounty of his farm, sage-like Fukuoka wavers between despair and hope. Perhaps the degradation of the earth is beyond repair; he often thinks so. Even if it is not, he recognizes, "the changeover to natural farming involves a sweeping Copernican transformation. It is not something that can be accomplished overnight."

#### **CONCLUSION**

The various models of sustainable agriculture which are being developed cannot be exactly like Fukuoka's rice farming since specific techniques need to be adapted to local conditions. They are, instead, expressions of people's diverse attempts to heal the damage caused by past exploitation and to establish a way of life and a way of farming which helps to fully realize human potential. More than simply gardening or farming techniques, natural farming and permaculture encompass an attitude and a way of life.

Developing a sustainable agriculture will help restore the health of the land and build stable human communities and will provide a model to people in other regions who share our goals. It will take time, patience, and a great deal of effort, but by working together, sharing our experiences, and continuously clarifying our vision, we can share a future of sustained abundance.

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## 30. INCOME AND EMPLOYMENT IN TAMIL NADU – AN ASSESSMENT

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### ABSTRACT

*Tamil Nadu is one among the leading state in India. It seen as a state that has been able to combine high levels of economic growth with high levels of social development in recent years. Apart from investments in health and education, a key dimension of inclusive development is the relationship between growth and employment. If growth does not generate adequate employment poverty levels fare likely to remain high even as levels of inequality increase. Jobless growth has been found to be a key aspect of the recent growth process. However, more employment generation does not ensure inclusive growth. The category, 'working poor' essentially captures this phenomenon. People continue to work for incomes that do not allow them to escape from poverty. Therefore, this paper concentrates on the Income and Employment Status in Tamil Nadu.*

*Key Words: Economic Growth, Health and Education, Employment Generation, Working poor, Income and Employment, Inclusive Growth, Employment Status.*

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### INTRODUCTION

Tamil Nadu is one among the leading state in India. It seen as a state that has been able to combine high levels of economic growth with high levels of social development in recent years. Apart from investments in health and education, a key dimension of inclusive development is the relationship between growth and employment. If growth does not generate adequate employment poverty levels fare likely to remain high even as levels of inequality increase. Jobless growth has been found to be a key aspect of the recent growth process. However, more employment generation does not ensure inclusive growth. The category, 'working poor' essentially captures this phenomenon. People continue to work for incomes that do not allow them to escape from poverty.

### STATEMENT OF THE PROBLEM

Apart from the quantum of employment too is therefore important in ensuring that benefits of the growth in income are shared equally between capital and labour. It is the growing recognition of this phenomenon that has made decent work one the key developmental goals of the International

Labour Organization (ILO) over the last decade and a half. Importantly, it is now well-recognized that growth does not trickle down automatically, but is made possible through strong public action and a set of appropriate institution interventions.

This study provides the employment and income dimensions of human development across social and economic groups in the State over the last decade or so. This paper highlights changing composition of sectoral income and employment shares in the state in a comparative perspective. Comparison will be done across six states that include the four Indian states, Maharashtra and Gujarat. The choice has been guided partly by convention and partly by the fact that Maharashtra and Gujarat, along with Tamil Nadu are among the major industrialized States in the country. Differences and discrepancies in income and employment growth across sectors are identified. These are followed by an examination of income levels across districts in the State. Subsequent sections are focus on changes in absolute and relative poverty as captured by income inequality. Changes across social

and economic groups are mapped. Apart from absolute poverty, relative poverty has been identified as a major concern in fast growing developing economies with implications for social exclusion.

Income inequality can capture this dimension to an extent. Rural and urban differences across social and economic groups in consumption inequality will also be depicted, patterns summarized and implications drawn. At the district levels, differences in work participation rates, share of agricultural labour and share of marginal workers will be charted and analysed. Relationship between agricultural productivity, wage levels and poverty, composition of employment and poverty are examined to identify possible means of public intervention.

### OBJECTIVES

The overall objectives of this research paper is to analyze the income and employment status in Tamil Nadu. The specific objectives are, Sector – wise Shares of Income, Trends in Work Participation Rate and Workforce Composition

1. To Study the growth of sectoral income in Tamil Nadu.
2. To explain the sectoral wise share of income in Tamil Nadu, and
3. To discuss the Trends in Work Participation rate and workforce composition in Tamil Nadu.

### RESEARCH METHODOLOGY

This is descriptive and diagnostic analysis based on purely secondary sources of information. The Secondary sources are collected from various journal articles, magazines, publications reports, books, dailies, periodicals, research papers, websites and other published and unpublished materials relating to the theme of the research paper from 2004 – 05 to 2012 – 13.

### GROWTH OF SECTORAL INCOME

Tamil Nadu has the fourth highest Per Capita Income of Rs.57,131 among the major States in 2011-12 after Maharashtra, Haryana and only slightly less than Gujarat (Rs.57,131) in 2004 – 05 prices.

**Table – 1**

Per Capita Income ( in Rs.)		
Name of the State	2004-05	2011-12
Tamil Nadu	30062	57131
Andhra Pradesh	25321	42119
Karnataka	26882	41959
Kerala	31871	53877
Maharashtra	36077	62457
Gujrat	32021	57508
India	24143	38037

Source : *Tamil Nadu Human Development Report - 2017.*

In fact, the State's Per Capita Income has become higher than that of Kerala and has almost caught up with Gujarat over the 7-year period as indicated in above table. While the decline in fertility rates may have contributed to this growth, economic factors cannot be discounted. Looking at sectoral shifts in income generation, thought an all – India phenomenon, the declining share of agriculture in the state's income is particularly acute in Tamil Nadu as below. The details of Sectoral wise share of income is given in table – 2.

Even among comparable States, we find that it has the lowest share along with Kerala. Importantly, within the 8.7 per cent contribution of agriculture to the State's income in

2011 – 12, it has been pointed out that bulk of the growth in the sector in the last decade has emanated from fisheries, livestock, horticulture and floriculture. There has been a considerable shift in land under cultivation towards horticulture and floriculture in this period. The implications for this shift for improvements in rural poverty and employment are however not clear.

In the non – agricultural segment, we observe that the State has increased its share of income originating from the registered manufacturing sector in the past seven years, and in fact it is the only State, other than Gujarat, where the share has increased by more than two percentage points. This is definitely a positive sigh in terms of quality of employment if the registered sector is able to also increase its share of manufacturing employment. The other striking aspect is the increasing share of the construction and the services sector.

**Table – 2**  
**Sector – wise Shares of Income**  
**(Percentage of NDP)**

<b>Name of the State</b>	<b>Particulars</b>	<b>2004-05</b>	<b>2011-12</b>
Tamil Nadu	Agriculture and Allied	11.65	8.71
	Industry	28.68	27.91
	i. Registered	9.29	11.81
	ii. Un Registered	7.66	5.45
	iii. Construction	9.69	10.09
	Service	59.67	63.38
Andhra Pradesh	Agriculture and Allied	28.84	22.58
	Industry	18.82	18.75
	i. Registered	6.84	6.92
	ii. Un Registered	3.43	2.8
	iii. Construction	7.25	7.8
	Service	52.34	58.67
Karnataka	Agriculture and Allied	19.51	16.63
	Industry	27.98	25.07
	i. Registered	11.96	9.94
	ii. Un Registered	3.78	3.46
	iii. Construction	9.17	9.61
	Service	53.12	58.3
Kerala	Agriculture and Allied	16.47	8.5
	Industry	22.31	19.46
	i. Registered	3.32	2.76
	ii. Un Registered	4.4	3.7
	iii. Construction	13.29	12.22
	Service	61.23	72.04
Maharashtra	Agriculture and Allied	11.17	8.76
	Industry	26.74	26.76
	i. Registered	11.67	11.94
	ii. Un Registered	6.53	5.6
	iii. Construction	6.79	7.63
	Service	62.09	64.47
Gujarat	Agriculture and Allied	17.71	13.49
	Industry	35.57	36.93
	i. Registered	17.13	19.23
	ii. Un Registered	6.24	5.43
	iii. Construction	7.27	7.93
	Service	46.71	49.58
All India	Agriculture and Allied	19.89	14.65*
	Industry	25.24	24.18*
	i. Registered	7.76	8.44*
	ii. Un Registered	5.3	4.73*
	iii. Construction	8.24	8.29*
	Service	54.87	61.17*

Source : Same as Table – 1.

In the case of contribution to income as not been to the extent noted in others States, except Maharashtra.

### TRENDS IN WORK PARTICIPATION RATE AND WORKFORCE COMPOSITION

The emphasis on 'demographic dividend' makes it important to understand additions made to the workforce. The additions made to workforce and the changes in the share of workers in the total population. Looking at the workforce, there has been a steady rise in the supply of workers with an addition of more than 5 million workers over the last decade, leading to a total workforce of 32.88 million. This increase in absolute number is considerably more than that in the previous decade (1991 - 2001) and has also been driven by a rise in the share of workforce in the total population from 44.76 per cent in 2001 to 45.58 per cent in 2011. This increase is lesser than that in the previous decade, which saw a hike in

the share marginal workers by more than 2 per cent. However, the fact that nearly 5 million workers are marginally does not augur well for a fast – growing economy.

The work participation rate for both male and female workers continues to be high in the State relative to the all – India level. Importantly increased by almost a percentage point to 45.6 per cent from 44.7 percent in 2001. This increase, however, seems to be driven primarily by that in urban workers' participation. The details of State level work force trends from 1981 – 2011 is given in table – 3 and the details of Workers Population and Work Participation Rate by Region and Gender from 1981 to 2011 are given in table – 4.

**Table – 3**  
**State – level Workforce Trends (1981- 2011)**

	1981		1991		2001		2011	
	Absolute	%	Absolute	%	Absolute	%	Absolute	%
Total Workers	20.2	41.7	24.2	43.3	27.88	44.76	32.88	45.58
Main Workers	19	39.3	22.8	40.8	23.76	38	27.94	38.73
Marginal Workers	1.2	2.42	1.4	2.5	4.12	6.63	4.94	6.85
Marginal (3-6 months)	---	---	---	---	---	---	4.22	5.85
Marginal (0-3 months)	---	---	---	---	---	---	0.72	1
Non Workers	28.21	58.27	31.7	56.7	34.53	55.06	39.26	54.42
Total Population	48.5	100	55.9	100	62.41	100	72.15	100

Source : Same as Table – 1.

**Table - 4 Workers Population and Work Participation Rate by Region and Gender (1981-2011)**

	1981	1991	2001	2011
<b>Number of workers (million)</b>				
<b>Rural</b>				
Male	9.67	10.82	10.4	11.21
Female	5.41	7.01	7.18	7.65
Persons	15.08	17.83	17.58	18.86
<b>Urban</b>				
Male	4.18	5.14	7.76	10.22
Female	0.93	1.22	2.48	3.80
Persons	5.11	6.36	10.24	14.02
<b>Total</b>				
Male	13.85	15.96	18.16	21.43
Female	6.34	8.24	9.66	11.45
Persons	20.19	24.19	27.88	32.88
<b>Number of Workers (million)</b>				
<b>Rural</b>				
Male	59.24	58.28	59.1	60
Female	33.55	38.5	41.4	41.2
Persons	46.48	48.49	50.3	50.7
<b>Urban</b>				
Male	51.25	52.78	55.8	58.5
Female	11.97	13.1	18.9	21.8
Persons	32.05	33.34	37.5	40.2
<b>Total</b>				
Male	56.58	56.39	57.6	59.3
Female	26.52	29.89	31.5	31.8
Persons	41.73	43.31	44.7	45.6

Source : Same as Table - 1.

Disaggregating the worker population by gender and across rural and urban areas, an increase in the rural working population is noticed in the last decade, unlike in the previous decade when there was an absolute decline in the number of male workers in rural Tamil Nadu. Rural work participation rate has, however, remained almost stagnant with women’s participation actually decreasing by 0.2 per cent and that of men increasing by only 0.9 per cent. This is suggestive of a tendency towards urbanization of employment in the State. The stagnation of rural women’s participation in work goes against the trend in the previous decades when work participation has increased.

Overall, the share of women workers almost remained the same over the previous

decade and has increased only by 0.1 per cent, unlike previously when the share of women workers increased by more than 3 percentage points. The reduction in work participation rate for women in rural areas can be explained by withdrawal of women workers from the labour force with increasing income levels of the households, as pointed out in micro level studies. In the case of urban Tamil Nadu, male and female worker’s participation has increased from 55.8 to 21.8 per cent, respectively over the decade.

**SHIFTING OF SECTORAL EMPLOYMENT**

The dramatic decline in the share of agricultural sector income has not been matched by shifts in labour force out of agriculture despite a decline in the share of agriculture employment.



**Table – 5**  
**Share of Employment across Sector 2004 – 05 and 2009 – 10**

Particulars	1981		1991		2001		2011	
	Absolute	Per cent	Absolute	Per cent	Absolute	Per cent	Absolute	Per cent
Cultivators	5.82	28.8	6.04	25	5.11	18.4	4.25	12.92
Agricultural Labourers	6.77	33.5	8.76	36.2	8.67	31.1	9.61	29.21
Household Industry and Manufacturing	0.97	4.8	0.87	3.6	1.46	5.3	1.36	4.15
Other Workers	6.64	32.9	8.53	35.2	12.57	45.2	17.66	53.72
Total Workers	20.2	100	24.19	100	27.81	100	32.88	100

Source : Same as Table – 1.

### COMPOSITION OF WORKERS

The employment share has declined by 5 percentage points albeit from a high level (46.4 per cent). The quantum of decline is much more than the decline in the share of agricultural income indicating possible improvement in the returns of those dependent on agriculture. In terms of comparison across states, State's share of employment in agriculture is the lowest after Kerala. Looking at the composition of the workforce within agriculture, while the share of agriculture labour in the total workforce has declined by almost 2 percentage points, in absolute terms, the segment has increased unlike in the workforce. While there was steady increase from 1961 to 1991 from 18.4 per cent to 36.2 per cent in 1991, over the last two decades there has been a fall in the share to 29.21 per cent in 2011. However unlike in the previous decade (1991 – 2001), there has been an increase in the absolute numbers of agricultural workers in the period 2001 – 2011. This rise can be attributed to either the growth in agriculture sector, or an inability of the modern sector to absorb the growing workforce, or Proletarianization of the peasantry in the State, a phenomenon that has been noticed earlier.

In the case of cultivators, we find a continuing decline in their share over the decades from 18.4 per cent in 2001 to 12.92 per cent in 2011. Between 2001 and 2011, while the number of cultivators declined by 0.86 million, that of agricultural workers increased by 0.94 million. It therefore appears to be a combination of all the factors. In the non – agricultural segments,

among those engaged in household industry and manufacturing, there has again been a fall in both the share and absolute numbers. In the case of household industry and manufacturing, regardless of an increase in the decade 1991 – 2001, we find that there has been marginal decline from 5.3 to 4.15 per cent in the last decade.

In other words the share of employment has fallen in the last decade for all categories, except the 'other workers' category which accounts for more than 53 per cent of all workers in 2011, compared to just 45.2 per cent 2001. While this can be interpreted as a shift away from traditional to modern workers continues to be high highlights the need to focus on the quality of employment in the modern sector.

The disaggregate picture of employment in the non – agricultural sector shows that despite an increase in the share of industrial employment, the rising share has happened primarily due to a tremendous increase the share of 'non – manufacturing', which includes the constructions sector. The construction sector, it appears, has absorbed bulk of the workforce exiting agriculture. Thought there us a fall in the share of manufacturing employment between the two time periods by more than two periods by more than two percentage points, the state continues to rank the highest in terms of its share of employment in manufacturing. The decline seems to have compensated solely by an increase in employment in non – manufacturing as the services share in employment has increased only marginally.

**Table – 6**  
**Statement Showing State – wise Employment in the Organised sector, 2011**  
**(in lakhs)**

Organized Employment	TN	Maharashtra	Gujarat	Karnataka	Andhra Pradesh	Kerala	India
Public Sector	14.4	21.43	7.93	10.62	12.77	5.77	175.48
Share	8.2	12.21	4.52	6.05	7.28	3.29	100
Private Sector	8.87	25.34	13.07	12.33	7.82	5.11	114.52
Share	7.74	22.13	11.41	10.77	6.83	4.47	100
Total	23.27	46.78	21	22.95	20.6	10.88	289.99

Source : Same as Table – 1.

A more disaggregate picture of employment across the six states are discussed. In line with the aggregate data, it also shows: a) the relatively lowers share of employment in agriculture; b) the importance of construction to employment generation, with the State having the largest share of employment in this sector, after Kerala; c) the relatively higher share wholesale trade, automobile repair, transportation and storage, and accommodation and food service employment. Given the not so high value addition in such services, it is all the more important to focus on enhancing employment in manufacturing, in addition to improving the returns to labour by appropriate investments. The information and communication sector is, how over, absorbing a larger workforce among all the States, except Karnataka.

In 2010 – 11, according to the Annual Survey of Industries (ASI) data, the State housed 36,848 factories employing 1,943,319 workers, which accounts for 17.4 per cent of total factories and 15.3 per cent of the total organized manufacturing employment in the country. In fact since 2000 – 01, the share of employment has increased by 1 per cent from 14.2 per cent and the share in the number of factories by close to 2 per cent. This indicates that despite the increasing share in the number of factories, that of employment has not increased as much, thereby implying a possible decline in employment absorption in the manufacturing sector.

Also importantly, the State accounted for only 10.36 per cent of the gross value

added in manufacturing, regardless of its higher share in employment indicative of lower labour productivity. Importantly, fixed capital per factory at Rs. 56,300,000 is close to only half that of Maharashtra and one – third of Gujarat. Apart from being indicative of the smaller size of firms in the State, it also goes to show that relative to the other highly industrialized States, capital intensity is lower with possible implications for labour productivity. The decline inn share of manufacturing employment accompanied by lower labour productivity clearly demands policy attention. Next, we look at the unemployment patterns in the State

**TRENDS IN UNEMPLOYMENT AND MODES OF EMPLOYMENT**

The NSSO reports on employment and unemployment trends are used to map the changes in quality of employment as expressed through regularity of employment. Considering distribution of the workforce between 2000 and 2011 – 12, the State has the highest share of casual labour and the lowest share of self – employment among the six States. Only 278 out of 1000 are self – employment in the State, which is lower than most States and much lower than the national average of 593.

Interestingly, it is also a State the has relatively higher share of people employed in regular salaried employment and a large share of population employed in casual work. In both the latter categories, the rates are not only higher than the all – India average (95 as compared to 56 are all – India level for casual employment) most major Sates, other than Kerala and West Bengal,

for regular employment States for casual employment. These figures by and large hold for both rural and urban employment.

Importantly, casualisation of the workforce in Tamil Nadu has increased relative to other States over the last decade, as Andhra Pradesh and Kerala had the same or more number of casual workers in 2000. The increase in casualisation of employment seems to have happened through reductions in self – employment as well as regular wage/salaried work. While the decline in self – employment may be due to small and marginal farmers exiting agriculture, the fall in share of the regular – waged workers is an aspect that needs to be taken into consideration.

Moving from the quality of employment to the quantum of employment of employment and levels of unemployment in the State, it can be seen that Tamil Nadu continued to have high levels of unemployment relative to other States except Kerala, even though the levels have declined between the 2000 – 2012. As suggest, unemployment levels have declined over the decade despite remaining relatively high in the state during both time points. Also, across all categories, male and female in rural and urban Tamil Nadu, the rate of unemployment is higher than States except Kerala. In fact, the NSSO report on youth employment also shows that among all the major metropolitan cities, the levels of unemployment are the highest for Chennai city.

Although the factors driving this scenario are not clearly defined, an explanation based on micro – level observations can shed some light. Rising aspirations for higher education have broad-based entry into tertiary education. According to the Annual Survey of Higher Education undertaken by the Ministry of Human Resources Development (MHRD), the State has the highest gross enrolment ratio at 38.2 per cent for the population in the age group of 18 – 23 among all major states in 2012 – 13 . If the increase in proportion of formally educated labour pool is it matched by adequate increases in employment, it can lead to phenomenon of the educated unemployed. This has been observed in the context of

Kerala in an earlier period, where despite labour shortages in the agricultural in the agricultural sector, there was a simultaneous presence of educated unemployed.

## **CONCLUSION**

From the foregoing analysis it can be observed that the economic system does not ensure automatic equality between aggregate demand and aggregate supply at full employment as believed by Classical. That can be proved that an economy could be in equilibrium even at less than full employment level. This is the basic difference between Classical Theory and Keynesian Theory. Aggregate demand for goods and services directly determines the level of output, income and employment. If Aggregate demand increases, level of output will go up by increasing employment of resources to meet increased demand and as a result income will also go up. Thus, demand creates its own supply.

But this does not mean level of full employment. The equilibrium level of income maybe at below or above the level of full employment. In reality, an economy operates very often at less than full employment equilibrium. Since in the short run, aggregate supply does not change, it, therefore, changes in aggregate demand which brings about changes in income and employment. This is the gist of Keynesian approach. The core issue of macroeconomics is the determination of level of income, employment and output. This can be proved from the foregoing analysis in this research paper.

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# 31.SUSTAINABLE AGRICULTURE IN INDIA: TRENDS, ISSUES AND THE WAY FORWARD

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## INTRODUCTION

India is one of the largest agriculture products exporter in the world but the contribution of Agriculture sector in GDP of India has declined considerably (From 75% to 14%) in the last 60years; At the same time, contribution of Services and other Industry sectors have increased remarkably. In 1978, around 81 per cent of the rural males considered that agriculture as their primary job. But few recent statistics have exposed that rural India is not depending on agriculture sector only; it has been moving to other sectors. One of the reasons for this change is the industry is becoming less profitable compare to other sectors. However, agriculture continues to be the source of livelihood for about 50% of the working population, three-quarters of which is based in the rural parts of India.

Like any other sector, agriculture too has its own set of challenges, some of which are very critical and impeding. Let's look at some of the major problems that India faces in relation to agriculture and their possible solutions and additional constructive efforts to be taken by the society for sustainable development in agriculture.

## RECENT TRENDS, ISSUES AND SOLUTIONS

Some of the major issues and their possible solutions have been discussed as follows. Indian agriculture is affected by number of problems; among those some of them are natural and some others are manmade.

### *Small and fragmented land-holdings*

The net area under cultivation is close to 141 million hectares. However, its immensity diminishes with the fact that a vast number of land holdings are fragmented to an extent of being rendered economically unviable. This is a prime reason that agriculture instruments in India cannot be used effectively. Division of land by the virtue of inheritance has given rise to the problem. Irrigation and mechanized farming is next

to impossible on such fragmented farms.

The seemingly abundance of net sown area of 141.2 million hectares and total cropped area of 189.7 million hectares (1999-2000) pales into insignificance when we see that it is divided into economically unviable small and scattered holdings. In 1970-71, the average size of holdings was 2.28 hectares which has been reduced to 1.69 hectares in 1985-86 and then it was 1.15 hectares in 2010-11 (Table-1). This has been further decreased with the infinite Sub-division of the land holdings. This is the serious concern in many Indian states like Bihar, West Bengal, Kerala and few parts of Uttar Pradesh where the average size of land holdings is less than 0.5 to 1 hectare. Rajasthan with vast sandy stretches and Nagaland with the prevailing 'Jhoom' (shifting agriculture) have larger average sized holdings of 4 and 7.15 hectares respectively. States having high percentage of net sown area like Punjab, Haryana, Maharashtra, Gujarat, Karnataka and Madhya Pradesh have holding size above the national average.

Further it is shocking to note that a large proportion of 59 per cent holdings in 1990- 91 were marginal (below 1 hectare) accounting for 14.9 per cent of the total operated area. Another 19 per cent were small holdings (1-2 hectare) taking up 17.3 per cent of the total operated area. Large holdings (above 10 hectare) accounted for only 1.6 per cent of total holdings but covered 17.4 per cent of the operated area. Hence, there is a wide gap between small farmers, medium farmers (peasant group) and big farmers (landlords).

The main reason for this sad is our inheritance laws. The land belonging to the father is equally distributed among his sons. This distribution of land does not entail a collection or consolidated one, but its nature is fragmented. Different tracts have different levels of fertility and are to be distributed accordingly. If there are four

tracts have different levels of fertility and are to be distributed accordingly. If there are four tracts which are to be distributed between two sons, both the sons will get smaller plots of each land tract. In this way the holdings become smaller and more fragmented with each passing generation.

**Table 1: Number of holdings, operated area and average size of holdings – All Social Groups.**

S.No	Size Groups	Average (in ha.)								
		1970-71	1976-77	1980-81	1985-86	1990-91	1995-96	2000-01*	2005-06*	2010-11
1	Marginal	0.40	0.39	0.39	0.39	0.39	0.40	0.40	0.38	0.39
2	Small	1.44	1.42	1.44	1.43	1.43	1.42	1.42	1.38	1.42
3	S e m i - medium	2.81	2.78	2.78	2.77	2.76	2.73	2.72	2.68	2.71
4	Medium	6.08	6.04	6.02	5.96	5.90	5.84	5.81	5.74	5.76
5	Large	18.10	17.57	17.41	17.21	17.33	17.20	17.12	17.08	17.38
	All sizes	2.28	2.00	1.84	1.69	1.55	1.41	1.33	1.23	1.15

\*Excluding Jharkhand  
Source-Agriculture Census 2010-11

Sub-division and fragmentation of the holdings is one of the main causes of our low agricultural productivity and backward state of our agriculture. A lot of time and labour is wasted in moving seeds, manure, implements and cattle from one piece of land to another. Irrigation becomes difficult on such small and fragmented fields. Further, a lot of fertile agricultural land is wasted in providing boundaries. Under such circumstances, the farmer cannot concentrate on improvement.

Fragmentation is not reversible; As a solution for this delicate problem is the consolidation of holdings which means the reallocation of holdings which are fragmented, the creation of farms which comprise only one or a few parcels in place of multitude of patches formerly in the possession of each peasant. But unfortunately, this plan has not succeeded much. Although legislation for consolidation of holdings has been enacted by almost all the states, it has been implemented only in Punjab, Haryana and in some parts of Uttar Pradesh.

**ISSUES WITH IRRIGATION AND MONSSON DEFICIT**

India is one of the largest irrigated country in the world but only one-third of the cropped area is under irrigation. Indian agriculture system is depending on monsoons for rainfall because more than half of the cropped area

will get irrigation on this rainfall.

North-Indian states Punjab, Haryana and few parts of Uttar Pradesh are mostly depending on rainfall for their irrigation and the get good yield also. At the same time many canals in Punjab and Haryana are ill-maintained due to which large tracts are left unused due to soil salinity, alkalinity and water-logging.

**PROBLEMS RELATED TO AGRICULTURAL MARKETING**

Rural farmers are badly affected because of the poor marketing facilities to sell their product and they are forcefully depend on middle man and local traders. This lead to very low income to the farmers and make them to borrow money and the chain reaction will go on. Due to the poverty, Farmers’ suicide cases are also witnessed in the states like Maharashtra.

Agricultural marketing continues to be in a bad shape in rural India. In the absence of sound marketing facilities, the farmers must depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price. In most cases, these farmers are forced, under socio-economic conditions, to carry on distress sale of their produce. In most of small villages, the farmers sell their produce to the money lender from whom they usually borrow money. Few reports exposed that 85 per cent of wheat and 75 per cent of oil

seeds in Uttar Pradesh, 90 per cent of Jute in West Bengal, 70 per cent of oilseeds and 35 per cent of cotton in Punjab are sold in local villages itself by the farmers. This is being happened due to the poverty level of farmers who cannot wait for long time and store their products for a good price.

To meet his commitments and pay his debt, the poor farmer is forced to sell the produce at whatever price is offered to him. The Rural Credit Survey Report rightly remarked that the producers in general sell their produce at an unfavourable place and at an unfavourable time and usually they get unfavourable terms. In the absence of an organised marketing structure, private traders and middlemen dominate the marketing and trading of agricultural produce. The remuneration of the services provided by the middlemen increases the load on the consumer, although the producer does not derive similar benefit.

Few more market surveys have exposed that middlemen are earning about 48 per cent of the price of rice, 52 per cent of the price of groundnuts and 60 per cent of the price of potatoes offered by consumers.

To mitigate such issues the central and state governments is operating regulated markets for agricultural products across India. The right price for the products are given on time to the farmers in those markets using standardized weighing methods

**INADEQUATE AGRICULTURAL CAPITAL**

Just like other industry, Agriculture industry also needs a capital for procuring agricultural machineries. But small and marginal farmers could not get enough money on time since they invest on their loans, land and stock investment and other family expenses. Almost all the small and marginal farmers depend on local financiers for their finance requirements who collect the money back with high rate of interests or the agricultural products at very low costs. This is being happened with rural farmers and in one way this is forcing the small farmers to leave the agricultural industry. All India Rural Credit Survey Committee exposed that in 1950-51 the share of money lenders was 68.6 per cent of the total rural credit and in 1975-76 their share declined to 43 per cent of the credit needs of the farmers.

In past few decades, Rural farmers are

being benefitted through the institutional agencies set up by the state and central governments such as Cooperative Banks, Commercial Banks, Cooperative Credit Agencies and some Government Agencies. Also, governments are extending their support by giving subsidies on purchasing agricultural machineries, draught affected areas, low interest rated agricultural loans, insurance for their products, etc.

RBI reveals that there has been a steady increase in the flow of institutional credit to agriculture over the years. Especially the Commercial Banks and RRBs have 69 per cent Agriculture credit on 2003-04 which was 60 per cent on 1999-00.(Table-2).

**Table-2 Institutional Credit to Agriculture**  
**Source: -Handbook of Statistics on Indian Economy, RBI (2010-11)**

Institutions	1999-00	2000-01	2001-02	2002-03	2003-04
Co-op. Banks	18,363	20,801	23,604	24,296	26,959
Share (per cent)	40	39	38	34	31
Regional Rural Banks	3,172	4,219	4,854	5,467	7,581
Share (per cent)	7	8	8	8	9
Com. Banks	24,733	27,807	33,587	41,047	52,441
Share (per cent)	53	53	54	58	60
Total	46,268	52,827	62,045	70,810	86,981
Per cent increase	26	14	17	14	22

**INSUFFICIENT STORAGE AND WAREHOUSE PROVISIONS**

Storage facilities to store ago products in the rural areas are very less across India. This leads the farmers to sell their produce immediately after the harvest at the prevailing market prices which are bound to be low. The Parse Committee assessed the post-harvest losses at 9.3 % of which nearly 6.6% occurred because of inadequate or poor storage facilities alone.

The Central Warehousing Corporation (C.W.C.), Food Corporation of India (F.C.I.), State Warehousing Corporation are setting up their ware house across India along with many other private agencies. From the year 1979-80, the Central Government is executing the scheme for setting up of National Grid of Rural Godowns. Farmers can store their excessive products in those

ware houses and they can sell when the market price increasing or their need basis. The small and medium income level farmers are being benefitted on these godowns compared to high income level farmers since their economic level won't allow them to sell the products with less profit.

The state and central government shall increase the number of godowns to support and motivate the rural farmers for sustainable agriculture.

### **LACK OF TRANSPORTATION FACILITIES**

Road and Transport facilities are also not convenient to the farmers especially rural area farmers are facing big trouble to transport their products to the markets and forced to sell on low price locally., regulatory markets. Also banks and other services are not available to them easily and they are wasting much time on this. Also, for medical, education and other purposes, they need to depend on transportation facilities.

Maintenance and enhancement of existing road and transport facilities in the rural India shall be focused more by the Government to promote sustainable agriculture at rural areas. Though it is huge expensive to link all villages with the towns or cities, it is essential for the rural farmers to continue the agriculture uninterruptedly.

### **Poor quality Seeds**

Good quality seeds are out of reach to most of the small and marginal farmers especially rural farmers due to the high cost. In 1963, National Seeds Corporation (NSC) and in 1969 the State Farmers Corporation of India (SFCI) were established by the Central and State Governments respectively. Thirteen State Seed Corporations (SSCs) were also established to augment the provision of good quality seeds to the farmers at all the areas. Also, more than about 20000 seed dealers and distributors are in the business in 196-67, High Yielding Variety Programme (HYVP) was launched as a major thrust plan to increase the production of food grains in the country.

Indian seeds programme largely adheres to limited generation system for seed multiplication. The system recognises three kinds of generation, namely breeder, foundation and certified seeds. Breeder seed is the basic seed and first stage in seed

production. Foundation seed is the second stage in seed production chain and is the progeny of breeder seed.

These government initiatives lead to at its top as Certified seed distribution to the farmers. Production of breeder and foundation seeds and certified seeds distribution have increased at an annual average rate of 3.4 per cent, 7.5 per cent and 9.5 per cent respectively, between 2001-02 and 2005-06.

### **Necessity of Manures, Fertilizers and Biocides**

Agriculture industry in India has a long history but the average yields of all types of crops are declining drastically due to the ill-maintenance of soil. Yield from any soil is directly proportional to the soil nourishment. Hence soil condition shall be tested by the farmers before commencing any cultivation. Especially for multi-crop process, soil maintenance is mandatory to get more yields.

To enrich the Soil nourishment, manures and fertilizers are to be used appropriately and adequately as per the recommendations by the field experts. Small and marginal farmers could not use the chemical fertilizers due to the financial reasons. Organic manures like cow dung and leaves are also being used by farmers who cannot afford the chemical fertilizers. Few statistics have exposed that about 70 per cent of growth in agricultural production can be attributed to increased fertilizer usage.

The government has given high incentive especially in the form of heavy subsidy for using chemical fertilizers. To maintain the quality of the fertilizers, 52 fertilizer quality control laboratories have been set up in different parts of the country. In addition, there is one Central Fertilizer Quality Control and Training Institute at Faridabad with its three regional centres at Mumbai, Kolkata and Chennai.

Pests, germs and weeds cause heavy loss to crop which amounted to about one third of the total field produce at the time of Independence. Biocides (pesticides, herbicides and weedicides) are used to save the crops and to avoid losses. The increased use of these inputs has saved a lot of crops, especially the food crops from unnecessary wastage. But indiscriminate use of biocides



has resulted in wide spread environmental pollution which takes its own toll.

### **LACK OF MECHANIZATION**

Though modern agriculture equipment is available in the market most of the small and marginal farmers do use the manual methods for ploughing, sowing, irrigating, thinning and pruning, weeding, harvesting, threshing and transporting the crops instead of mechanical procedures due to the financial conditions like unavailability of loan /credit. This manual process is wasting huge man power and leading to low income to farmers and the workers. Also, multiple cropping and timely yield is not possible on this scenario.

There is urgent need to mechanise the agricultural operations so that wastage of labour force is avoided, and farming is made convenient and efficient. Agricultural implements and machinery are a crucial input for efficient and timely agricultural operations, facilitating multiple cropping and thereby increasing production.

In 1960, Green Revolution revealed that the importance of mechanization for sustainable development in agriculture industry; Many industries were set up for manufacturing agriculture machineries like power tiller, tractor, Harvester and Motor pump, etc. Also, the provision of electricity has been increased for agricultural operations for expediting the entire process and reducing man power wherever efficiency was a challenge.

Power availability for carrying out various agricultural operations has been increased to reach a level of 14 kW per hectare in 2003-04 from only 0.3 kW per hectare in 1971-72. The share of mechanical and electrical power has increased from 40 per cent in 1971 to 84 per cent in 2003-04. Uttar Pradesh recorded the highest average sales of tractors during the five year period ending 2003-04 and West Bengal recorded the highest average sales of power tillers during the same period.

Strenuous efforts are being made to encourage the farmers to adopt technically advanced agricultural equipment to carry farm operations timely and precisely and to economise the agricultural production process.

### **CONCLUSION**

The sustainable agriculture is one of the most important and immediate requirement in the largest and developing nation like India. Though central and state Governments are jointly promoting and supporting their part towards sustainable agriculture, there must be enormous support from public to enter in to the Agricultural sector like entrepreneurship in other sectors. Existing farmers will also not leave this industry when they get the right price for the products, low interest and hassle-free finance through financial institution, Irrigation facilities, convenient road & transportation, quality and low-cost seeds, storage facilities etc. Of course, the Agriculture Sub-Sectors also will develop parallelly and we can witness a social development through this change.

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## 32. SOCIO- ECONOMIC STATUS OF BACKWARD CLASSES AND ENHANCEMENT OF EDUCATIONAL CHANGES IN INDIA

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### ABSTRACT

*Education was a fundamental instrument of reshaping society in the social transformation process. In fact, education has become one of the basic necessities of human life like food, clothing and shelter. Today's, life is education and education is life. Hence, no differentiation can be made between life and education and the right to education, therefore is looked upon as right to life. After a brief overview of the issue of Education, Policies for promoting the welfare of downtrodden and backward classes of society and a strategy consisting of effective intense polices. Study after study has documented the relationship between wide range of measures of educational achievement, educational attainment, overall system in education, impact on education, renovation and suggestion on education and other important life outcomes. Any modification brought about in the behavior of an individual as a result of his interaction with the inner self and outer world constitutes education. This paper concludes that the better ability to modify the inadequate structure in education and especially on downtrodden and backward classes.*

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### INTRODUCTION

Education is the most powerful weapon to shape and mould the individual and society in a desirable manner. Any modification brought about in the behaviour of an individual as a result of his interaction with the inner self and outer world constitutes learning. People who have higher levels of academic achievement and more years of schooling earn more than those with lower levels of human capital. This is not amazing, since economists believe that schooling makes people more effective.

### EVOLUTION OF EDUCATIONAL PROVISION

In the 19th century, vocational education began to emerge in Finland for the needs of the rapidly growing industry and construction activities. A decree issued in 1898 contained an obligation for the local authorities to provide all school-aged children with an opportunity for schooling. Extension of education to all citizens and all parts of

the country and the continuous efforts to increase the level of education constituted a policy for the young nation from the very beginning. In the Constitution, enacted in 1919, an obligation was laid down to provide for general compulsory education and for basic education free of charge. Moreover, the public authorities were to maintain or support general education, applied art and scientific higher education, as well as university education. General compulsory education was prescribed by law in 1921.

Up until the 1970s, compulsory education was provided in the six-year folk school. After four years of folk school, a part of each age group moved up to the secondary school, which was divided into the five-year lower secondary school and the three-year upper secondary school. In the 1970s, a nine-year compulsory school common to the entire age group, i.e. the comprehensive school, was created on the basis of the folk school

and lower secondary school.

The network of universities expanded gradually after the Second World War to cover the entire country. During the 1990s, a professionally oriented sector of higher education, was created parallel with the university sector.

Disagreements about how to improve schooling outcomes for poor children stem in part from different beliefs about the problems that underlie the unsatisfactory outcomes in many of our nation's public schools. Broadly speaking, critics tend to invoke, at least implicitly, one of the following explanations for why children in high-poverty schools are not performing as well as we would like:

1. Schools serving poor and minority students have fewer resources than they need. In this case, a potential solution would be to provide more money to disadvantaged schools.
2. High-poverty schools lack the capacity to substantially improve student learning, independent of financial resources. Potential solutions to this problem would involve helping schools improve the quality of their standard operating practices, or increasing the instructional capacity of staff in these schools through professional development or more selective hiring.
3. The real problem rests with the social context in which schools operate namely, the family, neighborhood, and peer environments that under this perspective make it difficult for low-income children to take advantage of educational opportunities. India has a very large and well developed education system but still faces lots of hurdles to ensure Universal Elementary Education. The dropout rate of the children hailing from poor and deprived sections is alarmingly high in the country. Many villages do not even have a Primary School. If a village has a school, there are no proper classrooms, if there is a classroom, there is no blackboard and if there is a blackboard, there is no teacher. Despite the continued efforts made at national and state level the universalisation of free and compulsory education has not so far been achieved in full.

### **EDUCATION SYSTEMS WORLD LEVEL**

Education is considered to be one of the

most biggest treasures in every country. However, its quality and importance is different throughout the world.

### **EDUCATION SYSTEM IN DIFFERENT COUNTRIES OF THE WORLD**

According to the Jomtien conference on "Education for All" held in Thailand (1990), primary and secondary education is free and compulsory in many countries around the world. In most countries, education is compulsory up to the age of 16. The researcher will take the education system of some countries before coming to that in Mauritius.

The Education system in Finland which is considered as the world number one is different to that in many other countries. Compulsory education starts at 7 years old, with a maximum of one year of pre-school education. There is a national core curriculum, but timetabling and delivery are left up to schools and teachers. There is no selection in terms of formal testing or national examinations at any stage prior to higher education until matriculation (end of secondary education) which is required for entry to post 19 education.

The Education system in USA is also based on free and compulsory primary and secondary education, however, the ages by which children are compelled to begin and allowed to finish education varies from state to state. Typically, education is compulsory from first grade (usually age 6) to tenth grade (age 16). At the end of secondary school, most students sit for SAT examinations in order to pursue tertiary education.

The Education system in Australia is based on compulsory primary and secondary education from age 6-19. Prior to primary education, there is pre-primary education which is non-compulsory. After secondary education, there is tertiary education at Universities or technical schools.

The Education system in Hong Kong consists of a voluntary three years kindergarten, compulsory 6 years of primary and 3 years of secondary education, selective 3 years of senior secondary based on performance. Finally tertiary education is offered at Universities.

The Education system in Singapore which is considered among the best in the world consists of preschool (3-6), compulsory

primary education (6-12), secondary education (12-17) and tertiary education. It is worth noting that at the end of primary schooling, children have to take the Primary School Leaving Examination which is highly competitive and decides the secondary school allocated to a child.

The Education system in India is based on 10 years of primary education, from the age of 6-14, consisting of 5 years of primary education and 3 years of upper primary, followed by 2 years of high school. This is followed by 2 years of higher secondary education, 3 years of college education for bachelor's degree.

### **EDUCATION SYSTEM IN INDIA**

**1. Economical :** The education in India is very cheap compared to other countries. In fact, the government also gives free education to all till the age of 14. Furthermore, there are different ranges of schools and colleges for people from all background. We have numerous government institutions which offer education for very low fee if not free.

**[2. Scholarship And Financial Aids:** Many Government and private institutions offer scholarships for academically deserving students as well as for students who excel in sports and various other non-academic activities.

Sarva Shiksha Abhiyan - To educate everyone.

Mid-Day Meal - A scheme to motivate socially weak parents to send their children to school.

Mahila Samakhya - Free education for girls, leading to women empowerment.

Starting skill development programs for kids and adults.

**3. Reservation System :** The reservation system is flawed in many aspects and there are several individuals taking advantage of the system. However, the reservation system was introduced in education to aid member of backward and under-represented communities, for people who are in genuine need, such as financially weak families, differently abled individuals etc.

**4. Large Number Of Education Centers :** We have numerous education centers in the country - schools, colleges and other training institutes. Our government have setup schools in remote areas for the welfare of the local population. The quality

of education might be doubtful but at least there is a provision.

5. The Oretical Knowledge : Having theoretical knowledge is an absolute necessity. Just that we don't have enough practical experience and are not taught where to apply all the memorized information. This is one of the reason Indian students going abroad for higher studies excel, as their theoretical knowledge gets proper practical application.

### **DIFFERENCE BETWEEN INDIA AND FOREIGN EDUCATION SYSTEM :**

Indian education focuses more on theory rather than practical. Indian education system doesn't allow creativity. Whereas in foreign countries; they focus more on practical based learning. And they allow creativity in education.

- In India; education is a formality, part of routine; every Indian must get a degree of Engineering or Medical stream; whether you learn something or not. In foreign countries; education is taken as a learning process.

- In Dubai; primary and secondary education is free and it is made compulsory in law. Where as in India education is becoming business. Taking from privatization of education to tuitions and coaching institute; education is generating good money. So business minds are now moving towards education.

- In India students are not given choice to select their field of interest. One must become an engineer or a doctor! Sports and arts are considered to be made for leftovers. If you don't get admission in science of commerce stream; you choose arts. This is what Indians feel.

- In India; students are admitted into streams which have higher pay scale or higher number of jobs. And in foreign country; students are admitted according to their field of interest.

- In India, students are required to memorize facts and figures. Thousands of equations of mathematics, birth dates and death dates of freedom fighters, chemical reactions and hundreds of other things. We emphasize on theory. And in foreign country they impart knowledge in students through practical implementation.

- Indian education system teaches

old technologies. Education system hasn't changed much after independence. Indian education system is very bad in adopting latest technologies in curriculum. In foreign countries; curriculum changes everyday according to upgradation of technology and requirements of the industry.

- And lastly we believe in grades and certificates. We believe in taking admission in IITs and IIMs. Foreign countries believe in skills. They don't care about the institution of education more, all they see is what you learnt during your schooling.

There are lot of reasons why foreign education system is better than Indian. We seriously need change in education system.

**EDUCATION SYSTEM IN TAMIL NADU**

Every state has its own color and own need. TN's always the front runner in Indian education system. It took 50 years for Indian govt to understand and adopt midday meals scheme. So, we should move ahead and other states will follow. TN's education standard is pretty decent comparing with other states. TN has 1,21,847 medical professionals and had produced good number of professionals. In higher education, TN has good number of colleges with high rankings. Whenever we are talking about education system, we talk only about syllabus and infrastructure like AV systems. Actually, if we want to improve the standard, first we have to invest in training our teachers.

TN Govt spends 30,000 Crore a year in education. It is about 1/4 th of the total revenue. It is huge. (But, we don't know where it is actually going) In Short : Tamilnadu Education standard is pretty much decent. But, there is a need for overall change to take TN board to Global level.

**LITERACY ATTAINMENT:**

Literacy and level of education are basic indicators of the level of development achieved by a society. Spread of literacy is generally associated with important traits of modern civilization such as modernization, urbanization, industrialization, communication and commerce.

**Literates & Literacy Rate Male and Female**

Indicator	Effective Literacy Rate			
	Male		Female	
	2001	2011	2001	2011
Total Population (General)				
Total	75.3	80.9	53.7	64.6
Rural	70.7	77.2	46.1	57.9
Urban	86.3	88.8	72.9	79.1
Scheduled Castes ( SC )				
Total	66.6	75.2	41.9	56.5
Rural	63.7	72.6	37.8	52.6
Urban	77.9	83.3	57.5	68.6
Scheduled Tribes ( ST )				
Total	59.2	68.5	34.8	49.4
Rural	57.4	66.8	32.4	46.9
Urban	77.8	83.2	59.9	70.3

Literacy forms an important input in overall development of individuals enabling them to comprehend their social, political and cultural environment better and respond to it appropriately. Higher levels of education and literacy lead to a greater awareness and also contributes in improvement of economic and social conditions. It acts as a catalyst for social upliftment enhancing the returns on investment made in almost every aspect of development effort, be it population control, health, hygiene, environmental degradation control, employment of weaker sections of the society.

According to the Census 2001, as many as 560,687,797 persons in the country are literate. Of these 336,533,716 are males and 224, 154,081 are females. While the overall literacy rate works out to be 64.8 %, the male literacy rate is 75.3% and that for females is 53.7%, showing a gap of 21.6 percentage points between the sexes at the national level. The gap is more in the rural areas. In the urban areas, higher literacy rate has been recorded both for males and females and the difference among the sexes is lower (13 percentage points). Kerala, Mizoram, Lakshadweep, Goa and Chandigarh occupy the top five positions in literacy while Dadra & Nagar Haveli, Uttar Pradesh, Jammu & Kashmir, Arunachal Pradesh, Jharkhand, and Bihar, are at bottom.

**Literacy Rate (Persons)**

State/ Union Territory	Literacy Rate	State/ Union Territory	Literacy Rate
Top 5		Bottom 5	
Scheduled Castes ( SC )			
Daman & Diu	92.6	Bihar	48.6
Mizoram	92.4	Jharkhand	55.9
Tripura	89.4	Rajasthan	59.7
D & N Haveli	89.4	Uttar Pradesh	60.9
Kerala	88.7	Andhra Pradesh	62.3
Scheduled Tribes ( ST )			
Lakshadweep	91.7	Andhra Pradesh	49.2
Mizoram	91.5	Jammu & Kashmir	50.6
Nagaland	80.0	Madhya Pradesh	50.6
Sikkim	79.7	Bihar	51.1
Tripura	79.1	Odisha	52.2

The literacy rates for rural population are the highest in Kerala, followed by Lakshadweep, Mizoram, Goa, and Delhi. Fourteen (14) States / Uts have recorded less than 60 percent rural Literacy rate. Here Tamil Nadu stand in middle on providing education to backward classes.

**PROVISION OF EDUCATION:**

India has made good progress in education since the introduction of the Sarva Shiksha Abhiyan and the Right to Education Act, which guarantees a child free education for eight years. Enrolment at the primary level is now near-universal and enrolment ratios for higher education, too, have risen. However, critical lacunae in the system act against our children emerging as productive workers. As per the 2015 NCERT national achievement survey, less than half the children met the benchmarks for their age in reading comprehension and maths. On skill development, 127 million people need to be trained by 2022.

The key issue across all levels of education in our country is quality. The particular priority for each of primary, secondary and higher education is, however, different. At the primary level, there are not enough teachers in government schools, with high vacancy rates across the country. Attendance of teachers can be ensured through use of

biometrics. Having teachers group standards 2, 3 and 4 into one class (as often happens in thousands of our schools which have only 1-2 teachers) impacts quality significantly. Fewer but better, larger schools need to be balanced with local access. A complete revamp of our teacher training institutes is necessary — perhaps we can run them all in PPP mode. The Centre should also consider a pilot voucher scheme that gives parents the option to select schools. Competition among schools would foster better quality. A recent article in the Economist describes how the Punjab, in Pakistan, is using vouchers to improve school quality.

Dropout rates are high at the secondary level. A good secondary school needs specialised teachers by subject. To feed much larger secondary schools, we will need to transport children to them from a catchment area. The Centre can provide resources for a programme of school consolidation, which needs strong political leadership at both national and state levels as it is unpopular with teacher unions, but popular with everyone else!

**Research focus:**

In higher education, apart from creating 20 world-class universities as mentioned in a previous Budget, these institutions and others should emerge as hubs of publicly-funded research. Doing research in universities is the way the world creates high-quality talent — those PhDs and masters' graduates are the foundation of R&D and innovation. For this, research needs to be a much larger enterprise in our universities. The share of national R&D needs to rise 10 times from the current 0.04% of GDP to match the world average of 0.4%.

The problem is not how much, but where, the state spends on R&D. The bulk of this goes to autonomous state R&D labs, run by CSIR, DRDO, ICAR, DAE and so on. Some ₹90,000 crore is spent each year. The Budget should freeze this in nominal terms and add the typical annual increase (₹8000-₹10,000 crore) to its funding of research in higher education.

In one year, we would more than double the funding for research in higher education. Repeating this for a few years could transform our universities into world beaters. They should use this huge extra funding to attract good quality faculty to fill

the hundreds of vacancies that plague even our best institutes

## **STEPS TO IMPROVE EDUCATION SYSTEM IN INDIA**

Without a proper education system, a country can't develop. The educated citizens can bring the real development in a country. That is why all the developed countries spend major of the GDP on the health and education sector. In India, only 75% students have enrolled themselves in the formal education system. Compared to the developed country, these numbers are not good enough. In the developed countries the statistics are above 90%. Few steps can be taken by the government and universities in India to improve the education system in this country.

### **1. Replace the Back Dated Syllabus**

All the major colleges and universities in India follow the backdated syllabus, which doesn't fit into the modern world scenario. Because of this backdated syllabus, Indian students are not able to secure a good place in the leading world-class organizations. To improve the colleges in India, the university authorities and the government should focus more on the research and development of the syllabus. The syllabus should talk about the modern world and students should also focus on relevant case studies to improve colleges in India.

### **2. Career-Focused Learning System**

The conventional education system doesn't have a career-focused approach. The modern world has changed completely, and the lifestyle of the modern people has also changed. The formal educational organizations should provide technical education at a basic level. Skill-based education will help the students, who belong to the lower class of the society. Previously a student had to complete his higher studies to get a good job.

### **3. Educating The Parents**

Most of the people in India are not educated enough, that is why they don't encourage their children to get education. It is very important to educate the parents in India so that they stop forcing their child to drop out from schools and colleges.

### **4. More Focus on Rural Education**

Most of the population in India stays in the rural areas. That is why the policymakers should focus more on rural education. If the major portion remains unattended, India will never be able to become a superpower in 2021.

### **5. More Technical Institutions**

Technology has become an important part of the modern generation. Shoulders should start getting the basic level of a technical education from their school. It will also meet the skilled labour force of India. The bigger organizations are looking for more highly skilled people, who have good technical knowledge. The government should also focus on building more technical institutes in India.

### **6. Focus On Public-Private Partnership**

You may have noticed that, the private schools and colleges focus on providing good quality education to secure a good rank in the educational marketplace. If they don't provide good quality education, people will go to other colleges. Only some of the people can afford private schools and colleges. Government schools and colleges may opt for the public private partnership to provide good quality education to the students. It will enhance the quality of education in the government organizations and it will also reduce the financial burden of the government.

### **7. Introducing Smart Class and Library**

Some schools and colleges are focusing on the smart classes and libraries. With the help of smart classes the students can learn things in a easy way. If the government introduces e-library, the students can easily get access to the good quality books. Online education will also help the students to have easy access to world-class education.

### **8. Good Career Counseling**

Most of the students find difficulties to choose the right career for themselves. The teachers should provide regular career counseling to the students.

### **9. Regular Training of the Teachers**

The teachers should be trained on a regular basis. The governing authority should also



consider the students feedback and reviews about their teachers. This will help the teacher to provide good quality education.

#### 10. Good Support and Health Education:

The government should focus on proving health and nutrition education to the students at a basic level. The teacher should also provide good quality doubt clearing support to the students. These things will help the students to overcome their weakness.

These small things can be done to improve the current education system in India. The modern students are looking for world-class education to enrich their capabilities.

### **PRO ACTIVE POLICY FOR PROMOTING EDUCATION ON BACKWARD CLASSES**

Scheduled castes are those castes/ races in the country that suffer from extreme social, educational and economic backwardness arising out of age-old practice of untouchability and certain others on account of lack of infrastructure facilities and geographical isolation, and who need special consideration for safeguarding their interests and for their accelerated socio-economic development. These communities were notified as Scheduled Castes as per provisions contained in Clause 1 of Article 341 of the Constitution. The Constitution of India has prescribed, protection and safeguards for the Scheduled Castes (SCs), Scheduled Tribes (STs) and other weaker sections; either specially or the way of insisting on their general rights as citizens; with the object of promoting their educational and economic interests and removing social disabilities. These social groups have also been provided institutionalized commitments through the statutory body, the National Commission of SCs. The Ministry of Social Justice & Empowerment is the nodal Ministry to oversee the interests of the Scheduled Caste .

### **MINISTRY OF SOCIAL JUSTICE AND EMPOWERMENT ON BACKWARD CLASSES**

The Ministry of Social Justice and Empowerment is the nodal Ministry to oversee the interests of the Scheduled Castes. Though the primary responsibility for promotion of interests of the Scheduled Castes rests with all the Central Ministries in the area of their operations and the State

Governments, the Ministry complements their efforts by way of interventions in critical sectors through specifically tailored schemes. The Scheduled Castes Development (SCD) Bureau of the Ministry aims to promote the welfare of Scheduled Castes through their educational, economic and social empowerment. Efforts made by State Governments and Central Ministries for protecting and promoting the interests of Scheduled Castes are also monitored.

### **INITIATIVES TAKEN FOR SC DEVELOPMENT : *Educational Empowerment***

Various scholarships are provided to the students belonging to the Scheduled Castes (SCs) to ensure that education is not denied due to the poor financial condition of their families. These Scholarships are provided at both pre-matric and post-matric levels. Scholarships are also provided to SC students for obtaining higher education in India and abroad, including premier educational institutions. The Scholarships can broadly be classified into the following three types:

**Pre-Matric Scholarships:** The objective of the pre-matric Scheme is to support the parents of SC children for educating their wards, so that the incidence of drop outs at this stage is minimized.

**Pre-Matric Scholarship to SC Student:** The objective of the pre-matric Scheme is to support the parents of SC children for educating their wards, so that the incidence of drop outs at this stage is minimized.

**Pre-Matric Scholarship to the Children of those engaged in occupations involving cleaning and prone to health hazards:** This is also a centrally sponsored scheme, which is implemented by the State Governments and Union Territory Administrations, which receive 100% central assistance from the Government of India for the total expenditure under the scheme, over and above their respective Committed Liability.

**Post Matric Scholarship for Scheduled Caste Students (PMS-SC):** The Scheme is the single largest intervention by Government of India for educational empowerment of scheduled caste students. This is a centrally sponsored scheme. 100% central assistance is released to State Governments/UTs for expenditure incurred

by them under the scheme over and above their respective committed liability.

### **SCHOLARSHIPS FOR OBTAINING HIGHER EDUCATION AND COACHING SCHEME:**

These include:

**1.Top Class Education for Scheduled Caste Student:** The objective of the Scheme is to promote qualitative education amongst students belonging to Scheduled Castes, by providing full financial support for pursuing studies beyond 12th class, in notified institutes of excellence like IITs, NITs, IIMs, reputed Medical/Law and other institutions. Scholarship is awarded to the eligible SC students on securing admission in any of the institutions notified by the Ministry.

**2.National Fellowship:** The Scheme provides financial assistance to SC students for pursuing research studies leading to M.Phil, Ph.D and equivalent research degrees.

**3.National Overseas Scholarship:** The Scheme provides assistance to students belonging to SCs, de-notified, nomadic, semi-nomadic tribes etc for pursuing higher studies of Master level courses and PhD programmes abroad.

**4.Free Coaching for SC and OBC Students:** The objective of the Scheme is to provide coaching of good quality for economically disadvantaged SC and OBC candidates to enable them to appear in competitive examinations and succeed in obtaining an appropriate job in Public/Private sector. The Scheme provides central assistance to institutions/centres run by the Central/State Governments/UT Administrations, Central/ State Universities, PSUs, Registered Private Institutions, NGOs, etc. Coaching is provided for Group 'A' & 'B' examinations conducted by the UPSC, SSC, various Railway Recruitment Boards and State PSCs; Officers' Grade examinations conducted by Banks, Insurance Companies and PSUs; and Premier Entrance examinations for admission in Engineering, Medical and Professional courses like Management, Law etc.

### **RENOVATION AND SUGGESTION ON EDUCATION IN BACKWARD CLASSES**

1. For proper development of socio economic condition of the Scheduled Caste a cognate

mapping of all the communities living in the state, and an up-to-date statistics is essential.

2. The universal truth that the problem of the Scheduled Caste people is the absence of sufficient education in the real sense to enable them to understand their own problems. The spread of modern education is very important to make people understand the inherent problems.

3. The traditional occupation still practiced by the Scheduled Caste communities with age old techniques does not bring large scale benefits to them. The traditional occupation has to be regenerated with modern techniques. A coordinated effort is essential to evolve scientific means to develop it and also to make it economically viable.

4. Another problem of the Scheduled Caste people is landlessness. As a solution, the landless people and the people having no means of earning should be shifted from their present disadvantageous place to high fertile grazing lands and are rehabilitated by distributing cultivable land among them. In this manner, the problems may be solved to some extent.

5. Another problem is that the government assistances were not awarded by the Scheduled Caste people for whom the provisions are made. Therefore, the field work and govt. survey should be done properly and special arrangements should be made for wide publicity among the illiterate Scheduled Cast people about different schemes of development and the ways and means to improve their status by availing themselves of the schemes and participating in such schemes.

6. There is a separate directorate for the welfare of the Scheduled Castes. It should be properly oriented and organized in such a manner so that under the leadership of the Director, a group of social workers can study and can make spot enquiries to remove grievances of the Scheduled Caste people.

7. The government must take effective

measure to protect them from social injustice and all forms of exploitation.

8. Unemployment always leads to poverty and dissatisfaction. Because of poverty they have not been able to improve their standard of living and social environment. So the government should take special care for the educational and economic interest and needs of the Scheduled Castes and Scheduled Tribes.

9. Every problem must be studied in the present day situation with reference to changes. More reservation cannot solve the problems if the people are not educated and trained properly to get the benefit of the reservation. So the educational development of the Scheduled Caste community should be achieved first to benefit the reservation system.

10. The life style of the SC people is simple and they have a careless attitude towards their problems. Therefore, to overcome the problems, accurate information regarding the provisions made in the Constitution for the upliftment of the Scheduled Caste and scheduled tribes, especially the downtrodden people has to be given wide publicity through mass media like radio, television, newspapers, bulletins and wall posters. Otherwise, the SC community will always remain the same as it was yesterday. There will be no better tomorrows waiting for them.

11. There should be proper provisions for change and development of the culture of the scheduled caste people.

## CONCLUSION

The analysis of study proved that education is a prerequisite for ensuring a nation's future prosperity and a country's welfare and happiness. The maturity of a nation is only possible by the education of a nation. The special mention is to be made with regard to the higher education for downtrodden and backward classes which enable them to live with all the characteristics and act like normal and civilized human beings in the society. Some social organization tried to improve the status and influence of their own communities by increasing their

participation in education and government also put forward greater heights and achievements, however, the result can be depended by enhancing the provision of education in the society or nation which proceed step by step process. The fact that a nation's wealth, morality, welfare and recovery can only be ensured by education.

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## **33. BRAND PREFERENCES, CUSTOMER SATISFACTION AND LOYALTY OF BSNL MOBILE NETWORK IN VELLORE DISTRICT - AN ECONOMIC ANALYSIS**

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### **INTRODUCTION**

The Indian telecom industry is the World's fastest growing telecom industry. It is also the second largest telecommunication network, in terms of number of wireless connections after China. Cellular service can be divided into two categories. They are the Global System for Mobile communication (GSM) and the code Division Multiple Access (CDMA). The GSM sector is dominated by BSNL and some other networks. The ITU (International Telecommunication Union) demands quality requirements on the collective behavior of one or more objects. It is basically the level of guaranteed service to the customer's satisfaction that prefers the brand.

In India, stiff competition, advanced technology, and reduced tariffs have propelled the growth of mobile service in India. In the last five years, the industry has registered remarkable growth in terms of whom these electronic gadgets are a major source for gaming, getting information, shopping, banking, entertainment, and much more. This is the main reason why the Indian mobile service provided (MSP) market is overcrowded.

### **STATEMENT OF THE PROBLEM**

This is an age of invention and innovation. The customer whose beliefs and attitude are dynamic should be satisfied with the product of their choice. It is needless to say that marketing is a new way of thinking about how consequences and their organization can change with target customer, who is always inclined in seeking to satisfy his needs or the wants.

In utilizing the vast telecom market available in Vellore District, service providers venture in the promotional activities, rather than focusing on specific services targeted at a particular segment of customers. In order to justify a service provision strategy, it is imperative to ascertain that the services that are provided are preferred and desirable by the customer. Kim and others have analyzed that the customer preference would be the most important factor in determining business success.

Therefore, the market strategies and policies for promoting mobile service are to be mapped out, based on customer needs and preference. This study has been conducted to identify the reason for customer dissatisfaction relating to mobile network service provider in Vellore District.

### **OBJECTIVES OF THE STUDY**

The objectives of the study are to ascertain brand preference and satisfaction level of customers, product awareness, and consumer behavior with reference to services extended by BSNL mobile network in the Vellore district of Tamil Nadu. The specific objectives are,

- To study the socio-economic profile of BSNL mobile network users in Vellore District.
- to ascertain and enumerate the service details of BSNL mobile network in the study area.
- To analyse the influence of demographic factors and service details of customers on their brand preference and customer satisfaction.

## HYPOTHESES

To fulfill the objectives of the study, following null hypotheses (Ho) were developed and tested with appropriate statistical tools.

- There is no significant association between gender, age, education, occupation, income and marital status with brand preferences.
- There is no significant relationship between age, gender, education, occupation, Income and marital status with customer satisfaction.

## IMPORTANCE OF THE STUDY

The rationale for the existence of community service organizations is to meet the needs of the customers because the customers have the right to tap the mobile network.

- Brand preference are the vital rungs in the ladder of customer Preference and satisfaction
- Organizations that strive beyond minimum standards and exceed the expectations of their customers are likely to be leaders in their sector.

## REVIEW OF THE LITERATURE

**Agarwal and Rao, (2000)**, developed a model that linked brand equity with the hierarchy of effects model. Customer-based brand equity has been thought of as a prerequisite to brand preference, which in turn affects consumer's intention to purchase. Brand equity models assess the impact of individual measures on market share, and utilized several brand equity constructs, awareness, familiarity, weighted attributes, value for money, and overall quality of the brand.

**Oliver, (2001)**, concludes that loyalty as "a deeply held commitment to re-buy or re patronize a preferred product of service consistently in the future, causing repetitive same brand purchasing, despite situational influences and marketing efforts".

**Kevin Lane Keller, (2002)**, analyzed that the brand name is very significant choice because sometimes it captures the central theme or key association of a product in a very condensed and reasonable manner. Brand names can be extremely successful means of communication. Some companies

assign their product to a brand name that in reality has nothing to do with the emotional experience but is catchy and a name that people can easily memorize. The core base of naming a brand is that it should be unique, easily discriminated from other names, easy to remember and attractive to customers.

**M.Jyothsna and S.Mahalakshmi,(2015)**, Revealed that all the core factors which are considered in this research (tariff rates, service quality, service availability, promotions and brand image) have a significant influence on the customers. Likert's five point scale has been developed and incorporated in the questionnaire to measure the overall perception of the customers towards mobile service operators based on the above mentioned five factors. Some of the statistical tools used were Weighted Average scores and Anova test it was proved that promotions have the most significant influence in selection of the mobile operating brand.

**V.Ganeshkumar and A.Elumalai,(2016)**, stated that the influence of Demographic variable in the level of satisfaction yielded by the user as well as the Behavioural pattern of the user is analysed in this study. It is found that the service provided by BSNL is at satisfactory level to the respondents. But most of the respondents are not satisfied with the features of the phone. BSNL should focus on the promotional measures as equal to the private service providers to enhance their service activity to satisfy their customers.

**P.Vijay and V.Krishnaveni, (2017)**, Focused on mobile phone network subscriber's satisfaction level and which are the factors they had a dissatisfaction as well as to find out the connection between demographic factors and level of satisfaction. Coimbatore is the second largest district in Tamil Nadu. Amidst the growth of many industries in the city, the people require a convenient communication systems for their day to day business activities. From the college going students to the top administrative officers and from the road side vendors to the business tycoons, everyone is using mobile communications from various service

providers. In this study the researcher has opted 200 mobile phone network subscribers as the respondents and they have been requested to share their opinion on satisfaction through the structured questionnaire. The results of the study indicates that the majority of customers are satisfied with the service providers. But still few grey areas are monitored and need to address by the service providers.

**RESEARCH METHODOLOGY**

The methodology of the study is based on the primary as well as secondary data. The study depends mainly on the primary data collected through a well-framed and structured questionnaire to elicit the well-considered opinions of the respondents. Multi-stage and two-stage random sampling is adopted to obtain the responses from the consumers using BSNL mobile network in Vellore District. This study employs both analytical and descriptive type of methodology. The study is conducted in two stages format, with a preliminary pilot study followed by the main study. The secondary data are collected from journals, magazines, publications, reports, books, dailies, periodicals, articles, research papers, websites, company publications, manuals and booklets.

**DATA ANALYSIS AND INTERPRETATION**

Demographic information is imperative as it presents a profile of the entire sample taken for the study and represents a fundamental approach to the understanding of customers using BSNL mobile network. In particular, the pilot study revealed the following Variables maintained their proximity with the with the dependent factors Age, gender, educational level, occupation, income, marital status. The conglomerate of demographic and organizational profile is considered as independent Variables.

**GENDER OF THE RESPONDENTS**

The study on gender based orientation towards brand preference and customer satisfaction plays a important role. In fact most of the behavioral studies have identified the significant differences between the opinion of male and female customers using BSNL mobile network. In this study the sample units execute the following

frequency distribution of the gender.

**Table 1  
GENDER OF THE RESPONDENT**

Gender	Frequency	Percentage	Cumulative Percentage
Male	22	36.6	36.6
Female	38	63.4	100.00
Total	60	100.0	

Source: Primary data

From the sample taken for the study, it is found from the above tables that 36.6 Percent male respondents and 63.7 Percent of females are using BSNL mobile network. Therefore it is found that maximum of males are using BSNL mobile network.

**AGE OF THE RESPONDENTS**

Age is a crucial factor which depicts the personal and psychological maturity of the individuals. On the basis of the age, the customers using BSNL mobile network are grouped under four heads, namely, below 20 years of age, 21 to 30 years, 31 to 40 years and above 40 years. In general Age of the respondents expose their maturity in understanding and selecting the best mobile network. In this analysis, the responses acquired from the various age groups of customers using BSNL mobile network are depicted below.

**Table - 2  
AGE OF THE RESPONDENT**

Age	Frequency	Percentage	Cumulative Percentage
Below 20	09	15.0	15.0
21-30	14	23.3	38.3
31-40	18	30.0	68.3
Above 40	19	31.7	100.0
Total	60	100.0	

Source: primary data

It is analyzed from different ages of respondents taken for the study that 30 percent in the age group 31-40 years, 23.3 percent age group 21 to 30 years, 31.7 percent above 40 years and only a minimum of 15 percent below 20 years prefer using BSNL mobile network.

**EDUCATIONAL QUALIFICATION OF THE RESPONDENTS**

The level of education attained also influences the behavior of a consumer during their

decision making process for purchase the mobile networks. Consumers with higher education levels are often more responsive to technical and scientific appeals, prefer informative ads and are better able to judge the relationship between the price and quality of a mobile network. The following frequency table explains the different qualification possessed by the customers using BSNL mobile network.

**Table - 3**  
**EDUCATIONAL QUALIFICATION OF THE RESPONDENT**

Education	Frequency	%	Cumulative Percentage
SSLC	07	11.6	11.6
Higher	13	21.6	33.2
Graduate	20	33.4	66.6
Post graduate	17	28.4	95
Others	03	5	100.0
Total	60	100.0	

Source: primary data

It is inferred from the above table that maximum of 33.4 percent are graduates using BSNL mobile network, 28.4 percent are post graduates, 21.6 percent are higher secondary, and 11.6 percent are SSLS qualified. Therefore maximum of respondents using BSNL mobile network are graduates.

**OCCUPATION OF THE RESPONDENTS**

Occupation or profession of a person influences buying behavior. The lifestyles and buying considerations and decisions differ widely according to the nature of the occupation. The following frequency table explains customers using BSNL and their different occupations.

Table - 4

**OCCUPATION OF THE RESPONDENT**

Occupation	Frequency	%	Cumulative Percent
Student	12	20	20
Home maker	6	10	30
Professional	17	28.3	58.3
Self-employed	14	23.4	81.7
Govt/Pvt. Employed	7	11.6	93.3
Unemployed	4	6.7	100.0
Total	60	100.0	

Source:Primary data

It is analyzed that 28.3 percent of professionals, 23.4 percent self-employed,

20 percent of students prefer using BSNL mobile network. The further study revealed that 10 percent of homemakers, 11.6 percent of the Government and Private employed and 6.7 percent of unemployed also prefer using BSNL mobile network.

**INCOME OF THE RESPONDENTS**

The Monthly income has an important bearing on the mobile network purchases. The buying behavior of customers will be highly influenced by the disposable income in their hands. The increase of competition on the mobile market in India has resulted to downfall of prices of mobile networks and has increased the buying behavior of mobile network purchases among the customers in Vellore District. The following frequency table explains the different incomes earned by the customers using BSNL mobile networks.

**Table - 5**  
**INCOME OF THE RESPONDENT**

INCOME	FREQUENCY	%	CUMULATIVE PERCENT
UP TO RS.5000	8	13.3	13.3
RS.5001 TO 10000	10	16.7	30.0
RS.10001 TO 15000	13	21.6	51.6
RS.15001 TO 20000	11	18.4	70.0
RS. 20001 AND ABOVE	18	30.0	100.0
TOTAL	60	100.0	

Source: Primary data

It is found that 30 percent of the respondents earning a monthly income of Rs.20001 above 21.6 percent earning Rs.10001 to Rs.15000 18.4 percent earning income between Rs.15001 to Rs.20000, 16.7 percent earning between Rs.5001 to 10000 and only a minimum of 13.3 percent earning less than Rs.5000 prefer using BSNL mobiles network. Therefore maximum of respondents earning a monthly income of Rs.20001 and above prefer this network.

**MARITAL STATUS OF THE RESPONDENTS**

Some interesting studies have pointed out that married customers have more usage

of mobile networks compared to unmarried customers as they have more responsibility both personal and official. The customers using BSNL mobile network are classified based on their marital status and the results are presented in the following table.

**Table - 6  
MARITAL STATUS OF THE RESPONDENT**

Marital status	Frequency	%	Cumulative Percent
Married	38	63.3	63.
Unmarried	22	36.7	100.0
Total	60	100.0	

Source: Primary data

From the above table it is found that 63.3 Percent of the married and 36.7 unmarried respondents prefer using BSNL mobile network. Therefore maximum of married respondents among the total taken for the study prefer using BSNL mobile network.

**TYPE OF SCHEME UTILIZED**

The BSNL mobile network has formed two different schemes for the benefit of the customers to choose any thing based on their suitability. The following frequency table explains the most preferred scheme by the customers using BSNL mobile network.

**Table - 7  
TYPE OF SCHEME UTILIZED**

Type of scheme	Frequency	Percent	Cumulative Percent
Prepaid	42	70.0	70.0
Post-paid	18	30.0	100.0
Total	60	100.0	

Source: primary data

From the above table it is found that 70 percent of the respondents prefer using prepaid scheme and 30 percent prefer using post-paid schemes. Maximum of the respondents prefer prepaid scheme.

**NUMBER OF YEARS USING BSNL SERVICES**

The number of years the customers are using the BSNL services in Vellore District explains the service quality efficiency and good network coverage. the following frequency table explains the number of years the customers are using BSNL mobile network in Vellore District.

**Table - 8  
NUMBER OF YEARS USING BSNL**

Number of years	Frequency	Percent	Cumulative Percent
Less than a year	18	30.0	30.0
One year	23	38.3	68.3
Two year and above	19	31.7	100.0
Total	60	100.0	

Source: primary data

From the above table it is found that 38.3 percent of the respondents are using BSNL services since one year 31.7 percent are using since two years and above 30.0 percent are using this service less than a year. Therefore maximum of the respondents use 30.0 percent services less than a year.

**NUMBER OF TIMES USING VALUE ADDED SERVICE**

The service organizations are making the Value-Added-Services as hot-spot for making profit. From the service providers' point of view the Value-Added-Services are providing excellent leverage.

Exploiting a very insignificant marginal cost, the marginal profit accrued is really phenomenal at the satisfaction of the customer. The status of the Value-Added-Services, which in turn echoes about the brand preference and customer satisfaction, can be gauged through questions where options are spanning like the following in the questionnaire of the research: a) Rare, b) Often, c) Frequent, d) Regular and e) Not regular.

**Table - 9  
NUMBER OF TIMES USING VALUE ADDED SERVICES**

Number of times	Frequency	Percent	Cumulative Percent
Rarely	13	21.7	21.7
Often	16	26.6	48.3
Frequently	19	31.6	79.9
Regularly	7	11.5	91.4
Not regular	5	8.6	100.0
Total	60	100.0	

Source: primary data



It is analyzed from the above table that 31.6 percent of the respondents frequently use value added services, 26.6 percent use it often, 21.7 percent use it rarely, 11.5 percent use it regularly whereas 8.6 percent of the respondents are not regular is using value added services. Therefore Value added services are used frequently by the respondents.

**SATISFACTION ON THE CURRENT SERVICE PROVIDER**

The satisfaction, the subjective element in relative plane, is the facade of any business entity. However, the strategy evolved for satisfaction cannot be invoked for dissatisfaction universally. Both states of clients’ psyche must be evaluated and met with different unique strategies. The following frequency table explains the level of satisfaction expressed by the customers towards BSNL Mobile network.

**Table - 10  
LEVEL OF SATISFACTION**

Level of satisfaction	Frequency	Percent	Cumulative Percent
Yes	37	61.6	61.6
No	23	38.4	100.0
Total	60	100.0	

Source:primary data

From the above table it is found that 61.6 percent of the respondents expressed satisfaction towards their current service provider whereas 38.4 percent are not satisfied with their current service providers.

**PURPOSE OF USES OF BSNL MOBILE**

The following frequency table explains the purpose which the customers using BSNL mobile network.

**Table - 11  
PURPOSE OF USES**

Purpose of uses	Frequency	Percent	Cumulative Percent
Business	17	28.3	28.3
Office	15	25.0	53.3
Personnel	19	31.7	85.0
Others	9	15.0	100.00
Total	60	100.0	

Source: Primary data

It is analyzed from the above table that 31.7 percent of the respondents use BSNL

mobile for personnel purpose 28.3 use it for business, and 25 percent use it for office. purpose whereas 15. percent use it for other purposes. Therefore maximum of the respondents use for personnel purposes.

**FINDINGS**

- Age is a crucial factor which depicts the personal and psychological maturity of the individuals. On the basis of the age, the customers using BSNL mobile network are grouped under four heads, namely, below 20 years of age, 21 to 30 years, 31 to 40 years and above 40 years.

- It is analyzed from different ages of respondents taken for the study that 30 percent in the age group 31-40 years, 23.3 percent age group 21 to 30 years, 31.7 percent above 40 years and only a minimum of 15 percent below 20 years prefer using BSNL mobile network.

- It is inferred from the above table that maximum of 33.4 percent are graduates using BSNL mobile network, 28.4 percent are post graduates, 21.6 percent are higher secondary, and 11.6 percent are SSLs qualified. Therefore maximum of respondents using BSNL mobile network are graduates.

- It is analyzed that 28.3 percent of professionals, 23.4 percent self-employed, 20 percent of students prefer using BSNL mobile network. The further study revealed that 10 percent of homemakers, 11.6 percent of the Government and Private employed and 6.7 percent of unemployed also prefer using BSNL mobile network.

- It is found that 30 percent of the respondents earning a monthly income of Rs.20001 above 21.6 percent earning Rs.10001 to Rs.15000 18.4 percent earning income between Rs.15001 to Rs.20000, 16.7 percent earning between Rs.5001 to 10000 and only a minimum of 13.3 percent earning less than Rs.5000 prefer using BSNL mobiles network.

- It is found that 63.3 Percent of the married and 36.7 unmarried respondents prefer using BSNL mobile network. Therefore maximum of married respondents among

the total taken for the study prefer using BSNL mobile network.

- It is found that 70 percent of the respondents prefer using prepaid scheme and 30 percent prefer using post-paid schemes. Maximum of the respondents prefer prepaid scheme.
- It is found that 38.3 percent of the respondents are using BSNL services since one year 31.7 percent are using since two years and above 30.0 percent are using this service less than a year.
- 31.6 percent of the respondents frequently use value added services, 26.6 percent use it often, 21.7 percent use it rarely, 11.5 percent use it regularly whereas 8.6 percent of the respondents are not regular is using value added services.
- 31.7 percent of the respondents use BSNL mobile for personnel purpose 28.3 use it for business, and 25 percent use it for office. purpose whereas 15. percent use it for other purposes

### **CONCLUSION**

The Indian mobile telephony market has grown at a rapid speed in the last decade. Declining the call tariffs and favourable regulatory policies have led to a tremendous increase in the subscribers' base. Proper identification of the Customer preferences will facilitate the favourableness towards the various mobile service providers. Continuous research on consumers will enhance the customer satisfaction. The present research focuses on the study of customer preferences with the special reference to the mobile network users in Coimbatore city. The study has been carried out to find out the most preferred mobile network service provider and the factors influencing to use the particular mobile network service. The results revealed that, Airtel, Idea and Reliance are the most preferred mobile network service providers. Service quality, Value added services and customer care service are the most influencing factors in the selection of a particular mobile network service provider. If these suggestions are considered by the respective mobile network service providers and it would certainly

help to improve the service quality of the mobile network service providers and also it improves the level of satisfaction of the mobile network users.

### **SUGGESTIONS**

- It is found from the study that the majority of the respondents have given top preference to Airtel, Idea and Reliance. Hence it is suggested that the other service providers (BSNL, Vodafone, Tata, and Aircel) have to focus on improving their service quality, responsiveness, attractive offers, customer care service and impactful advertisement in order to widen their subscriber's base and capture more customers and market share.
- It is found from the study that the majority of the respondents have given top preference to the service quality. Service quality of the network plays a vital role. Hence it is suggested that the operators have to maintain proper service quality in the call connectivity, Fulfilling their expectation, value added service offered by them including mobile data, caller tune, dry run, playback etc. Especially special attention must be given for providing on time customer care connectivity which may save customer time and able to process their request by the service providers on a need basis.

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## 34. SOCIAL ENGINEERING FOR HIV INFECTED INDIVIDUALS- A STUDY FROM SALEM DISTRICT

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### ABSTRACT

*The dread disease of the day is aids people get frightened at the name of aids. Today more and more people are having silent death. The common people are not aware of the existence. It is spreading like a wild fire, there is no water to stop it, the researcher means, there is no medicine to cure the disease. There has been number of youth infected with aids. The morality of the youth has been going down. The youth of today seek for more pleasure. Existence of prostitution is increasing day by day. The rich are becoming richer and the poor are becoming poorer. The prostitutes are the main carrier of hiv virus. The outcome of immoral life leads of killer diseases. This study will help us assessing the knowledge of youth, which in turn help the researcher to highlight the knowledge, status and suggest measures either to increase or use of their knowledge to make knowledge, to disseminate the same to their peer group member.*

*Keywords: HIV, AIDS, Knowledge, Youth*

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### INTRODUCTION

Looking at the past, from the dawn of civilization man has been confronting one disease or the other and has been engaged in finding cure, prevention and eradication of the disease. Plague, Cholera, Small pox, Typhoid, Malaria, Tuberculosis etc., were considered as deadly disease. Mankind has now been attacked by AIDS (Acquired Immune Deficiency Syndrome), which is posing a great challenge to the medical scenario of the world. Acquired Immune Deficiency Syndrome (AIDS) is caused by Human Immuno Deficiency Virus (HIV). AIDS has become a disease of great concern amongst Medical and Public Health Care taken all over the world. Since no curative treatment is available, a patient suffers socially and psychologically over a long period after being infected with virus. AIDS was first identified in June 1981 by the center for Disease control in Atlanta, U.S.A. In India the earliest case were identified in 1986-87 in Chennai, Mumbai and young men who are migratory, such or truck drivers or seasonal workers who live away from home for long period of time. Worldwide the number of both HIV I and HIV 2 infections continue to rise rapidly. This global spread

of HIV has to understand in the context of poverty, trafficking, prostitution, migrated labour, economic crises, health services, urbanization, growing number of street children. The people who are in the sexually active age i.e., 15 to 40 years, are potential group are being affected by HIV virus. The Human Immuno Deficiency Virus (HIV) is spreads through unprotected sex with an infected blood and blood products, reuse of contaminate need less and syringes and from an infected mother to her children.

Not only is this disease fatal and painful, but also it carries with it a hefty load of shame and guilt. It has created severe social taboos. In its blind panic, society has treats AIDS patients like lepers were treated in the olden days. There are demands for ouster of one time neighbours and friends, if it is discovered that they have AIDS. Children with AIDS had to be withdrawn from the schools because others threatened to quit. There are demands for compulsory testing and quarantine of everyone entering the country from abroad. AIDS has generated more panic than any other disease recorded in human history.

## STATEMENT OF RESEARCH PROBLEM

AIDS is currently one of the greatest threats to the health of youth and children. Recently the World Health Organization (WHO) has stated that the HIV is spreading in the rural area. There are 10 to 12 million adults and one million children infected with HIV worldwide. The society has become increasingly aware of the threat posed by the HIV and AIDS. HIV is transmitted through unprotected sex with an infected person, infected blood products, reuse of contaminated needles or syringes and from an infected mother to her children. Youth is the springtime. Youth is the lifelines of the country have high prevalence of Sexually transmitted disease and they may indulge in sex. So the risk of getting HIV and AIDS are high among this young community. The sex seeking behaviour of the young can be influenced through appropriate information, education, and communication. This can be done when they are in educational institutions.

Keeping the above aspects in mind, as the research problem the researcher focused his attention on Youth describing the level of AIDS amongst them. In other words, the researcher as the problem of the research, involved in finding out the level of awareness that prevails amongst youth with regard to the disease AIDS. The study also tries to elucidate the various misconceptions and wrong notions will regard to the spread of AIDS among Youth. Also from the, the study has been made to arrive, at the various factors influencing the level of awareness amongst the youth. The infected youth undergo the psychological problem like feeling rejection, isolation, loneliness and social problem such as discrimination from family and stigma in the society and their future concerns like goals for the future, confident to cope with the disease will be focused the in the research.

## SPECIFIC OBJECTIVE

1.To find out how HIV infected individuals' react with their own diagnosis.

## SIGNIFICANCE OF THE STUDY

The dread disease of the day is AIDS people get frightened at the name of AIDS. Today more and more people are having silent death. The common people are not aware

of the existence. It is spreading like a wild fire, there is no water to stop it, the researcher means, there is no medicine to cure the disease. There has been number of Youth infected with AIDS. The morality of the youth has been going down. The youth of today seek for more pleasure. Existence of Prostitution is increasing day by day. The rich are becoming richer and the poor are becoming poorer. The prostitutes are the main carrier of HIV virus. The outcome of immoral life leads of Killer diseases.

This study will help us assessing the knowledge of youth, which in turn help the researcher to highlight the knowledge, status and suggest measures either to increase or use of their knowledge to make knowledge, to disseminate the same to their peer group member. As stated earlier the moral values are withering away especially among --ouch. Above all the precious life of a person should be save, so the risk of getting HIV and AIDS be reduced. If not eradicated to the extent possible through effective information or transformation, through powerful education and communication which will end up in behavioural modifications and serve the youth community focusing the challenge for life.

## INDIA AND AIDS

India's socio economic status, traditional social ills, cultural myths on sex and sexuality and a huge population of marginalized people make it extremely vulnerable to the HIV/AIDS epidemic, (Ramamurthy, V. 2003, p.8). In fact, the epidemic has become one of the most serious challenges faced by the country since independence. Since the first case was reported in 1986 in Chennai, HIV has spread rapidly from urban to rural areas and from high-risk groups to general population.

The government says India has 5.13 million HIV/AIDS sufferers, while the United Nation's estimate is up to 8.5 million. Around 38% of the infected persons were women and 37% of reported AIDS cases were diagnosed among people under 30. Many more AIDS cases go unreported, (NACO Report, 2004). HIV/AIDS continues to show itself to be one of India's most complex epidemic- a challenge that goes beyond public health, raising fundamental issues of human rights and threatening development achievements

in many areas. A report by the CIA's National Intelligence Council predicted 20-25 million AIDS cases in India by 2010, more than any other country in the world. The UN Population Division projects that India's adult HIV prevalence will peak at 1.9% in 2019. During 2000-15, the UN has projected 12.3 million AIDS deaths and 49.5 million deaths during 2015-50.

### **WOMEN AND HIV/AIDS**

HIV/AIDS is no longer striking primarily men. Today, more than 20 years into the epidemic, women account for nearly half the total people living with HIV worldwide. According to NACO Report, 2004, almost 90 percent of the cases reported, fall within the most economically productive age group of 15-44 and one in four cases of HIV is women. HIV sentinel surveillance surveys indicate infection rates between 1 to 2 percent among antenatal mothers. Despite this alarming trend, women know less than men about how HIV is transmitted and how to prevent infection, and what little they do know is often rendered useless by the discrimination and violence they face, (-Unaid: HIV/AIDS, 2004). Even otherwise women have problems of low status in the society and their suffering from AIDS is going to add fuel to the fire. According to Global Health Council, 2004, as HIV and AIDS ravages families and communities, the burden of caring for ill family members rests mainly with women and girls-many of whom may be seriously ill themselves and may have little support from others. Cultural, social, biological and economic pressures make women more vulnerable to HIV infection than men. A woman affected by HIV/AIDS is plunged further into poverty, losing the ability to provide for herself and her children. The groups most erected by societal discrimination are the women. Combined with pervasive social stigma and the collapse of traditional family and structures, HIV/AIDS is eroding the status of women.

### **H1V/AIDS AND CHILDREN**

The increasing number of children infected with HIV is alarming. According to UNICEF Report 2004, 30,000 babies are born HIV positive each year in India. HIV/AIDS is already affecting India's children. By

the end of 1999, UNAIDS estimated that approximately 160,000 children in India under age 15 were living with HIV/AIDS. The increasing prevalence among women may consequently be seen in the increase of mother to child transmission of HIV and pediatric HIV cases. Given the enormous stigma surrounding HIV and AIDS, many HIV-infected women are understandably reluctant to seek antiretroviral treatment or to bottle-feed their infants for fear of arousing suspicion their HIV status.

### **HIV/AIDS AND YOUTH**

Young people are at the center of the HIV/AIDS epidemic. The epidemic continues to shift towards young people. While not recognized at the onset, AIDS epidemic is now clearly worst among the youth. Over a period of 20 years, more than 60 million people have been infected with HIV, half of them between the ages of 45 and 25 as the epidemic spread, younger and younger age groups are becoming exposed to the risk of HIV. Every day over 7000 more young people will get infected about per minute. (Population Report, 1999). Such a number underscores the urgency of addressing age, among youth; high risk people are particularly vulnerable to AIDS mouse of the physical, psychological, social and economic attributes of adolescence (Bartel. Graham et al, 1993, p. 34-39). Their behaviour, the extent to which their rights protected, and the services and information they receive determine the quality of millions of people. Young people are particularly susceptible to HIV infection and they also carry the burden of caring family members living with HIV/AIDS. Around the world, AIDS is shattering young people's opportunities for healthy adult lives. Young people are vulnerable to HIV because of risky sexual behaviour, substance use and their lack of access to HIV information and prevention services.

### **SOCIAL WORK PERSPECTIVE AND HIV/AIDS**

HIV/AIDS is a complex and herculean health problem, which invites urgent attention from all professional fronts. AIDS has got its implications on the psychosocial aspect of an individual and therefore social work interventions have to be designed in the

areas of treatment, cure, rehabilitation and prevention of the disease for the persons who are suffering from AIDS and who are potential prospective sufferers.

It is safe to say that if it has not already done so, AIDS will touch the Professional lives of almost all contemporary social workers before they retire. The worried, the ill, the dying, and the bereaved will occupy social workers case loads and continue to touch their personal lives as well.

**RESEARCH DESIGN**

The Researcher has chosen the descriptive design for this study. Under -descriptive design the researcher can describe the factors that induce the youth to be infected with HIV/AIDS in an elaborate manner. It describes the all aspects and characteristics of study. Using this design, the magnitude of the psychological and social problems faced by persons living with HIV/AIDS was studied in detail. The study also describes the future fears, concerns and suggestions to enhance the life of individuals living with HIV/AIDS.

**SELECTION OF SAMPLE**

The universe of the study is the beneficiaries in Project Concern International, Salem. The center had 450 patients, among which 327 men and 123 women were present. By using Stratified disproportionate Simple randoming sampling by Lottery method the researcher selected 32 men and 28 women for the study.

**TOOLS OF DATA COLLECTIONS**

For the preparation of the tool the work passed through the following phases:

1. Consulting doctors, nurses and counselors who are working in this field.
2. Referring the available literature on HIV/AIDS.

Interview schedule with 42 numbers of questions consisting of open ended and closed ended questions was used for collecting data from the respondents. Interview schedule was used since respondents comprise of both literate and illiterate. This has helped to get first hand information through face-to-face interaction.

**SOURCES OF DATA COLLECTION**

The data was collected from the respondents

through interview schedule making it primary in nature. The already available literature, reports and information by doctors, nurses and counsellors working in the field of HIV/AIDS constitutes the sources of secondary data.

**ACTUAL DATA COLLECTION**

Actual data collection took place from 23rd to 27th June 2018 by administering the tool on each respondent. It took 25 to 35 minutes to collect the data from each respondent.

**RESULTS AND DISCUSSIONS**

**Marital Status of the Respondents**

One of the important impacts of HIV and AIDS is on the marital life. In general the prime victims are spouse.

**Table – 1  
Marital Status of the respondents**

Marital status	Frequency	Percentage
Married	29	48.3
Unmarried	29	48.3
Divorced	1	1.7
Widow/Widower	1	1.7
Total	60	100.0

The table shows that married people (48.3%) and unmarried people (48.3%) the highest among the respondents. The data shows that both married and unmarried are equally prone to the infection. Many of the research showed that spouse is the prime victim of the HIV/AIDS.

**TYPE OF FAMILY**

In ancient age joint family were preferred and encouraged. Family is the first school of good behaviour and charity. As the science and technology and development took upper hand in the society, the necessary of joint family is not given importance and individuals preferred Nuclear family.

**Table – 2  
Type of Family**

Type of Family	Frequency	Percentage
Joint Family	15	25.0
Nuclear Family	44	73.3
Extended Family	1	1.7
Total	60	100.0

The table indicates that, nearly three fourth (73.3%) of the respondents live in nuclear family are infected with HIV/AIDS. It is true that in nuclear family only husband and wife and their children will be living, there is no scope for elders, who with experience can guide them, when they miss the right track. In present scenario, both spouse are employed, so there lot of chance to indulge in unsafe sex, this may lead for the infection. Urban set up, life style, work load, work culture and opportunities to indulge in unsafe sex.

**INFECTED YEARS OF THE RESPONDENTS**

Duration of individuals living with HIV/AIDS differ from one to other person. Because of the complication related with the illness confined with heightened depression and stress, the extent of years with HIV infection varies as some are able to live longer with the infection where as other are not thus die anytime after the infection.

**Table - 3**  
**Infected years of the Respondents**

Infected Years	Frequency	Percentage
1-2	10	16.7
2-3	31	51.7
3-4	16	26.7
4-5	2	3.3
5-6	1	1.7
Total	60	100.0

The above table gives a clear picture of the number of years infected and living with HIV of the respondents in the study. Individuals in two to three years if infection from the highest with fifty one percent, above one fourth of the respondents have been living with infection for three to four years, while (26.7%) percent for one to two years and five percent of the respondents have been living for four to six years. Form the interview schedule with the respondents; it is fond that the respondents in this study who have been living with the infection for four years and above were men. Indicators with more number of years of infection display an acceptance of themselves than individuals in their first or second years of infection. This may be the reason why they are able to live with the infection for longer years. They learn to cope with the illness.

**FEELING ON LEARNING THE STATUS**

HIV/AIDS is a life-threatening disease. Unlike chronic/terminal illness HIV and AIDS infection is complicated by the stigma related to the transmission of HIV infection. Here, the researcher uses this variable to find out the feelings level of the respondents when they learn of their infected status as individuals who participated in high-risk behaviour.

**Table - 4**  
**Feeling on Learning the Status**

Nature of Feeling	Frequency	Percentage
Guilt	5	8.3
Shame	49	81.7
Anger	3	5.0
Sad	2	3.3
Fear	1	1.7
Total	60	100.0

Majority (81.7%) of the respondents experience shame on knowing that they are infected with HIV. This emotion is intensified for women who were being transmitted by their husband. Women find themselves helpless when their husband infects. This confirms other studies as K. Meursing and F. Sibundi, (2000.) notes HIV infected persons experienced shame over pervious risk behaviours and fear of others finding out about their risk behaviour and HIV infection.

**ABILITY FOR ACCEPTANCE**

Individuals who are diagnosed with HIV face great challenge in adapting to the reality of a disease that currently has no cure and for which there is only limited access to treatment in many parts of the world. Majority (81.7%) of the respondents were not able accept the reality that they were infected with HIV on being diagnosed of HIV infection while the other (18.3%) were able to come terms of their infected status. It is found that individuals who participated in risk behaviour could accept the reality better than individuals who were being infected by their spouse through many went though an initial stage of denial to themselves irrespective of how they had been infected.

There is a need for general awareness about the specific aspects like the mode

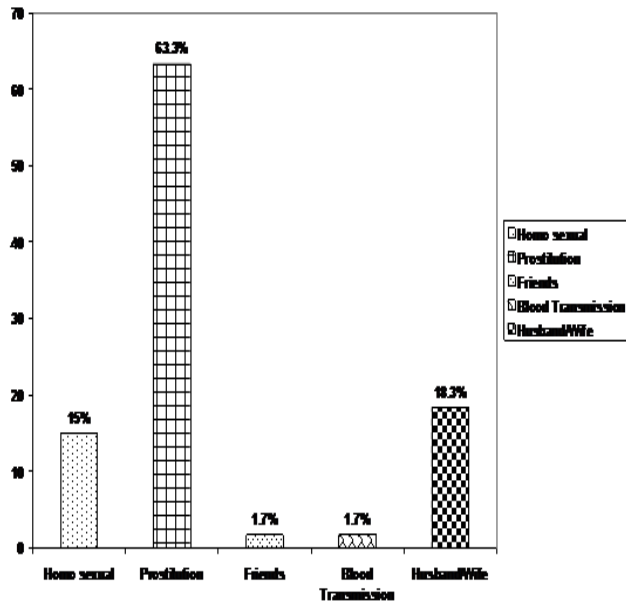


transmission, the method of protecting oneself from getting infected, stress should be laid on interpersonal communication for targeted groups especially, woman with the help of the electronic and print media disseminating information on all aspects of HIV/AIDS including reinforcement of positive, cultural and social values like love, warmth and affection within the family.

**PERSON RESPONSIBLE FOR HIV INFECTED**

HIV is into caught but is get or required by a person through the mode of transmission may differ from person to person. The researcher included variable levels, husband/wife, blood transmission, friends, prostitution and Homosexual behaviour.

**Figure-1**  
**Person Responsible for HIV Infected**



Majority (63.3%) of the respondents held prostitution responsible for infecting them HIV. While (18.3%) of the women find themselves as victims because of their husbands risk behaviour. Faced with the reality of being infected women experience a more intense depression than men who are able to come to terms that they are self-responsible for the infection. According to R.B.L.Gary, (2005), a woman is simply defenseless if a man has man sexual partners or if he gets infection prior to manage or if he simply refuses to use a condom. There is a need for general awareness about the specific aspects like the mode transmission, the method of protecting

oneself from getting infected, stress should be laid on interpersonal communication for targeted groups especially, woman with the help of the electronic and print media disseminating information on all aspects of HIV/AIDS including reinforcement of positive, cultural and social values like love, warmth and affection within the family.

**FEELING AFTER DIAGNOSIS**

AIDS has become a disease and a great concern amongst medical and public health caretakers all over the world. Since no curative treatment is available, a patient suffers socially and psychologically over a long period after being infected with the virus. The researcher used three main variables to find out his attitudes towards himself after the infection.

**Table - 5**  
**Feeling after Diagnosis**

NATURE OF FEELING	FREQUENCY	%
DEPRESSION	56	93.3
DENIAL	3	5.0
DISBELIEF	1	1.7
TOTAL	60	100.0

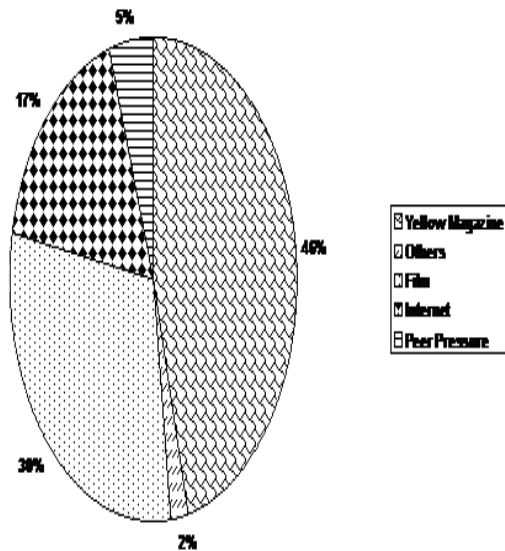
Majority (93.3%) of the respondents experience depression on diagnosing, when they are diagnosed as infected with HIV positive.

The researcher also shows that they feel shame, because the society rejects the HIV infected people, stigma attached, cultural values, untouchability behaviour and fear of infection spreading. Both men and women feel depression.

**MEDIUM INDUCED RESPONDENTS**

Media could be understood as an offspring of an angel and a devil, because it is both helpful well as harmful. The primary function of the media is to inform, educate and entertain the public. It has also the potential to promote culture and mobilize public opinions. On other side, it can also be harmful. It is because it can misinform and mislead the public. We know that most useful things can be misused.

Figure – 2



News items are disseminated and information is exchanged across the globe with incredible speed. Mass media which is fast proving to be an agent of transformation does influence the families of today both positively and negatively. Today's Mass Media with lot of adult content has actually perverted the minds of youngsters resulting in unhappy sex life in marriages. The above table shows a little more than half (51.7%) of the respondents accepted the media influenced to become victims of HIV/AIDS. Peer Pressure occupies (46.7%) during interview with infected youth, any respondents said that peer pressure was influenced by the Mass Media.

The Media promotes consumerist culture and glorifies any thing from the West as good and desirable. People, who want to make quick money, make use of the mass media to provide cheap entertainment through pornographic materials. The media transports the youth to a world of fantasy thus blinding them to reality around. By incorporating media education in school curriculum we can provide sound knowledge of media to the young people and educate them to use it in a responsible way.

**Ability to Disclose the Infection**

HIV and AIDS is associated with stigma and discrimination due to which infected persons may isolate themselves. This variable includes Yes and No in the ability of the infected individuals to disclose to others about their infected status. Only

eight percent were able to disclose to people about their infected status where 92 percent were unable to disclose about the infection to others. It is found that though both men and women are not able to come open about their HIV status, the few who are able to disclose are men who have managed to survive with the illness for more than five years and are either a divorcee or widower. People hesitate to come open with their status because they fear of the discrimination and reaction from other not only on themselves but on their families and children. It becomes difficult for these persons to be open with their status when their own family does not accept them, thus they isolate themselves. These increase their depression, when their condition worsens and began to get the attention of neighbours they look out for care and support center to avoid speculation from neighbours. Sometimes family members to avoid attention from neighbours, friends and relatives keeps them away in Care centers.

**FEAR OF REACTION FROM OTHERS**

Depression may often occur in individuals suffering from HIV especially as they adjust to the fact that they are infected with HIV and this may be increased by fear of others finding out about their HIV infection because of the stigma associated with HIV/AIDS.

**Table - 6**  
**Fear of Reaction from others**

Reaction	Frequency	Percentage
Often Afraid	14	23.3
Sometime	46	76.7
Total	60	100.0

From the figure shown, it is clear that nearly one fourth (23.3%) of the respondents have intense fear how people will react them once they come to know that they are infected with HIV, out of which 46 respondents (76.7%) percent feel fear often. It is found that it is individuals who are accepted by their families have less fear of people's reaction. When their family accepts their infected status, they are able to accept themselves and it is seen that these individuals has hopes for the future and display confidence to cope with illness.

It is suggested that counseling services should be provided not only to HIV infection persons but should be expanded in reacting to the family members in all hospitals, HIV testing centers, and agencies working to people living with HIV and AIDS. Also, promotion of newspapers, magazines and other print media for conducting campaigns to generate awareness among the people to reduce stigma discrimination and harassment.

### MAIN FINDINGS

- HIV can be transmitted to people of all ages and does not primarily strike only men or women. The age group of the respondents in the study falls between 13-35 years comprising both male and female.
- Individuals diagnosed with HIV positive find it difficult to accept their infected status, (93.3%) of the respondents could not accept the reality and feel depressed, while others somehow able to come to terms on being diagnosed with HIV positive.
- More than half of the respondents (63%) feel themselves responsible for the infection (Prostitution).
- It is estimated that 14,000 new HIV infections occur daily around the world of which half of them (53.3%) are men and (46.7%) are women.
- Majority (53.3%) of the HIV/AIDS infected youth are male and (46.7%) are of female.
- One third (35%) of infected youth are Graduates students.
- Nearly two third (61.7%) infected patients are employed
- A little more than half (51.7%) of the respondents accepted the media influenced to become victims of HIV/AIDS.
- Nearly half of the respondents (86.6%) of respondents fear of early death.
- Almost (98.3%) of the respondents feel medical help had encouraged to live longer.

### SUGGESTIONS

Based on the major findings the researcher puts forward the following suggestions, which would serve to go further in studies and in prevention, care and support of people living with HIV/AIDS.

- Reinforcement of positive human values like love, warmth and affection with

the help of the electronic and print media.

- Strong advocacy campaign could be launched for policy makers and service providers to promote a supportive and enabling environment for the affected; laying special emphasis for youth by addressing underlying prejudices and inequalities towards them.
- Policies could be taken at all levels to provide counseling services for PLWHAs and family members in all hospitals, HIV testing centers, and organizations working for people infected and affected with HIV/AIDS manned by trained and professional counselors.
- Social workers, voluntary agencies and NGOs can help to strengthen anti-discrimination and other protective laws that protect PLWHAs in public and private sectors, ensuring privacy and confidentiality.
- Group counseling among PLWHAs should be encouraged by giving necessary financial and other incentives through the programmes implemented for PLWHAs by governmental agencies and NGOs.
- Governmental and non-governmental agencies must find findings/ funding partners for resources such as medications, medical care and treatment. They also must ensure access by the infected and affected to medical care.
- Policy should be framed for comprehensive care comprising of clinical management, nursing care, access to drugs and counseling without any discrimination.
- Promotion of newspapers, magazines and other print media could be ensured to conduct campaigns, and to generate awareness among the public to reduce stigma, discrimination and harassment.
- People with HIV/AIDS could be encouraged and included in prevention and care. Promotion of networks of people living with HIV/AIDS could also be considered.
- Promotion of economic opportunities for youth through micro-finance and training in skills could be encouraged for their economic independence.

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## 35.AGRICULTURE PRODUCTION AND WATER SCARCITY IN TAMIL NADU

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### ABSTRACT

*Tamil Nadu has 17 major river basins and most of them are water stressed. Agricultural sector consumes about 75% of the water resources. Agriculture sector faces major constraints due to water scarcity. There is growing demands for water from industry and domestic users and also interstate competition for surface water resources also intensifies. Given the state water policy, priority is given for domestic use followed by irrigation and industry etc. indicating that agricultural sector has to manage the scarcity in the future. Further the canal systems have poor water control and management. Also, out of the 1.8 million wells, about 0.16 million wells are defunct in the state as the water table is fast declining. Again, out of the 385 blocks in the state, 90 are dark (extraction exceeding 100% of the recharge, 89 are grey (extraction exceeding 65%) and the rest are white where the extraction is less than 65%.*

*Given all these constraints and scarcities for the existing water supply scenarios, what is needed is the clear understanding of the value of water in alternate uses as well as the incentive to allocate the water among competing crops and uses in different river basins. However, currently the available information is related to the administrative boundaries such as districts, which as such are difficult to relate with the river basin boundaries. Hence, it is important to reorient the district level data to basin level for making basin level interventions. This will also help to work out the performance of both irrigation and agriculture sectors at basin level.*

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### INTRODUCTION

Tamil Nadu has 17 major river basins and most of them are water stressed. Agricultural sector consumes about 75% of the water resources. Agriculture sector faces major constraints due to water scarcity. There is growing demands for water from industry and domestic users and also interstate competition for surface water resources also intensifies. Given the state water policy, priority is given for domestic use followed by irrigation and industry etc. indicating that agricultural sector has to manage the scarcity in the future. Further the canal systems have poor water control and management. Also, out of the 1.8 million wells, about 0.16 million wells are defunct in the state as the water table is fast declining. Again, out of the 385 blocks in the state, 90 are dark (extraction exceeding 100% of the recharge, 89 are grey (extraction exceeding 65%) and the rest are white where the extraction is less than 65%.

Given all these constraints and scarcities for the existing water supply scenarios, what is needed is the clear understanding of the value of water in alternate uses as well as the incentive to allocate the water among competing crops and uses in different river basins. However, currently the available information is related to the administrative boundaries such as districts, which as such are difficult to relate with the river basin boundaries. Hence, it is important to reorient the district level data to basin level for making basin level interventions. This will also help to work out the performance of both irrigation and agriculture sectors at basin level.

### TOTAL FACTOR PRODUCTIVITY

Indian Institute of Agricultural Research, New Delhi indicated that public investment in irrigation, infrastructure development (road, electricity), research and extension and efficient use of water and plant nutrients

were the dominant sources of TFP growth. The sharp deceleration in total investment and more so in public sector investment in agriculture is the main cause for the deceleration. This has resulted in the slow-down in the growth of irrigated area and a sharp deceleration in the rate of growth of fertilizer consumption. The most serious effect of deceleration in total investment has been on agricultural research and extension. This trend must be reversed as the projected increase in food and non-food production must accrue essentially through increasing yield per hectare. Recognizing that there are serious yield gaps and there are already proven paths for increasing productivity. It is very important for India to maintain a steady growth rate in total factor productivity. As the TFP increases, the cost of production decreases and the prices also decrease and stabilize. Both producer and consumer share the benefits.

#### **INPUT AND OUTPUT ORIENTATIONS**

Some important findings of the paper were on levels and trends in global agricultural productivity over the past two decades. The results presented here examine the growth in agricultural productivity in 93 countries over the period 1980 to 2000. The results show an annual growth in total factor productivity growth of 2.1 percent, with efficiency change (or catch-up) contributing 0.9 percent per year and technical change (or frontier-shift) providing the other 1.2 percent. This is most likely a consequence of the use of a different sample period and an expanded group of countries.

Several researchers felt that as economic reforms focused mainly on price factor and ignored infrastructure and institutional changes the overall impact on growth of agricultural sector has not been favourable. Highest response to fertilizer was obtained in the case of Tamil Nadu where one percent increase in fertilizer brought 0.7 percent increase in output. Elasticity of crop output with respect to irrigation was one.

Tamil Nadu has scope to raise output by 0.65 and 0.82% per irrigation through irrigation. Shift in one percent area from food grain to non-food grain offers scope to raise crop output by 1.73 percent in Uttar Pradesh 1.6 percent in Karnataka and Assam, 2.4 percent in Bihar 1.5 percent in Maharashtra,

1.4 Percent in West Bengal, 1.2 percent in Orissa and 1.1 percent in Tamil Nadu. It seems likely that Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jammu and Kashmir, Karnataka, Maharashtra, Orissa, Punjab, Tamil Nadu, U.P, and West Bengal are in a position to increase fertilizer use by same rate as witnessed during 1990s. Expansion of area under irrigation, improvement in total factor productivity, resource shift towards high value enterprises and increase in application of fertilizer were the four sources of growth in agriculture. Crop intensity is another source for output growth but in our exercise, its impact on output is captured by impact of irrigation on output.

#### **HUMAN DEVELOPMENT INDEX (HDI)**

Ashok and Balasubramanian (2006) explore the role of infrastructure in productivity and diversification of agriculture and discussed issues related to the project and advantage in development of Tamil Nadu state economy. Tamil Nadu performance with respect to the (HDI) was also impressive; it ranked third among 29 states.

This is especially true for human development indicators like female life expectancy, female mortality rate, and access to safe drinking water etc. Notwithstanding these achievements, Tamil Nadu was still a low-income state and had a relatively high incidence of poverty (20 per cent) and unemployment (14 per cent) in the country. There were intra-state disparities in key poverty and social indicators. About 12 million people live in poverty, and inequality in Tamil Nadu was higher than the all-India average, and was in fact, the highest among the fifteen major states. This uneven improvement in the quality of life had left a large section of the population, which has consistently failed to benefit from the economic and social development that the state has achieved.

#### **PRINCIPAL CROPS AND PRODUCTION**

Rice is the dominant crop in Tamil Nadu. Groundnut, Sugarcane and cotton are important commercial crops. Jowar, bajra and pulses are some important food grain crops. These seven crops account for about 73% of gross cropped area, while 42 other

crops are each cultivated in small areas. They include minor millets, other oil seeds, turmeric, vegetables, fruits, coconut and other minor crops.

Area under paddy decreased to 17.89 lakh ha during 2007-08 compared to 19.31 lakh. In the preceding year .Area under pulses also registered increase. The same trend follows in groundnut also. In respect of cotton, area remains almost same. To encourage cotton 37 growers in Tamil Nadu, contract farming is popularized with buy back arrangements. Under contract farming, the farmer is provided support in diverse areas such as marketing, input, credit, insurance coverage etc.

### **IRRIGATION**

The irrigation potential of the State has already been realized. Per capita availability of water is lowest in Tamil Nadu. Well irrigation is dominant in Tamil Nadu. Of the 1.8 million wells, approximately 10 per cent are defunct. The depth of bore wells in hard rock is between 600 and 1000 ft. This situation tends to the water management as the key to the priority area for both the farmers and implementing authority. It further focused on area of efficient water management and crop diversification imperative in the place of highly water intensive crops like paddy and sugarcane in the State Irrigation: The major irrigation sources in the State are canals, tanks, and wells. The per capita availability of water in the state stood at 900 cubic meters as against the All-India level of 1980 cubic meters as on 2001.

### **POLLUTION**

The study carried out by the Loss of Ecology Authority, Government of India, revealed that the tannery industries have adversely affected 15,164 ha of agricultural land in Vellore district and 2,005 ha in Dindigul district. Tirupur district is fast growing hosiery 'Industrial City' in Tamil Nadu. It is located on the bank of the Noyyal River. The effluent discharged by the textile industries released into the Noyyal River pollutes the surface and ground water and damages the agricultural land.

In general, the agricultural performance in the state has been affected by

marginalization of land holding, high variability in rainfall distribution, inadequate capital formation by the public sector, declining public investment on agriculture, declining net area sown, over - exploitation of ground water and inadequate storage and post-harvest facilities... The state supports seven percent of the country's population but it has only four per cent of the land area and three percent water resources of the country. Of the total gross cropped area, only 50 percent of the area is irrigated in Tamil Nadu.

### **CONCLUSION**

As all 17 river basins in Tamil Nadu was taken into account for the present study, to have clear view on trends and for convenience graphs were presented as small, medium, and large basins. Only after 1990s, there was wide fluctuation in crop output in all the river basins. Before 1990s, the trend was smooth. The same trend was also noted in livestock output.

River basins are the major source of agricultural production to feed the increasing population. Several basins are facing the problems of reduced surface and groundwater supplies due to changes in rainfall intensity, poor catchment management and poor water distribution practices and increasing intersect oral water demand. In order to meet the future water demand, the available supplies should be efficiently used and one way to achieve this will be increasing the efficiency of the river basins.

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## 36.SOCIAL ENGINEERING FOR REDUCTION OF INEQUALITY

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### ABSTRACT

*There are several methods that the malicious individual can use to try to breach the information security defenses of an organization. The human approach, often termed Social Engineering, is one of them. This paper describes Social Engineering and its cost to the organization. It discusses the various forms of Social Engineering, and how they take advantage of human behavior. Social engineering is a psychological exploitation which scammers use to skillfully manipulate human weaknesses and carry out emotional attacks on innocent people. This study examined the contents of 100 phishing e-mails and 100 advance-fee-scam e-mails, and evaluated the persuasion techniques exploited by social engineers for their illegal gains. The analyses showed that alert and account verification were the two primary triggers used to raise the attention of phishing e-mail recipients. These phishing e-mails were typically followed by a threatening tone via urgency. In advance-fee e-mails, timing is a lesser concern; potential monetary gain is the main trigger. Business proposals and large unclaimed funds were the two most common incentives used to lure victims. The study revealed that social engineers use statements in positive and negative manners in combination with authoritative and urgent persuasions to influence innocent people on their decisions to respond. Since it is highly unlikely that online fraud will ever be completely eliminated, the most important strategy that can be directed to combat social engineering attacks is to educate the public on potential threats from perpetrators*

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### INTRODUCTION

In order to defend against social engineering attacks it is necessary to understand what social engineering is and why it is so successful. There are many definitions for social engineering. Among them are: "Social engineering is a term that describes a nontechnical kind of intrusion that relies heavily on human interaction and often involves tricking other people to break normal security procedures" (Searchsecurity.com) and "Social engineering is the practice of obtaining confidential information by manipulation of legitimate users." (Wikipedia) One of the primary methods of manipulation is to ask the victim for help with a task. This is not a new tactic, nor is it confined to the information technology sector. Social engineering is an evolution of what was previously known as a con game.

(Dubin 2002) Confidence men, also known as con men or drifters, have been around for years. These people are masters at manipulating others, usually for financial gain. There are endless stories about con

men and many have been portrayed in movies. One of the most well-known con men was the subject of a major Hollywood movie starring Leonardo DiCaprio as Frank Abigale. Abigale began his career as a con man committing bank fraud during the 1960s. He moved from bank fraud to impersonation. Over time, he was successfully able to impersonate airline pilots, doctors and lawyers. He was eventually caught and served a prison sentence. After his release, he worked for the government for a short time, then he opened a consulting firm that helps businesses fight financial fraud. The fact that a bagnale could con his way into such professions as Social Engineering Defense for Small Businesses 4 airline pilot and doctor shows not only how good he was at the con game it also showed how effective a skilled con artist can be. Inequality is the difference in social status, wealth, or opportunity between people or groups.

People are concerned about social inequality. Blacks have been hurt by racial inequalities in housing and education. Economic

Economic inequalities are most obviously shown by people's different positions within the economic distribution - income, pay, wealth. However, people's economic positions are also related to other characteristics, such as whether or not they have a disability, their ethnic background, or whether they are a man or a woman. While The Equality Trust recognizes the importance of these measures, the focus of our work is specifically the gap between the well-off and the less well-off in the overall economic distribution. This is reflected in the choice of terms and statistics in this section.

There are three main types of economic inequality:

### **1. Income Inequality**

Income inequality is the extent to which income is distributed unevenly in a group of people. Income is not just the money received through pay, but all the money received from employment (wages, salaries, bonuses etc.), investments, such as interest on savings accounts and dividends from shares of stock, savings, state benefits, pensions (state, personal, company) and rent. Measurement of income can be on an individual or household basis - the incomes of all the people sharing a particular household. Household income before tax that includes money received from the social security system is known as gross income. Household income including all taxes and benefits is known as net income.

### **2. Pay Inequality**

A person's pay is different to their income. Pay refers to payment from employment only. This can be on an hourly, monthly or annual basis, is typically paid weekly or monthly and may also include bonuses. Pay inequality therefore describes the difference between people's pay and this may be within one company or across all pay received in the UK. Wealth refers to the total amount of assets of an individual or household. This may include financial assets, such as bonds and stocks, property and private pension rights. Wealth inequality therefore refers to the unequal distribution of assets in a group of people.

## **HOW IS ECONOMIC INEQUALITY MEASURED?**

There are various ways of measuring

economic inequality. The choice of measure does not change what inequality looks like dramatically. However, changes in inequality over time within individual countries can look different if different measures are used. Commonly used measures of economic inequality:

### **Gini Coefficient**

The Gini coefficient measures inequality across the whole of society rather than simply comparing different income groups. If all the income went to a single person (maximum inequality) and everyone else got nothing, the Gini coefficient would be equal to 1. If income was shared equally, and everyone got exactly the same, the Gini would equal 0. The lower the Gini value, the more equal a society. Most OECD countries have a coefficient lower than 0.32 with the lowest being 0.24. The UK, a fairly unequal society, scores 0.35 and the US, an even more unequal society, 0.38. In contrast, Denmark, a much more equal society, scores 0.25.

The Gini coefficient can measure inequality before or after tax and before or after housing costs. The Gini will change depending on what is measured.

### **Ratio Measures**

Ratio measures compare how much people at one level of the income distribution have compared to people at another. For instance, the 20:20 ratio compares how much richer the top 20% of people are, compared to the bottom 20%.

### **Palma Ratio**

The Palma ratio is the ratio of the income share of the top 10% to that of the bottom 40%. In more equal societies this ratio will be one or below, meaning that the top 10% does not receive a larger share of national income than the bottom 40%. In very unequal societies, the ratio may be as large as 7.

The Palma ratio addresses the Gini index's over-sensitivity to changes in the middle of the distribution and insensitivity to changes at the top and bottom. The UK Palma ratio is 1.07.

The Palma ratio is commonly used in international development discourse. The ratio for Brazil, for example, is 2.237.

## **What is Poverty and how is it Different to Inequality?**

People in poverty are those who are considerably worse-off than the majority of the population. Their level of deprivation means they are unable to access goods and services that most people consider necessary to an acceptable standard of living. It can be an absolute term, referring to a level of deprivation that does not change over time, or a relative term in which the definition fluctuates in line with changes in the general living standard.

Inequality, by contrast, is always a relative term: it refers to the difference between levels of living standards, income etc. across the whole economic distribution. In practice, poverty and inequality often rise and fall together but this need not necessarily be the case. Inequality can be high in a society without high levels of poverty due to a large difference between the top and the bottom.

## **STOP ILLICIT OUTFLOWS**

In developing countries, inadequate resourcing for health, education, sanitation, and investment in the poorest citizens drives extreme inequality. One reason is tax avoidance and other illicit outflows of cash. According to Global Financial Integrity, developing countries lost \$6.6 trillion in illicit financial flows from 2003 through 2012, with illicit outflows increasing at an average rate of 9.4 percent per year. That's \$6.6 trillion that could reduce poverty and inequality through investments in human capital, infrastructure, and economic growth.

## **PROGRESSIVE INCOME TAX**

After falling for much of the 20th century, inequality is worsening in rich countries today. The top one percent is not only capturing larger shares of national income, but tax rates on the highest incomes have also dropped. How much the highest income earners should be taxed? This is obviously a question to be decided domestically by citizens, and opinions differ. For instance, economist Tony Addison suggests a top rate of 65 percent rate on the top 1 percent of incomes.

## **A GLOBAL WEALTH TAX**

In Capital in the Twenty-first Century, Thomas

Piketty recommends an international agreement establishing a wealth tax. Under his plan, countries would agree to tax personal assets of all kinds at graduated rates. The skeptics do have a point about whether this particular plan is practical, but we shouldn't give up on the idea. Because wealth tends to accumulate over generations, fair and well-designed wealth taxes would go a long way towards combating extreme inequality.

## **ENFORCE A LIVING WAGE**

Governments should establish and enforce a national living wage, and corporations should also prioritize a living wage for their workers and with the suppliers, buyers, and others with whom they do business. Low and unlivable wages are a result of worker disempowerment and concentration of wealth at the top hallmarks of unequal societies. As human beings with basic needs, all workers should earn enough to support themselves and their families. Governments and corporations should be responsible for protecting the right to a living wage, corporations should commit to responsible behavior that respects the dignity of all workers.

## **WORKER'S RIGHT TO ORGANIZE**

The right of workers to organize has always been a cornerstone of more equal societies, and should be prioritized and protected wherever this basic right is violated. Extreme inequality requires the disempowerment of workers. Therefore, the right of workers to organize and bargain collectively for better pay and conditions is a global human rights priority. Despite Article 23 of the Universal Declaration of Human Rights—which declares the right to organize as a fundamental human right—workers worldwide, including in the United States, still face intimidation, fear, and retribution for attempting to organize collectively. Where unions are strong, wages are higher and inequality is lower.

## **STOP OTHER LABOR ABUSES**

Companies worldwide are also replacing what was once permanent and stable employment with temporary and contingent labor. Often called "contingent" or "precarious" workers, these workers fill a labor need

that is permanent while being denied the status of employment. In the United States, this trend is called "misclassification," in which employers misclassify workers as "independent contractors" when they are actually employees. Contingent labor also occurs through outsourcing, subcontracting, and use of employment agencies.

### **OPEN AND DEMOCRATIC TRADE POLICY**

Negotiating international trade agreements behind closed doors with only bureaucrats and corporate lobbyists present has to end. These old-style trade agreements are fundamentally undemocratic and put corporate profits above workers, the environment, health, and the public interest. We need a new, transparent trade policy that is open, transparent, and accountable to the people.

### **THE NEW ECONOMICS**

Economists are often imagined as stuffy academics who value arcane economic theory above humanitarian values. The field's clinging to parsimonious theories gave us such winners as the Washington Consensus and a global financial system that imploded in 2008. Thankfully, there's a movement among economics grad students and scholars to reimagine the discipline. As they acknowledge, we clearly need a new economics that works to improve the lives of everyone, not just those already well off. For instance, what could be more radical than a Buddhist economics? This is the path promoted by economist and Rhodes Scholar E .F. Schumacher, who says humanity needs an economics that creates wealth for all people, just not money for privileged people and corporations.

a. Economics should take into account ethics and the environment, and treat its claims less like invariable truths. Low-skill, low-productivity, low-wage economy is unsustainable in the long term and is incompatible with poverty reduction. This is the vicious circle of inadequate Conclusions on skills for improved productivity, employment growth and development

b. Education, poor training, low productivity and poor quality jobs and low wages that traps the working poor and excludes workers without relevant skills from participating in economic growth

and social development in the context of globalization. This also negatively affects the competitiveness of enterprises and their capacity to contribute to economic and social development.

c. An international, national and regional development strategy based on improved quality and availability of education and training can engender, by contrast, a virtuous circle in which skills development fuels innovation, productivity increase and enterprise development, technological change, investment, diversification of the economy, and competitiveness that are needed to sustain and accelerate the creation of more and better jobs in the context of the Decent Work Agenda, and improve social cohesion.

d. Within this virtuous circle, skills development is an essential factor for achieving the objective of decent work both by increasing the productivity and sustainability of the enterprise and for improving working conditions and the employability of workers. Effective skills development requires a holistic approach.

e. Improving productivity is not an end in itself, but a means to improving workers' lives, enterprises' sustainability, social cohesion and economic development. Continued improvement of productivity is also a condition for competitiveness and economic growth. Productivity gains arising from skills development should be shared between enterprises and workers – including through collective bargaining – and with society in order to sustain the virtuous circle of improved productivity, employment growth and development, and decent work. Conclusions on skills for improved productivity, employment growth and development

(a) Workers can benefit from skills development and productivity gains if translated into better working conditions, respect for labor rights, further training, adaptability to changes, better employment prospects, higher wages and other factors that contribute to a better quality of life.

(b) Enterprises will benefit from skills development and productivity gains by reinvesting in product and process innovations, diversifying business activities, maintaining and improving competitiveness and market share. (c) Society will benefit

from skills development and productivity gains in terms of quality jobs, higher employment, quality and efficiency of services, reduced poverty, respect for labor rights, social equity, and competitiveness in changing global markets and dynamic growth sectors.

f. However, skills development will not automatically lead to improved productivity or more and better jobs unless there is a conducive economic and social environment to translate productivity improvement into employment growth and development. Other critical factors include: respect for workers' rights, gender equality, health and safety standards; good labor relations; effective social protection; good leadership and a high standard of organizational processes; and effective and active labor market policies and employment services.

g. Likewise, improved productivity alone will not boost employment and development in the context of the Decent Work Agenda. Other essential factors are: strong employment growth policies; a sustainable business environment; strong and representative social partners; investments in education and skills development; social support services, including health care and physical infrastructure; development of industrial districts or clusters; local economic and social development policies targeted at the informal economy and small and medium-sized enterprises; business and workers' networks; efficient public services and a well-developed services sector; and trade, investment and macroeconomic policies.

h. Governments have overall responsibility for creating, in consultation with the social partners, the enabling framework to meet current and future skills needs. International experience shows that countries that have succeeded in linking skills to productivity, employment, development and decent work, have targeted skills development policy towards three main objectives: (a) matching supply to current demand for skills; (b) helping workers and enterprises adjust to change; and (c) building and sustaining competencies for future labor market needs.

i. The first two objectives of skills matching and easing adjustment take a short- to medium-term labor market perspective

in responding to ongoing technological and market changes. The first objective requires policies and institutions to better forecast and match the provision of skills with labor market needs, as well as to make employment services, career services and training services more broadly available.

j. The second objective focuses skills development on making it easier for workers and enterprises to move from declining or low-productivity activities and sectors into growing and higher-productivity activities and sectors, and to capitalize on new technologies. Reskilling, skills upgrading and lifelong learning help workers to maintain their employability and help enterprises to adjust and remain competitive. This should be combined with active labor market policies to support the transition to new Conclusions on skills for improved productivity, employment growth and development employment. Workers should not bear the brunt of the adjustment cost, and effective social security provisions or unemployment insurance as well as career guidance, training and effective employment services, are important components of the social contract to mitigate the impact.

k. The third objective takes a long-term perspective, focusing on anticipating and delivering the skills that will be needed in the future through forecasting at the local, national, regional and international levels. This strategic role of skills development aims at fostering a sustainable development process to improve working conditions and enterprise development, and the ability of the economy to remain competitive.

l. In meeting these three objectives, working with the social partners and other key stakeholders is important. Countries have very different existing economic and social conditions, and different levels of education and skills development. However, there is a continuous need to promote creativity, innovation, productivity growth and more and better designed jobs at all stages of development.

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## 37.Social Engineering for Environmental Quality Improvement

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### ABSTRACT

The aim of this paper is to determine the economic value of an improvement in environmental quality due to solid waste dumping. A change in environmental quality should imply an increase in the individual utility level for which, in theory, they should be willing to pay. Cost –benefit analysis has been carried out from the angle of social welfare rather than from a purely economic point of view. Besides, a willingness to pay survey was conducted to assess the ability of rural communities to pay.

Key words: Contingent Valuation Method, Willingness to Pay, Environmental Impact

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### INTRODUCTION

In general term, anything, which is considered, be useless, unwanted or discarded material as a waste. But in the economic sense that which arises from domestic commercial, industrial mining and agricultural activities and from the public service causing economic constraint and environmental problems is defined as solid waste. In other terms any general waste collected by the municipalities which are in the form of solid nature other than hospital or bio-medical waste are municipal solid waste.

Solid waste management in India traditionally has been a neglected area of urban development and often accounted for severe urban health problems in the past. Only after the devastating plague in surat, Gujarat, which occurred in September 1994, solid waste management was resolutely discussed and put on the political agenda in India. This resulted in governments at the central, state and city level, non-government organizations (NGOs) and individuals paying more attention to the continuously annoying problem of garbage, initiating various waste management projects and special cleaning drives as well as drafting new policies.

Solid waste management has a single problem –cost recovery. This is because, traditionally, solid wastes services are financed by general or revenues from city taxes and levies consequently, many municipalities, in developing countries spend a large proportion of their budgets on the collection, transport and disposal of solid waste. There solid waste management is a costly service that consumes between

20 and 50 percent of available operational budgets for municipal services, yet serves no more than 70 percent of the urban inhabitants (Bartone and Bernstein, 1993). Those who do not receive services are the low-income populations concentrated in the semi-urban areas, which either do not prioritize the importance of clean environment or are caught in the abyss of poverty and therefore have more pressing issues. Even those in decent housing areas are living next to mountains of heaps of garbage lying uncollected. The municipal authorities have not made sufficient efforts in educating them apart from asking for service charges.

The changing economic trends and rapid urbanization complicate solid waste management in developing countries. Consequently, solid waste is not only increasing in quantity but also changing in composition from less organic to more paper, packing waste, plastics, glass, metal wastes among other waste, a fact leading to the collection rates (Barton 1993).

### THEORETICAL BACKGROUND OF THE STUDY

The CV method is a survey based method used to value environmental goods. The CV method consists of asking individuals their WTP for additional quantities of a public good, namely the improvement of environment quality. The WTP of an individual depends on several factors such as income, age, attitude towards society and the environment. The WTP reflects the preferences of the individual and is somewhat limited by income level. Many studies have been done to evaluate

the environment through CVM however, this method has been controversial one and many researchers still question its validity. ( Georgious et al., (1997) CVM generally used for estimating the non-use values, in developing countries has been widely used in the case of use values derived by households from infrastructure projects. Alberini and krupnik (2000) have estimated the willingness to pay to avoid health damages associated with air pollution for residential of the republic of china (Taiwan) using the health production function model. The respondents were also asked about the severity of these symptoms. Respondents were also asked about the severity of these symptoms and about activities undertaken to alleviate symptoms such a seeing a doctor and the related expenditure. The questionnaire also contained questions designed to determine actual exposure to outdoor pollution concentrations such as how much time the respondent exercised or otherwise spent outdoor on each day. Participants were selected by random sampling after stratification by age. The sample includes both children and adults. Dasgupta (2000) uses a model of household health production function to estimate the value placed on the safe drinking water by the households in the area of Delhi to prove diseases like diarrheal. The health status could be measured as number of days of illness or the real income loss due to illness to the individual. The demand for providing goods to improve the health could be measured as defensive expenditures which includes the money spent on medicines, cost of consulting doctors, hospitalization, and the money spent on water purification. The estimation procedure involves the estimation of reduce from equation relating of health status and to the water quality and income and the other socio-economic characteristics of the individual.

In Economic Cost Benefit Analysis is especially important in environmental economics, because it focuses on the value of the environment to society or a wider group of stakeholders. It can often occur that the financial analysis turns out to be unprofitable, but the economic analysis turns out to be profitable. For example, a forest that is conserved without logging can be unprofitable for the owner; the

forest has to be maintained but does not generate any direct revenues. But to the wider group of stakeholders, the benefits enjoyed by the forest – water provision, tourism, wildlife, biodiversity, scenic beauty, etc - may outweigh the costs. Similarly, maintaining soil fertility may not be profitable for an individual farm or group of farms, but it may be beneficial for the whole community or area. An economic cost benefit analysis may give researchers a bargaining tool to convince policy makers to invest in environmentally sound practices. Nevertheless, a positive economic analysis does not mean individual farms are profitable – so the practices involved may not be very attractive for the farmers to adopt, and may require subsidies from society to encourage the farmer to invest in such environmentally sound practices that lead to benefits that accrue to society and not just the farmer.

In this theory, the total benefits in terms of improved public health, protection and conservation of land and other natural resources, and reduction of risk to future generations should always exceed the total costs of the hazardous waste management system. In practice it is very difficult to measure accurately the benefits and the costs because the necessary information is either not available or very difficult to develop. In case where careless handling and disposal of hazardous wastes pose imminent danger to public health, the government must move quickly to correct the problem.

### **OBJECTIVE**

The Study Highlights the Cost Benefit Analysis for Protecting the Environment due to Solid Waste Disposal.

### **AREA OF THE STUDY**

Municipal governance in Salem city was started in year 1994. It is situated at an elevation of 912 feet about means sea level. As per 2001 census the population of Salem is 6.93 lakhs, and the present population is estimated to 7.3 lakhs. Waste generation sources in Salem are Residential Colony 64%, Commercial Unit 16%, Street Sweeping 0.8%, Institution 8% and Hospital Nursing Homes 4%, the total quantity of waste generated in Salem is 335 MT per day. Solid waste were dumped in an open



dumping ground viz., Suramangalam (3 Sq. Km), Veeranum (5 Sq. Km), Erumapalayam (25.58 Sq. Km), Meyyanur (4.94 Sq. Km). The present study find out the public participation on waste management with contingent valuation method.

**LEGAL ASPECTS OF WASTE MANAGEMENT**

Problems relating to solid wastes are covered in the definition of "pollution". As defined in the water (Prevention and Control of Pollution) act, 1974, "pollution means such contamination of water or such alteration of physical chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or aquatic organisms". Under this definition, solid waste, so disposed without following proper methods, can create pollution problems.

**MATERIAL AND METHODS**

The empirical study is based on both primary and secondary data. While the secondary data are a large extent documentary, the primary data have been collected on the interview schedule. A random of 50 neighboring households from (close proximity) each selected compost yard are drawn. Thus 50 samples for each making 200 total samples investigated for the study. The economic valuation introduced in this study is based on the application on contingent valuation method (willingness to pay) the interview schedules mainly focus the awareness of the health problems and environmental quality improvement due to municipal waste and willingness to pay.

**RESULT AND DISCUSSION  
SOLID WASTE MANAGEMENT**

Collection, transportation and final disposal of large volumes of wastes require a high level of management and technical expertise. There is also a rising public awareness about the need for an environmentally acceptable management of solid waste. The final disposal of solid wastes can be carried out by

several methods-incineration, composting, land filling and recycling. But, the Salem municipal corporation following the method of land filling only. The disposal of solid waste is done in poorly maintained landfills with serious environmental consequences, particularly to ground and surface water.

**ENVIRONMENTAL DAMAGE**

The main environmental damage listed in the study area are the damage to health, air pollution, drinking water and soil the damage under the feeding others have been elaborated as the bad smell, mosquito menace, pests like rats and other insects invading homes, stay cattle, pigs and street dogs, creating havoc.

**Quantity of Waste Generation**

Type of property	No. of units	Quantity of waste generated per day
Household	1,23,482	201.00 MT
Shops & workshop	7,428	96.50 MT
Offices & institutions	3,450	10.50 MT
Industries	2,750	15.00 MT
Others	17,530	12.00 MT
Total	1,54,630	335.00 MT

Source: Salem Municipal Corporation Records

The above table shows the quantity of waste generated per day in various sources.

**Table No 1.1. Municipal Waste Affecting Health**

Area	Yes	%	No	%	Total
Suramangalam	44	23.40	6	50	50
Veeranum	48	26.06	1	8.33	50
Erumapalayam	49	25.53	2	16.66	50
Meyyanur	47	25	3	25	50
Total	188	99.99	12	99.99	200
%	94	-	6	-	100

Source: compiled

A vast majority of the Erumapalayam area respondents 49 persons of the total support the view that municipal wastes directly affecting their health.

**Table No.1.2. Disease Suffered by Respondents of Municipal Wastes**

Area	Typhoid	Common cold	Gastro enteric	malaria	cholera	filariasis	influenze	T.B	asthma	Viral fever	cancer	Polio/ aids	hepatitis
Suramangalam	1	25	1	7	-	1	-	2	1	8	-	-	-
%	8.33	47.16	20	46.66	-	8.33	-	18.18	5.26	20.51	-	-	-
Veeranum	5	5	1	8	2	9	1	4	4	6	-	-	2
%	41.66	9.43	20	53.33	100	75	100	36.36	21.05	15.38	-	-	9.09
Erumapalayam	4	3	3	-	-	2	-	1	13	13	-	-	10
%	33.33	5.66	60	-	-	16.66	-	9.09	68.42	33.33	-	-	45.45
Meyyanur	2	20	1	-	-	-	-	4	1	12	-	-	10
%	16.66	37.73	-	-	-	-	-	36.36	5.26	30.76	-	-	45.45
Total	12	53	5	15	2	12	1	11	99.99	99.99	-	-	22
%	6	26.5	2.5	7.5	1	6	0.5	6.5	9.5	19.5	-	-	11
Over percentage	99.98	99.98	100	99.99	100	99.99	100	99.99	19	39	-	-	99.99

Source: compiled

The disease stated to have been suffered as per table no 1.2 are typhoid 6 percent, common cold 26.5 percent, gastro enteric 2.5 percent, Enteric 4.5 percent malaria 7.5 percent, cholera 1 percent, filariasis 6 percent, influenza 0.5 percent, T.B 5.5 percent, asthma 9.5 percent, viral fever 19.5 percent and hepatitis 11 percent. The Suramangalam respondents 25 persons (47.16 percent) are the most affected by common cold, followed by 20 persons (37.73 percent) in Meyyanur. The Erumapalayam respondents 13 persons (33.33 percent) are the most affected by viral fever, which is the next prevalent disease, while T.B and cholera have been reported by just 0.5 percent and 1 percent respectively.

**Table No 1.3. No. of Respondents for Area Wise WTP and Not WTP**

Area	Yes	%	No	%	Total
Suramangalam	47	25.13	3	23.07	50
Veeranum	47	25.13	3	23.07	50
Erumapalayam	50	26.73	-	-	50
Meyyanur	43	22.99	7	53.84	50
Total	187	99.98	13	99.98	200
%	93.5	-	6.5	-	100

Source: compiled

The table 1.3 indicates 93.5 percent of the sample (200 persons) as being willing to pay. Erumapalayam area leads the way with 50 persons (26.73 percent) or almost one third of the sample being willing to pay. Suramangalam and Veeranum follow next with 47 persons i.e. 25.13 percent of the respondents. A Meyyanur respondent has the most number (7 persons, 53 percent) of the sample not willing to pay.

**Table No 1.4 Range of Wiliness to Pay**

AREA	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	NOT WTP	TOTAL
SURAMANGALAM	20	7	5	5	5	5	-	1	-	2	50
%	20.61	100	18.5	26.31	33.33	41.66	-	100	-	16.66	-
VEERANUM	34	-	9	2	-	-	2	-	-	3	50
%	35.05	-	33.33	10.52	-	-	50	-	-	25	-
ERUMAPALAYAM	15	-	10	10	5	5	-	-	5	-	50
%	15.46	-	37.03	52.63	33.33	41.66	-	-	83.33	-	-
MEYYANUR	28	-	3	2	5	2	2	-	1	7	50
%	28.86	-	11.11	10.52	33.33	16.66	50	-	16.66	58.83	-
TOTAL	97	7	27	19	15	12	4	1	6	13	200
%	48.5	3.5	13.5	9.5	7.5	6	2	0.5	3	6	100
OVERALL PERCENTAGE	99.98	100	99.97	99.98	99.99	99.98	100	100	99.99	99.98	-

Source: compiled

The table 1.4 reveals that respondents are aware of the need to reinforce the municipal waste management. The respondents from Erumapalayam are prepared to pay up Rs.45-50 on an average, while those from Suramangalam go up to only Rs. 40-45. The study has shown that there is willingness to pay up Rs.45-50 starting from Rs.5-10. A majority of the respondents are willing to pay Rs.5-10. Because there are in low income groups. At the same time they are expecting the clean environment.

## CONCLUSION

Amongst many environmental crises tormenting the communities of the world today, garbage or solid disposal is perhaps the most tormenting. It is the unplanned disposal of solid waste that causes pollution while its proper management ensures healthy conditions countries all over the world face the problem of waste disposal and it is aggravating day by day. In fact, every community the generate waste has to face the problem of its disposal.

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# 38.GOODS AND SERVICE TAX (GST) AND ITS IMPACTS ON HOTEL INDUSTRY IN CHENNAI CITY

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## ABSTRACT

*Goods and Services Tax (GST) is an indirect tax which was passed on August 3, 2016 and came into effect from July 01, 2017 onwards in India. GST has already been implemented in 160 countries. India adopted concurrent dual GST model where taxes are collected in the form of State Goods and Service Tax (SGST) and Central Goods and Service Tax (CGST). Tamil Nadu is one of the most socially and economically progressive states. In 2014-15, Tamil Nadu contribute to 8.4 per cent in GDP and services contributes to economic activity (45%), manufacturing (34%) and agriculture (21%). Hotel industry (includes tourism) contributes to 6.23 percent to the National GDP and 8.78 percent of the total employment in the country. Hotel Industry contributes to the output of goods and related services which build wellbeing of its nation and communities. This paper will throw light on the historical journey of GST, objectives and also impact of GST on hotel industry.*

*Key words: Goods and Services Tax (GST), Hotel industry, positive and negative impact.*

## INTRODUCTION

Goods and Services Tax (GST) is an indirect tax which was passed on August 3, 2016 and came into effect from July 01, 2017 onwards in India. GST was introduced as the Constitution (One Hundred and First Amendment) Act 2017, following the passage of Constitution 122nd Amendment Bill. The GST council has approved the rates of taxes (5%, 12%, 18% and 28%) on goods and services in its 14th council meet held on May 18, 2017. GST has already been implemented in 160 countries. India adopted a concurrent dual GST model where both states and centre will impose and collect tax in the form of State Goods and Service Tax (SGST) and Central Goods and Service Tax (CGST). It is unified, comprehensive, multi-stage, transparent, destination-based tax that will be levied on every value addition. Overall GST will be helpful for the development of Indian Economy and this will also help in improving the Gross Domestic Products (GDP) of the country more than two percent.

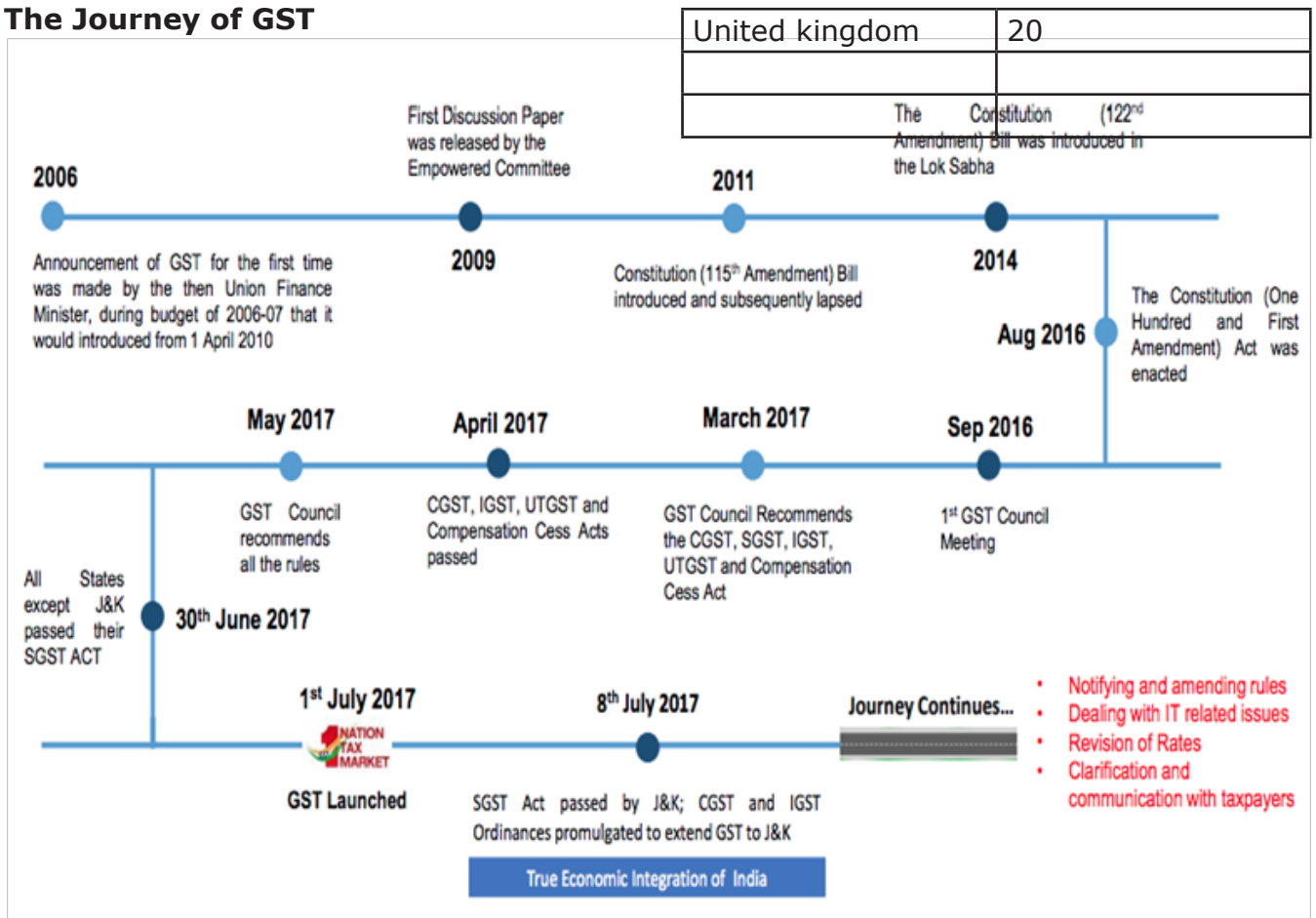
Tamil Nadu is one of the most socially and economically progressive states in the country. In 2014-15, Tamil Nadu had the second largest economy in India with GDP- 8.4 per cent. Services contribute to economic activity (45%), manufacturing (34%) and agriculture (21%). It ranks second in Human Development Index, third in Per capita GDP and the fourth largest

state of India. It is one of the three most preferred states for business investments and most industrialized state in India. Tamil Nadu is only one of eight states that recorded poverty reduction at a rate higher than the all-India average. Hotel industry (includes tourism) contributes to 6.23 percent to the National GDP and 8.78 percent of the total employment in the country. Hotel Industry contributes to the output of goods and related services which build wellbeing of its nation and communities.

## GST RATES IN VARIOUS COUNTRIES

World over in almost 150 countries there is GST or VAT, which means tax on goods and services. Most countries with a GST have a single unified GST system, which means that a single tax rate is applied throughout the country. These countries tax virtually everything at a single rate. The bar diagram depicted here in as under gives vital information about the current state of GST in various nations of the world. It can be observed that in India the GST rate is at 18%. The highest rate of GST is observed in Netherlands while the lowest one can be found in countries such as Canada and Jersey. So far there have been various positive as well as critical changes in all these countries after implementation of GST.

## The Journey of GST



Country	Rate of GST
	%
Australia	10
Brazil	10
Canada	5
China	17
France	20
Germany	19
India*	18
Indonesia	10
Japan	8
Jersey (UK)	5
Korea	10
Malaysia	6
Mexico	16
Netherland	21
New Zealand	15
Pakistan	17
Russia	18
Singapore	7
Switzerland	8
Thailand	7

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World over in almost 150 countries there is GST or VAT, which means tax on goods and services. Most countries with a GST have a single unified GST system, which means that a single tax rate is applied throughout the country. These countries tax virtually everything at a single rate. The bar diagram depicted here in as under gives vital information about the current state of GST in various nations of the world. It can be observed that in India the GST rate is at 18%. The highest rate of GST is observed in Netherlands while the lowest one can be found in countries such as Canada and Jersey. So far there have been various positive as well as critical changes in all these countries after implementation of GST.

### OBJECTIVES OF GOODS AND SERVICE TAX

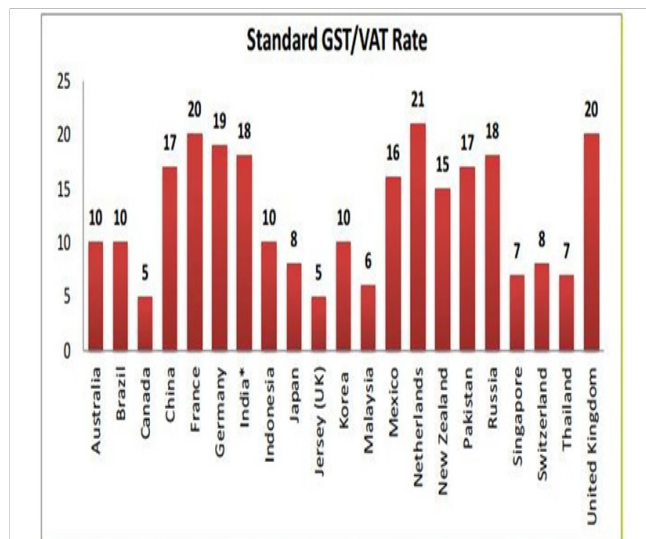
GST is proposed to fulfill the following objectives:

- GST would help to eliminate the cascading effects of production and distribution cost of goods and services. This would help to increase GDP and then to

economic condition of the country.

- GST would eliminate the multiplicity of indirect taxation and streamline all the indirect taxes which would be beneficial for manufacture and ultimate consumer.
- GST would be able to cover all the shortcomings of existing VAT system and hopefully serve the economy health.
- Incidence of tax falls on domestic consumption
- The efficiency and equity of system is optimized
- There should be no export of taxes across taxing jurisdiction
- The Indian market should be integrated into single common market
- It enhances the cause of co-operative federalism.

Present indirect tax structure in India is very complicated and complex in nature. It consists of cascading effects of tax. These add to cost of goods and services through “tax on tax” which the final consumers have to bear.



Note: \* The GST structure ranges between 5%-28% with majority to commodities falling under 18% bracket.  
Source: OECD (2016) and CBEC

### **HOTEL INDUSTRY IN INDIA**

Hotel Industry in India has witnessed tremendous boom in recent years. Hotel Industry is inextricably linked to the tourism industry and the Growth in the Indian tourism industry has fuelled the growth of Indian Hotel industry. The thriving economy and increased business opportunities in India have acted as a boon for Indian hotel industry. The arrival of low cost airlines and the associated price wars have given domestic tourists a host of options. The 'Incredible India' destination campaign

and the recently launched 'Atithi Devo Bhavah' (ADB) campaign have also helped in the growth of domestic and international tourism and consequently the hotel industry. According to a report, Hotel Industry in India currently has supply of 110,000 rooms and there is a shortage of 150,000 rooms fuelling hotel room rates across India. It is estimated that the demand is going to exceed supply by at least 100% over the next 2 years. The future scenario of Indian hotel industry looks extremely rosy. It is expected that the budget and mid-market hotel segment will witness huge growth and expansion while the luxury segment will continue to perform extremely well over the next few years.

### **LITERATURE REVIEW**

Poonam, 2017 in her study, she had cleared that GST would be a very important step in the field of indirect taxation. The cascading and double taxation effects can be reduced by combing central and state taxes. Consumer's tax burden will approximately reduce to 25% to 30% when GST is introduced. After introduction of GST concept, Indian manufactured products would become more and more competitive in the domestic and international markets. This taxation system would instantly encourage economic growth. GST with its transparent features will prove easier to administer. In this paper the author has tried to attempt to spot the concept of GST & its current status in India. Paper has tried to give information about GST system. The study also aims to be familiar with the advantages and challenges of GST in Indian scenario.

Kawle, et. al, reveals GST: An economic overview: Challenges and Impact ahead. Once the GST system is applied there would be single tax system which would record a significant development in comprehensive indirect taxation reform. Under the GST system there would be only one rate applicable for both goods and services. GST will create a business friendly environment, as prices will fall and it would also control the inflation rates.

Shakir Shaik et. al, explained "Does Goods and Services Tax (GST) Leads to Indian Economic Development? An attempt is made in this paper to study the concept of goods and service tax and its impact on Indian

economy. The study also aims to know the advantages and challenges of GST in Indian scenario.

Sehrawat et.al, revealed in their paper "GST IN INDIA: A KEY TAX REFORM, This paper presents an overview of GST concept, explains its features along with its timeline of implementation in India. The paper is more focused on advantages of GST and challenges faced by India in execution.

Mahender in his paper titled GST Effect on Manufacturing Industry – India, Explained the positive and negative effects of GST on manufacturing industry in India.

Research Problem:

The concept of Goods and Service Tax (GST) is one of the biggest Tax reforms in decades around the world. This research intends to focus on understanding the Impact of goods and service tax in Hostel Industry in Chennai City.

**RESEARCH OBJECTIVES**

- To study the concept of Goods and service Tax
- To find out the positive and negative impacts of GST in Hotel Industry in Chennai city

**RESEARCH MATERIALS AND METHODS**

This study focuses on Primary data collected from various hotels in Chennai city. Among 300 Hotels, a random sampling of 150 has been collected and analyzed using SPSS package and the result are presented below.

**ANALYSIS AND DISCUSSIONS**

Cross tabulation & Chi square test

H1: There is a Positive Impact of GST on Hotels in Chennai City.

H2: There is a Negative Impact of GST on Hotels in Chennai City.

**Table 1 Shows Positive Impact of GST on Hotel Category**

		positive Impact * Hotel category Cross tabulation				Total
		Hotel category				
		Budget Hotel	Luxury Hotel	3 Star Hotel	4 Star Hotel	
positive Impact	Strongly disagree	2	0	0	0	2
	Disagree	1	2	1	0	4
	Neutral	11	11	5	3	30
	Agree	29	38	29	7	103
	Strongly Agree	16	56	22	23	117
<b>Total</b>		<b>59</b>	<b>107</b>	<b>57</b>	<b>33</b>	<b>256</b>

From the above table, it is inferred that 29 out of 59 Budgeted Hotel, 29 out of 57, 3 Star Hotel, 23 out of 33, 4 Star Hotel, agree that GST has a positive impact. 56 out of 107 Luxury Hotels strongly agree the positive impact of GST. Majority of the respondents agrees that GST has a positive impact on their hotels. Only very few respondents disagree the positive impact. Finally 117 out of 256 respondents strongly agree the positive impact.

**Table 2 Chi Square Test-Positive Impact of GST**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.105a	12	.007
Likelihood Ratio	27.126	12	.007
Linear-by-Linear Association	10.842	1	.001
N of Valid Cases	256		

a. 9 cells (45.0%) have expected count less than 5. The minimum expected

**Table 3 Shows Negative Impact of GST on Hotel Category**

		Negative Impact * Hotel category Cross tabulation				Total
		Budget Hotel	Luxury Hotel	3 Star Hotel	4 Star Hotel	
Negative Impact	Strongly disagree	3	13	3	1	20
	Disagree	9	20	12	3	44
	Neutral	4	14	4	3	25
	Agree	14	26	17	14	71
	Strongly Agree	29	34	21	12	96
<b>Total</b>		<b>59</b>	<b>107</b>	<b>57</b>	<b>33</b>	<b>256</b>

From the above table, it is inferred that 29 out of 59 Budgeted Hotel, 34 out of 107 Luxury Hotel, 21 out of 57, 3 Star Hotel, 12 out of 33, 4 Star Hotel, strongly agree that GST has a negative impact. Majority of the respondents strongly agrees that GST has a negative impact.

**Table 4 Chi Square Test Negative Impact of GST**

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.346a	12	.223
Likelihood Ratio	15.169	12	.232
Linear-by-Linear Association	.067	1	.796
N of Valid Cases	256		
a. 4 cells (20.0%) have expected count less than 5. The minimum expected			

From the above table, it is inferred that the arrived significant value (0.223) is greater than 0.05, Hence the alternate Hypothesis H2 is rejected. Therefore; there is no negative impact of GST on Hotels in Chennai City.

**SUGGESTION AND CONCLUSION**

Companies specialised in food and beverages operations could be the biggest beneficiaries of GST within the hospitality sector. Food and beverages bills have multiple components and can inflate the bills by 30-35%. A single-slab tax will benefit consumers and should lead to savings of 10- 15% on the

overall bill.

The restaurant industry has been burdened with high and multiple taxations. However, liquor should be included in GST. Exempting it defeats the very purpose of bringing in a uniform single tax structure. This allows states to have their own taxes without a cap with separate accounting requirements and results in double compliance for the restaurant / hotel industry. This is neither beneficial for 'Ease of doing business' nor for the customers.

"Everybody likes consolidation of taxes as it leads to greater transparency and will help guests and buyers understand overall



costs. We welcome the development," said Raj Rana, CEO, South Asia, for hotel group Carlson Rezidor. "Some states have luxury tax and that impacts room rates. If India aspires to be competitive, then the tax structures too need to be competitive.

"Luxury and other service taxes in hospitality amount to more than 22%, compared with the proposed 18% under the GST regime. Overall, GST should be positive for the sector assuming the multiplicity of taxes will go away in food and beverages.

The lacunas in the present regime of indirect taxation in India demands for the major breakthrough in this field for facilitating the ease of doing business effectively and efficiently. Hopefully, GST is going to be a pinnacle which aims at evolving an efficient and harmonized consumption or destination based tax system and will remove the problems faced by the sector leading to cost optimization and free flow of transactions.

This research intends to focus on understanding the Impact of goods and service tax in Hostel Industry in Chennai City. Finally most of the Budgeted, Luxury, 3-Star & 4-Star Hotels agree that implementation of the Goods & Service Tax By central Govt has strong positive impact and less negative impact on their hotels. Hence, from this study, it is concluded that GST has positive impact on Hotel Industry in Chennai City.

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## **39.SOCIAL ENGINEERING ON HIV/AIDS AN INTERNAL VIEW**

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### **ABSTRACT**

*This article explores the relevance of international human rights law in the response to the HIV/AIDS epidemic at national and international levels. Public health advocates can use arguments based on this body of law to promote responses to HIV/AIDS that reflect sound public health principles and documented best practice. Development assistance is increasingly linked to rights-based approaches, such as participatory processes, and strategic alliances between health professionals, organizations of people living with HIV/AIDS, and affected communities. Legal and human rights advocacy strategies are increasingly productive and necessary.*

*Keywords: HIV infections, International law; Human rights*

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### **INTRODUCTION**

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that AIDS had killed almost 35 million people between the beginning of the epidemic and the end of 2011, that another 50 million people were living with HIV/AIDS by the end of 2011, and that five million new cases were diagnosed in 2011 alone. Young women, men and child who have sex with men, and injecting drug users are particularly vulnerable to infection with HIV. These groups (and others vulnerable to HIV infection and the impact of AIDS) are often characterized by social and economic disadvantage and discrimination; this leads to the observation that in each society, those people who before the arrival of HIV/AIDS were marginalized, stigmatized and discriminated against become over time those at highest risk of HIV infection.

The determinants, scope and impact of the global epidemic of HIV/AIDS in epidemiological, social and human terms have been substantially documented. We know how the virus is transmitted, the effectiveness of prevention strategies in individuals and populations and how to slow disease progression in those infected with the virus. Yet in almost all of the developing and transitional countries, where the majority of new cases are occurring, the response has been unable to stop and reverse the tide of infection. HIV/AIDS are now recognized as an immense challenge to international security,

peace and development. The continued escalation of infection, particularly in Africa, needs a coherent social epidemiology that understands the epidemic in its historical, political and international legal context.

William A. Zule, DrPH(2002), the study compares 3- and 6-month outcomes of a woman-focused HIV intervention for crack abusers, a revised National Institute on Drug Abuse standard intervention, and a control group. All groups significantly reduced crack use and high-risk sex at each follow-up, but only woman-focused intervention participants consistently improved employment and housing status. Compared with control subjects at 6 months, woman-focused intervention participants were least likely to engage in unprotected sex; revised standard intervention women reported greatest reductions in crack use.

David Pérez-Jiménez, David W. Seal (2011), Although HIV prevention interventions for women are efficacious, long-term behavior change maintenance within power-imbalanced heterosexual relationships has been difficult. To explore the feasibility, content, and format of an HIV intervention for Latino couples, the authors conducted 13 focus groups with HIV/AIDS researchers, service providers, and heterosexual men and women in Puerto Rico, the Dominican Republic, and Mexico. Reasons that

participants thought that men should be involved in prevention efforts included promotion of shared responsibility, creation of a safe environment for open conversation about sex, and increased sexual negotiation skills.

### **OBJECTIVE**

- To study the various Internal laws about HIV/AIDS

### **METHODOLOGY**

A systematic review of the peer-reviewed and grey literature as well as policy documents and news reports were used to gather information describing HIV prevalence, risk factors for HIV infection, and sociopolitical and legal context for HIV/AIDS people worldwide. Furthermore, the authors used several consultations with key informants with expertise in health and human rights issues affecting people in low and middle-income settings. Finally, the authors reviewed the submissions made for the Regional Dialogues of the Global Commission on HIV and the Law that took place during 2011 to supplement the results of the literature reviews and consultations.

### **SOURCES OF DATA**

We searched the following databases: PubMed, EMBASE, Global Health, SCOPUS, PsycINFO, Sociological Abstracts, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Web of Science, POPLine, and Lexus Nexus. Conference abstracts were searched from the online archives of the International AIDS Conference, the Conference on HIV Pathogenesis, Treatment, and Prevention, and the Conference on Retroviruses and Opportunistic Infections (CROI). The World Health Organisation (WHO) publications database was searched as well as the National Library of Medicine's Meeting Abstracts database. Grey literature was searched using the New York Academy of Medicine's Grey Literature Report. Finally, selected experts in the field were contacted electronically to identify additional information not identified through other search methods.

### **THE INTERNATIONAL LAW OF HUMAN RIGHTS**

Human rights are a set of universal

entitlements that individuals enjoy irrespective of their sex, nationality, religion, culture or other status, that are inherent to human beings and that are proclaimed and protected by international law. Human rights have major relevance for shaping appropriate responses to the HIV epidemic and other global health challenges, including offering system-wide public health responses and identifying deficiencies in public health research agendas. International human rights law developed in the context of global revulsion at the horrors of the second world war and the establishment of the United Nations (UN) in 1945.

### **INTERNATIONAL HUMAN RIGHTS LAW AND HIV/AIDS**

Jonathan Mann, the first Director of the World Health Organization (WHO)'s Global Programme on AIDS, identified the international law of human rights as a comprehensive framework to which public health practitioners could anchor responsibility for addressing the underlying causes of HIV/AIDS, trauma and other threats to health. As outlined below, such a "rights-based approach" to public health in general, and HIV/AIDS in particular, supports sound public health practice by providing additional tools to motivate governments to act to achieve public health goals. Rights considerations can help facilitate the setting and monitoring of public health targets and provide a complementary language to identify failures, or incipient failures, of public health programmes.

The rightsbased approach also provides links with other social movements that use the same language—for example, the women's movement, the struggles of indigenous peoples and the movement of people working to protect the environment. In 1996, an international expert consultation group convened by UNAIDS and the Office of the High Commissioner for Human Rights, which included human rights experts, representatives of national AIDS programmes, people living with HIV/AIDS, and nongovernmental organizations, prepared guidelines for states on the application of international human rights law in the context of HIV/AIDS.

– provided for and carried out in accordance with the law, i.e. according to specific

legislation that is accessible, clear and precise, so that it is reasonably foreseeable that individuals will regulate their conduct accordingly;

- based on a legitimate interest, as defined in the provisions guaranteeing the rights;
- proportional to that interest and constituting the least intrusive and least restrictive measure available and actually achieving that interest in a democratic society, i.e. established in a decision-making process consistent with the rule of law.

### ***Limitations of international human rights***

law in the context of HIV/AIDS As Fidler notes, what makes public health sense does not automatically become a human rights obligation in international law (other than in the most general terms). Thus international human rights law does not provide particular guidance on injecting drug use, other than the general principles of non-discrimination and the obligations to control diseases, which can arguably be used to require the introduction of proven public health measures such as needle and syringe programmes.

Although international human rights treaties include monitoring mechanisms, and some provide for individual complaints about states' behaviour, the provisions for enforcement are generally weak, unlike, for example, trade agreements. In contrast with WTO infringements, no mechanism exists to impose monetary fines on violators of human rights (although international development aid can be tailored to support democratic freedoms and good governance as a precondition to further assistance.) International human rights law, as reflected in the International Guidelines on HIV/AIDS and Human Rights, does not provide, or claim to provide, a moral code for living with HIV/AIDS. It says nothing, for example, about our personal moral responsibility to care for affected people, although it addresses states' obligations in these areas.

### **How human rights law is used to mitigate the impact of HIV/AIDS**

#### ***International level***

United Nations General Assembly Declaration of Commitment on HIV/AIDS The United Nations General Assembly's Declaration

of Commitment on HIV/AIDS notes that "the full realization of human rights and fundamental freedoms for all is an essential element in a global response to the HIV/AIDS pandemic". It also sets concrete, time-bound targets for the introduction of national legislation and other measures to ensure the respect of rights in regard to education, inheritance, employment, health care, social and health services, prevention, support, treatment, information and legal protection.

### ***Global Fund for AIDS, Tuberculosis and Malaria***

The Board of the Global Fund for AIDS, Tuberculosis and Malaria sought to promote dialogue and collaboration between government and civil society during the preparation of funding proposals by requiring demonstrated consultation with and participation of affected communities. Participation is key to the rights-based approach to development, although the Board may be more influenced by practical considerations than by legal considerations in this respect. Nongovernmental representatives who sit on the Board and technical advisory committee can monitor governments that try to falsify their applications. Access to medications

Following the global outcry about the high cost of drugs for the treatment of HIV/AIDS, including antiretroviral drugs, the WTO's Ministerial Council declared in November 2001 that the agreement on Trade-Related Aspects of Intellectual Property Rights (the TRIPS agreement) "does not and should not prevent members from taking measures to protect public health".

### ***Parliamentarians***

UNAIDS and the Inter-Parliamentary Union jointly published the Handbook for Legislators on HIV/AIDS, Law and Human Rights on 1999.

### ***HIV testing in UN peacekeeping operations***

UNAIDS convened an Expert Panel on HIV Testing in UN Peacekeeping Operations to discuss whether the UN should introduce mandatory HIV testing for peacekeeping forces November 2001.

### **National level Participation**

The International Guidelines on HIV/AIDS and Human Rights propose that states, through political and financial support, ensure community consultation in all phases of HIV/AIDS policy design, programme implementation and evaluation. Again, participation is key, because without this "reality check", governments risk introducing laws and policies that increase rather than diminish inequity and discrimination, and hence increase HIV infection and associated harms. For example, some governments have proposed amending the criminal law without fully considering the potential costs and benefits in public health terms, particularly from a gender perspective.

### **Treatment access**

Pharmaceutical companies bowed to worldwide condemnation by abandoning court action against the South African Government over legislation that could be used to make essential drugs affordable for millions of South Africans.

### **Prevention of mother-to-child transmission**

Constitutional Court of South Africa held that the constitution required the government "to devise and implement within its available resources a comprehensive and co-ordinated programme to realise progressively the rights of pregnant women and their newborn children to have access to health services to combat mother-to-child transmission of HIV".

### **CONCLUSION**

The HIV/AIDS epidemic this described some of the many initiatives that are being undertaken in different contexts and that reflect approaches to law and policy related to HIV/AIDS that have roots in international human rights law. This body of law provides powerful tools for three distinct sectors seeking to address the HIV epidemic. Human rights law helps states respond appropriately to the challenges of the HIV/AIDS epidemic by providing a framework on which they can formulate laws and policies that integrate public health objectives and human rights standards. Human rights provide a basis for tools for nongovernmental organizations and advocacy groups to use to monitor the performance of states in their policies

and programmes and to take action for redress when public health policies violate rights. Human rights also speak to the obligations of public health practitioners with responsibilities for the protection and promotion of health at a population level.

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## 40. A STUDY OF HEALTH INFRASTRUCTURE AND HEALTH INDICATORS IN INDIA

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### INTRODUCTION

Health is an important endowment which gives value to human life. It directly contributes to human productivity, human capital and thus to economic development. On the other hand, ill health directly affects labour productivity and thus to overall growth of the economy. There is a strong link between ill health and poverty both at the micro level and macro level. Health infrastructure in the public domain is quite important in meeting the healthcare needs of the people and also in attaining the health indicators like infant mortality rate, maternal mortality rate and others. The Governments at the All-India level and also at the various State levels have taken sustained efforts in improving the stock of the public health infrastructure by increasing the number of sub-centres, PHCs, CHCs, doctors, nurses apart from other workers. This paper analyses the expenditure on the healthcare sector, availability and the extent of deficit in health infrastructure and also some health indicators at the national level and among the major states of the country.

### REVIEW OF LITERATURE

**Gupta et al (2000)** examined the health expenditure pattern in rural area of Wardha district, Karnataka and found that at least one person was sick in 74 families, of these, 67 persons required consultation and 13 required hospitalization. The total amount of money spent on preventive health care during one month was Rs. 6383. The total amount of money spent on curative health care was Rs. 40140. The author viewed that health expenditure affected the growth rate of the population, both by reducing mortality and by directly reducing fertility through family planning programmes (Sharma, 1986). **Krishnan (1996)** indicated that the existing health care system in

India is very regressive in respect of the distribution of the burden of treatment and that contributes to perpetuation of poverty in the country. Planning Commission has not even recognized that health ought to be integral to such programmes.

**Varadharajan and Chitra (1997)** opined that the Government expenditure on health care has been low and it should be increased. This may help to intensify the preventive and promotive health care services in the rural areas. Further, this would reduce the spatial inequality in the access to primary health centres from the existing status of one PHC per 1 lakh population to one PHC per 30000 population. According to the Ministry of Health and Family Welfare, Government of India (2007), the share of public provider in treatment of ailments varies with expenditure class. It reveals that a large proportion of total ailments were treated from the private sources - 78 per cent in the rural areas and 81 per cent in the urban areas, while the overall proportion of treated ailments to all ailments was 82 per cent in the rural and 89 per cent in the urban areas in 2004.

**Ghai (1985)** dealt with the management of primary health care. The author had discussed the exigency of increasing the efficiency of health infrastructure and principles of management and delivery of services. **The World Health Organisation (1987)** recommended that hospitals should develop preventive health care activities alongside teaching, training and research. Co-ordinating of activities of hospitals in a regional system to achieve the integration of curative, preventive and teaching functions is also recommended by committee. **Varadharajan and Deivamani (2000)** indicated that the Government must reduce the area and the number of people allotted to each health centre, so that effective care

can be provided.

### INTERNATIONAL COMPARISON

Table – 1 compares the vital statistics of India with that of major countries in order to understand the development made by the country in the realm of healthcare. While it is not surprising that India stands below the advanced countries like Germany and USA in all parameters, it is worse than even countries like Bangladesh in case of birth rate, death rate, IMR and also in under-5 mortality; worse than Pakistan in death rate and physician's density; Myanmar is better than India in parameters like birth rate, and Egypt is better in terms of all parameters except birth rate. This underscores the distance to be covered by the country, which needs sufficient investment to achieve the same.

**Table – 1: Basic Health Indicators in Selected Countries, 2017**

Country	Birth Rate UNICEF	Death Rate UNICEF	TMR UNICEF	Expectation life(WHS) of		Physicians Density Per 10000 (WHS)	Rank in Human Development	Under Five Mortality UNICEF
				Male	Female			
Bangladesh	21	6	38	64	66	3.0	146	48
Pakistan	27	7	70	63	64	8.1	145	87
Myanmar	17	9	50	61	67	4.6	149	66
Egypt	23	5	19	69	73	28.3	113	22
Germany	8	11	3	78	83	35.0	9	4
USA	14	8	7	76	81	24.2	4	8
India	22	8	48	63	66	6.5	134	63

Source: Government of India, (2018), National Health Profile, 2018, Planning Commission, Department of Health, NRHM, AYUSH, NACL & Health Research, New Delhi.

**Table – 2 presents the per capita health expenditure among the major countries during 1995 to 2017**

**Table - 2: Per Capita Health Expenditure in Major Countries, 1995 to 2017**

(in US \$)						
Country	1995	2000	2005	2010	2011	2017
Bangladesh	11.1	9.7	12.9	24.4	26.8	26.0
Brazil	316.0	264.7	387.1	988.9	1119.0	1056.5
China	20.7	43.0	79.7	215.8	273.8	321.7
United Kingdom	1364.1	1761.4	3161.2	3489.2	3658.9	3647.5
India	15.9	19.8	31.6	52.2	61.8	61.4
Japan	2891.4	2834.2	2928.0	4115.4	4640.7	4751.6
Sri Lanka	24.5	32.4	49.2	82.0	92.8	88.6
Pakistan	15.1	14.9	21.9	30.0	35.6	39.4
United States	3788.4	4790.0	6732.2	8254.2	8467.0	8895.1
World	462.6	492.7	709.1	950.2	1014.5	1030.4

Source: Accessed from <http://data.worldbank.org/indicator/SH.XPD.PCAP>

The per capita health expenditure in India has gone up from US\$ 15.9 in 1995 to US\$ 61.4 in 2017, while in the case of China, it has moved up from US\$ 20.7 to US\$ 321.7 in the same period, which shows the rising gulf between the two countries.

The per capita expenditure of India is less than that of Brazil and also Sri Lanka, leave alone the developed countries, while the global average stands at US\$ 1030.4 in 2017.

**HEALTH EXPENDITURE IN INDIA**

The expenditure on the health sector in India is made under three heads, viz., health, family welfare and Ayurvedic, Unani, Siddha and Homeopathy (AYUSH), which are considered as the alternative systems of medicine in the country. Table – 3 presents the data pertaining to the health sector outlay in India during the Five Year Plans. The total amount allocated to the health sector has gone up from Rs. 65.3 crores during the First Five Year Plan to Rs. 1252.6 crores in the Fifth Plan and then to Rs. 300018 crores during the 12th Plan. In terms of percentage to the total budgetary allocation, this has in fact declined from 3.4 per cent to 3.1 per cent, but has moved up to 6.9 per cent in the same period. This clearly shows that though the total amount spent on the health sector has gone up, in relative terms, it has been increased only since the 11th plan period, 2007-12.

**Table – 3: Five Year Plan Outlays on Health Sector in India (in Rupees Crores)**

Plan	Health Sector		AYUSH	TOTAL	% OF Total Outlay
	Health	Family Welfare			
I	65.2 (3.3)	0.1 (0.1)	Nil	65.3	3.4
II	140.8 (3.0)	5.0 (0.1)	Nil	145.8	3.1
III	225.9 (2.6)	24.9 (0.3)	Nil	250.8	2.9
IV	335.5 (2.1)	278.0 (1.8)	Nil	613.5	3.9
V	760.8 (1.9)	491.8 (1.2)	Nil	1252.6	3.1
VI	2025.2 (1.8)	1387.0 (1.3)	Nil	3412.2	3.1
VII	3688.6 (1.7)	3120.8 (1.4)	Nil	6809.4	3.1
VIII	7492.2(1.7)	6500.0 (1.5)	108 (0.02)	14102.2	3.2
IX	19818.4 (2.3)	15120.2 (1.8)	266.3 (0.03)	35204.9	4.1
X	31020.3 (2.1)	27125.0 (1.8)	775 (0.05)	58920.3	3.95
XI	136147 (6.31)	3988 (0.19)	140135.0	6.50	
XII	268551 (6.19)	31467 (0.73)	300018.0	6.92	

Source: Government of India, (2014), National Health Profile, 2013, Planning Commission, Department of Health, NRHM, AYUSH, NACL & Health Research, New Delhi, p. 182.

Apart from the outlay made at the national level towards the health sector, the outlay made by the major states of India during the 11th Plan period is also examined with the help of the data presented in Table - 4.

It is inferred from the table that the total allocation made by all the states and union territories put together during 2007-08 stood at Rs. 8323.6 crores which has gone up to Rs. 20754.5 crores in 2011-12 and thus, the total amount for the entire five year period stood at Rs. 67788.3 crores by all the states. The amount allocated to the health sector by Andhra Pradesh has gone up from Rs. 663.9 crores to Rs. 1712.9 crores during 2007-08 to 2011-12; in case of Gujarat, it has moved up from Rs. 578.5 crores to Rs. 2195.2 crores; in Karnataka, it has increased from Rs. 617.1 crores to Rs. 1302 crores in the same period; it has gone up from Rs. 452.4 crores to Rs. 1496.4 crores in Tamil Nadu. This indicates that in all the states the amount allocated has gone up over the period, with the exception of Himachal Pradesh, where it has declined from Rs. 224.3 crores to Rs. 164.4 crores. In terms of percentage to total amount allocated by all the states, Uttar Pradesh has allocated the highest amount to the health sector with 14.1 per cent during the 11th Plan, followed by Gujarat with 10.9 per cent, Andhra Pradesh 10.3 per cent and Tamil Nadu with 8.4 per cent. This suggests that allocation towards the health sector varies among the states to a considerable extent, though it has mostly gone up among all of them. Hence, all states need to increase the amount allocated towards the health sector, which is quite paramount in improving the human capital of the country.



**Table – 4: Health Sector Allocation under during 11th Plan among the Major States**

State	2007-08	2008-09	2009-10	2010-11	2011-12	11th Plan	
Andhra	663.9	1066.8	1326.5	1508.6	1712.9	6278.7	10.3
Assam	70.4	160.9	419.6	571.8	474.9	1697.6	2.8
Bihar	257.1	112.8	140.1	195.0	544.5	1249.5	2.0
Gujarat	578.5	806.1	1198.1	1900.0	2195.2	6677.9	10.9
Haryana	120.4	165.7	279.6	312.8	498.3	1376.8	2.3
Himachal	224.3	117.3	115.0	144.2	164.4	765.2	1.3
J & K	198.2	174.1	308.5	336.1	333.3	1350.2	2.2
Karnataka	617.1	853.1	809.0	1099.5	1302.0	4680.7	7.7
Kerala	88.4	103.6	134.8	171.3	416.7	914.8	1.5
MP	169.9	204.9	275.9	384.2	660.9	1695.8	2.8
Maha	523.0	636.5	764.6	1126.1	1471.7	4521.9	7.4
Orissa	118.3	151.5	160.5	166.4	323.9	920.6	1.5
Punjab	3.2	44.2	15.5	111.9	314.9	489.7	0.8
Rajasthan	319.9	339.0	342.7	446.8	663.5	2111.9	3.5
TN	452.4	624.9	1104.5	1440.3	1496.4	5118.5	8.4
UP	1493.6	1847.4	1683.2	1529.1	2049.6	8602.9	14.1
WB	318.4	430.6	566.1	684.4	873.8	2873.3	4.7
Total	<b>8323.6</b>	<b>10382.8</b>	<b>12541.8</b>	<b>15785.6</b>	<b>20754.5</b>	<b>67788.3</b>	---

Note: Column-wise total will not add up, since only major states are included.

Source: Government of India, (2012), National Health Profile, 2011, Planning Commission, Department of Health, NRHM, AYUSH, NACL & Health Research, New Delhi.

### **PUBLIC HEALTH INFRASTRUCTURE IN INDIA**

In India, not all states have the required number of sub-centres or PHCs or CHCs, though some have more than the required numbers. Also, while some states have surplus in sub-centres, they face deficit in others. Table – 5 provides the data regarding the number of required sub-centres, PHCs and CHCs on the basis of the corresponding size of population and the extent of surplus or deficit in the same.

**Table – 5: Percentage of Shortfall in Health Infrastructure among Major States, 2017**

States	Sub-centres		PHCs		CHCs	
	Required	Deficit / Surplus	Required	Deficit / Surplus	Required	Deficit / Surplus
Andhra Pradesh	11699	7.0	1924	-18.4	481	-65.3
Assam	5063	-9.3	826	2.2	206	-50.0
Bihar	14959	-41.0	2489	-34.1	622	-88.7
Gujarat	7263	0.2	1172	-8.4	293	-6.8
Haryana	3005	-19.0	500	-16.0	125	-31.2
Himachal Pradesh	1128	83.6	186	141.4	46	58.7
Jammu & Kashmir	1666	14.5	271	38.4	67	26.9
Karnataka	7369	10.5	1211	81.3	302	7.0
Kerala	4761	7.0	791	14.9	197	-45.7
Madhya Pradesh	10402	-15.1	1670	-31.2	417	-35.3
Maharashtra	12153	-13.0	1984	-8.5	496	-17.9
Orissa	7283	-8.2	1171	9.2	292	-20.9
Punjab	3219	-11.2	536	-9.7	134	-6.0
Rajasthan	9554	12.4	1555	-3.3	388	-10.1
Tamil Nadu	7057	23.4	1173	3.6	293	-29.7
Uttar Pradesh	26344	-22.1	4390	-15.9	1097	-53.1
West Bengal	12101	-14.4	1993	-53.6	498	-29.9
All India	158792	-8.0	26022	-9.9	6491	-34.1

Source: SRS Bulletin (2018), Sample Registration System, Office of Registrar General, India.

It is noted that among the 17 states, 6 states, viz., Bihar, Haryana, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal have deficit in all three categories and the extent of deficit is also quite huge ranging upto 41 per cent in the case of sub-centres in Bihar, 53 per cent in the case of PHCs in West Bengal and 88 per cent in CHCs in Bihar. On the other hand, in states like Andhra Pradesh, Gujarat and Rajasthan, there is deficit in PHCs as well as CHCs and in Assam, Kerala, Orissa and Tamil Nadu, there is deficit in the case of CHCs. Thus, only in three states, viz., Himachal Pradesh, Jammu and Kashmir and Karnataka there is surplus in all three categories. This clearly brings out the extent of deficiencies in the infrastructure in the healthcare sector in the country.

#### **AVAILABILITY OF HUMAN RESOURCE IN PUBLIC HEALTHCARE**

Table – 6 presents the data pertaining to the extent of vacancies in various among the major states of India.

**Table – 6: Extent of Vacancies in Workers, Assistants, Doctors and Surgeons Positions in PHCs among Major States, 2017**

STATES	WORKER	ASSISTANT	DOCTOR	SURGEONS*
ANDHRA PRADESH	-11.0	-0.4	+41.0	-82.0
ASSAM	+52.5	+31.2	-51.7	-29.1
BIHAR	-13.1	-70.8	-4.6	-60.0
GUJARAT	-15.4	-75.1	-5.0	-74.7
HARYANA	-9.1	-32.1	-16.7	-88.4
HIMACHAL PRADESH	-1.0	-74.6	-9.4	NIL
JAMMU & KASHMIR	-21.4	-92.8	+20.3	-45.9
KARNATAKA	-22.3	-46.7	+28.2	-48.0
KERALA	-11.4	-18.6	+90.5	-83.2
MADHYA PRADESH	-12.7	-35.5	-9.3	-81.5
MAHARASHTRA	-3.0	+82.9	-34.4	-83.0
ORISSA	-15.0	-43.2	+5.8	-79.2
PUNJAB	-19.0	-63.0	-58.5	-45.2
RAJASTHAN	+0.2	-9.6	+2.6	-34.4
TAMIL NADU	+4.5	+12.1	+86.0	-39.8
UTTAR PRADESH	+37.1	-4.9	-45.8	-67.8
WEST BENGAL	-46.4	-67.5	-12.3	-95.4
ALL INDIA	-12.4	-27.6	-15.1	-63.5

Note: \*Surgeons at CHCs. All India figures for Vacancy and Shortfall are the totals of State-wise Vacancy and Shortfall ignoring surplus in some States.

Source: SRS Bulletin (2018), Sample Registration System, Office of Registrar General, New Delhi.

It is noted that there are shortfalls in all the categories like workers, assistants, doctors and surgeons in the PHCs in most of the major states. In the case of workers, shortfall ranges from 1 per cent in Himachal Pradesh to 46.4 per cent in West Bengal, though there are some states which have surplus workers. For instance, in Assam, there is surplus of workers to the extent of 52.5 per cent, 4.5 per cent in Tamil Nadu and 37.1 per cent in the case of Uttar Pradesh. Shortfall in the number of workers could be seen even in the states like Kerala (11.4 per cent), Karnataka (22.3 per cent),

Maharashtra (3 per cent), Punjab (19 per cent) and West Bengal (46.4 per cent).

In the case of assistants too, there are shortfalls in 14 out of the 17 major states, as surplus of assistants could be found only in three states viz., Assam, Maharashtra and Tamil Nadu. The extent of shortfall ranges from 0.4 per cent in Andhra Pradesh to 92.8 per cent in Jammu and Kashmir. In states like Bihar, Gujarat, Himachal Pradesh, Punjab and West Bengal shortfall exists in excess of 60 per cent. As seen in the case of workers, in the case of assistants too, shortfall could be found among most of the advanced

states. Doctors who play the pivotal role in the PHCs too are found to be in short supply in many of the states. In fact, in 10 out of the 17 states, there is deficit of doctors in the PHCs. This deficit ranges from 4.6 per cent in Bihar to 58.5 per cent in Punjab. However, in states like Andhra Pradesh, Jammu and Kashmir, Karnataka, Kerala, Orissa, Rajasthan and Tamil Nadu doctors are seen in surplus. This surplus ranges from 2.6 per cent in Rajasthan to 90.5 per cent in Kerala. Thus, there is huge inter-state variation among the major states in the availability of doctors at the PHC level. The position of the surgeons is the worst as far as manpower availability is concerned, as in no state there is surplus of surgeons, though in Himachal Pradesh, there is no deficit. Thus, in all other states, surgeons are in short supply and notably the degree of deficit is markedly high in all the states. In some other states like Andhra Pradesh, Haryana, Kerala, Madhya Pradesh, Maharashtra and Orissa the level of deficit is around 80 per cent or more. Even in Tamil Nadu, which has surplus in other categories of human resource, surgeons are in deficit to the extent of 39.8 per cent. This clearly underscores the position of the PHCs in the country, as most of the important positions like workers, assistants, doctors and surgeons are in short supply compared to their sanctioned levels, which will directly impact the degree of accessibility of the services available in the PHCs.

## CONCLUSION

Healthcare services suffer from a shortage in public sector infrastructure. The failure of the public delivery system is an outcome of systemic breakdown of accountability relationships within the institutional framework. There is a shortfall not only in terms of physical infrastructure but also human resource, measured even against the minimal norms prescribed by the government. Even though the posts of health workers at various levels are sanctioned, many of them are lying vacant. Most health workers especially the doctors do not want to serve in the rural areas due to overall infrastructural inadequacy and lack of incentives. This leads to widespread absenteeism from service and closure of facility. Even though a well-structured public

health care system exists, the infrastructure as well as the staff that are required to provide the health care services is inadequate from many different perspectives. There exists not only inter-state variation, but also intra-state variation in terms of availability of hospitals, which is reflected in the worse health indicators in the rural areas than in the urban areas, though the latter itself is high. Moreover, analysis also brings out the fact that in most of the states that have worse health indicators compared to the national average, health infrastructure is also worse, which calls for comprehensive well coordinated measures to improve the condition of healthcare in the country.

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# **41.A STUDY OF PROSPECTS AND PROBLEMS OF SOLAR ENERGY PRODUCTION IN INDIA**

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## **ABSTRACT**

*Solar energy is radiant light and heat from the sun harnessed using a range of ever-evolving technologies such as solar heating, photovoltaic (PV), solar thermal energy, solar architecture and artificial photosynthesis. Solar energy which is a clean energy source does not disrupt the environment or create a threat to eco-systems the way oil and some other energy sources might. It does not cause greenhouse gases, air or water pollution. Solar energy cells can be used to produce the power for a calculator or a watch. They can also be used to produce enough power to run an entire city. With that kind of versatility, it is a great energy source. Another key aspect of using solar energy is that it has massive financial benefits, which can generally be seen in the reduction of utility bills. Solar Photovoltaic is a key technology option to realize the shift to a decarbonised energy supply and is projected to emerge as an attractive alternate electricity source in the future. In this background, it is quite important to understand the nuances involved with the use of solar energy, challenges and problems involved with its use, which is attempted in this study.*

*Key words - Solar energy, photovoltaic, environment, eco-systems, decarbonised*

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## **INTRODUCTION**

**W**idespread use of coal and other fossil fuels has led to accumulation of enormous amount of carbon dioxide in the earth's atmosphere and a resultant global warming. Renewable energy sources such as wind, solar, hydro and bio mass not only augment energy generation but also contribute to improvement in the quality of the environment. Amongst the above options of renewable energy sources, solar power generation undoubtedly offers the most promising and viable option for electricity generation for the present and future. Solar energy offers clean, climate-friendly, abundant and inexhaustible energy resource to mankind. It is understood that solar power generated over 1% of the land area in the country is adequate to meet its entire electricity requirements till 2030. With more than 250-300 sunny days, a solar radiation potential of 5,000 trillion kWh/year and huge areas of land available, solar energy installed in a 0.1 % of the land area of the country has a potential of addressing the entire country's energy needs. In addition, solar energy also has a potential of creating millions of jobs, sustain India's economic growth, help lift its massive population out of poverty, and combat climate change.

To take advantage of this opportunity, the Government of India (GoI) has initiated the National Solar Mission (NSM) which was the first of the eight missions under various sectors adopted under the National Action Plan on Climate Change.

## **SIGNIFICANCE OF SOLAR POWER**

As global warming threatens the survival of human society, as well as the survival of countless species, solar power helps to slow or stop global warming. Research has led to efficient solar panel systems that create electricity without producing pollution and global warming. Solar power is now very clearly one of the most important solutions to the global warming crisis. Also, solar power saves society billions of dollars. Even long before society's very existence is threatened by global warming, within the coming decades, global warming is projected to cost society trillions of dollars if left unabated. So, even ignoring the very long-term threat of societal suicide, fighting global warming with solar power will likely save society billions or even trillions of dollars. Using solar PV panels on the roof is likely to save thousands of rupees. The average 20-year savings was projected to be around Rs. 2 lakhs. Solar power provides

energy reliability, since the rising and setting of the sun is extremely consistent. All across the world, people know exactly when it will rise and set every day of the year. While clouds may be less predictable, there is fairly good seasonal and daily projections for the amount of sunlight that will be received in different locations. This makes solar power an extremely reliable source of energy. Moreover, solar power provides energy security and independence, as no one can turn sunlight into a monopoly. Combined with the simplicity of solar panels, this also provides the notable solar power advantage of energy security (Nayak, 2012).

PV installations of greater magnitude will produce substantial economic benefits for the states and regions that obtain the installations. Because PV technologies use more labour per MW installed than other renewable technologies, the direct job benefits to the regions that install systems are important. Due to the typically distributed nature of PV, on-site construction and installation of the systems provides substantial local investment and employment and is considered in addition to manufacturing investment. To fully measure the potential economic impact of solar PV development, the economic stimulus related to the investment must be traced beyond the installation, operations and maintenance phases back to the manufacturing activity related to the components that go into the systems. If developments seen solely as an effort to put new systems on-line, then the benefits of development will be seen as largely accruing to the communities and states that have good resources and can host the developments. However, the benefits of investment in PV are not limited to the localities where the installations occur. A large solar development program will also stimulate manufacturing activity in communities distant from where the actual installations occur (Anderson, and Williams, 2003). Solar energy systems do not require any fuel and, therefore, the running cost is low. The other advantage of solar energy systems is that the systems are modular, long-lasting, reliable and require less maintenance.

### **THE NATIONAL SOLAR MISSION**

India's national solar mission is a flagship

mission to establish India as a global leader in the solar energy. The mission with a three phase approach aims to create enabling policy framework to deploy 20 GW of solar energy in the country by 2022. The mission targets to ramp up capacity grid-connected solar power generation to 1,000 MW by 2013; an additional 3,000 MW by 2017 through renewable purchase obligation (RPO) which can be doubled - reaching 10,000 MW by 2017 or more, based on the enhanced and enabled international finance and technology transfer.<sup>30</sup> The ambitious target for 2022 of 20,000 MW or more, will depend on the successful achievement of the first two phases. It further aims to promote programmes to reach 2000 MW of off-grid applications, 20 million m<sup>2</sup> solar collector area and 20 million solar lighting for rural areas by 2022 respectively.

### **PROBLEMS OF SOLAR ENERGY PRODUCTION IN INDIA**

Though there are many incentives and opportunities provided for solar energy, entrepreneurs and financial institutions are not rushing to cash-in on the opportunity. The main barriers from the demand side are lack of awareness and willingness of the society as well as lack of familiarity with renewable energy practices. Electricity grid operators are reluctant to deal with decentralized supply due to the fact that the grid is highly unreliable and also the high economic costs involved for the grid connection in the remote areas. Solar PV projects also face barriers in financing due to the uncertainty surrounding the rate of return for banks and financial institutions. Further, adoption of solar systems in the general public is also low due to its unfamiliarity of financiers, lack of information and the uncertainty of the payback from the installed systems (Gunaratne et al, 2012).<sup>11</sup> To compete against mature fossil fuel and nuclear technologies, solar must overcome two major barriers to commercialization: undeveloped infrastructure and the lack of economies of scale. Developing solar energy resources will require large initial investments to build the requisite infrastructure to support the solar system. Due to the low mega watt (MW) scale installation (the national solar policy proposes projects of scale as low as 5 MW) and the huge costs involved in grid

connection, land acquisition and providing supporting infrastructure by the business developers, solar energy projects seems to be unsustainable.

Already existing subsidies and unequal tax burdens, when comparing the treatment of solar energy technologies and other energy sources, results in advantages for mature energy technologies. Also, compared with solar, nuclear and fossil fuel technologies enjoy a considerable advantage in government subsidies for research and development (Ndzibah, 2010).<sup>12</sup> Commercial and industrial customers are also generally unfamiliar with solar and have institutional barriers to purchasing solar. Industrial energy managers are trained only to find low-cost solutions. Industrial environmental managers look for ways to reduce in-house pollution and are unlikely to consider pollution associated with their electricity purchases. Solar energy projects and companies are generally small. These small companies are less able to communicate directly with large number of customers. They have less clout negotiating favourable terms with larger market players, and they are rarely able to participate in regulatory or legislative proceedings. Poor Implementation Capacity - Even though MNRE has an extensive policy structure in place, it is constrained by implementation capacity, since the nodal agencies are understaffed and often ill-equipped.

### **TREND IN SOLAR ENERGY GENERATION OF INDIA**

India is endowed with rich solar energy resource. The average intensity of solar radiation received on India is 20 MW/km square. With a geographical area of 3.287 million km square, this accounts to 657.4 million MW. However, only 12.5 percent of the land area amounting to 0.413 million km square can, in theory, be used for solar energy installations.

Even if 10 percent of this area can be used, the available solar energy would be 8 million MW per year. But the efficiency of conversion of solar energy to useful energy is low. Therefore, the energy actually available would be lower than these estimates.

The total installed capacity of grid interactive renewable power in India, which was 28067.26 MW as on 31.03.2013 had gone up to 31692.18 MW as on 31.03.2014 indicating growth of 12.92 percent during the period. Out of the total installed generation capacity of renewable power as on 31-03-2014, Wind power accounted for about 66.69 percent, followed by Biomass power (12.66 percent) and Small hydro power (12 percent). Tamil Nadu had the highest installed capacity of grid connected renewable power (8070.26 MW) followed by Maharashtra (5630.20 MW) and Gujarat (4430.20 MW), mainly on account of wind power. Out of 1221.26 MW Solar Cookers installed as on 31.03.2014, 824.09 MW were installed in Gujarat and 222.9 MW in Rajasthan. The total installed capacity of grid interactive solar power in India has moved up from 1686.44 MW in 2012-13 to 2631.96 MW in 2013-14, with an annual growth rate of 12.92 percent (Government of India, 2015).<sup>14</sup>

On 16 May 2011, India's first solar power project (with a capacity of 5 MW) was registered under the Clean Development Mechanism. The project is in Sivagangai Village, Sivaganga district, Tamil Nadu. India saw a sudden rise in use of solar electricity in 2010 when 25.1 MW was added to the grid, and the trend accelerated when 468.3 MW was added in 2011. More recently growth has been over 3,000 MW per year and is set to increase yet further. Government-funded solar electricity in India was just 6.4 MW per year in 2005. Table 1one clearly reveals the solar energy generation level in India.

Up to July, 2016 total solar electricity generated in India is 8,062.039 mm, out of these Rajasthan generated 1249.60 mm is the highest in India, followed by 1267.4 mm in Tamilnadu ,1123.36 mm in Gujarat, 935.80 mm in Andhra Pradesh, 238.32 in Karnataka and West Bengal is the lowest of 11.77 mm among states of India . In India level solar energy generation has increased from 3783.97 to 8052.03 mm ie doubled its production.

**Table-1. Solar generation of major States in India**

State	2015	Upto July 2016	State	2015	Upto July 2016
Rajasthan	942.10	1294.60	Karnataka	77.22	238.32
Tamilnadu	142.58	12.67.41	U.P	71.26	143.50
Gujarat	1000.05	1,123.36	Chhattisgarh	7.60	123.78
Andhra Pradesh	137.85	935.80	Odisha	31.76	66.92
Telangana	167.05	845.84	Haryana	12.80	15.39
M.P	558.58	790.37	Kerala	0.03	13.05
Punjab	185.27	520.70	West Bengal	7.21	11.77
Maharashtra	360.75	385.76	Total	3743.97	8052.03

**CONCLUSION**

Solar energy is a truly renewable energy source, it has generated, energy bills will drop. It can be used for diverse purposes, generate electricity (photovoltaics) or heat (solar thermal). Solar energy systems generally don't require a lot of maintenance. The main benefit of solar energy is that it can be easily deployed by both home and business users as it does not require any huge set up like in case of wind or geothermal power. Solar energy not only benefits individual owners, but also benefit environment as well. Solar energy is one of the most widely used renewable energy source. Solar PV is some years away from true cost competitiveness and from being able to compete on the same scale as other energy generation technologies. Adding to the cost are T&D losses that at approximately 40 percent make generation through solar energy sources highly unfeasible. However, the government is supporting R&D activities by establishing research centers and funding such initiatives.

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## 42.EMPLOYMENT OPPORTUNITIES OF LEATHER INDUSTRY WORKERS IN VELLORE DISTRICT IN TAMIL NADU

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### ABSTRACT

*Leather industry is a traditional industry. The leather and leather goods industry worldwide has emerged as an unexpected site where complex battles over the apparent trade-offs between trade liberalization, economics growth and the environmental consequences of this growth have played out in the past decade. The leather and leather goods industry worldwide has emerged as an unexpected site where complex battles over the apparent trade-offs between trade liberalization, economics growth and the environmental consequences of this growth have played out in the past decade. As an industry with production technologies that generate some of the most polluting chemical effluents, the leather sector has emerged as a battleground for current environmental debates. The challenge has been to find ways in which firms and government can internalize the negative externalities generated by environmentally damaging effluents that have long polluted the groundwater, streams and rivers in sites where leather – processing is concentrated and to do so without impeding the industry’s growth. Two features of the global leather industry have influenced how this debate has played out on the ground.*

*Key words: Economic growth, industry production, leather processing.*

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### INTRODUCTION

In the past fifteen years, even as demand for leather has increased, leather processing technologies have come under greater regulatory scrutiny by government and consumer advocacy groups in industrial economics, increasingly stringent restriction on polluting technologies and management of polluting effluents has leather firms in industrial economics to shift the most polluting phases of the production process, wet processing to developing countries where the policy environment has been far less regulated till now. At first the pressures that led leather processing firms to seek overseas capacity and locations led to rapid growth of tannings capacity in developing countries. By contrast, the defining feature of the industry in many developing countries like India that it is dominated by small firms and has till recently been characterized by a range of labour-intensive technologies focused on the export of semi-finished leather,skins and hides. First the policy

structure and state of technologies in the industry is increasingly bi-model worldwide advanced industrial economics employing capital and chemically intensive tanning processes and technologies that require large minimum efficient scales to function effectively.

The second key feature of the leather sector is the dramatic regulatory shifts in the industry.

### BACKGROUND OF THE LEATHER INDUSTRY IN TAMIL NADU

The Bad of the River paralar, flowing the North Vellore district of Tamil Nadu, presents a picturesque sight. The traditional laundry men dry their customers` clothes, children play cricket and cows graze lazily-all on the riverbed. A few stray patches of water remain as the only indicators of the fact that a river once used to be in full flow here. The river is dry with overexploitation, the groundwater is collared, saline and contaminated with the leather industry`s effluents and the air



is thick with the stench from the tanning process. This is one of the strongholds of the leather industry in Indian. It was here, in the North Vellore district of Tamil Nadu, that study team decided to look for one more different context where industrial Ecology concepts could be applied. Like the foundry cluster in the leather industry in this region was the centre of a national debate due to the high levels of pollution it created. In created in the case as well the Supreme Court had intervened to try and find a solution to the problem. A section of the local community was up in arms against the leather industry. Like in tirupur and Haora, the cluster of tanneries was a nearly homogeneous group of small industries that used similar processes. Just as in Tripura and Hoare, the study team documented a dossier on the region and the industry and attempted to understand the resource flows in the regions.

Since the period of the study, the names of the districts in Tamil Nadu have changed. The new name for the region covered by the erstwhile North arcot district is Vellore District.

## **THE LEATHER INDUSTRY IN TAMIL NADU**

The leather industry in Tamil Nadu has a long history going back to the middle of the nineteenth century. While India was a traditional producer of leather, export trade in raw hides and skins and leather began in the 1830s. it began to be recognized that India, with the largest cattle population in the world, could become a potential supplier on the world market. Initially, India exported only raw and cured hides and skins, but by 1850, began exporting tanned hides and skins as well. This was due to a significant tehcnical improvement introduced in the Madras presidency.

Unitil 1847, locally tanned hides and skins in Madras, using the avaram bark, produced a pale yellow, flexible leather, which was defective in that when exposed to sunlight, oxidization resulted in it turning an ugly red colour and patchy. The Madras tanners received complaints from overseas buyers on account of this. In 1847, Charles De Sousa, a French Eurasian technologist treated this avaram tanned leather with a tan liquor from myrabulan, which came to be known as the

myrabulan bath. Subsequently, the leathers tanned in the Madras thus sureged and both U.K and Germany became significant importers of tanned leather as well as raw hides and skins from India. This technical development marked the beginning of the development of the leather industry in Tamil Nadu.

## **CENTRAL LEATHER RESEARCH INSTITUTE**

Between 1946 and 1954, two committees were appointed to look into the problems faced by the leather industry, particularly in Tamil Nadu. In 1957, the Central Government established an Export Promotion Council for leather in Madras, in order to seek new markets and to promote the exports of finished leather and leather goods. Another landmark during this period was the setting up of the Central Leather Research Institute (CLRI) in 1953 under the auspices of the Council for Scientific and Industrial Research (CSIR). From an All-india point of view, Tamil Nadu, and within this the city of Madras, became a major centre of focus for the industry, with the state and its capital getting identified with the modern segment of the leather industry in India, something that the rest of the country needs to emulate. Given the nature of the leather industry, modernization of leather industry requires the following initiatives to make it efficient, responsive, and competitive, namely:

- a.Enhance productivity
- b.Reduce wastage
- c.Increase the product design
- d.Automate the production process
- e.Understand the customer needs
- f.Extend the reach through e-commerce
- g.Introduction of new technologies

## **OBJECTIVES OF THE STUDY**

The present study is carried out with the following objectives. They are

- To study the working conditions of workers in leather industries in Vellore District .
- To study the social conditions of workers in leather industries in Vellore District.
- To study the Modes of Recruitment of workers in leather in Vellore District.

## **METHODOLOGY OF THE STUDY**

The present study mainly depends on primary data collected directly from the

Vellore District leather industry workers. The secondary data were collected from the books, records, journals and magazines. The Indian leather industry is targeting over US\$ 5 billion exports by 2010 and is expected to add about additional 1 million direct and indirect jobs during this period. Leather industry is one of the traditional industries in India spreads over organized sector it account for over 75 percent of the total leather production. At present, the industry employs 2.5 million people and indirectly.

**SHIFTING OF MANUFACTURING BASE**

Major world tanning firms are in the process of shifting their manufacturing base to developing countries due to high wage levels and strict environmental norms in developed countries. Factors such as availability of leather, production know-how, processing of shoes work in India`s favour. India could effectively use these advantage to augment its share in global production and exports.

**GOVERNMENT SUPPORT**

Technology up gradation and modernization of the entire leather value chain should be given priority. Recently, the Government has approved Rs. 290 crores for modernization and technology up gradation programme.

**STRONG PRODUCTION BASE**

The industry should lay emphasis on design and technology, quality and innovation and economies of scale. Skill development for the manpower engaged in the sector is vital for enhancing the export potential of this sector.

**INVESTMENT BY LARGE CORPORATES**

Indian leather industry is dominated by household and small scale sector. Corporate presence would enhance the capability of producing quality leather products. The large capacity would also bring down the unit cost and increase the competitiveness in international markets.

**NEW MARKETS**

Diversification of export markets is another important strategy for Indian leather industry. Consolidation in new markets such as Croatia, Slovakia and Serbia would sustain the export growth momentum for

the Indian leather industry. Imports of leather articles by these countries have increased in the rangen of 20 - 30% in a period o f five years.

**NEW TRENDS**

The industry needs to keep itself abreast with latest fashion trends in the sector. It is observed that Italian buyers pay attention not only to the quality of the leather products but also to the accessories used in the garments. It is imperative that adequate care is takes about the packing material.

**DIVERSE MARKETING TECHNIQUES**

India needs to adopt aggressive marketing techniques in order to endure global competition. The industry could undertake business delegation to secure overseas investment and technology partnerships, besides building brand image. Developing countries like India should have two pronged marketing strategy of simultaneously targeting both low price and high quality markets, rather than the traditional strategy of being a low price-low quality supplier.

**ENABLING INFRASTRUCTURE**

The development of the Calcutta Leather Complex is a positive sign as all amenities are available at one place. Such exclusive leather complexes could be developed in other major production centers. Improvements in efficiency of posts, internal transport, customs procedures and supply chain management are necessary for augmenting the productivity and exports in this sector.

**Table-1: Export of leather Products(garments)**

Year	Value	Growth rate
2010 to 2011	333.30	Base year
2011 to 2012	309.91	-7.01
2012 to 2013	345.34	11.43
2013 to 2014	372.87	7.97
2014 to 2015	387.78	3.99

Source: leather products export

It is found from the above table that the Export of leather products regarding garments is presented and also calculated the growth percentage of leather product (garments). The growth percentage is calculated with previous year as base year

and values are respectively, in year 2011 is -7.01%, year 2012 is 11.43%, year 2013 is 7.97% and year 2014 is 3.99%. The highest growth percentage during the study period is 11.43%. It is concluded that the year 2012 has high Export of leather products of 11.43% in garments during the study period.

**Table-2: Export of leather goods and accessories**

Year	Value	Growth rate
2010 to 2011	660.17	Base year
2011 to 2012	706.28	6.98
2012 to 2013	800.46	13.33
2013 to 2014	798.69	-0.22
2014 to 2015	870.06	8.93

Source: leather products export statistics

It is obtained from the above table that the Export of leather products regarding goods and accessories is presented and also calculated the growth percentage of leather product (goods and accessories). The growth percentage is calculated with pervious year as base year and values are respectively, in year 2011 is 6.98%, year 2012 is 13.33%, year 2013 is -0.22% and year 2014 is 8.93%. The highest growth percentage during the study period is 13.33%. The study period have negative growth of -0.22% in the year 2013 It is concluded that the year 2012 has high Export of leather products of 13.33% in goods and accessories during the study period.

**Table-3: Trend to Export of leather to Germany and next five year**

Year	Value in crore
2010 to 2011	25.20
2011 to 2012	27.33
2012 to 2013	28.54
2013 to 2014	34.60
2014 to 2015	26.77
2015 to 2016	47.66
2016 to 2017	54.06
2017 to 2018	60.45
2018 to 2019	66.85
2019 to 2020	73.24

Source: export statistics of leather

It is clear from the above table that trend analysis is calculated for the leather export to Germany for the next five years from the current study period. According to the

trend value, leather export to Germany has expected to grow from 47.66% to 73.24% and also noticed that there is a positive growth trend for the next five years. It is concluded that leather export to Germany has expected to grow from 47.66% to 73.24%

**TRAINING FACILITIES**

Training programs should enable the industry to foresee and adapt to changing trends and technology. It is imperative that the staff is skilled and well qualified to train the students. Further, programmers need to be conducted to make Indian exporters aware of different standards and requirements in the global market to ensure that Indian exports do not get rejected due to environmental norms.

**CONCLUSION**

The leather industry, India`s role within the value chain and its impact on the organization of production and conditions of labour in the Indian leather industry. This was looked at through a detailed examination, through fieldwork, of three clusters, Agra, Chennai and associated locations and Warangal. This chapter summaries the findings of the study in terms of an analysis of India`s participation in the value chain for leather and comparison and contrast of the three locations where fieldwork was done in terms of production organization and the labour market. Economic organization in the leather and leather products industry has been shaped by three factors, insertion into global markets from colonial times onwards, historical and contemporary links with the social structure and state intervention through government policy.

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## 43. TREND AND PATTERN OF UNEMPLOYMENT AND POVERTY IN RURAL TAMILNADU : A STUDY

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### INTRODUCTION

Poverty manifests itself in masses of low income farmers, while urban poverty is a feature in mushrooming growth of slums and development of unorganized or informal sector, which is shelter for millions of migrants. Unemployment and poverty are inextricably linked in that one can't be decoupled from the other. Unemployment is the major cause of poverty. Unemployment leads to loss of income, self-reliance, skill and self-confidence, psychological and physical health, worker motivation and increases in ailment, morbidity and mortality. Poverty is characterized by deprivation of basic capability as well as lowness and inadequacy of income. From the above prospective, the State places the objectives of gainful employment generation and poverty reduction at the centre of the developmental strategy and planning.

### WORKING POPULATION RATE IN TAMILNADU

The working population in Tamil Nadu increased from 27.88 millions in 2001 Census to 32.88 millions in 2011 Census witnessing an annual compound growth rate of 1.18 percent. The Work Participation Rate (WPR) i.e., the proportion of workers to total population in Tamil Nadu edged up from 44.7 percent in 2001 to 45.6 percent in 2011. The ratio at the All India level during the corresponding period was lower at 39.1 percent and 39.8 percent respectively. Across the districts, the work participation rate was found to be the lowest at 36.3 percent in Kanyakumari despite the fact that the district had the highest literacy level. It was the highest at 53.1 percent in Erode as per 2011 Census. This was the case irrespective of rural and urban segments. The work rural areas was higher than that

of urban areas.

### CLASSIFICATION OF WORKERS IN TAMILNADU

The total number of marginal workers increased from 4.12 million in 2001 to 4.94 million in 2011 in the State indicating a higher degree of casualization of labour. For the first time in Census 2011 the marginal workers i.e., who worked for less than six months in the reference year had been subdivided into two categories viz., (i) those working for less than 3 months and (ii) those worked for more than 3 months and less than six months. Among the 4.94 million marginal workers, around 4.22 million workers worked for 3-6 months whereas 0.72 million (14.6%) worked for less than 3 months. The proportion of marginal workers to total workers was the highest at 28.4 percent in Cuddalore and the lowest at 6.4percent in Karur. As between rural and urban, the proportion of marginal workers to total workers was higher in the former case as compared to that of latter. Similarly, it was higher in the case of females as compared to that of males.

### LABOUR FORCE PARTICIPATION IN MAJOR STATES

The key indicators relating to employment and unemployment as per the NSS results (66th Round) in respect of major States are presented in the table. It clearly brought to surface the fact that in the country for every 1000 persons, 359 are in the labour force, 325 in the workforce and 94 are unemployed.

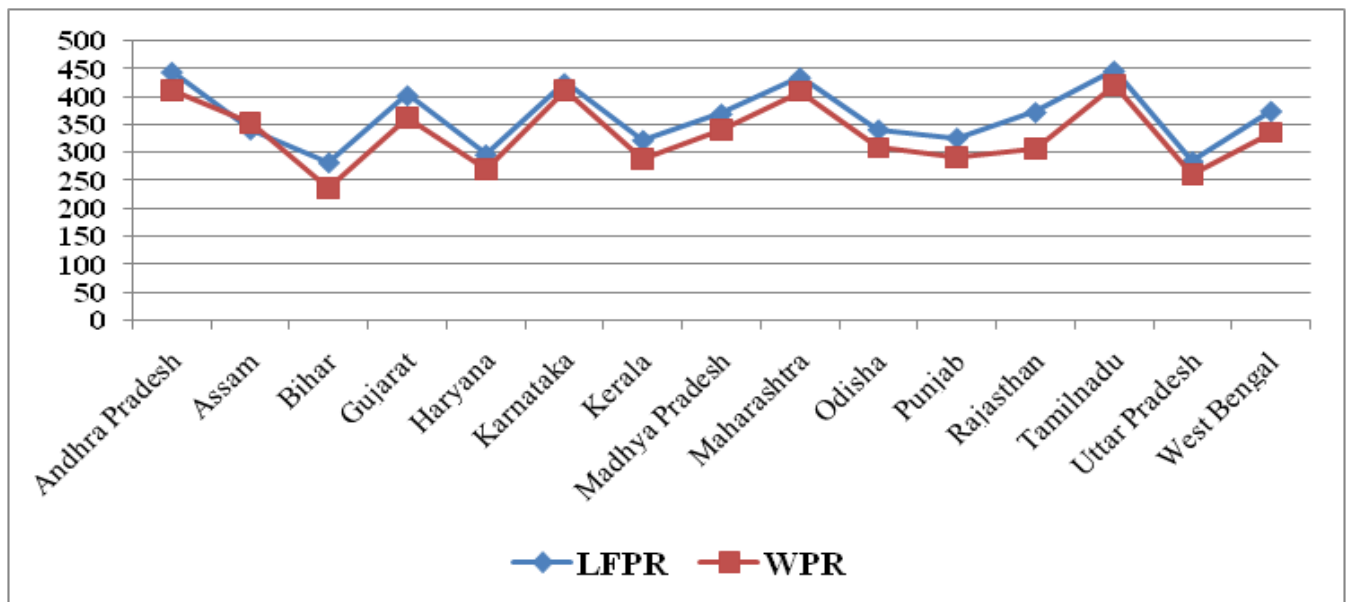
In respect of Labour Force Participation Rate and Worker Population Ratio, Tamil Nadu stood at the top among the major 15 States.

**Table No.1 Employment –Labour Force participation rate in Major States**

Major States	LFPR	WPR
Andhra Pradesh	444	410
Assam	341	352
Bihar	282	235
Gujarat	402	361
Haryana	296	270
Karnataka	424	411
Kerala	322	287
Madhya Pradesh	369	340
Maharashtra	434	409
Odisha	341	308
Punjab	326	291
Rajasthan	372	305
Tamilnadu	446	420
Uttar Pradesh	284	261
West Bengal	374	335
All India	359	325

Note: LFPR – Labour Force Participation; Rate, WPR – Worker Population Ratio,  
 Source: Report on Employment – Unemployment Survey, 2010,(NSS 66th Round) Labour Bureau, Ministry of Labour and Employment, Government of India

**Figure:1 Labour Force Participation Rate and Worker Population Ratio in major states**



**OVERALL EMPLOYMENT IN TAMILNADU**

One of the main sources of information to understand overall employment in the State/ Country is the National Sample Survey data. The latest data available for employment unemployment Quinquennial survey relates to the 66th Round of NSS pertaining to the year 2009-10. According to the NSS Round results (2009-10), the total population in the country was 1182 million, of which Taminadu accounts for 6. 0 percent. The State contributes 7.74 percent to the total labour force in the country and in the work force 8.3 percent. In India, the number of persons unemployed was 40 million of which 1.9 percent were from Tamil Nadu.

## SECTORAL DISTRIBUTION OF WORKFORCE IN RURAL TAMIL NADU

The sectoral distribution of workers explains the major contributing sectors towards employment generation in the state's economy. It also reveals the structural transformation taken place in the workforce of the state. Table 1 presents data on the employment structure of rural Tamil Nadu at the sub-sector level from 1983 to 2011-12. It is observed that the share of the agriculture and allied sector in the total rural

employment has come down from 68.8 per cent in 1983 to 55 per cent in 2011-12. As the mining and quarrying sector contributing less than 1 per cent to employment generation, the share of primary sector too has declined from 69.5 per cent to 55.3 per cent. In the case of females too, the dependence on the agriculture and allied sector has come down from 81.8 per cent in 1983 to 70.8 per cent in 2011-12, with some fluctuations and thus the share of the primary sector has declined

**Table -1 Sectoral Distribution of Rural Workers by Sex, Tamil Nadu, 1983 to 201-12**  
(in percentage)

Year	Agri. & Allied	Mining & Quarrying	Primary Sector	Manufacturing	Electricity, Gas & Water	Construction	Secondary Sector	Trade & Hotel	Transport & Communication	Other Services	Tertiary Sector	Non-Agri. Sector	All Sectors
<b>Males</b>													
1983	68.8	0.7	69.5	11.8	0.4	2.4	14.6	6.2	2.1	7.6	15.9	30.5	100
1987-88	65.2	0.7	65.9	13.4	0.4	3.2	17.0	6.8	2.8	7.5	17.1	34.1	100
1993-94	64.0	0.5	64.5	12.8	0.4	3.6	16.8	6.4	3.4	8.9	18.7	35.5	100
1999-000	62.2	0.6	62.8	13.8	0.3	5.8	19.9	7.1	4.4	5.8	17.3	37.2	100
2004-05	58.7	0.5	59.2	13.5	0.2	8.6	22.3	8.0	4.7	5.9	18.6	40.9	100
2009-10	57.5	0.4	57.9	10.9	0.2	11.6	22.7	6.6	1.6	11.2	19.4	42.1	100
2011-12	55.0	0.3	55.3	11.4	0.3	12.1	23.8	7.2	1.7	12.0	20.9	44.7	100
<b>Females</b>													
1983	81.8	0.4	82.2	9.9	Neg.	0.5	10.4	3.3	Neg.	4.1	7.4	17.8	100
1987-88	77.1	0.3	77.4	12.9	Neg.	1.2	14.1	4.1	0.2	4.2	8.5	22.6	100
1993-94	78.6	0.2	78.8	12.9	Neg.	0.7	13.6	2.8	0.1	4.7	7.6	21.2	100
1999-000	75.9	0.3	76.2	14.2	Neg.	1.6	15.8	3.4	0.2	4.4	8.0	23.8	100
2004-05	73.8	Neg.	73.8	14.6	Neg.	2.0	16.6	4.4	0.4	5.0	9.8	26.2	100
2009-10	72.4	0.1	72.5	11.7	0.1	7.7	19.5	3.0	1.0	4.0	8.0	27.5	100
2011-12	70.8	Neg.	70.8	12.5	0.1	8.2	20.8	3.6	1.2	3.6	8.4	29.2	100

**Note:** Neg. Negligible; Non-Agricultural Sector includes both Secondary and Tertiary Sectors. **Source:** "Report on Employment and Unemployment in India", NSSO, Govt. of India, New Delhi, Various Reports

from 82.2 per cent to 70.8 per cent in the same period. Thus, in rural Tamil Nadu, 55 per cent of the males and 71 per cent of the females still depend on the primary sector for their employment and income, while this sector contributes only around 9 per cent to the Net State Domestic Product

<sup>4</sup> (NSDP). In the case of secondary sector, the share of rural male workers has gone up from 14.6 per cent in 1983 to 23.8 per cent in 2011-12, with minor fluctuations, in which the sub-sectors 'manufacturing' and 'construction' have contributed more. The share of manufacturing sector has gone

up from 14.6 per cent in 1983 to 23.8 per cent in 2011-12, with minor fluctuations, in which the sub-sectors 'manufacturing' and 'construction' have contributed more. The share of manufacturing sector has gone down marginally from 11.8 per cent to 11.4 per cent in that period, while that of construction sector has moved up from 2.4 per cent to 12.1 per cent.

**Unemployment Level in Tamilnadu**

As per the National Sample Survey 66th the Round, (2009-10 – the latest) the Unemployment Rate<sup>10</sup> (UR) is defined as the number of persons unemployed per 1000 persons in labour force. According to the usual status of the Survey, the unemployment rate in rural areas at 16 per 1000 persons was lower than that of urban areas at 34 per 1000 persons at all India level. With regard to rural areas, the unemployment rate was lower in nine States as compared to all India. Among them, the lowest was in Rajasthan (4). Tamil Nadu was one among the nine States having

unemployment rate lesser than that of all India. The unemployment in rural Tamil Nadu at 15 ranked 8th place among the States. Only nine States had lower unemployment rate in urban areas as compared to that of all India. Among them, it was the lowest in Gujarat (18 per 1000 persons) and the State occupied the first place.

**UNEMPLOYMENT IN RURAL TAMIL NADU**

The condition of rural unemployment in Tamil Nadu is discussed in this section with the help of the data presented in Table – 4.10. It provides the data pertaining to the US, CWS and CDS among males and females for the period 1983 to 2011-12. It is inferred from the table that among males, the rate of unemployment in terms of US has gone up from 2.3 per cent in 1983 to 2.6 per cent in 1987-88 and then to 2.7 per cent in 1993-94 and further up to 3 % in 1999-2000. But in 2004-05, there has been a sharp decline in the unemployment rate to 1.2 per cent, though it has gone up once again to 1.8 per cent in 2011-12.

**Table - 3 Unemployment Rates in Rural Tamil Nadu, 1983 to 2011-12**

<b>(in percentage)</b>						
<b>Year</b>	<b>CWS</b>		<b>CWS</b>		<b>CDS</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
1983	2.3	1.2	5.5	3.4	11.5	7.5
1987-88	2.6	3.1	7.7	6.7	8.4	10.7
1993-94	2.7	1.3	4.6	3.0	12.8	11.3
1999-2000	3.0	1.2	5.2	3.3	14.3	12.3
2004-05	1.2	1.1	2.9	3.1	15.3	14.9
2009-10	1.5	1.5	2.2	3.8	11.6	17.9
2011-12	1.8	2.3	3.1	3.6	7.0	6.0

Note: Figures relate to persons aged 15 years and above. US – Usual Status; CWS – Current Weekly Status and CDS – Current Daily Status.

Source: "Report on Employment and Unemployment in India", NSSO, Govt. of India, New Delhi, various reports.

In terms of CWS, the unemployment rate has gone up from 5.5 per cent in 1983 to 7.7 per cent in 1987-88, but has declined to 4.6 per cent in 1993-94, though it has turned upwards to 5.2 per cent in 1999-2000. There has been a sharp decline in the male unemployment rate in terms of CWS to 2.9 per cent in 2004-05, but only to go up once again to 3.1 per cent in 2011-12. In terms of CDS, rural male unemployment

has once again fluctuated, though in the long run it has gone down from 11.5 per cent in 1983 to 7 per cent in 2011-12. Thus, the rural male unemployment rate has come down under all measures in Tamil Nadu in the study period. Among females, the pattern of unemployment presents a mixed picture, as the rate under US has gone up from 1.2 per cent to 2.3 per cent between 1983 and 2011-12 and from 3.4 per cent to



3.6 per cent under CWS, the rate has come down from 7.5 per cent to 6 per cent under the CDS in the same period. This suggests that male unemployment rate has declined under all measures, while it has done so only under CDS in the case of females, but has gone up under US and CWS. Thus, there is considerable amount of unemployment in terms of shorter recall period compared to the longer recall period.

## EXTENT OF POVERTY IN INDIA AND TAMIL NADU

This section presents the analysis regarding the level of poverty at the all-India level and

among the major states of India, along with that of Tamil Nadu based on the NSSO data. The data pertaining to levels of poverty are available only in the quinquennial reports and thus, the extent of poverty at the all-India level is examined for the period 1983 to 2011-12 and the poverty ratio among the major states is analysed on the basis of the latest available report 2011-12.

**Table – 4 Region-wise Extent of Poverty in India, 1983 to 2011-12**

Year	Poverty Ratio (in %)			No. of Poor (in Million)		
	Rural	Urban	Combined	Rural	Urban	Combined
1983	45.7	40.8	44.5	252.0	70.9	322.9
1987-88	39.1	38.2	38.9	231.9	75.2	307.9
1993-94	37.3	32.4	36.0	244.0	76.3	320.3
1999-2000	27.1	23.6	26.1	193.2	67.1	260.3
2004-05	28.3	25.7	27.5	220.9	80.8	301.7
2011-12	25.7	13.7	21.9	216.7	53.1	269.8

Source: "Report on Employment and Unemployment in India", NSSO, Govt. of India, New Delhi, various reports.

The urban poverty trend differs from that of rural poverty as it has declined from 40.8 per cent in 1983 to 23.6 per cent in 1999-2000, but has gone up to 25.7 per cent in 2004-05, though has declined to sharply to 13.7 per cent in 2011-12. However, studies have questioned such a sharp decline in the poverty level, while some have supported the same.<sup>8</sup> Thus, at the all-India level, the combined poverty ratio has declined from 44.5 per cent in 1983 to 26.1 per cent in 1999-2000, and further down to 21.9 per cent in 2011-12. However, there is no consistent decline in the number of poor in the country. In the rural areas, the number of poor has declined from 252 million in 1983 to 231.9 million in 1987-88, increased to 244 million in 1993-94, though has declined quite rapidly to 193.2 million in 1999-2000, but only to go up to 216.7 million in 2011-12. In the urban areas, the number of poor has increased from 70.9 million in 1983 to 76.3 million in 1993-94, but has decreased to 67.1 million in 1999-2000, and further down to 53.1 million in 2011-12. This suggests that though the

poverty ratio has declined in both areas, the number of poor has gone up especially since 1999-2000 indicating the fact that the rate of decline in poverty ratio was less than that of the rate of population growth. Moreover, the rural poverty rate has been higher than that of the urban rate.

### CONCLUSION

This analysis indicates that the rate of rural unemployment has increased particularly in terms of shorter recall period than the longer recall period. In Tamil Nadu, the share of not only that of primary sector, but also that of the secondary sector has declined and thus, the share of tertiary sector is more than 63 per cent in 2011-12. The poverty rate at the all-India level has declined in both the rural and urban areas between, while in the case of number of poor, it has gone up in both areas, underlining increasing poor, particularly in the rural areas of the country. In Tamil Nadu, the rate of rural and urban poverty remains less than that of the national average, while the rate of rural poverty is marginally higher than that of urban poverty rate.

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## **44.CLIMATE CHANGE AND DISASTERS WITH SPECIAL REFERENCE TO ANTHROPOGENIC (MAN-MADE) EVENTS AND NATURAL EVENTS**

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### **INTRODUCTION**

**D**isaster is unlike anything else in human experience. It strikes quickly-it changes the lives of all that it touches and its effects are felt long after the event. And perhaps more important, its forces are largely outside the control of the people whom it most affects.

Disasters are of three types. The first are frequently the result of natural phenomena for instance earthquake volcanic eruption, hurricane, tornado, avalanche or flood. But modern technology is capable of predicting hurricanes, tornadoes, and now sometimes earthquakes. However, the warnings issued before such an event are often ignored to a notorious degree. Although the scale of loss of life can range from a few individuals to several hundred of thousands of people the real disaster, in terms of human life, almost always comes from this uniquely human failure to heed the signals.

The second kind of an anthropogenic origin, and exemplifies some of the terrible accidents that have resulted from man's interaction with the artificial environment he has himself created. The Titanic sank because one person after another failed to heed the danger presented by a pack of deadly icebergs in the North Atlantic. The general reluctance to believe that such a tragedy was possible meant that there were not enough lifeboats available and most of those that were provided were lowered with only a few people in each.

The third type is known as hybrid disasters

which arise from a linkage of anthropogenic (man-made) events and natural events. Examples of these are the spread of disease from a community in which the disease is endemic to a community which has no natural immunity whole sale destruction of rain forests and the consequent reduction of evapotranspiration which intensifies annual flood occurrence in many countries, large scale deaths due to smog or pollution in many major conurbations throughout the world, and the pollution of the oceans due to accidental or deliberate dumping of oil or chemical products into the marine environment. Environmental degradation is being held responsible for exacerbating the impact of droughts, floods hurricanes, landslides and wildfires. This paper concentrates on the third type of disaster focusing mainly on climate change and its impacts.

### **DEVELOPED AND DEVELOPING COUNTRIES EMISSION CONTROVERSY AND CLIMATE CHANGE**

Global warming and climate change are affecting inhabitants in the rich and poor countries. Even though rich countries produce bulk of the pollutants, global warming is hurting people living in the poor countries as well. Global warming which is disrupting the monsoons and causing the melting of the Himalayan glaciers. This may create huge water shortages for India and China. Scientists have been warning for years that the Ganga glacier may melt

before the end of the 21st century, because of the climate change, affecting the lives of billions.

The G-8 wants to reduce worldwide emissions by half and emissions in the industrialised countries by 80% by 2050. Even by 2050 after reducing emissions by 80% an average American (Canadian) will pollute the world at a level four times higher than an average Indian. If we were to set a carbon emission target on the principle that all human beings have just about equal right to pollute the world, the G-8 nations will have to reduce emissions by more than 80% and much sooner. China has asked the G-8 nations to lower their carbon emissions to 40% below the 1990 levels by 2020. Now that ambitions too, but at least this is shorter timeline and reflects a more serious approach towards global warming.

It has become a fad in Europe and the US to blame China and India for emitting increasing volumes of green house gases, increasing pollution and contributing to global warming.

**HAZARDS CAUSED BY WORLD CLIMATE CHANGE**

One should not consider climate and sea level as constant and permanent for all times. The sea level of oceans has risen and fallen continuously. Some 18,000 years ago the global sea level was more than 100 metres lower than it is today. Millions of years ago the sea level was probably much higher with about one third of the current land covered by ocean. Scientists predict that the sea level could rise between 50 cm and one metre over the near century. If the above projections are correct they will represent new hazards for the population and new dangers for economic structures.

Climate is the result of a series of complex interactions between the atmosphere, the ocean and land. The earth's atmosphere is largely transparent to short-wave energy from the sun. Some of this energy is reflected back into space, but some is absorbed by the earth's surface and clouds and reradiated as heat. Several gases absorb this heat and, in turn, warm the atmosphere.

This warming or "greenhouse effect" is essential for life on earth. Without it, the earth's surface would be about 35 degrees cooler and life as we know it would be impossible.

But in recent years, there is considerable evidence that the earth has begun to warm more quickly than ever before. Several of the "greenhouse gases" that contribute most to the heat-trapping ability of the atmosphere have been increasing rapidly as a result of human activities. A swift increase in average temperatures could result in major descriptions of weather patterns and living conditions around the world.

Different countries emit different levels of CO<sub>2</sub>. The following table clearly shows the different levels of emission per capita and the policy required by nations according to their emission level. There is no doubt that the top polluters like the US and other developed countries can do much to clean up the environment.

Rank	Countries	Amount
5	United States	19,4839 per 1000 people
9	Canada	15,8941 per 1000 people
16	Russia	10.7402 per 1000 people
20	Germany	10.1591 per 1000 people
46	France	5.99255 per 1000 people
51	Sweden	5.41667 per 1000 people
113	India	0.933086 per 1000 people

The glaciers-fed basins of the Ganges, Brahmaputra, Irawaddy, Salween, Mekong, Yangtze and Yellow Rivers now support over 1.4 billion people in India, Pakistan, China, Bangladesh, and other neighboring countries. A Report stated that the melting of the glaciers will bring perils to poor sections of the population dependent on the river systems in India, China, Pakistan, and other Asian countries by the year 2050. Changes in the rivers and livelihoods dependent on them could bring profound economic, cultural and demographic impacts. The Report warned that the on going melting of glaciers will devastate heavily irrigated farmlands of Asia by increasing floods and decreasing long-term water supplies.

**CLIMATE AND HUMAN ACTIVITY**

The two important ways in which human activity can affect climate are increasing concentrations of carbon dioxide (CO<sub>2</sub>) and other gases on the average temperature of the world and the second is the effect of complex, manmade chemicals called chlorofluorocarbons (CFCs) on the amount of damaging ultraviolet radiation that

reaches the earth from the sun.

These two cases are selected as important examples, but a wide variety of other human activities can also affect local, regional, or global climate.

### **CLIMATE CHANGE AND ITS IMPACT ON AGRICULTURAL PRODUCTION**

It is a fact that about 700 million rural people in India directly depend on climate-sensitive sectors like agriculture, forests, and fisheries and natural resources such as water, bio-diversity, mangroves, coastal zones and grass lands for their subsistence and livelihood. Under changing climate, food security of the world might come under threat.

The greatest concern is the sensitivity to climatic change of the marginal agricultural lands in the developing world. The particular uncertainty for those lands is how global warming might interact with the increasing desertification that is currently affecting both rain-fed croplands and rangelands in the arid and semi-arid tropics.

The most serious repercussions may be on the export and distribution of world food and supplies, particularly cereals. Cereals are the dominant crop in the global agricultural system, and wheat is the major surplus food commodity both in work trade and aid. The majority of global cereals, including wheat, are produced in the temperate zone of the Northern Hemisphere. Thus given the surplus production in places like the USA, Canada and Western Europe, it is not surprising that wheat has become a major feed crop in industrialized countries and the main fallback for much of the world in terms of reserve stocks and contingency aid. Wheat and barley is also extremely important staple crop in the developing countries of North Africa and the Middle East, as well as in Pakistan, Northern India and China. By contrast, in the semi-arid tropics-the region at high climatic risk from carbon dioxide induced climatic changes-maize, sorghum, millet pulses and groundnuts are major staples. But countries of that region are also heavily dependent on cereal (mainly wheat) imports and food aid.

### **BIOLOGICAL IMPACTS OF GLOBAL WARMING**

One way to examine the biological consequences of the greenhouse effect is to compare current and future ranges of

spices. Margaret Davis, of the University of Minnesota, Minneapolis, used computer analyses to predict a changing distribution of beech, birch, hemlock, and sugar maple trees.

Given a doubling of carbon dioxide in the next century, Davis found that the four species would have to shift approximately 500 kilometers north to remain in a suitable climate and habitat. Beech, for example, which now grows east of the Mississippi River from southern Canada to Florida, would have to shift into New England and Southeastern Canada as far north as Hudson Bay. A few beech trees might survive in some Appalachian refuges, Davis says, but beech forests would disappear from the southeastern United States.

Similarly, Davis predicts sugar maple, now growing from the Great Lakes region of southern Canada to Tennessee, would migrate north along both sides of Hudson Bay.

Under a second computer scenario of a similar temperature rise but with less summer rainfall, sugar maple would shift its range more to the northeast, from the eastern shores of Hudson Bay to Nova Scotia. Under both scenarios, some current and future beech and sugar maple ranges would overlap.

### **CLIMATE CHANGE AND ITS IMPACT ON HEALTH**

Human health would be affected. Warming could enlarge tropical climate bringing with it yellow fever, malaria, and other diseases. Heat stress and heat mortality could rise. The harmful effects of localized urban air pollution would very likely be more serious in warmer conditions. The list of possible consequences of global warming suggests very clearly that we must do everything we can now to understand its causes and effects and to take all measures possible to prevent and adapt to potential and inevitable disruptions triggered by global warming.

### **CHANGES IN RIVER FLOW SYSTEMS**

Some of the world's major river systems would change as a result of global warming. All of the affected river systems are listed in the following table.

Expected Flow Changes in Major River System Affected by Carbon Dioxide Induced Climate Change.

**A. River Experiencing Decreases in Flows**

River System	Location
Hwang Ho	China
Amu Darya	Soviet Union
Ayr Darya	Soviet Union
Tigirs-Euphrates	Turkey, Syria, Iraq
Zambezi	Zimbabwe, Zambia
Sao Francisco	Brazil

**B. River Experiencing Some Flow and Storage Loss**

River System	Location
Congo	Central Africa
Rhone	Western Europe
Po	Western Europe
Danube	Eastern Europe
Yangtze	China
Rio Grande	United States, Mexico

**C. Rivers Experiencing Increases in Flows**

River System	Location
Niger	Africa
Chari	Africa
Senegal	Africa
Volta	Africa
Blue Nile	Africa
Mekong	Indochina
Brahmaputra	South Asia

Source:Asaan-W-Sep-Book No:008

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**CONCLUSION**

This paper Concludes with the note that although disasters are caused by various reasons, avoidable consequences are in the hands of the people who live in the developed countries enjoying the benefits of development at the cost of poor developing countries. It is time for the developed countries to act upon the issues concerning the peril experienced by poor countries. Let "love thyneighbour" be the policy of all. "Let live" and "Let Live" be the motto of all. Jai Hind.

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# 45. TECHNOLOGICAL TRANSFORMATION AND ITS IMPACT ON BANKING SECTOR DEVELOPMENT IN INDIA

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## ABSTRACT

*The usage of information technology (IT), broadly referring to computers and peripheral equipment, has seen tremendous growth in the service sector in the recent past. The most obvious example is the banking industry, where through the introduction of IT related products in internet banking, electronic payments, security investments, information exchanges, banks now can provide more diverse services to customers with less manpower. Seeing this pattern of growth, it seems obvious that IT can bring about equivalent contribution to profits.*

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## INTRODUCTION

The term "Banking Technology" refers to the use of sophisticated information and communication technologies together with computer science to enable banks to offer better services to its customers in a secure, reliable and affordable manner and sustain competitive advantage over other banks. From theoretical perspective, Banking Technology is not a single, stand-alone discipline, but a confluence of several disparate fields such as finance, information technology, communication technology, computer science and marketing science. The growth of high speed networks, coupled with the falling cost of computing power, is making possible applications undreamed of in the past. Voice, data, images, and video may now be transferred around the world in micro-seconds. This explosion of technology is changing the banking industry from paper and branch banks to digitalized and networked banking services. It has already changed the internal accounting and management systems of banks. It is now fundamentally changing the service delivery systems in the banking sector with reference to interact with their customers and bankers.

## NEED FOR THE STUDY

It is harsh reality that we are now more than two decade old in the liberalized globalization era. The changes in the economy after liberalization, privatization and globalization process initiated since 1991 in India have impacted profoundly the financial system and more particularly the banking industry. The Information Technology (IT) revolution is entirely changing the way the banking business is done and has considerably widened the range of products and services as well as the demands and expectations of the customers. For the continuous improvement of software process, the knowledge and experience of its employees and customers cannot be overlooked in an organization.

## SIGNIFICANCE OF THE STUDY

Soon after independence, as India embarked upon planned economic growth, like any other country, it needed a strong and efficient financial system to meet the multifarious requirements of credit and development. To achieve this objective it adopted a mixed pattern of economic development and devised a financial system to support such development. The success it achieved, particularly in taking banking to

the masses and making the banking system a potent vehicle for furthering public policy has few parallels in the world.

The rapid growth of the banking system in terms of presence as well as penetration over the two decades immediately following nationalisation of banks in 1969 was impressive. By the 1990s the public sector banks had 90 per cent share in the country's banking business. By March 1992, all the public sector banks together had a phenomenal branch network of 60,646 branches spread across the length and breadth of the country and held deposits of Rs. 1,10,000 crore and advances of Rs. 66,760 crore.

A wave of technology change has already occurred as banks adopted core banking technology to enhance customer relationships and expand the market for banking services. These technologies could enable banks to "go-to-customers" and enable door-step banking through virtual banking. For instance, cloud computing and big data technologies can reap both scale and scope economies. What is important is not the name of the technologies, but what they do eventually. Banking technology is poised to make a big leap in the near term towards integrating customer data across banking platforms, facilitating trading in a more secure manner, developing virtual desktops and private clouds to centralize information across desktops by making them available to different employees on need-basis, enable speedier transaction processing and faster settlements.

Technology should not, however, be acquired for the sake of it. Unless, it is employed gainfully and helps enhance procedural and cost efficiency, technology adoption cannot be considered meaningful. The technology ought to help the banks achieve cost-effective scalability in the services they render. Such technology should contribute to enhancing productivity, especially through total factor productivity growth in the banking industry.

### **STATEMENT OF THE PROBLEM**

In the Globalized era, computers are getting more sophisticated. They have given banks a potential, they could only dream about and have given bank customers with high expectations. Convergence of computing, communications, information

and knowledge is radically changing the way of Indian banking operations. Coming down heavily on banks for not optimally leveraging technology, the Reserve Bank of India (RBI) said there was clear lack of vision among banks in rolling out customer-friendly technology. It is said, technology implementation in public sector banks appeared to be more for regulatory and policy compliance.

The introduction of technological transformation in the banking sector is to bring customer satisfaction there by to enhance the banks' profitability. Unless this technology bring increase customer satisfaction than the traditional banking customer may perceive as the same as different branches rather than a new means of delivery services channels. Regarding bankers are concerned, the impact of technological transformation has several advantages over traditional one which makes operating an account simple and convenient. It allows to conduct various transactions using the bank's website and offers several advantages.

In turn, customers who visit the bank for high value transactions and other important business can be given more attention and better service. But concerted efforts are required to make the customers, especially the elderly and the not so tech-savvy, who may not be comfortable and reluctant to use the machines.

Hence Public Sector Banks have to learn the technology to cater to the needs of the customers. Information Technology should be learnt, embraced, leveraged and implemented in public sector banks more to the expectations of the customer than as regulatory or policy compliance.

### **OBJECTIVES OF THE STUDY**

The overall objective of the study is to analyse the technological transformation and its impact on banking sector development in Thiruvannamalai district of Tamil Nadu with special reference to banker – customer relationship. The specific objectives are,

1. To identify the overall banker – customer perception towards the electronic banking services in the study area.
2. To know whether demographic variables of the customer have influence on customer satisfaction and loyalty on



electronic banking services.

3. To identify various e-banking services and products adopted by banks in the study area.

4. To study the challenges faced by the bankers – customers due to the adoption of technology and make recommendations to tackle these challenges.

#### **HYPOTHESIS OF THE STUDY**

1. There is no relationship between demographic variables of the respondents like age, occupation and their perception regarding services of banks due to technological transformation in the study area.

2. There is significant relationship between income of the respondents and type of bank account.

3. There is significant relationship between residential area of banking customers and income level.

4. There is significant relationship between profession and income level of the sample respondents.

There is correlation between technological development and banking services in the study area.

#### **HISTORY OF BANK**

The first banks were probably the religious temples of the ancient world, and were probably established sometime during the third millennium B.C. Banks probably predated the invention of money. Deposits initially consisted of grain and later other goods including cattle, agricultural implements, and eventually Precious metals such as gold, in the form of easy-to-carry compressed plates. Temples and palaces were the safest places to store gold as they were constantly attended and well built. As sacred places, temples presented an extra deterrent to would-be thieves. There are extant records of loans from the 18th century BC in Babylon that were made by temple priests/monks to merchants. By the time of Hammurabi's Code, banking was well enough developed to justify the promulgation of laws governing banking operations.

#### **BRITISH PERIOD HISTORY OF BANKING IN INDIA**

##### ***Pre-Independence Period***

##### ***Ancient India***

The origin of banking in dates back to the

Vedic period. There are repeated references in the Vedic literature to money lending which was quite common as a side business. Later, during the time of the Smritis, which followed the Vedic Period and the Epic age, banking become a full-time business and got diversified with bankers performing most of the functions of the present day. The Vaish community, who conducted banking business during this period. As far back as the second or third century A.D. Manu the great Hindu Jurist, devoted a section of his work to deposits and advances and laid down rules relating to rates of interest to be charged. Still later, that is during the Buddhist period, banking business was decentralized and become a matter of volition. Consequently, Brahmins and Kshatriyas, who were earlier not permitted to take to banking as their profession except under exceptionally rare circumstances, also took to it as their business. During this period banking became more specific and systematic and bills of exchange came in wide use. "Shresthis" or bankers influential in society and very often acted as royal treasurers.

#### **MUGHAL PERIOD**

Mughal dynasty started with Babur ascending the throne of Agra in 1526 A.D. During Mughal period the indigenous bankers played a very important role in lending money and financing of foreign trade and commerce. They were also engaged in the profitable business of money changing. Banking political stability to the country. Every city, big or small had a 'Sheth' also known as a 'business was, however particularly during the secular and settled reign of Emperor Akbar was gave the much needed Sh' oahr 'Shroff', who performed a number of banking functions. He was respected by all parts of people as an important citizen. In Principal cities, besides shroffs, there was a 'Nagar Sheth' or 'Town Banker'. They were instrumental in changing funds from place to place and doing collection business mainly through Hundis. The Hundis

The seventeenth century witnessed the coming into India of the English traders. The English traders established their own agency houses at the port towns of Bombay, Calcutta and Madras. These agency houses, apart from engaging in trade and commerce,

also carried on the banking business. The development of the means of transport and communication causing deflection of trade and commerce along new routes, changing the nature of trade activities in the country were the other factor which also contributed to the downfall of the indigenous bankers. Partly to fill the void caused by their downfall and partly to finance the growing financial requirements of English trade. The East India Company now came to favor the establishment of the banking institutions patterned after the Western style. The first Joint Stock Bank established in the country was the Bank of Hindustan founded in 1770 by the famous English agency house of M/s. Alexander and Company. The Bengal Bank and The Central Bank of India were established in 1785. The Bank of Bengal, the first of the three Presidency Banks was

established in Calcutta in 1806 under the name of bank of Calcutta. It was renamed in 1809 on the grant of the charter as a Bank of Bengal. The two other presidency banks, namely the bank of Bombay and the Bank of Madras, were established in 1840 and 1843 respectively. After the Paper Currency Act of 1862, however the right of the note issue was taken away from them. The Presidency Banks had branches in important towns of the country. The banking crisis of 1913 to 1917 however brought out the serious deficiencies in the existing banking system in the country showing the need for effective co-ordination through the establishment of the Central Bank. After repeated efforts, the three presidency bank was fused into a single bank under the name of the Imperial Bank of India in 1921.

**Table – 1  
Number of Banks, Capital and Deposits  
(Rs. Lakh)**

Year End Dec.	Number of Reporting Commercial Banks					Paid-up Capital and Reserves				Deposits				
	P/I Bank @	Class A*	Excg. Bank	Class B**	Total	P/I Bank @	Class A*	Class B**	Total	P/I Bank @	Class A*	Exch. Bank	Class B**	Total
1870	3	2	3	-	8	362	12	-	374	1197	14	52	-	1263
1880	3	3	4	-	10	405	21	-	426	1140	63	340	-	1543
1890	3	5	5	-	13	448	51	-	499	1836	271	754	-	2861
1900	3	9	8	-	20	560	128	-	688	1569	808	1050	-	3427
1910	3	16	11	-	30	691	376	-	1067	3654	2566	2479	-	8699
1913	3	18	12	23	56	748	364	#	1112	4236	2259	3104	151	9750
1920	3	25	15	33	76	753	1093	8.1	1927	8692	7115	7481	233	23458
1930	1	31	18	57	107	1115	1190	1.41	2446	8397	6326	6811	439	21973
1934	1	36	17	69	123	1128	1267	1.49	2.54	8100	7677	7140	511	23428

P/I bank – Presidency / Imperial Bank.

**Table – 2  
Bank Failures in India – 1913 to 1947**

Year (Jan-Dec)	No. of Banks	Year (Jan-Dec)	No. of Banks	Year (Jan-Dec)	No. of Banks	Year (Jan-Dec)	No. of Banks
1913	12	1922	15	1931	18	1934	107
1914	42	1923	20	1932	24	1941	94
1915	11	1924	18	1933	26	1942	50
1916	13	1925	17	1934	30	1943	59
1917	9	1926	14	1935	51	1944	28
1918	7	1927	16	1936	88	1945	27
1919	4	1928	13	1937	65	1946	27
1920	3	1929	11	1938	73	1947	38
1921	7	1930	12	1939	117	-	-

Source: Report on Currency and Finance – Special Edition – RBI, Vol. IV, 2006-08.

## **WORLD WAR I AND ITS IMPACT ON INDIAN BANKING SECTOR – BRITISH PERIOD**

The World War I (1913-1918) has affected badly the Indian economy and created many problems like high Inflation, low productive of agriculture sector. During the War period, a large number of banks failed. Some banks that failed were also doing trading function with banking function. Most of the banks that failed during war period had low capital base. Several exchange banks also failed during this period mainly due to global reasons.

The bank was authorized to hold Government balances and manage public debt. It was not, however, given power to issue notes. The issuing of the currency continued to be close preserving of the Government of India. The branches of the bank were to work as clearing houses. It was mainly a commercial bank competing with other banks. The Imperial Bank of India was nationalized in 1955 by the SBI act.

In the wake of the Swadeshi Movement, a number of banks with Indian management were established in the country. The Punjab National Bank Ltd. Was founded in 1895, The Bank of India Ltd in 1906, The Canara Bank Ltd. In 1906. The Indian Bank Ltd. in 1907, the Bank of Baroda Ltd. in 1908, and the Central Bank of India Ltd. in 1911. There have been a number of checks to progress to the Banking Industry in the form of bank failures during the last over 100 years. The series of bank crisis particularly during the time 1913–17, 1939–45 and 1948–53 wiped out many weak units. Loss in trade or industry affected their credit and solvency. It may however, be stated that one of the important reasons for the last banking crisis of 1948–53 was the partition of the country into India and Pakistan. Most of the depositors who were Hindus migrated from Pakistan to India while a major portion of the assets of the banks, which failed remained in Pakistan. Although, Suggestions have been made from time to time that India ought to have a Central Bank. The Royal Commission on Indian currency and finance recommended that a Central Bank should be started in India so as to perfect her credit and currency organization. From 1927 to 1933, there was a proposal and constitutional reforms law process has been made. It was

enacted in due course and became law on the 6th march 1934 and the Reserve Bank of India started functioning with effect from 1st April 1935. Banking regulation act was passed in 1949.

## **BANKING SECTOR DEVELOPMENT IN INDIA**

### ***Post-Independence Period***

#### ***First Phase: 1948-1969***

Government took major steps in this Indian Banking Sector Reform after independence. In 1955, it nationalized Imperial Bank of India with extensive banking facilities on a large scale specially in rural and semi-urban areas. The country inherited a banking system that was patterned on the British Banking System. There were many joint stock companies doing banking business and they were concentrating mostly in major cities. Even the financing activities of these banks were confined to the exports of Jute, Tea etc and traditional industries like textile and sugar. There was no uniform law governing banking activity. An immediate concern after the partition of the country was about bank branches located in Pakistan and steps were taken to close some of them as desired by that country. In 1949, as many as 55 banks either went into liquidation or went out of banking business. Banking did not receive much attention of the policy makers and disjointed efforts were made towards the regulation of the banking industry.

The legislation also enabled amalgamation of more than two banking companies by a single scheme. Between 1954 and 1968, several banks were either amalgamated or they otherwise ceased to function or their liabilities and assets transferred to other banks.

The SBI was entrusted with the responsibility of expanding its rural branch network within a time frame. This epoch making event marks the beginning of inducing the banks into the field of rural credit which was formerly reserved for co-operatives. Proactive measures like credit guarantee and deposit insurance promoted the spread of credit and savings habits to the rural areas. Additionally, there was a perception that banks should play a more prominent role in India's development strategy by mobilizing resources for sectors that were seen as crucial for economic expansion. As

**Table 3 Number of Banks Failed, Amalgamated and Liquidated: 1948 – 1968**

Year (Jan – Dec)	Banks Failed	Banks compulsorily Amalgamated	Banks Voluntarily Amalgamated	Banks Ceased to Function / Transferred their Liabilities and Assets	Banks Which went into Compulsory Liquidation	Banks which went into Voluntary Liquidation
1948	45	-	-	-	-	-
1949	55	-	-	-	-	-
1950	45	-	-	-	-	-
1951	60	-	-	-	-	-
1952	31	-	-	-	-	-
1953	31	-	-	-	-	-
1954	27	-	-	-	-	-
1955	29	-	-	-	-	-
1956	-	-	-	6	6	16
1957	-	-	1	10	3	16
1958	-	-	4	10	5	9
1959	-	-	4	20	7	7
1960	-	-	2	15	5	4
1961	-	30	-	9	3	5
1962	-	1	3	22	3	4
1963	-	1	2	15	1	1
1964	-	9	7	63	-	3
1965	-	4	5	24	3	6
1966	-	-	-	7	3	7
1967	-	-	-	9	2	4
1968	-	1	-	2	1	3

Source: Report on Currency and Finance – Special Edition – RBI, Vol. IV, 2006-08.

a consequence, in 1967 the policy of social control over banks was introduced. Its aim was to cause changes in the management and distribution of credit by commercial banks. Under social control the banking system including the smaller banks started gaining strength as evidence by the absence of voluntary or compulsory mergers of banks. National Credit Council was set up in 1968 to assess the demand for credit by these sectors and determine resource allocations. Both these policies brought momentous changes in the banking system during this phase of banking evolution.

The decade of 1960s also witnessed significant consolidation in the Indian banking industry with more than 500 banks functioning in the 1950s reduced to 89 by 1969.

### SUGGESTIONS

1. The banks can extend the deposit and withdrawal limit as per the convenience of the customers.
2. Customers of E-CRM solutions must be given utmost priority in the bank.
3. If any complaints are received from the customers they must be redressed immediately to get better satisfaction from the customers.
4. The head office may concentrate on branches in semi urban and rural areas to implement E-CRM solutions.

### CONCLUSION

Indian economy is witnessing potential growth over the last few years. There has been rapid development in infrastructure and business front during the growth

period. Internet adoption among Indian has been rapidly increasing over the last one decade. Indian banks have also risen to the occasion by offering new channels of delivery to its customer. But proportionately Indian customers of internet banking users are less than the developed nations. It has been observed that dissatisfaction is one of the important reasons for the lesser participation in internet banking. So this study made an attempt to measure the customer satisfaction of internet banking users in the Vembakkam Block of Thiruvannamalai District in Tamil Nadu. The researcher tried to identify the important factor that will affect the customer satisfaction of internet banking users. The quantitative analysis of the model confirmed that the factors identified by the researcher namely Efficiency, Reliability, Service Delivery System, Expectation of a Customer, Secrecy of a Customer and Tangibles. The result of the finding shows that Reliability, Expectation of a Customer, Secrecy of a Customer and Tangibles had positive influence on Customer Satisfaction of Internet Banking users in the study area and the two variables Efficiency and the Service Delivery System had negative influence on Customer Satisfaction of Internet Banking users in the study area.

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# **46.GLOBAL SCENARIO OF ENERGY CONSUMPTION AND THE IMPACT OF CARBON DIOXIDE EMISSION ON ENVIRONMENT: A STUDY**

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## **ABSTRACT**

*This paper tries to explore the Global Scenario of Energy consumption and the Environmental impacts due to the emission of Carbon dioxide from the power plants. The study also extends to environmental impacts in the premises of the plants and surrounding areas of the plant. The objective of this paper is to quantify these impacts in order to understand them better, to understand the challenges faced by the countries on these aspects. Over 70% of global energy demand was met by oil, natural gas and coal, while renewables accounted for almost all of the rest. Improvements in energy efficiency slowed down last year. As a result of these trends, global energy-related carbon dioxide emissions increased by 1.4% in 2017, after three years of remaining flat. But carbon emissions, which reached a historical high of 32.5 Gigatonnes in 2017, did not rise everywhere. While most major economies saw a rise, others – the United States, the United Kingdom, Mexico and Japan – experienced declines. The biggest drop in emissions came from the United States, driven by higher renewables deployment. Above all the conventional sources pose serious threat to the environment by emitting pollutants. Addition to conventional power generation capacity requires huge funds, long gestation periods and it will add to the environment pollution and ecological imbalance. The paper concludes giving energy strategy for the future in the form of reforms in the energy sector, giving thrust on development of renewable energy sources like wind power projects so as to get clean and green energy.*

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## **INTRODUCTION**

**E**nergy is very essential for the economic growth of any nation. As it is the driving forces of all the industries, we cannot imagine any work without electricity. The demand for power is increasing at a faster pace contributed both by increases in the per capita income and changing life style of the population. Electricity is an important clean and convenient form of energy. It is produced by the thermal projects, hydro projects, nuclear projects and diesel-based project. In the generation of electricity coal, gas, oil, nuclear energy and water resources are used. These resources are termed, as conventional sources of energy the contribution of conventional sources to the power sector are tremendous. Above all the conventional sources pose serious threat to the environment by emitting pollutants. Addition to conventional power generation capacity requires huge funds, long gestation periods and it will add to the environment pollution and ecological imbalance.

## **WORLD ENERGY CONSUMPTION AND CARBON DIOXIDE EMISSION**

Global energy demand rose by 2.1% in 2017, more than twice the previous year's rate, boosted by strong global economic growth, with oil, gas and coal meeting most of the increase in demand for energy, and renewables seeing impressive gains. Over 70% of global energy demands growth was met by oil, natural gas and coal, while renewables accounted for almost all of the rest. Improvements in energy efficiency slowed down last year. As a result of these trends, global energy-related carbon dioxide emissions increased by 1.4% in 2017, after three years of remaining flat. But carbon emissions, which reached a historical high of 32.5 gigatonnes in 2017, did not rise everywhere. While most major economies saw a rise, others – the United States, the United Kingdom, Mexico and Japan – experienced declines. The biggest drop in emissions came from the United States, driven by higher renewables deployment.

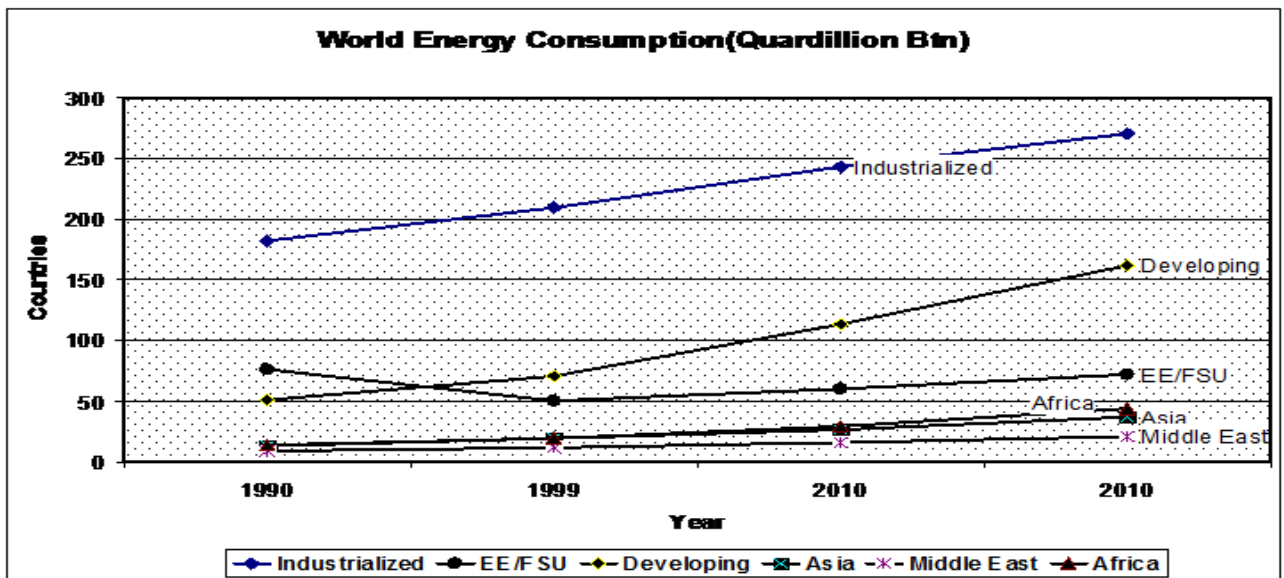
In our modern society, energy—especially in the convenient form of electricity—is critical to our quality of life. No matter how our electricity is generated—gas, coal, nuclear or even wind—there is some impact on the environment. Although power plants are regulated by federal and state laws to protect human health and the environment, there is a wide variation of environmental impacts associated with power generation technologies.

**Table 1 World Energy Consumption (Quadrillion Btn)**

Countries	1990	1999	2010	2020
Industrialized	182.4	209.6	243.4	270.4
EE/FSU	76.3	50.5	60.3	72.3
Developing	51.0	70.9	113.4	162.2
Asia	13.1	19.3	26.9	37.2
Middle East	9.3	11.8	16.1	20.8
Africa	13.7	19.8	29.6	44.1
Total World	346.0	381.8	489.7	607.1

Note: EE- Eastern Europe; FSU- Former Soviet Union

From table 1 the study observed that World Energy consumption level is always high in industrialized countries in 1990 and 1999 followed by Eastern Europe and Former Soviet Union and the least consumption level is Middle East countries. This similar trend is seen in the project years of 2010 and 2020.



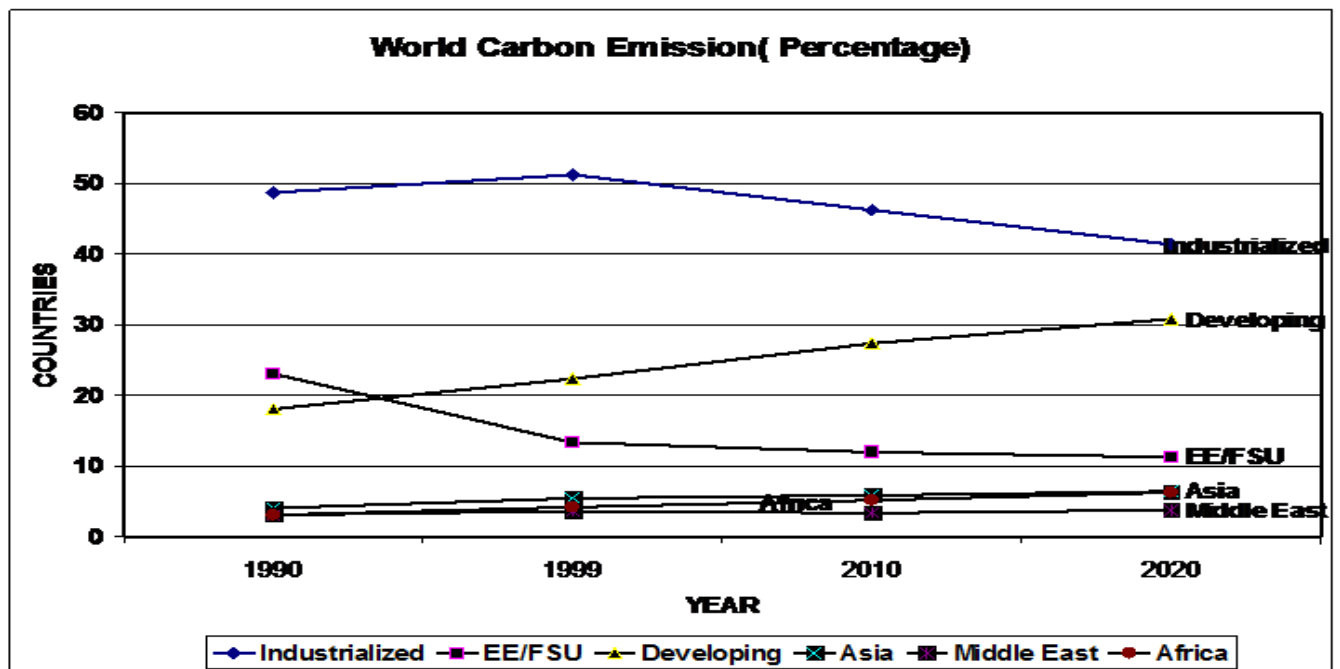
**Table 2 World Carbon Emissions (Million Metric Tonnes)**

COUNTRIES	1990	% TO TOTAL	1999	% TO TOTAL	2010	% TO TOTAL	2020	% TO TOTAL
INDUSTRIALIZED	2842	48.8	3122	51.2	3619	46.3	4043	41.4
EE/FSU	1337	23.0	810	13.3	940	12.0	1094	11.2
DEVELOPING	1053	18.1	1361	22.3	2137	27.4	3013	30.9
ASIA	231	4.0	330	5.4	451	5.8	627	6.4
MIDDLE EAST	179	3.1	218	3.6	294	3.4	373	3.8
AFRICA	178	3.0	249	4.2	394	5.1	611	6.3
TOTAL WORLD	5821	100.0	6091	100.0	7835	100.0	9762	100.0

Note: EE- Eastern Europe; FSU- Former Soviet Union  
 Chart 2 World Carbon Emissions (in Per cent)

The table 2 reveals that carbon emission level is high in industrialized countries i.e. nearly one-half of the carbon is emitted these countries not only in the year 1990 and 1999, projected years 2010 and 2020 also conformed. But the percentage share showed a decreased trend during the projected periods, but the volume of emission is recorded an increasing trend of 5821 MMT in 1990 to 6091 MMT in 1999 and the projection of 2020 it will reach 9762 MMT.. The study concluded that Carbon Emission percentage share will be high in 2010 and 2020.

Chart 2 World Carbon Emissions (in Per cent)



Carbon emissions from energy use from the US are the lowest since 1992, the year that the UNFCCC came into existence. The next largest decline was in Ukraine (-10.1%). The largest increase in carbon emissions in 2017 came from China (1.6%), a reversal from the past three years when the largest increases in emissions came from India. China’s emissions in 2017 were 0.3% higher than the previous peak in 2014. China has had the world’s largest increments in carbon emission every year this century except in four years – 2000 and between 2014-16. The next highest increment came from India where emissions rose by 4.4%, though lower than its 10-year average (6% p.a.).

Table:3 Carbon Dioxide Emission for Top Twenty Countries in the World, 2015

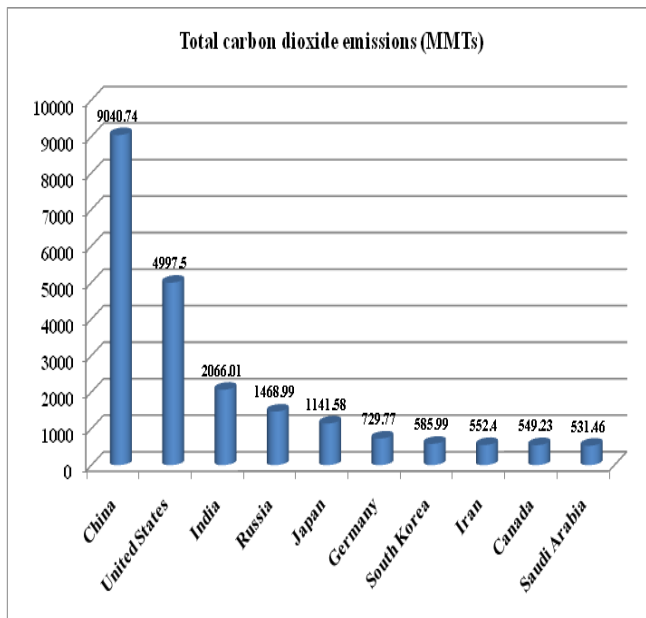
Rank	Country	Total emissions (MMTs)	Share of Global Total(Per cent)
1	China	9040.74	6.59
2	United States	4997.50	15.53
3	India	2066.01	1.58
4	Russia	1468.99	10.19
5	Japan	1141.58	8.99
6	Germany	729.77	8.93
7	South Korea	585.99	11.58
8	Iran	552.40	6.98
9	Canada	549.23	15.32
10	Saudi Arabia	531.46	16.85
11	Brazil	450.79	2.17
12	Mexico	442.31	3.66
13	Indonesia	441.91	1.72
14	South Africa	427.57	7.77
15	United Kingdom	389.75	5.99
16	Australia	380.93	15.83
17	Italy	330.75	5.45
18	Turkey	317.22	4.10
19	France	290.49	4.37
20	Poland	282.40	7.34

Source: Energy Information Association, International Energy Annual, Washington D.C, 2015.



Together, China and India accounted for nearly half of the increase in global carbon emissions. EU emissions were also up (1.5%) with just Spain accounting for 44% of the increase in EU emissions. Among other EU members, UK and Denmark reported the lowest carbon emissions in their history. The table above shows data compiled by the International Energy Agency, which estimates carbon dioxide emissions from the combustion of coal, natural gas, oil and other fuels, including industrial waste and non-renewable municipal waste. Nearly three-fourth of all energy-related carbon emissions come from only five countries shown in table 3. China is the world's highest carbon emitter ie 9040.74 mmts, followed by United States 4997.50 mmts, India 2066.01 mmts, Russia 1468.99 mmts, and Japan 1141.58 mmts. These countries are heavy users of coal, the most carbon-intensive fossil fuel. Least emitting country in the top 20 countries are Poland, France, Turkey, Italy, Australia and United Kingdom. mChart 3 clearly reveals the top ten carbon emitting countries in the world.

**Chart 3. Share of Global Total (Per cent) Carbon Dioxide Emissions**



In general developed countries and major emerging economy nations lead in total carbon dioxide emissions. Developed nations typically have high carbon dioxide emissions per capita, while some developing countries lead in the growth rate of carbon dioxide emissions. Obviously, these uneven

contributions to the climate problem are at the core of the challenges the world community faces in finding effective and equitable solutions.

**ENERGY AND ENVIRONMENTAL IMPACTS**

The production and consumption of energy is one of the biggest causes of environmental damage on earth. It has led to large amounts of destruction of natural landscapes and habitats through the process of fuel extraction, pollution of soil, water and air, poisoning of wildlife, and is generally believed to be the main cause of modern climate change. Energy is at the heart of many of the world's current environmental problems, and poses many problems for sustainable development. The most easily recoverable and useable fossil fuel is coal, and coal has the longest history of use by humans, although there are recorded observations of oil and natural gas in the form of "burning springs" from ancient times.

From the 1950's the nuclear energy slowly emerged an important player in the worldwide energy mix especially among industrialized economies, as the nuclear industry began to achieve dominance as a major source of electricity generation, three major issues surfaced that limited the world's enthusiasm. The 1979 near meltdown at the Three Mile Island plant in Middletown, Pennsylvania and the resulting mass evacuation of the local population showed the potential serious risk from nuclear –reactor failure to local communities. In 1986, the meltdown at the Soviet Union's Chernobyl reactor spread a cloud of radioactive dust over large parts of Ukraine and Western Europe particularly devastating the local region nearest the reactor. The Chernobyl melt-down confirmed that large reactor –containment failure was possible and showed catastrophic environmental effects that resulted when such a failure occurred. India was the first country in Asia to start a nuclear programme in 1948 yet organized protest against nuclear plants in the country emerged only in mid-1980s mainly due to the loss of livelihood and inadequate compensation during appropriation of land for nuclear projects. The Fukushima Daiichi nuclear crisis in Japan following the tsunami on 11 March 2011 has, however, had a major galvanizing effect on anti-nuclear

movements in India. Nuclear power is the fifth-largest source of electricity in India after coal, gas, hydroelectricity and wind power. As of March 2018, India has 22 nuclear reactors in operation in 7 nuclear power plants, having a total installed capacity of 6,780 MW. Nuclear power produced a total of 35 TWh and supplied 3.22 per cent of Indian electricity in 2017. 6 more reactors are under construction with a combined generation capacity of 4,300 MW.

Numerous studies have been done on possible effect of nuclear power in causing cancer. Such studies have looked for excess cancers in both plant workers and surrounding populations due to releases during normal operations of nuclear plants and other parts of the nuclear power industry, as well as excess cancers in workers and the public due to accidental releases. There is agreement that excess cancers in both plant workers and the surrounding public have been caused by accidental releases such as the Chernobyl accident. There is also agreement that some workers in other parts of the nuclear fuel cycle, most notably uranium mining – at least in past decades – have had elevated rates of cancer. However, numerous studies of possible cancers caused by nuclear power plants in normal operation have come to opposing conclusions, and the issue is a matter of scientific controversy and ongoing study.

There have been several epidemiological studies that say there is an increased risk of various diseases, especially cancers, among people who live near nuclear facilities. A widely cited 2007 meta-analysis by Baker et al. of 17 research papers was published in the European Journal of Cancer Care. It offered evidence of elevated leukemia rates among children living near 136 nuclear facilities in the United Kingdom, Canada, France, United States, Germany, Japan, and Spain.

Nuclear energy contributes a very small amount of emissions into the atmosphere which can cause many environmental problems such as global warming. Uranium is not burned in a nuclear power plant as coal is so there are no emissions from it. All of the waste that comes from the fission of uranium stays in the plant and is therefore able to be disposed of in a safe way in which the uranium is kept out of the environment.

Many commentators have argued that an expansion of nuclear power would help combat climate change. Others have argued that it is one way to reduce emissions, but it comes with its own problems, such as risks related to severe nuclear accidents, war attacks on nuclear sites, nuclear terrorism and currently no generally accepted solution for the disposal of radioactive waste which needs to be heavily guarded for hundreds of thousands of years.

Altered weather patterns from changes in climate may result in more extreme weather events. Some areas will suffer more drought and others more flooding, putting crop production under great stress in some regions. The character of our forests could change dramatically. Other expected impacts include an increase in heat-related deaths, increased loss of animal and plant species, and the spread of pests and diseases into new regions with less resistance to them.

### **SUGGESTIONS**

This study suggests to use more renewable clean energies. Clean energy development is vital for combating climate change and limiting its most devastating effects. Renewable energies are sources of clean, inexhaustible and increasingly competitive energy. They differ from fossil fuels principally in their diversity, abundance and potential for use anywhere on the planet, but above all in that they produce neither greenhouse gases – which cause climate change – nor polluting emissions. Their costs are also falling and at a sustainable rate, whereas the general cost trend for fossil fuels is in the opposite direction in spite of their present volatility. Growth in clean energies is unstoppable, as reflected in statistics produced in 2015 by the International Energy Agency (IEA): they represented nearly half of all new electricity generation capacity installed in 2014, when they constituted the second biggest source of electricity worldwide, behind coal. According to the IEA, world electricity demand will have increased by 70% by 2040 - its share of final energy use rising from 18 to 24% during the same period – driven mainly by the emerging economies of India, China, Africa, the Middle East and South-East Asia.

## CONCLUSION

Today we are in the midst of a great new challenge: understanding that the Earth and its subsystems work as a whole. Renewable energy technologies are clean sources of energy that have a much lower environmental impact than conventional energy technologies. Renewable energies are the indispensable partner in the fight against climate change. Renewables do not emit greenhouse gases in energy generation processes, making them the cleanest, most viable solution to prevent environmental degradation. Compared to conventional energy sources such as coal, gas, oil and nuclear - reserves of which are finite - clean energies are just as available as the sun from which they originate and adapt to natural cycles, hence their name "renewables". This makes them an essential element in a sustainable energy system that allows development today without risking that of future generations. Renewable energy will not run out. Even, other sources of energy are finite and will someday be depleted.

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## **47.EMPLOYMENT OPPORTUNITIES OF POULTRY FARMING IN NAMMAKKAL DISTRICT**

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### **ABSTRACT**

*India is predominantly an agricultural economy and agriculture contributes 14.6 per cent in the year 2009 - 2010 to the Gross Domestic Product. Developing country like India has to suffer naturally from too much of labour, caused by higher growth of population. In India, in the rural sector, more than 70 per cent of the population directly or indirectly depends on agriculture. Most of them are agricultural laborers, small farmers and marginal farmers. In case of small and marginal farmers, gainful employment is available only for a limited period of the year. This study is mainly focus on primary and secondary data. The Indian poultry industry's success story is uniquely exceptional. From a backyard venture, it has made a quantum leap to emerge as a dynamic industry. Over the last three decades, there have been significant developments in the poultry industry with each decade focusing on different sectors. The main objective of the study is Employment generation of Poultry farming in Namakkal District of Tamil Nadu. Today, among different activities in the livestock sector, poultry farming is fast growing. It has an enormous potential to create non - farm employment, check migration from rural to urban areas and to improve the socio – economic status of rural population besides helping in the process of rural development.*

*Keyword: Agricultural Economy, Gross Domestic Product, Agricultural Laborers, Small Farmers and Marginal Farmers.*

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### **INTRODUCTION**

**I**ndia is predominantly an agricultural economy and agriculture contributes 14.6 per cent in the year 2009 - 2010 to the Gross Domestic Product. Developing country like India has to suffer naturally from too much of labour, caused by higher growth of population. It becomes a problem for the economy to provide employment to all. The level of employment in agriculture is of fluctuating in nature. During busy season, almost all laborers would be fully employed and in the off-season, they are forced to remain unemployed. The absorption of underemployment is possible through poultry rearing which will be complementary to agriculture. Commercialization of agriculture in India is critical to ensure optimum utilization of scarce resources and to provide raw materials to industries at lower cost. Agriculture diversification is one of the major growth strategy started in the National Agricultural Policy as well as the Tenth Five Year Plan of India.

India's animal wealth is huge in terms of its population of cattle (204.5 million), buffaloes (84.2 million), poultry (800 million), sheep (50.8 million), goats (115.3 million) and pigs (12.8 million). Compared with the rest of the livestock sector the poultry industry in India is more scientific; it is well organized and progressing towards modernization. The Indian poultry industry's success story is uniquely exceptional. From a backyard venture, it has made a quantum leap to emerge as a dynamic industry. Over the last three decades, there have been significant developments in the poultry industry with each decade focusing on different sectors. The seventies saw a spurt in egg production; the eighties an acceleration in broiler production; the nineties advances in poultry integration, automation and feed production.

According to 1995-1996 Annual Credit Plan record of Namakkal District, there are 6542 farms in Namakkal area as the majority of the poultry farmers in this area reared under

deep litter system. At present Namakkal District have about 440 small, medium and large poultry farms. The poultry industry has grown rapidly in India in the last 20 years from a backyard farming activity to modern and highly scientific industry. In India, in the rural sector, more than 70 per cent of the population directly or indirectly depends on agriculture. Most of them are agricultural laborers, small farmers and marginal farmers. In case of small and marginal farmers, gainful employment is available only for a limited period of the year.

### REVIEW OF THE LITERATURE

Reddy Revindra (2005) in his study observes that there is need to train employed and unemployed youth in the poultry farming which can improve poultry productivity and quality. Good quality poultry eggs and meat can give good price for our produce, increase the egg and meat consumption, and help in branding of poultry products. Sasidhar et al. (2006) explained that the growth in veterinary professional manpower was around 2.5 per cent per annum to meet requirements overall livestock sector. Tangaraju (2010) has pointed out that the more than three million people depend directly or indirectly on this sector for income and employment. The poultry sector is growing at a much faster rate than any other element of the crop and livestock.

### OBJECTIVE

- To analyses the Employment generation in Poultry Industry on Namakkal district in Tamilnadu.

### METHODOLOGY

Empirical study is based on both primary and secondary data. The primary data are collected from the sampled farmers. A sample respondent was selected 110 poultry farmers by out of 440 poultry farms in Namakkal District. The secondary data are collected from various yearbooks, records of poultry farms, poultry journals, poultry international and research publications. The required data are also collected from Tamil Nadu Poultry Farmers Association, Namakkal and the National Egg Coordination Committee (NEEC),

Namakkal. The district has been identified because of its dominant position in poultry production in the State as well as in India. For the purpose of the study, an exhaustive list of poultry farms operating in this district is prepared. Based on the number of birds, farms are grouped under small, medium and large size categories. In the present study an attempt has been made to study the Employment Opportunities in Namakkal Poultry farming.

### AREA OF THE STUDY

Namakkal District is a newly created district from Salem and functioning with effect from 1.1.1997. It consists of 4 Taluks, namely Namakkal, Rasipuram, Tiruchengode and Paramathi-Velur. For Administrative purposes, the district has been divided into 2 Revenue Divisions viz., Namakkal and Tiruchengode and 30 Revenue Firkas and 391 Revenue villages. For Development purposes, the district has been divided into 4 Municipalities, 15 Panchayat Unions, 19 Special Village Panchayats and 331 Village Panchayats.

### EMPLOYMENT POTENTIAL IN POULTRY FARMING

Poultry farming can provide self-employment to unemployed and under employed rural folks. According to the Perspective Plan for Tamil Nadu, Poultry units likely to provide employment to at least 1.5 lakhs of people, another 20,000 people will get jobs in other ancillary activities. The Indian Council of Agricultural Research Vision - 2025 has viewed that increase in per capita availability of one egg will generate 50,000 more jobs. Similar increase in employment generation also can be anticipated due to acceleration in broiler production, marketing of egg and meat, processing etc. So increase in poultry production activities will help to generate more employment. It will also help to solve gender issues in employment since the poultry operations can be handled with ease both by men and women.

Women are the principal contributors of family poultry production. Family poultry production contributes to family nutrition, additional income and job opportunity. Most of the relevant works family poultry production such as house construction, feeding, medication, housing and releasing,

house cleaning, hatching and brooding management and decision making are absolutely made by women. Women complete about 65 per cent of the total works under family poultry production. Poultry farming can be taken as a part-time occupation especially for women group of the society, landless, small and marginal farmers. With the globalization of world trade, there are greater challenges today for making the Indian poultry industry globally competitive and viable.

The dynamic poultry sector of Indian agriculture has enjoyed a spectacular growth rate over last four decades. Provision of techno-scientific inputs on production and consumption through adequately trained human resources is also an essential tool to usher the growth of poultry in years to come. The changing scenario has posed new challenges to the institute for reorienting its education and research programmes both in quality and direction to develop technologies which are competitive, cost effective, eco-friendly and farmer-friendly, sustainable, commercially viable and accepted internationally. This will call for modernization of infrastructure, improvement of human resources in years to come. The challenges faced by the poultry farmers today are the poultry quality and unorganized marketing sector.

Hatcheries are professionally managed with specialized people working in administration, sales service, finance etc. and poultry farmer needs to have at least one or two managers and supervisors for the farm management. Though poultry job need hard work, dedication it can assure permanent job as this industry is spread throughout the country and has bright future. The poultry industry provides more jobs as the egg and meat consumption increases.

**Table – 1 Age of Poultry Farm Owners**

Age	Small Farmers	Medium Farmers	Large Farmers	Total
25-35	18	6	6	30
35-50	33	11	11	55
Above50	10	5	10	25
Total	61	22	27	110

Source: Primary Data

It is seen from Table 1 that there are 30

respondents in the age group of 25 to 35, 55 respondents in the age group of 35 to 50 and 25 persons in the age group of 50 and above are involved in poultry farm owners.

**Table – 2 Period of Entry into Poultry Business**

	Small Farmers	Medium Farmers	Large Farmers	Total
Less than 5 years	15	3	2	20
5 years to 10 years	43	14	19	76
10 years and above	3	5	6	14
Total	61	22	27	110

Source: Primary Data.

It is seen from the table 2 that there are 15 sample small farmers are having less than 5 years experience; 43 small farmers have experience 5-10 years; 3 small farmers have experience 10 years and above. Among those imedium farms, 3 farmers are having experience less than 5years; 14 respondents have experience from 5 to 10 years; 5 respondents are having experience 10 years and above. Among those in large farms, 2 respondents have experience less than 5 years; 19 sample farmers have experience 5–10 years; 6 farmers are having experience 10 years and above. In general, the 20 sample farmers are having experience less than 5 years; 76 sample farmers are having 5 to 10 years experience; 14 sample farmers are having experience 10 years and above.

It is seen from the table 3 that 13.11 per cent of sample small farmers are having qualification of below S.S.L.C; 16.39 per cent of sample small farmers are having the qualification S.S.L.C; 50.82 per cent are graduates; and 19.67 per cent are postgraduate and professional degree holders. In the medium farmers, 22.73 per cent are having qualification of below S.S.L.C; 9.09 per cent are S.S.L.C; 45.45 per cent are graduates; 22.73 are postgraduates. Among those employed in large farms, 18.52 per cent are having qualification below S.S.L.C; 11.11 per cent are S.S.L.C; 51.85 are graduates; and

18.52 are postgraduates and professional degree holders.

In general, the 16.36 per cent are having qualification below S.S.L.C; 13.64 per cent are S.S.L.C; 50.00 per cent are graduates and 20.00 per cent are postgraduates and professional degree holders. It is seen that graduates and postgraduates are more in large farms than medium and large farms.

**Table – 3 Educational Qualifications**

	Small Farmers	Medium Farmers	Large Farmers	Total
<b>Below SSLC</b>	8	5	5	18
	(13.11 %)	(22.73%)	(18.52%)	(16.36%)
<b>SSLC</b>	10	2	3	15
	(16.39%)	(9.09%)	(11.11%)	(13.64%)
<b>Graduate</b>	31	10	14	55
	(50.82%)	(45.45%)	(51.85%)	(50.00%)
<b>Post Graduate and Professional Degree Course</b>	12	5	5	22
	(19.67%)	(22.73%)	(18.52%)	(20.00%)
<b>Total</b>	61 (100 %)	22 (100 %)	27 (100%)	110 (100%)

Source: Primary Data, Note: Figure in the parenthesis indicates percentage.

**Table – 4 Primary Occupational Status**

Occupation	Small Farms	Medium Farms	Large Farms	Total
Agriculture	20	8	10	42
	(32.79)	(36.36)	(37.04)	(38.19)
Business	4	1	1	3
	(6.56)	(4.55)	(3.70)	(2.73)
Employed	4	3	2	9
	(6.55)	(13.64)	(7.41)	(8.19)
Agricultural allied	3	1	1	1
		(4.55)	(3.70)	(0.91)
Poultry	30	9	13	55
	(49.18)	(40.90)	(48.15)	(50.00)
<b>Total</b>	61	22	27	110
	(100)	(100)	(100)	(100)

Source: Primary Data, Note: Figure in the parenthesis indicates percentage

It is inferred from the table 4 that among sample small farmers 32.79 per cent are engaged in agriculture; 6.56 per cent are doing business; 6.55 per cent are employed in other sector; 4.92 per cent people are engaged in agricultural allied activities; and 4.92 per cent are doing poultry alone.

Among medium farm farmers 36.36 per cent are engaged agriculture; 4.55 per cent are doing business; 13.64 per cent are employed in other sector; 4.55 per cent are engaged in agricultural allied activities; only 40.90 per cent are engaged in poultry farms. Among the large farms, 37.04 per cent are engaged in agriculture; 3.70 per cent are doing business; 7.41 per cent are engaged in other sector. 3.70 per cent are engaged employed in agricultural allied activities; and only 48.15 per cent are engaged are engaged in poultry farms. In general, 38.19 per cent are engaged in agriculture; 2.73 per cent are doing business; 8.19 per cent are employed in other sector; 0.91 per cent is engaged in agricultural allied activities; 50 per cent are engaged in poultry.

**Table –5 Labour Utilization per Farm (mandays)**

Farm Size	Family Labour	Hired Labour	Total
Small	282	563	845
Medium	406	2474	2880
Large	333	4409	4742
Total	1021	7446	8467

Source: Primary Data.

Table-5 reveals that there is better utilization of labour in large farms. Further this study revealed that most of the poultry farms in the area used both family labour as well as hired labour. The 845 mandays labour utilized in a small farm. The medium and large farms utilized 2880 mandays and 4742 mandays respectively.

The use of hired labour 563 mandays, 2474 mandays and 4409 mandays in small, medium and large farms. The total mandays utilized in small, medium and large farms by hired labour was 7446 mandays. The total mandays utilized in small, medium and large farms by family was 1021 mandays. This can prove that poultry create more employment opportunities to the local people.

**SUMMARY AND CONCLUSION**

Today, among different activities in the livestock sector, poultry farming is fast growing. It has an enormous potential to create non - farm employment, check migration from rural to urban areas and to improve the socio - economic status of rural population besides helping in the process of rural development. It needs certain vital infrastructure facilities that can facilitate storage, distribution, marketing, prevention and treatment of diseases in time and exports. If these facilities are provided adequately, it will help to improve the standard of living to rural people. So the poultry farmers can earn profit.

**SUGGESTIONS**

- Marketing channels have to be improved to increase consumption in order to create more employment, increase income of the rural people.

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## 48. AN ANALYTICAL STUDY ON NEW DIMENSION OF CHALLENGES FACING FISHERIES IN TAMILNADU

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### ABSTRACT

*Fishing has been a major source of livelihood for coastal and inland fishing communities. . The Fisheries sector, which started only as a subsistence livelihood activity during the early plan period is now emerging as a vital sector, contributing to employment generation, food security and foreign exchange earnings significantly. Fisheries is recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food for the people. It also is a foreign exchange earner. The Fisheries sector in Tamil Nadu plays a crucial role in the overall economic development of the State. The rich fish biodiversity of the State offers good scope for fisheries development Currently the demand for fish increased due to changes in consumption pattern of growing population in the State. The fish resources in the inshore area had been over exploited. Further, there is a decline in fish catches in inshore areas due to depleted fish stock. The growing demand could be meet from the exploitation of offshore resources to a optimum level by technologically upgradation and skill upgradation and adoption of sustainable practices. Presently, the fisher folk in Palk Bay are constrained by the lack of properly defined maritime rights and transgression of rules and regulations by Srilankan Navy. While demand for fish products is on the rise continuously, marine fish market chains generally suffer from unhygienic conditions, poor handling of the fish and large wastage in terms of both lost product and profits. Quantity lost due to poor quality of up to 15 percent of the harvest is common. Small-scale fishers are often unable to gain access to more efficient marketing systems and supporting infrastructure (ice, cold storage, etc.) that would lead to better quality and prices. In these back ground this paper analyze contributions and challenges of fisheries in Tamilnadu*

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### INTRODUCTION

**F**isheries sector usually makes a valuable contribution to economic development of coastal areas. The relative dispersion of coastal small-scale fisheries adds to maintaining economically viable rural communities and balancing the trend towards growing coastal urbanization. In addition to its direct contribution, the fisheries sector is often responsible for significant indirect multiplier effects on economic development. Fishing or fish farming is often undertaken next to other economic household activities including farming and small trade. The supply of capital and labour of the fishing activity may evolve in close relation to agricultural activities undertaken by the household. The infrastructure developed for fisheries tend to trigger further economic developments in other sectors such as tourism or agriculture. An important contribution of the sector is the employment opportunities it generates, especially in remote and marginal areas. The rapid development of aquaculture, for the local and export markets, and its

rapid transformation in many areas into a commercial or semi-industrial activity is also contributing substantially to the development of rural areas.

Fishing efforts are largely confined to the inshore water through artisanal, traditional, mechanized sectors. About 90% of the present production from the marine sector is from within a depth range of up to 50 to 70 meters and remaining 10% from depths extending up to 200 meters. While 93% of the production is contributed by artisanal, mechanized and motorized sector, the remaining 7% is contributed by deep sea fishing fleets confining their operation mainly to the shrimp grounds in the upper East Coast. A working Group constituted by Ministry of Agriculture in August 1990 had revalidated the fishery resource potential of Indian EEZ at 3.9 million tonnes of which 2021 million tonnes are within a region of depth upto 50 meters is estimated at 1.69 million tonnes. Some of the commercially important resources under exploited beyond 50 mtrs. Depth regions are tuna (2.09 lakhs

tonnes), Tunnies (2.42 lakh tonnes), Ribbon fish (2.16 lakh tonnes), Parches (1.25 lakh tonnes), Cat fish (0.63 lakh tonnes) etc.

### **SIGNIFICANCE OF FISHERY SECTOR: A REVIEW**

Historically, fishing has been a major source of livelihood for coastal and inland fishing communities as well as a source of healthy food for humanity at large. Their significance and contribution towards fisheries sector occupies a very important place in the socio-economic development of the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries and is a source of cheap and nutritious food besides being a foreign exchange earner. Most importantly, it is the source of livelihood for a large section of economically backward population of the country. Major functions of fisheries enterprises viz. production, transportation and processing involves value addition from labour, capital and management which significantly influences the rapid economic development of the country. Unlike agriculture, contribution of fisheries sector to GDP continues to grow at a rapid pace because of expansion of culture fisheries enterprises.

Noble and Narayanan Kutty (1978) in their article entitled "The economics of indigenous fishing units operating at Manassery near Kochi", they indicated that the gross income in relation to investment is very good in the indigenous fishing units and giving out proportionately higher rate of production than the mechanized units. The country crafts require comparatively less investment and it can be economically put into action even when the fish in the sea is scanty.

Sathiadhas and K.K.P Panikkar (1989) in their article entitled "Socio-economic status of marine fisheries along Madras coast", they analyzed the main issues and inter relationship existing in the management of coastal fisher folk. They had also brought out role played by the fisheries sector in generating employment and income for the weaker sector in backward areas. They had found that fisheries industry had helped in uplifting the standard of living of weaker sections.

According to Sam Bennet and Arumugam, (1988) in their article "New Trends in the

Traditional marine fisheries at Tuticorin", quick changes taken place in the fishery due to the introduction of mechanization of traditional fishing crafts. The highlights are (i) the fishermen are benefited by increased catch per unite as well as increased price for the catch by arriving earlier. (ii) A significant improvements in the socio-economics structure of the traditional sector is the creation of mechanization to existing crafts and (iii) Number of persons have been reduced to three from five.

Sathiadhas and K.K.P Panikkar, (1991) in their article entitled, "Economics of catamaran fishing along Madras coast", they analyzed the various marketing methods adopted in the fishery sector. The role of middlemen, price spread, mode of transport, regional imbalances in the distribution, system and other various marketing gaps were properly explained.

### **PROFILE OF COSTAL AREA OF TAMILNADU**

Tamil Nadu provides fish resources from thirteen coastal districts and had 591 fishing villages with a total fishermen population in the State was 11.03 lakh, which formed a share of 1.5 percent of the State's total population. Of the total fisherman population marine fisherman alone is 8.92 lakh, of which 2.60 lakh fishermen are actively engaged in fishing, with a coastal line of 1076 kms in the East Coast. The fisherman population comprising those engaged in marine and inland fishing was in the ratio of 70:30. The marine fish resources consist of 1.9 lakh sq. kms of Exclusive Economic Zone (EEZ) and a continental shelf of 41,412 sq.kms. The inland fishery population was estimated at 2.17 lakhs in the State. The State shares 13.5 per cent in marine and 3.5 per cent in inland fish production at the all India level. Fishing, aquaculture and allied activities provided livelihood support to over 14 million people, apart from being a major foreign exchange earner. The strength of fishing fleet of the State comprises 6728 mechanized fishing crafts and 56792 non-mechanized crafts and both put together, a total number of 63520 boats is in operation. ( Tamilnadu Economic Appraisal, 2013)

### **BRACKISH WATER AND AQUACULTURE**

Tamil Nadu has a total of 56,000 hectare of potential shrimp farming area. The entire

water spread area is under the control of the Government. Apart from that a total number of 2,748 private shrimp farms covering a total extent of 6,019 hectares have taken up for brackish water aquaculture. According to the mandatory provision of Coastal Aquaculture Authority, so far 1,667 farms (60%) with a total extent of 4,604 hectares (76%) got registered. The total production of shrimp in the State increased from 16,777 tonnes in 2011-12 to 17,131 tonnes in 2012-13 (2.1%). It is likely to go up to 17,304 tonnes in 2013-14 (1%). Of the total shrimp production, the composition of private and Government was by and large remained in the ratio of 37:63. To promote sustainable eco-friendly aquaculture practices, 12 Fish Farmers Development Agencies (FFDA) and 5 Brackish Water Fish Farmers' Development Agencies (BFDA) have been merged into District Fisher Farmers Development Agencies (DFDA) covering all districts except Chennai and The Nilgiris. The aquaculture activity has attracted severe criticism from the environmentalists due to the percolation of salt into land area in the vicinity of the farms, making them saline and unfit for any other agricultural purposes.

**FISH PRODUCTION IN TAMILNADU**

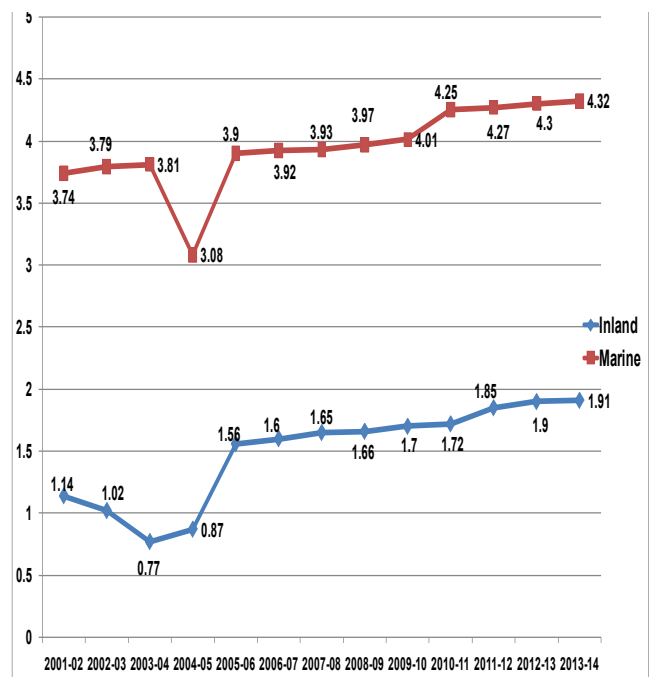
There was a steady increase in total fish catches in the State in the recent past. About 70 per cent of the State's marine fish catch was from 5 districts viz., major chunk of 20 per cent in Ramanathapuram, 17 per cent in Nagapattinam, thirteen per cent in Thoothukudi, 10 per cent in Kanniyakumari and Pudukkottai respectively ( Government of Indian, 2013).

**Table 1. Total Fish Production of Tamilnadu ( Lakh Tonnes)**

Year	Inland	Marine	Total
2001-02	1.14	3.74	4.88
2002-03	1.02	3.79	4.81
2003-04	0.77	3.81	4.58
2004-05	0.87	3.08	3.95
2005-06	1.56	3.90	5.46
2006-07	1.60	3.92	5.52
2007-08	1.65	3.93	5.58
2008-09	1.66	3.97	5.63
2009-10	1.70	4.01	5.71
2010-11	1.72	4.25	5.97
2011-12	1.85	4.27	6.12
2012-13	1.90	4.30	6.20
2013-14*	1.91	4.32	6.23

Source: Commissioner of Fisheries, Chennai-6.

**Chart 1. Total Fish Production of Tamilnadu ( Lakh Tonnes)**



Fish production is comprised of marine and inland fish and fishery products. The marine fish production accounts for more than 70 per cent of the total fish production in the State. The rest accounts for inland fish production. Tamil Nadu has become one of the leading producers of marine fish and the annual marine fish production in the State is 4.88 lakh tones in 2001-02. The fish production had witnessed a marginal reduction to 4.81 lakh tones in 2002-03, 4.58 lakh tones in 2003-04 and recored a very low production of 3.95 lakh tones in 2004-05. There was a steady increase in total fish catches in the State in the recent past. It improved from 5.46 lakh tonnes in 2005-06 5.97 lakh tonnes in 2009-10 and further increase to 6.23 lakh tonnes in 2013-14.

**EXPORT OF FISH IN TAMILNADU**

The export of marine products had grown to greater proportion as one of the important item of India's exports, accounting for approximately 4% of the total export from India. The USA was the principal buyer for our frozen shrimp for a long time but after 1977, Japan emerged as the principal buyer for frozen shrimp followed by the Western European countries. While Japan continued to be the single largest buyer of our marine products accounting for 15.29% in volume and 23.86% of the value during the same period. Share of the USA is increasing

steadily(Government of India, 2013). There are 57 approved modern sea food processing plants and 64 approved dried fish production exporting centres functioning in Taminadu. Over 4,000 persons are directly and 12,000 persons are indirectly employed in the export processing industry in the State.

**Table 2: Export of Fish and Fish Products in Tamil Nadu**

Year	Quantity ('00'Tonnes)	Value (Rs.in crore)
2001-02	5848	2016
2002-03	7015	2508
2003-04	6846	2071
2004-05	7081	2068
2005-06	7242	1996
2006-07	7288	2068
2007-08	7264	1813
2008-09	6840	1772
2009-10	7333	1982
2010-11	8618	2860
2011-12	8072	3029
2012-13	8618	2860
2013-14	8659	3331

Source: Director of Marine Products Export Development Authority, Chennai-40

**Chart .2: Export of Fish and Fish Products in Tamil Nadu**

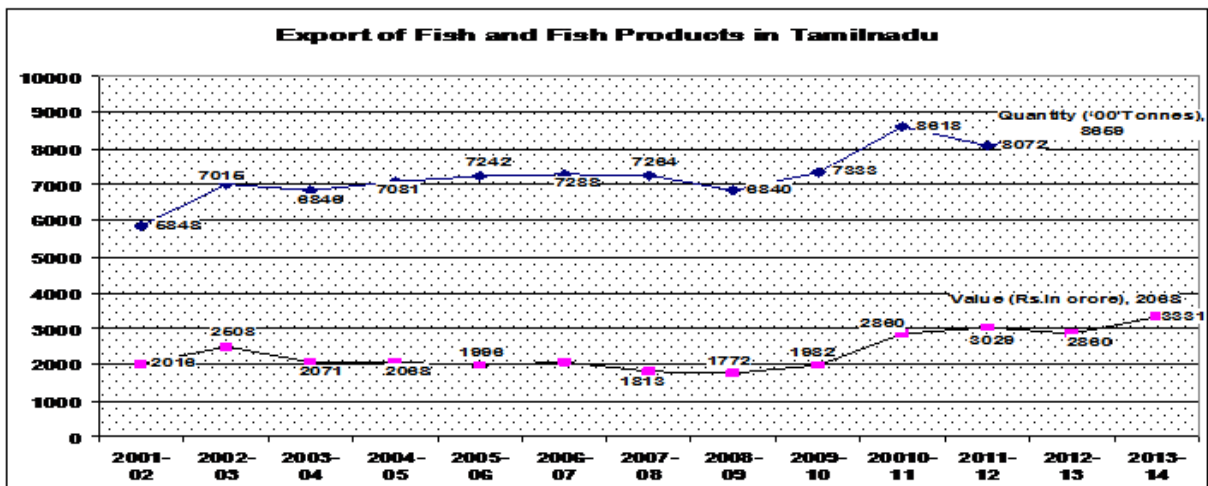


Table 2 reveals the export of fish and fish products in Tamil nadu. There was a fluctuating trend in the total quantity of fish and fishery products export in the State. It declined from 86,182 tonnes in 2010-11 to 80,738 tonnes in 2011-12 (6.3%). In 2012-13, it rose to 86,585 tonnes (7.2%). Of the total quantity exported, the export of shrimp alone accounted for as much as 63 percent. Contrary to this trend, the value of earnings from fish and fishery products exports gradually improved from Rs.2,860

crore in 2010-11 to Rs.3,029 crore in 2011-12 (5.9%) and further increased to Rs.3,331 crore in 2012-13. Likewise the average earnings per tonne increased from Rs.3.31 lakh in 2010-11 to Rs.3.75 lakh in 2011-12 and further to Rs.3.85 lakh in 2012- 13. The State’s share in total quantity of fish and fish products.

**CONCLUSION**

The fisheries sector usually makes a valuable contribution to economic development of

coastal areas. Expanding on geography, access to markets and affordable technology, the contribution of fish to food security comes not only from fish produced for direct local food consumption, but also from aquatic products of all types which can be sold domestically or exported for funds. Presently the fisher folk in Tamilnadu meet our lot of problems. To avoid such a situation, the government developing fish farming extensively in Indian waters would prevent its fishermen from venturing into other waters in search of a 'big catch'. Proper fisheries resource management is also an urgent need of the hour.

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## 49.A REVIEW OF RECENT TRENDS AND DEBATES OVER DEVELOPMENT IN INDIAN ECONOMY

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### ABSTRACT

*From 1990s, India witnessed significant changes in the macroeconomic policy regime along the neoliberal route which has resulted in a weakening of the interventions by the State, in many important economic and social arenas. In this paper an attempt has been made to highlight the major issues of the present contemporary Indian economy as well as some recent debates. The paper highlights that economic growth is not only important from internal economic and social perspective but also external economic front. But, full market deregulation is more prone to external shocks and instabilities of world economy. At the same time, social improvement and government spending are also not a free flow mechanism unless guided by proper regulation. So, for inclusive growth of India, both development paradigms are important as given by Sen and Bhagwati which should be used with proper care and national requirements.*

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### INTRODUCTION

Despite a temporary slowdown precipitated by the global financial and economic crisis, the Indian economy has continued to grow at a healthy rate. To maintain high-paced growth in the years ahead, India will need to address a number of issues, most notably, poverty (which remains widespread despite improvements), unemployment, lagging infrastructure development, and the need for ongoing economic reforms. <sup>3/4</sup> In a climate of rapid globalization, India's information technology industry has grown dramatically. Indian IT companies have posted impressive sales figures thanks in large part to work outsourced by US businesses. The auto industry has also enjoyed rapid growth in sales and increased competitiveness. The Nano, the super-economy car developed by Tata Motors, is evidence of a high level of technical expertise among India's engineers. <sup>3/4</sup> Removing obstacles to growth to ensure that the economy continues expanding will require independent effort on India's part, but efficient and effective use of assistance from overseas is also important. Recognizing India's potential for the future, Japan should take the initiative in offering such support, focusing on human resource development. From the standpoint of bilateral relations, student exchange is one of the most vital areas of cooperation, <sup>3/4</sup>

Japan, which faces the strong possibility of labor shortages over the middle and long term, should make use of India's talented human resources, particularly in the IT industry. To attract talent from India and other countries, Japanese businesses must create a welcoming environment by clearly explaining the nature of the work and the conditions of employment, as well as the potential for promotion and career advancement.

### A RISING PROFILE IN ASIA AND THE WORLD ISSUES

Like China, India has been drawing global attention by virtue of a huge population combined with strong and steady economic growth. Both countries suffered temporary slowdowns as a result of the global financial and economic crisis that followed the "Lehman shock" of September 2008, but both began to rebound in 2009. This rapid recovery at a time when the advanced industrial economies of the West and Japan have yet to turn the corner has fostered the view that China and India are poised to become major engines of global economic growth.

An earlier impetus for the surge of interest in the Indian economy was an October 2003 report by Goldman Sachs on the emerging economies of Brazil, Russia, India, and China, the so-called BRICs. Assessing the

role of these countries in the global economy through 2050, the report concluded that their importance would increase dramatically and forecast especially rapid growth for India and China. It predicted that India would overtake Italy, France, and Germany in gross domestic product between 2015 and 2025 and would surpass Japan to become the world's third-largest economy (behind the United States and China) by 2032.

The World Bank spotlighted India and China as well in a 2006 report that compared the two economies in terms of existing conditions and potential problems (World Bank 2006) and forecast economic growth between 2005 and 2020. Although the World Bank's predictions are more conservative than Goldman Sachs's, they still anticipate growth rates well above those of other major countries.

In Japan, a rising interest in the Indian economy is suggested by the large number of books on the subject appearing in recent years, including those by Hisaya Oda (2009) and Kohei Shiino (2009). Among Japanese businesses, interest can be gauged by the level of direct investment in India, which expanded more than 10-fold between 2006 and 2008 (JETRO 2009).

#### **OVERVIEW OF THE INDIAN ECONOMY AND CHALLENGES FOR FURTHER GROWTH**

After years of inconsistent economic performance resulting in part from such noneconomic factors as natural disasters and war with Pakistan, India has been on a continuous growth trajectory since 1991. Since 2000 the Indian economy has performed particularly well, growing at the high average annual rate of 7.2%. Among the factors that helped bring about this rapid growth, special attention must be given to the deregulatory and market-opening reforms launched in 1991 under then-Finance Minister Manmohan Singh (now prime minister). Singh's economic reforms linked foreign and domestic investment directly to production. Rising corporate income and retained earnings gave companies the financial wherewithal to invest in the production of such desirable products as passenger cars, motorbikes, household appliances, and cell phones.

#### **ECONOMIC GROWTH RATE AND PERFORMANCE OF INDIAN ECONOMY**

The statistic shows the growth of the real

gross domestic product (GDP) in India from 2010 to 2017, with projections up until 2022. In 2017, India's real gross domestic product (GDP) growth was at about 6.74 percent compared to the previous year. GDP refers to the total market value of all goods and services that are produced within a country per year. It is an important indicator of the economic strength of a country. Real GDP is adjusted for price changes and is therefore regarded as a key indicator for economic growth.

#### **INDIA GDP ANNUAL GROWTH RATE**

The Indian economy grew 8.2 percent year-on-year in the second quarter of 2018, above 7.7 percent in the previous three months and beating market expectations of 7.6 percent. It is the strongest growth rate since the first quarter of 2016. GDP Annual Growth Rate in India averaged 6.16 percent from 1951 until 2018, reaching an all time high of 11.40 percent in the first quarter of 2010 and a record low of -5.20 percent in the fourth quarter of 1979.

The Indian economy grew 8.2 percent year-on-year in the second quarter of 2018, above 7.7 percent in the previous three months and beating market expectations of 7.6 percent. It is the strongest growth rate since the first quarter of 2016, boosted by household spending, financial, real estate and manufacturing activities.

Faster increases were seen in household spending (8.6 percent compared to 6.7 percent in Q1) and inventories (8.6 percent compared to 7.8 percent). Also, exports jumped 12.7 percent, much higher than a 3.6 percent rise in the previous period. Imports also increased at a faster 12.5 percent (10.9 percent in Q1). On the other hand, government consumption (7.6 percent compared to 16.8 percent) and gross fixed capital formation (10 percent compared to 14.4 percent) slowed. Household spending accounted for 54.9 percent of the GDP; gross fixed capital formation for 31.6 percent; public expenditure for 11.8 percent; and changes in stocks for 0.7 percent. Exports accounted for 21.4 percent while imports subtracted 24.7 percent.

Gross Value Added, that is, GDP excluding taxes expanded 8 percent, higher than 7.6 percent in Q1. Faster growth was recorded

for financial, real estate and professional services (6.5 percent compared to 5 percent in Q1); manufacturing (13.5 percent compared to 9.1 percent); and agriculture, forestry and fishing (5.3 percent compared to 4.5 percent). On the other hand, a slowdown was recorded for trade, hotels, transport, communication and services related to broadcasting (6.7 percent compared to 6.8 percent); public administration and defense (9.9 percent compared to 13.3 percent); construction (8.7 percent compared to 11.5 percent); mining and quarrying (0.1 percent compared to 2.7 percent); and utilities (7.3 percent compared to 7.7 percent). Financial and real estate activities were the biggest sector of the economy (24.1 percent), followed by internal trade (18.9 percent); manufacturing (18 percent); agriculture (13.3 percent); public sector (12.4 percent); construction (7.9 percent); mining (3.2 percent) and utilities (2.3 percent).

**INEQUALITY OF INCOME AND GROWTH**

Inequality in earnings has doubled in India over the last two decades, making it the worst performer on this count of all emerging economies. The top 10% of wage earners now make 12 times more than the bottom 10%, up from a ratio of six in the 1990s. Moreover, wages are not smoothly spread out even through the middle of the distribution. The top 10% of earners make almost five times more than the median 10%, but this median 10% makes just 0.4 times more than the bottom 10%. There is evidence of growing concentration of wealth among the elite. The consumption of the top 20% of households grew at almost 3% per year in the 2000s as compared to 2% in the 1990s, while the growth in consumption of the bottom 20% of households remained unchanged at 1% per year. In comparison, the income of the bottom 20% of households in China grew at double the rate in the 2000s as compared to the 1990s, while the increase for the top 20% of households was much slower. In Brazil, household incomes have been growing faster among the poorest households than among the richest for the last two decades. The richest 10% of Indian society have seen highest growth while the poorest 10% have seen the slowest increase in incomes. The remaining 80% of the

people have seen roughly the same levels of growth ranging between 35% and 40% in rural areas and between 40% and 50% in urban areas over 12 years. That means that for 90% of people, annual growth in income was just over 3% in rural India, and just over 4% in urban India.

**CORRUPTION IN INDIA**

Corruption in India is a major issue and adversely affects its economy. In 2005 a study conducted by Transparency International in India had found that more than 62% of Indians had firsthand experience of paying bribes or influence peddling to get jobs done in public offices successfully. In its 2008 study, Transparency International reports about 40% of Indians had firsthand experience of paying bribes or using a contact to get a job done in public office. In 2012 India as ranked 94th out of 176 countries in Transparency International's Corruption Perceptions Index, tied with Benin, Colombia, Djibouti, Greece, Moldova, Mongolia, and Senegal. Most of the largest sources of corruption in India are entitlement programmes and social spending schemes enacted by the Indian government; for examples Mahatma Gandhi National Rural Employment Guarantee Act and National Rural Health Mission. Other daily sources of corruption include India's trucking industry which is forced to pay billions in bribes annually to numerous regulatory and police stops on its interstate highways.

**Index Trends In Major States by Respective Anti-Corruption**

State	1990-95	1996-00	2001-05	2006-10
Bihar	0.41	0.30	0.43	0.88
Gujarat	0.48	0.57	0.64	0.69
Andhra Pradesh	0.53	0.73	0.55	0.61
Punjab	0.32	0.46	0.46	0.60
Jammu & Kashmir	0.13	0.32	0.17	0.40
Haryana	0.33	0.60	0.31	0.37
Himachal Pradesh	0.26	0.14	0.23	0.35
Tamil Nadu	0.19	0.20	0.24	0.29
Madhya Pradesh	0.23	0.22	0.31	0.29
Karnataka	0.24	0.19	0.20	0.29
Rajasthan	0.27	0.23	0.26	0.27
Kerala	0.16	0.20	0.22	0.27
Maharashtra	0.45	0.29	0.27	0.26
U.P	0.11	0.11	0.16	0.21
Orissa	0.22	0.16	0.15	0.19
Assam	0.21	0.02	0.14	0.17
West Bengal	0.11	0.08	0.03	0.01

*Source: CMS, India Corruption Study report 2010*



CMS India claims in its 2010 India Corruption Study report that socio-economically weaker section of the Indian society is most adversely affected by government corruption—these include the rural and urban poor. The study additionally claims that corruption perception nationwide has decreased between 2005-2010. Over the 5-year period, significantly more number of people from the middle class as well as the poorest segments of Indian society surveyed, in all parts of the India, claimed government corruption had dropped over time, and they had lesser direct experiences with demands for bribes. The table1 compares the perceived anti-corruption effort across some of the major states in India. A rising index implies higher anti-corruption effort and falling corruption. According to the table1, the states of Bihar and Gujarat have experienced significant improvements in their anti-corruption efforts, while the conditions have worsened in the state of Assam and West Bengal. Consistent with the results in this table, in 2012, a BBC News report claimed the state of Bihar has transformed in recent years to become the least corrupt state in India.

### **DECLINING DOLLAR VALUE AGAINST RUPEE**

In recent past, declining rupee has created concern in the Indian economy. In the second week of June 2013, it came close to breaching the psychological barrier of Rs 60 to the dollar, and there is fear that even this may not be a real bottoming out for its value. Of course those who are directly affected by the lower value of the rupee are concerned such as importers, those wishing to travel abroad or spend on foreign education, and so on. But the rupee's decline affects everyone in the economy, because it feeds directly and indirectly into general inflation, which is a continuing problem even as output growth decelerates, and therefore hits common people hard. The rupee's recent decline has been against all the major currencies, not just the US dollar—and in fact the decline has been even sharper relative to the British pound and the Japanese yen and in recent past, the Indian rupee has been depreciating faster than the currencies of

most other emerging markets, and is the worst performance among the major Asian countries.

The dollar index has been rising on signs of growing economic momentum and the dollar is high across the board including the rupee. At the same time, rising deficit is bad for India as it exposes the economy to the risk of sudden stop and reversal of capital flows. In case of an event shock, for example if the U.S. Fed withdraws its bond buying programme, there might be sudden outward flow of money, leaving India scrambling for dollars. The slowdown in the Indian economy has made the current situation even more volatile because the government is unable to generate heavy capital inflow. India's current account deficit was equivalent to a record 6.7 per cent of gross domestic product in December, 2012. Oil imports consume the largest part of the foreign exchange reserves. A depreciating rupee is bound to offset the decrease in the international prices of commodities such as oil. As can be seen from the figure below although the oil price per barrel has fallen however the depreciating rupee has not given any respite to the importer as they actually have to shell out more money in order to purchase the same quantity of oil. Take for instance crude oil imports. Brent crude oil price was \$118.46 per barrel on April 2011 when exchange rate for the rupee was Rs 44.4 to a dollar. On November, oil price had gone down to \$109.03 per barrel and exchange rate was Rs 52.7 to a dollar.

### **POTENTIAL AND RISK IN THE INDIAN MEGA MARKET**

As one of the four BRICs, India is already an economic behemoth—the world's fourth largest economy by purchasing power parity. As of fiscal 2008 (April 2008–March 2009), it had a population of more than 1.15 billion and a GDP of \$1.156 trillion. Since the Lehman shock of 2008, most of the world's industrial and emerging economies have been mired in negative or low growth. Although the worldwide recession had a major impact on India's export industries, making an economic slowdown inevitable, the Indian economy has continued to expand at a rate of more than 6%. In addition to the nation's growing middle class, a "developing middle class" has emerged as a new group of

spenders, further expanding the market for consumer goods and playing an important part in sustaining economic growth.

The expansion of the domestic consumer market thanks to the growth of the middle class and the developing middle class has the potential to sustain steady economic growth independent of overseas markets. However, if the problems alluded to in the previous section are not solved or mitigated, the nation could find itself in a vicious circle of poverty, as economic growth slows and the middle and developing middle classes sink back into poverty, blunting economic growth even further. To avert such a scenario, India needs to make the most of cooperation from overseas to solve the problems it is facing.

A Rising Profile in Asia and the World Issues Like China, India has been drawing global attention by virtue of a huge population combined with strong and steady economic growth. Both countries suffered temporary slowdowns as a result of the global financial and economic crisis that followed the "Lehman shock" of September 2008, but both began to rebound in 2009. This rapid recovery at a time when the advanced industrial economies of the West and Japan have yet to turn the corner has fostered the view that China and India are poised to become major engines of global economic growth.

An earlier impetus for the surge of interest in the Indian economy was an October 2003 report by Goldman Sachs on the emerging economies of Brazil, Russia, India, and China, the so-called BRICs. Assessing the role of these countries in the global economy through 2050, the report concluded that their importance would increase dramatically and forecast especially rapid growth for India and China. It predicted that India would overtake Italy, France, and Germany in gross domestic product between 2015 and 2025 and would surpass Japan to become the world's third-largest economy (behind the United States and China) by 2032.

The results of the analysis show how policies for market opening and domestic deregulation adopted in 1991 and thereafter played a crucial role in the country's rapid economic growth by permitting India to seize the opportunities presented by advancing globalization and the rise of the

IT industry, which has benefited the most from globalization. In terms of future trends, our analysis identified a number of factors conducive to continued growth, including a high rate of savings and investment, a relatively youthful population, and an expanding middle class. At the same time, it revealed a variety of factors that could inhibit growth, namely, problems relating to the fiscal deficit, poverty, unemployment, education and health care, infrastructure, energy and the environment, and agriculture. While India's own efforts will be critical to resolving or mitigating these problems, the effective use of assistance from overseas is another important ingredient. An Indian economy that realizes its potential could bring economic growth and social and political stability to Japan and other countries in East Asia and, by extension, to the entire world. That is why Japan needs to strengthen ties with India through such means as people-to-people exchange and the conclusion of a free trade agreement. After summarizing the report's findings chapter by chapter in section 2, I conclude in section 3 by proposing several steps by which the Japanese government and Japanese business can strengthen relations with India. It is my hope that the results of this study can contribute something of value to the government's international trade and economic cooperation policies, including official development assistance, as well as to the investment and trade strategies of Japanese corporations.

### **THE GLOBALIZATION OF INDIA**

Globalization is overtaking the Indian economy thanks to the rapid growth of foreign trade and direct investment. Between fiscal 2000 and 2008, India's annual exports and imports of goods increased by 4.1 times and 5.8 times, respectively, while foreign direct investment in India rose seven-fold. When it comes to goods, India imports more than it exports, but in services it is running a surplus, evidence of Indian industry's growing competitiveness in this sector. Exports of software services have grown especially rapidly and now occupy a large share of total exports in services. In recent years trade with East Asian countries, China in particular, has increased dramatically as a percentage of India's total trade volume. A

notable feature of foreign direct investment by Indian businesses is the prominent role of mergers and acquisitions.

### **AMARTYA SEN AND GAJDISH BAHAGWATI DEBATE ON GROWTH PARADIGM**

Inclusive growth basically means broad based growth, shared growth, and pro-poor growth. It decreases the rapid growth rate of poverty in a country and increases the involvement of people into the growth process of the country. Inclusive growth by its very definition implies an equitable allocation of resources with benefits incurred to every section of the society. But the allocation of resources must be focused on the intended short and long term benefits of the society such as availability of consumer goods, people access, employment, standard of living etc. It sets a direct relationship between macro and micro determinant of the economy and its growth. To maintain rapid and sustainable growth is some time very difficult because resources are misplaced during the allocation and may give rise to negative externality such as rise in corruption which is major problem in developing nations. But however it has created an environment of equality in opportunity in all dimension of livelihood. Such as employment creation, market, consumption, production, and has created a platform for people who are poor to access good standard of living.

The economists described the Gujarat model as a metaphor for a primarily growth and private entrepreneurship driven development and the Kerala model for a primarily redistribution and state-driven development. The Bhagwati duo argues that whatever Kerala had achieved was thanks to a growth-oriented approach. They suggest that Kerala's high social indicators have much less to do with the so-called Kerala model, and more to do with global trade, growth-oriented policies and private-sector participation. However there is a difference between level of change and rate of change. Professor Bhagwati focuses more on rates of change, while Sen argues that levels matter. For Gujarat some recent rates of change look impressive, as it is on a small base, while for Kerala even incremental changes on high levels are impressive. So, Gujarat paradigm of

development is 'growth oriented', while Kerala's model is 'human development-led growth'. The Infant mortality rates (IMR) of both Gujarat and India are very high and Kerala has made remarkable progress in bringing it down. Rural IMR of Gujarat, which was below all India, has now caught up and converged with all-India levels in an era of faster economic growth. However both Bhagwati and Sen have not paid enough attention to key flaws in India's record in implementing government programmes (Ullekh NP, ET Bureau, 2013). Management and institutional performance are areas ignored by Sen. High expenditure in India is an unwise option. India is country where public delivery mechanisms have not worked well and to compare this system with countries in Asia as such as Korea, Taiwan etc. Besides, Sen hasn't delved deep into issues related to labour reforms or financing of political parties, issues that are crucial in determining the way our democracy functions. Amid raging debate over growth models suggested by economists Amartya Sen and Jagdish Bhagwati, Finance Minister P Chidambaram endorsed both of them saying they were equally important and emphasized the need to combine passion for growth with compassion for the poor. India can never be a truly happy prosperous country unless our passion for growth is combined with compassion for the poor.

A large number of people in this country are poor. While Sen's model for growth advocates that India should invest more in its social infrastructure, the model put forth by Bhagwati argues that mere focus on growth can yield enough resources for investing in social sector schemes. A most constructive economic policy is incomplete without the element of compassion. There should be passion for growth and equally support Sen's model which says there should be compassion for the poor. Bhagwati model will never be complete unless complemented with Sen's model. Economic growth is a process and the ultimate aim of the process is development and upliftment of the society. So, definitely, growth must be inclusive and consider poorest of the society. However, there are several model of inclusive growth.

## **CONCLUSION**

From the above analysis, it is clear that India is able to achieve a robust growth especially after the post reform era. The per capita GDP growth rate of India is also enhancing over the years; but if we compare the world per capita GDP growth rate to Indian scenario, it is very low. Growing fiscal deficit, inflation and corruption are the main problem of Indian Economy. Looking at these problems with growing income inequality, India is following inclusive growth model which is also full of contradiction and debates. However, growth is not only important from internal economic and social perspective but also external economic front. But in this process, full market deregulation is more prone to external shocks and instabilities of world economy. At the same time, social improvement and government spend are also not a free flow mechanism unless guided by proper regulation. So, for inclusive growth of India, both development paradigms are important and should be mixed with proper care and national priority

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# 50. INTEGRATION OF EDUCATION AND SKILL DEVELOPMENT IS ESSENTIAL TO TAKE WINGS

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## INTRODUCTION

Introducing students to some employable skills will also help them prepare and adapt to real work situations without much effort. It will ease the transition phase from being a student to being a professional- Nayana Mallapurkar

In the modern world education is becoming the most important resource for economic and social development of countries, improving well-being and individual development of students. Education in every sense is one of the fundamental factors of development. Education enriches student's understanding of themselves and world. It improves the quality of their lives and raises student's productivity and creativity and promotes entrepreneurship and technological advances. In addition it plays a very crucial role in securing economic and social progress and improving income distribution. India is relatively young as a nation with around 28 million youth population being added every year. More than 50 per cent of its population is below the age of 25 but in the present context of globalisation with regard to industry and job market now there is over powering demand for skilled and multi skilled workers has increased. Therefore in the context of developing countries, such as India, there is a critical need for quality skill development and training but today about 90 per cent of employment opportunities require vocational skills.

Only 20 per cent of our graduates get employed. The rest are unable to get suitable employment due to the lack of employable skills as our current education pattern/ system cannot educate students with skills that enhances their employability.

## FACTORS IN THE INDIAN EDUCATION SYSTEM THAT PREVENT SKILL DEVELOPMENT OF STUDENTS

From primary to upper secondary, the subjects covered in the school curricula are the languages (mother tongue/regional/foreign), mathematics, science and technology, social science, art education, physical training etc. It will be observed that the curricula do not cover components of employable skills nor is there any option to introduce students to different vocation thus Indian education system puts maximum emphasis on bookish knowledge. Hence, when an individual graduates, he/she struggles to apply this knowledge in the real life scenario and also Indian education system does not consider the component of skilling in its curriculum. The option of vocation education is limited to certain boards, which do not cater to the larger target audience. In India there are different boards that follow different systems/ curriculum.

## EMPLOYABLE SKILLS REQUIRED TODAY

In general, apart from the core subject expertise, some of the prominent employable skills that employers seek are:

- Communication skills (verbal and written)
- commercial awareness
- attitude towards work
- lifelong learning
- self-management
- teamwork
- problem solving
- initiative
- self-motivation
- adaptability
- stress management
- creativity
- interpersonal sensitivity
- technology/it skills

### **WAYS TO CARRY OUT SKILL DEVELOPMENT AT SCHOOL LEVEL**

At school level, there must be options available for skill development courses and they must be provided in the secondary stage of schooling

- Many more courses in fields such as Hospitality and Tourism, Handicraft, Healthcare, Textiles, Photography, IT, Retail, Banking, Insurance can be added that would interest students to learn from

- For instance if a student opts for healthcare, he could learn to be a blood-collection expert and later can add further courses to become full-fledged pathology technician or nurse

- The pedagogy has to be practical; learning can be enhanced through field visits, e-learning, industry driven projects, digital or video inputs and so on.

Skill development(vocational courses) is not yet popular in the practice of Indian schools.

In most developed international countries, students are introduced to formal skill development at age 16 onwards i.e. at upper secondary level onwards. The education systems in these countries also provide for opportunities to students to move laterally and vertically to achieve their academic aspirations in main stream education but Indian society views, an student pursuing main stream education has a glorified status but vocational education is viewed as a reluctant option for those who are less privileged, incapable of pursuing main stream education or for the vulnerable sections of society only vocational education can give :

- a judicious mix of skills relating to a particular profession and appropriate content of general education and will suggest a symbiotic link with industries

- Hence, this will open up opportunities for millions of students to pursue a graduation in various vocations apart from the regular main stream subjects

- The vocational courses with any mainstream graduation degree, gives opportunities to students to apply for post graduate courses where the eligibility is any graduation

The vocational programme is also considered as an eligible degree for those seeking government jobs Apart for these,

introducing students to some of the employable skills mentioned above will also help them prepare and adapt to real work situations without much effort. It will ease the transition phase from being a student to being a professional

### **CONCLUSION**

Considering the Indian population, there is an acute need for training the young workforce, just to shape them in a better way but, Indian thought process is more clued on to the typical traditional academic streams and careers in the field of engineering, medicine, accounts, MBA etc. There are numerous instances where a student is pushed in to a particular field due to parental/peer pressure only to realise at a later stage in life about his/her passion or calling in life and to start all over again from scratch also those set of students who are not able to cope with main stream education this could be because of economic reasons or academic in-capabilities so only vocational programme gives an opportunity to the student to choose a vocation of his/her choice, rather than be pushed into main stream education for which he/she has no interest and does not add any value for further progression. Also, the focus of the vocational courses is to gain hands-on experience, which makes the students industry ready. Thus, these students stand a better chance in terms of employability.

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## 51. REVERSE DISCRIMINATION: CHALLENGES AND PROSPECTS

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### ABSTRACT

*Radical changes and great transformations can be ushered in a democratic society through the process of Social Engineering easily to bring happiness and growth opportunities to all. Social engineering is an attempt to change the society by solving its problems through the change of laws and the use of theories from social sciences for the present as well as future betterment of society. Compensatory discrimination policy adopted since 1950 for SCs, STs are now extended to OBCs also from 1991. Ever since the beginning of economic reforms, the Government of India has stated to have made strenuous efforts to protect the interests of the excluded by following "Adjustment with a human face". The paper points out that affirmative action are necessary but not sufficient to solve the problems of embedded discrimination prevailing in the Indian society for a long time. It highlights how protective discrimination is constrained in its aim to function as an instrument of redistributive justice as well as a strategy of socio-economic development. Employment reservation quotas remain unfulfilled in respect of depressed classes for want of employable people in the respective category. Thus, the paper proffers solutions for the problems faced in achieving the objectives of the policy of compensatory discrimination.*

### INTRODUCTION

Efforts made by the governments both at the centre and the states to accelerate economic development have widened inequality while yielding very little in terms of increase in GDP. Furthermore, economic inequality has increased as a result of existing social inequality creating dominant and depressed sections in the society. There arose a need to move towards an egalitarian society so as to avert a conflict between the two sections. Consequently, theory of positive equality has been developed to provide preferential treatment and compensatory justice in terms of reservation in jobs and education to the excluded people (James, 1975)

### SOCIAL INEQUALITIES AND DEVELOPMENT IN INDIA

Gunnar Myrdal in his famous book Asian Drama has pointed out "low average income inequality and social stratification are casually interrelated.....Inequality and social status is not only made more rigid and but also permanent by low levels of income" (Myrdal, 1968). It is inferred from the above

premise that social status differences and income differences are correlated. Moreover, he had pointed out that inequality of status is an independent variable and inequality of income is a dependent variable. In the process of development, when additional national income takes place, those in the higher status are entitled to a larger share of income as compared to persons of a lower status. Existing social structure ensures that additional national income is distributed in proportion to the existing income distribution. In this process, the income inequality between the rich and the poor has widened continuously in spite industrial expansion and economic development. Subsequently, the relative position of higher castes generally remains unaffected by the economic development. Economic reforms introduced since 1991 in India have resulted in accelerated economic growth and income which have not percolated down to the masses leading to widening of inequality. Deaton and Dreze (2002) study has pointed out that unequal distribution of income and social opportunity on account of jobless growth during the reform period

has left a significant section of population among SC, ST, and OBC in a low income trap highlighting the failure of Trickle Down Approach.

### **DISCRIMINATION AND JUSTICE**

**Causes for discrimination:** Inequalities in the society is natural and this social stratification prevailed for a long time in the history of mankind. The source of discrimination could be seen in the division of labour in the family, community and the world. Those who were defeated in the war were subjugated, discriminated and forced to do subordinate works. Even in the family also, women were given subordinate roles, leading to women discrimination and consequent gender bias. Therefore, attributes of discrimination have manifested in various groups of inequality and injustice such as privileged and the under privileged, the exploiters and the exploited (Deepak Nayyar, 2011).

### **INCLUSION AND EXCLUSION**

**Inclusive growth:** Generally, the inclusion of some groups necessarily excludes some other groups. India's Eleventh Five Year Plan has a different approach in its growth strategy emphasizing mainly inclusive growth. Growth should benefit all, particularly SCs, STs, and OBCs, women, children and the poor living below the line of poverty. The Twelfth Plan defines inclusive growth approach thus:

"Inclusive growth should result in lower incidence of poverty, improvement in health outcomes, universal access to school education, increased access to higher education, including skill and education, better opportunities for both wage employment and livelihoods and improvements in provision of basic amenities like water, electricity, roads, sanitation and housing" (GOI,2011).

Particular attention needs to be paid to the needs of SC, ST, and the OBC population, women and children as well as minorities and other excluded groups. However, Klasen (2010) argued that inclusive growth is broad-based and benefits everyone in the society- the poor, middle income groups and even the rich. The focus of the inclusive growth strategy is on the increase in income of the poor and their development.

Pernia (2003) has outlined that the strategy

of pro-poorness is to be embedded in growth with a policy bias in favour of the poor resulting in a relatively higher increase in the income of the poor.

Grinspun has pointed out that inclusive growth strategy signals a clear departure from the "Trickle-Down Development" dogma of 1950s and 1960s which refers to a gradual top-down flow from the rich to the poor.

Ravallion (2009) has outlined inclusive growth further by adding that pro-poor growth is any growth in mean income that benefits the poor encompassing a vast majority of growth episodes.

Kakwani (2000) outlines that growth to be pro-poor, it should benefit the poor proportionately more than the non-poor. He shifted the focus to the income gains of the poor from the growth aspect.

Therefore, several economists including Ahluwalia have stated that pro-poor approach or inclusive growth strategy would necessarily involve economic growth with declining inequality in income distribution.

**Dimensions of exclusion:** Social exclusion, economic and political exclusion are the dimensions of exclusion. Exclusion is a process which excludes individuals, communities from livelihoods and rights, thus depriving them of freedoms that are instrumental in development. Stratification of society has become inevitable where some groups integrate in the process getting more benefits while others are marginalised getting less benefits in terms of economic and social progress.

Markets exclude some groups who do not have sufficient income / entitlements or purchasing power as consumers. They are excluded from the consumption of goods and services. Those who do not have capital assets or capabilities are also excluded from the market as a producer. At least, the possession of assets or capabilities would yield returns in the form of profit, rent, or interest. Even acquiring capabilities through education and training are not possible for those who have been excluded because of their inferior social status. Economic exclusion accentuates social exclusion, cultural and political exclusion. Each dimension of exclusion reinforces the other to produce a vicious cycle of cumulative causation leading to embedded



However, there is no guarantee that exclusion is bad and inclusion is always good. Coercive inclusion by markets such as child labour, tribal population or immigrant workers and employment of women labour (considered inferior to men labour) at low wage leads to exploitation of women. In this process, cumulative causation is associated with both exclusion and inclusion. For the excluded groups, there is more and more discrimination creating vicious cycles continuously in due course. Similarly, more and more benefits would be produced for the members of inclusive groups leading to virtuous cycles and higher progress for that group eventually. Hence, it is difficult to control this causation which is strengthened and reinforced continuously nurturing the stratification of society and further discrimination in the society on the basis of race, caste, religion, gender and ethnicity.

**Importance of social justice:** Discrimination in any form is an obvious form of social injustice. Social justice has gained importance from 1950 onwards and is motivated by the following factors.

1. Institutions such as state, nation and political democracy played a major role in reducing discrimination.
2. Ideologies such as capitalism, communism and social democracy strengthened the urge for social justice. Communism in Cuba has succeeded in reducing the gender discrimination by creating equal opportunities to all in that country.

**Importance of Affirmative Action:** Affirmative action refers to a set of policies that are meant to generate equal opportunities with highest diversity. Social justice can be established through social legislation on affirmative action. However, it is difficult to put into operation the law of equal opportunities in a society where it is deeply embedded. The law seeks to provide benefits from above, but what is required is that discriminated people should make the claim from below for their empowerment. To achieve the demand, political democracy is essential. This concept assumes significance in the light of Noble Laureate Amartya Sen's concept of development as freedom (Sen, 1999). The conversion of formation of opportunities into

realisation of opportunities needs to satisfy two conditions. First, social consciousness should be there among those included groups. Second is that there must be right consciousness among those excluded or discriminated. However, it is not a simple one, since people from the inclusive group may not be ready to give up their social, economic and political space which they enjoyed so far. This is all the more difficult when there are scarce opportunities. Moreover, the affirmative action cannot be continued perpetually. It will be a success where it is dispensable after some time. In this process, government should play a constructive critical role through mediation and intervention for dropping the affirmative action at an opportune time.

**India:** India stood first in introducing affirmative action as early as 1950 to tackle the problem of discrimination and social injustice which were embedded in the society historically. Affirmative action for scheduled castes and scheduled tribes has been introduced as part of the provisions of Indian Constitution advocated by its architect Dr.B.R.Ambedkar as against the prevailing embedded discrimination and social injustice in the country which provided the rationale and justification. Much later, USA introduced affirmative action with the Civil Rights legislation banning racial discrimination in 1964. However, affirmative action is a matter of policy in the USA, but in India, it is a matter of right guaranteed by the Indian Constitution. (Beteille, 1987). In India, proportional representation has been introduced in the Constitution, in proportion to the total population which was 15% for SCs and 7.5% for STs. Similarly, in proportion to the total population, 27.5% reservation has been specified for OBSs for employment in government sector in 1991 as well as in higher education in the year 2006. Furthermore, 33% seats were reserved for women in Parliament and in state legislatures in the draft legislation introduced in the Parliament. In fact, such reservation for women had been introduced in panchayats long back in 1993. As a matter of right, Indian Constitution has provided the above rights to the excluded people. An analysis by Suryanarayana(2014) revealed that post-reform growth has not led to a

relative betterment of the deprived sections of the society.

## **CONCLUSION**

Inclusive growth strategy would provide maximum benefits to the included groups, if it contains employment enhancing programme components. Furthermore, provision of education enhances employability of labour and provision of vocational education to casual labour among the discriminated will enable them to receive regular salary. This would ensure entry of labour force into formal sector jobs which is the definite way to pull up the SCs, STs, and OBCs as well as minorities from the unrelenting poverty traps. Furthermore, inclusive growth should also be supplemented by group specific policy specially meant for uplifting SC, ST, OBC and women groups in the overall planning strategy.

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## 52.OIL AND GAS INDUSTRY IN INDIA – AN OVERVIEW

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### INTRODUCTION

The oil and gas sector is among the six core industries in India and plays a major role in influencing decision making for all the other important sections of the economy.

In 1997–98, the New Exploration Licensing Policy (NELP) was envisaged to fill the ever-increasing gap between India's gas demand and supply. India's economic growth is closely related to energy demand; therefore the need for oil and gas is projected to grow more, thereby making the sector quite conducive for investment.

The Government of India has adopted several policies to fulfil the increasing demand. The government has allowed 100 per cent Foreign Direct Investment (FDI) in many segments of the sector, including natural gas, petroleum products, and refineries, among others. Today, it attracts both domestic and foreign investment, as attested by the presence of Reliance Industries Ltd (RIL) and Cairn India.

### MARKET SIZE

India is expected to be one of the largest contributors to non-OECD petroleum consumption growth globally. Oil imports rose sharply year-on-year by 27.89 per cent to US\$ 9.29 billion in October 2017. India's oil consumption grew 8.3 per cent year-on-year to 212.7 million tonnes in 2016, as against the global growth of 1.5 per cent, thereby making it the third-largest oil consuming nation in the world.

India is the fourth-largest Liquefied Natural Gas (LNG) importer after Japan, South Korea and China, and accounts for 5.8 per cent of the total global trade. Domestic LNG demand is expected to grow at a CAGR of 16.89 per cent to 306.54 MMSCMD by 2021 from 64 MMSCMD in 2015.

The country's gas production is expected to touch 90 Billion Cubic Metres (BCM) in 2040 from 21.3 BCM in 2017-2018 (Apr-Nov).

Gas pipeline infrastructure in the country stood at 16,470 km in September 2017.

### INVESTMENT

According to data released by the Department of Industrial Policy and Promotion (DIPP), the petroleum and natural gas sector attracted FDI worth US\$ 6.86 billion between April 2000 and September 2017.

Following are some of the major investments and developments in the oil and gas sector:

- World's largest oil exporter Saudi Aramco is planning to invest in refineries and petrochemicals in India as it looks to enter into a strategic partnership with the country.

- Foreign investors will have opportunities to invest in projects worth US\$ 300 billion in India, as the country looks to cut reliance on oil imports by 10 per cent by 2022, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.

- During the bilateral meeting held in Tokyo between Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India and Mr Hiroshige Seko, Minister of Economy, Trade, and Industry of Japan, signed a memorandum of cooperation on establishing a liquid, flexible and global liquefied natural gas (LNG) market by exploring joint cooperation in the areas of sourcing, swapping and optimisation of LNG sources.

- State-owned Oil and Natural Gas Corporation (ONGC) has come up with the new blueprint to increase the

- crude oil production by 4 million tonnes and to double its natural gas production by 2020 to curb the country's import dependency by 10 percent. The company will raise its crude oil production from 22.6 million tonnes in 2017-2018 to 26.42 million tonnes in 2021- 2022.

### GOVERNMENT INITIATIVES

Some of the major initiatives taken by the Government of India to promote oil and gas

sector are:

- State-run oil firms are planning investments worth Rs 723 crore (US\$ 111.30 million) in Uttar Pradesh to improve the liquefied petroleum gas (LPG) infrastructure in a bid to promote clean energy and generate employment, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.
- A gas exchange is planned in order to bring market-driven pricing in the energy market of India and the proposal for the same is ready to be taken to the Union Cabinet, according to Mr Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Government of India.
- The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure at a cost of Rs 7,000 crore (US\$ 1.10 billion) to promote the use of clean fuel.

### **ROAD AHEAD**

India's oil demand is expected to grow at a CAGR of 3.6 per cent to 458 Million Tonnes of Oil Equivalent (MTOE) by 2040, while demand for energy will more than double by 2040 as economy will grow to more than five times its current size, as stated by Mr Dharmendra Pradhan, Minister of State for Petroleum and Natural Gas.

Gas production will likely touch 90 Billion Cubic Metres (BCM) by 2040, subject to adjustment to the current formula that determines the price paid to domestic producers, while demand for natural gas will grow at a CAGR of 4.6 per cent to touch 149 MTOE.

After the completion of certain projects which are undertaken by various refineries, the Refining Capacity of India is expected to reach 256.55 MTPA by 2019-20.

The demand for petroleum products is estimated to reach 244,960 MT by 2021-22, up from 186,209 MT in 2016, and the demand for natural gas is expected to reach 606 MMSCMD by 2021-22 as against a demand of 473 MMSCMD in 2016-17.

### **MAJOR OIL COMPANIES**

Bharat Petroleum Corporation Ltd (BPCL) is a Government of India owned oil and gas company which is headquartered in Mumbai, Maharashtra. BPCL started as Burmah-Shell Refineries Ltd in 1952, which

later changed to Bharat Refineries Ltd (BRL) and subsequently to Bharat Petroleum Corporation Ltd.

Hindustan Oil Exploration Company Ltd (HOEC) was incorporated in 1983 for taking up exploration and production (E&P) activities inter-alia by Late Mr H T Parekh. HOEC was the first private company in India to enter into field of oil and gas exploration.

Pursuant to the directive of Hon'ble Supreme Court of India, GAIL had undertaken a study to supply natural gas to the automobile, industrial, commercial and domestic consumers in the cities of Agra and Lucknow to accomplish improvement of its ambient air quality. Joint Venture (JV) agreement was signed between GAIL (India) Ltd and

Incorporated in 1998, IGL took over Delhi City Gas Distribution Project in 1999 from GAIL (India) Ltd (Formerly Gas Authority of India Ltd). The project was started to lay the network for the distribution of natural gas in the National Capital Territory of Delhi to consumers in the domestic, transport, and commercial sectors.

Essar Oil is a fully integrated oil & gas company of international scale with strong presence across the hydrocarbon value chain from exploration & production to refining and oil retail. Essar Oil has a portfolio of onshore and offshore oil & gas blocks with about 1.7 billion barrels of oil equivalent in reserves & resources.

Incepted in 1980, Gujarat Gas Co Ltd (GGCL) has since evolved to become one of India's largest players in distribution of natural gas. The company serves the entire range of the retail end of the gas value chain - residential, industrial, commercial and compressed natural gas (CNG).

GAIL (India) Ltd was incorporated in August 1984 as a central public sector undertaking (PSU) under the Ministry of Petroleum and Natural Gas (MoP&NG). The company was initially given the responsibility of construction, operation and maintenance of the Hazira-Vijaypur-Jagdishpur (HVJ) pipeline project.

Petronet LNG Ltd, one of the fastest growing world-class companies in the Indian energy sector, has set up the country's first LNG receiving and regasification terminal at Dahej, Gujarat, and another terminal at Kochi, Kerala.

Mangalore Refinery and Petrochemicals (MRPL) is a schedule 'A' CPSE and subsidiary of ONGC. MRPL is a state-of-the-art grassroot refinery located in the north of Mangalore city in Dakshin Kannada region. The refinery has a versatile design with high flexibility to process crudes of various API and with high degree of automation.

GE Oil & Gas is a part of the larger GE Energy group which also includes the GE Energy Management and GE Power & Water divisions. GE Oil & Gas is a world leader in advanced technology equipment and services for all segments of the oil and gas industry, from exploration and production to downstream.

Cairn India is one of the largest independent oil and gas exploration and production companies in India with a market capitalisation of around US\$ 10 billion. It operates around 30 per cent of India's domestic crude oil production.

Oil India Private Ltd (OIL) was incorporated in 1959 to expand and develop the newly discovered oil fields of Naharkatiya and Moran in India's north-east. In 1961, it became a joint venture (JV) company between the Indian government and Burmah Oil Company Ltd, UK. In 1981, OIL became a wholly-owned Government of India enterprise

Hindustan Petroleum Corporation Limited (HPCL), a Government of India enterprise, was founded in 1974. The company, which has been conferred the prestigious Navratna status, is also listed among Fortune 500 and Forbes 2000 companies. HPCL had an annual turnover of Rs 190,048 crore (US\$ 32.38 billion)

Established as an oil marketing entity on June 30, 1959, Indian Oil Company Ltd was renamed Indian Oil Corporation Ltd (IOCL) on September 1, 1964, following

its merger with Indian Refineries Ltd. The integrated refining and marketing entity has since grown into India's largest commercial enterprise.

Reliance Industries Limited (RIL) is India's largest private sector company with businesses in the energy and materials value chain. It is also the first private sector company from India to feature in Fortune Global 500 list of 'World's Largest Corporations' and 'World's Top 100 companies'.

Oil and Natural Gas Corporation Limited (ONGC) is an Indian multinational oil and gas company headquartered in Dehradun, India. It is a public sector undertaking (PSU) of the Government of India.

## **CONCLUSION**

In 2017, India retained its spot as the third-largest energy consumer in the world with oil and gas accounting for 37 per cent of its total energy consumption. Annual oil consumption stood at 4.69 million barrels per day (MBPD) and 54.20 billion cubic meters (bcm) of gas, as of 2017. By 2035, India's energy demand is expected to double to 1,516 Mt by 2035 from 753.7 Mt in 2017. According to the International Energy Agency (IEA), India is expected to account for almost one-third of the global growth in energy demand by 2040. India has proven oil reserves of 600 million metric tonnes (MMT), and gas reserves of 1.2 trillion cubic meters. Production of crude oil and natural gas during 2017-18 reached 0.64 mbpd and 31.63 bcm, respectively. Production of crude oil and natural gas during Apr-May 2018 stood at 0.12 mbpd and 5.26 bcm, respectively.

India has a flourishing crude oil refining industry with an annual capacity of 247.6 MMT, as of May 1, 2018. In FY18, India's public and private sector refineries processed 160.77 MMT and 91.16 MMT of crude oil. India's oil consumption is expected to grow 129 per cent during 2016-2040.

Several initiatives have been taken by the Government of India including the launch of Open Acreage Licensing Policy (OALP) and Coal Bed Methane (CBM) policy. It has allowed 100 per cent foreign direct investment (FDI) in E&P projects/companies and 49 per cent in refining under the automatic route.

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## 53. AN EVALUATION OF SOCIAL ENGINEERING FOR REDUCTION OF INEQUALITY FROM THIS SOCIETY

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### ABSTRACT

*The purpose of this paper is to review the recent literature on social engineering for reduction of economic for income inequality. By using the methods of systematic and narrative literature review and conducting meta-synthesis of the recent studies, Income inequality is of fundamental interest not only to economists, but also to other social scientists. A substantial literature in economics and the social sciences has investigated the relationship between social engineering for income inequality and economic growth, and a variety of social phenomena. The leading approach to study of this problem is the analysis of social institutes, The results of sociological surveys of the Indian research centres confirm sharpness of this problem. The economic inequality laid its foundation due to the transition to the market in the period of privatization and price liberalization in the century. The analysis in this paper follows a two-step process. First, a review of the empirical evidence relating inequality to growth and to each of the above social engineering for income inequality variables is undertaken. Second, the various causal mechanisms that had been proposed in the social science literature to explain those links are surveyed. Social engineering for reduction of income inequality is of fundamental interest not only to economists, but also to other social scientists. When analysing the factors of income inequality, first as many factors as possible have to be included in order to obtain valid results. The present article systematises the factors of income inequality discussed in the pertinent literature into five groups and summarises the hypotheses about the signs of the influences of the discussed factors on income inequality. But additionally the influences between the factors themselves that form indirect effects on income inequality have to be included. In this article, these influences are discussed and arranged in a system to give an idea about the possible indirect effects on income inequality of all the factors discussed in the article.*

*Key words: economic inequality, Income inequality, financial crises, skill and capital -biased productivity, social engineering, reduction of income inequality.*

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### INTRODUCTION

Economic inequality has always been a controversial topic among economists. High or low levels of income dispersion and their effects on various economic and social phenomena have seen their fair share of treatment. Traditionally, inequality was somewhat counter intuitively not associated with contributions to financial crises, lower growth rates and the decrease in the self-reported measure of life satisfaction. Respectively, as the modern technological progress favoured those who had the skills to exploit it, the income gap between the rich and the poor in advanced economies was thought to be determined by the structure of human capital. Counter-intuitive ideas always call for reassessment when new data become available or new research methods that overcome the shortcomings of their predecessors are developed. In this paper,

I review recent studies on the topics and contribute to the literature by systemizing the most current research. Historically, increases in inequality were not linked to the higher likelihood of financial crises. The main obstacle for more attention to the possible relationship was the lack of adequate data. Prior to the 2008 financial crisis, the most recent period when a huge financial crisis followed a significant increase in income inequality was the Great Depression.

The focus of social security program is still aimed at two large groups of the population, namely the population of workers in the formal sector who has a relatively good income, and the absolute underprivileged whose criteria is applied uniformly for the whole nation. The population that works in the informal sector or outside any employment relationship and has an income just above the poverty line, is still

untouched by social security programs. In any emergency situation, the marginalized population, who is also called the vulnerable population, is faced with a crucial situation with a great potential to make them descend to the category of being poor, although this group comprises a greater number of people.

Although there is copious literature about the factors of income inequality, no complex theory comprising all the hypothetical factors of income inequality can be found. Most of the articles in this field concentrate on either a single factor or a few factors. Indeed, there are also studies examining more factors.

**AIM OF THE STUDY**

The purpose of this paper is to explain that social engineering is a threat for organizations’ security and something has to be done to manage this threat. The purpose of this paper is to explain the impact which social engineering for reduction of inequality will create on the security and business policy of the organizations. This paper will also discuss the methods of prevention which should be taught to the employees to thwart the menace of social engineering for reduction of inequality.

**RESEARCH METHODOLOGY**

The major task of any science is getting insight and selecting the most appropriate method that enables us to understand the actual fact is therefore important one. The issue appears in believing the erroneous skills or vice versa (Dawson, 2002). Deductive and Inductive methods have both diverse objectives and perhaps summed up as theory analysis and theory development, respectively. Usually, inductive method is connected with qualitative way of research whereas the deductive method is frequently connected with quantitative way of research (Kothari, 1985).

**INCOME INEQUALITY**

Disparities in actual income – before welfare payments and taxes – are among the highest in the West, and have been steadily growing since the 1970s. As in the case of poverty, welfare payments and taxes reduce net income inequality and dampen the increase in that inequality. But this is a treatment of

the symptoms rather than addressing the primary sources of the underlying problems – a focus that would reduce inequality in gross incomes as well as in net incomes. As a result of not treating the fundamental causes of income inequality, Israel must spend ever greater sums to prevent the increasing inequalities in gross incomes from being reflected in net incomes.

In India, consumer expenditure from NSS (National Sample Survey) is generally used to estimate inequality. As shown in Table 1, consumption gini coefficient is 0.36 in 2011-12. On the other hand, inequality in income is high with a gini coefficient of 0.55 while wealth gini coefficient is 0.74 in 2011-12. Income gini is 20 points higher than consumption gini while wealth gini is nearly 40 points higher than consumption gini. Thus, inequality in income and wealth is much higher than that of consumption.

**Table.1. Consumption, Income and Wealth Inequality in India: Rural, Urban and Total, 2011-12**

Sector	Rural	Urban	Total
Consumption Gini	0.359	0.287	0.377
Income Gini	0.553	0.541	0.506
Wealth Gini *	0.740	0.670	0.770

Source: Annual Report, CSO

**Table 2 Inequality for High and Low Income States: Rural+Urban, 2011-12**

States	Income	Wealth	Consumption
Gujarat	0.61	0.65	0.31
Kerala	0.47	0.64	0.38
Mahashtra	0.48	0.80	0.37
Bihar	0.51	0.67	0.23
Chattisgarh	0.60	0.64	0.33
Jharkhand	0.51	0.61	0.30

Source: Annual Report, CSO

Table.2 provides gini coefficients for income, wealth and consumption in high and low income states. It shows that inequality is high or low in both the category of states. The inequality differs with regard to the measure viz., income, wealth and consumption used. Gujarat has high inequality in income and wealth but has relatively lower consumption inequality. Here income inequality is 30 points high than for consumption. In the



case of Kerala and Maharashtra, wealth inequality is much higher than income and consumption inequality. In Bihar, consumption inequality is much lower than income and wealth inequality.

### HUMAN DEVELOPMENT INDEX INEQUALITY

The rank of Madhya Pradesh for inequality adjusted HDI is the lowest while Kerala has the highest rank (Table.3). The average loss in HDI due to inequality at the All-India level

is 32%. It is the highest for Madhya Pradesh (36%) and Chhattisgarh (35%) and the lowest for 23 Kerala (17%). The loss due to inequality is the highest with respect to education dimension (43%), followed by health (34%) and income (16%). It shows that inequalities in non-income indicators like education and health are higher than that of income. The analysis also shows that with lower inequalities, HDI would have been much higher.

**Table.3.Human development Index Inequality according to Major States in India**

States	HDI	IHDI	Loss (%)	Rank HDI	Rank IHDI
A.P.	0.485	0.332	31.6	19	20
Bihar	0.447	0.303	32.1	26	24
Chattisgarh	0.458	0.297	35.1	24	25
Gujarat	0.514	0.363	29.5	15	13
Jharkhand	0.470	0.312	33.7	21	21
Karnataka	0.508	0.353	30.5	18	18
Kerala	0.625	0.520	16.8	1	1
M.P.	0.451	0.290	35.7	25	27
aharashtra	0.549	0.397	27.8	7	8
Odisha	0.442	0.296	33.1	27	26
Punjab	0.569	0.410	28.0	4	4
Rajasthan	0.468	0.308	34.0	23	22
Tamil Nadu	0.544	0.396	27.3	9	9
U.P.	0.468	0.307	34.5	22	23
West Beng.	0.509	0.360	29.3	17	14
All India	0.504	0.343	32.0 -	-	--

Source: Annual Report, CSO

### MAJOR INCOME EQUALITY IN INDIA

1) India added 17 new billionaires last year, raising the number to 101 billionaires.

2) Indian billionaires' wealth increased by INR 4891 billion —from INR 15,778 billion to over INR 20,676 billion. INR 4891 billion is sufficient to finance 85 per cent of the all states' budget on Health and Education.

3) 73 percent of the wealth generated last year went to the richest one percent, while 67 crore Indians who comprise the poorest half of the population saw one percent increase in their wealth.

4) In the last 12 months the wealth of this elite group increased by Rs 20,913 billion. This amount is equivalent to total budget of Central Government in 2017-18.

5) 37% of India's billionaires have inherited (family) wealth. They control 51 per cent of the total wealth of billionaires in the country  
6) Only four women billionaires in India and

three of them inherited family wealth

7) Between 2018 till 2022, India is estimated to produce 70 new millionaires every day

8) Number of billionaires has increased from only 9 in 2000 to 101 in 2017

9) 51 billionaires out of the total 101 are 65 years or above and own Rs 10,544 billion of total wealth.

If we assume that in the next 20 years, at least Rs 10,544 billion will be passed on to the inheritors and on that if 30% inheritance tax is imposed, the Government can earn at least Rs 3176 billion. Rs 3176 billion sufficient to finance 6 crucial services--Medical & Public Health, Family Welfare, Water & Sanitation, Housing, Urban Development and Labour & Labour Welfare in all States.

10) Over the next 20 years, 500 of the world's richest people will hand over \$2.4 trillion to their heirs – a sum larger than the GDP of India, a country of 1.3 billion people.

11) In countries like India and the Philippines, at least one in every two workers in the garment sector are paid below the minimum wage (refer to Figure 9 in the report).

12) It would take 941 years for a minimum wage worker in rural India to earn what the top paid executive at a leading Indian garment company earns in a year.

13) It would take around 17.5 days for the best paid executive at a top Indian garment company to earn what a minimum wage worker in rural India will earn in their lifetime (presuming 50 years at work)

14) It would cost around Rs 326 million a year to ensure 14,764 minimum wage workers in rural India were paid a living wage. This is about half the amount paid out to wealth shareholders of a top Indian garment company.

15) India's top 10% of population holds 73% of the wealth.

#### **MICRO-LEVEL AND INSTITUTIONAL EXPLANATIONS OF INCOME INEQUALITY**

Disparities in actual income – before welfare payments and taxes – are among the highest in the West, and have been steadily growing since the 1970s. As in the case of poverty, welfare payments and taxes reduce net income inequality and dampen the increase in that inequality. But this is a treatment of the symptoms rather than addressing the primary sources of the underlying problems – a focus that would reduce inequality in gross incomes as well as in net incomes. As a result of not treating the fundamental causes of income inequality, Israel must spend ever greater sums to prevent the increasing inequalities in gross incomes from being reflected in net incomes.

The State of Israel is situated on three unsustainable socio-economic trajectories that pose an existential threat in the long run. Contrary to conventional wisdom and to the usual public discourse, there is no contradiction between setting a comprehensive policy that strives to reduce gaps and poverty on the one hand, while increasing growth on the other. A policy that provides personal tools to workers and creates a supportive environment not only empowers the individual worker, but also increases the economy's overall ability to absorb, implement and develop knowledge, goods and services – crucial features that underlie sustainable growth.

The public discourse on the need to choose between free markets and public intervention is obsolete and irrelevant. Open and competitive markets are critical to changing Israel's long-term trends. However, market failures are an unavoidable feature of free markets and it is the government's responsibility to build the human and physical infrastructures and to provide the necessary services efficiently, in order to overcome the existing market failures.

The uniqueness of the program proposed here is its overall, national perspective. This is a comprehensive program for narrowing gaps, reducing poverty and increasing growth. The program is based on three policy spheres: The first, creating incentives and providing tools; the second, creating a supportive environment; and the third, a multiannual strategic program.

In response to the public efforts to reduce income inequality, research also look into the public policy implications on the magnitude of income inequality.

#### **SUGGESTIONS AND CONCLUSION**

The fact is that poverty is a structural problem, resulting from the liberal capitalist system. Therefore, this socioeconomic problem cannot be solved within that system. The solution is in bringing about changes to the system. At its Annual General Meeting, held at the beginning of 2013, the Scientific Society of Economists decided to organize and carry out a study into the causes and possible remedies for social disparities and poverty in the Republic of India. In this paper, I have surveyed some recent literature on income inequality and discussed its implications. I have found that the most attention-attracting fields of research in this sphere are the linkage of income inequality to financial crises, skill-(capital-) biased technological progress, the income and economic growth nexus, and the relationship between income inequality and happiness.

A good example of a focus on "poverty" rather than "inequality" reduction is education policy. Education spending has concentrated on improving the situation of poor provinces.

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# **54.WOMEN CONSUMERS BUYING BEHAVIOUR TOWARDS TWO WHEELERS IN WALAJAPET TOWN – AN ANALYTICAL STUDY**

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## **INTRODUCTION**

Consumer behaviour is comparatively a new field of study which evolved just after the Second World War. The seller's market has disappeared and buyer's market has come up. This led to paradigm shift of the manufacturer's attention from product to consumer and specially focused on the consumer behaviour. The transformation of marketing concept from mere selling concept to customer-oriented marketing has resulted in buyer behaviour become an independent discipline. The growth of consumerism and consumer legislation emphasized the importance given to the consumer.

The heterogeneity among people makes understanding consumer behaviour a challenging task to marketers. Hence marketers felt the need to obtain an in-depth knowledge of consumers buying behaviour. Finally this knowledge acted as an imperative tool in the hands of marketers to forecast the future buying behaviour of consumers and devise marketing strategies to create long term consumer relationship.

## **STATEMENT OF THE PROBLEM**

The area of scope is limited to the segment selected within the Walajapet town, Vellore District, Tamil Nadu. Further the scope is narrowed down only to the study of the identified segments. The result drawn from this study is expected to benefit the dealers and the company. Customer Satisfaction plays a crucial role in enabling an organization to change and develop with its customers. Keeping the existing customer contended is generally much easier, takes less time and involves less expense. The marketing concept is

consumer oriented and the emphasis is more on the consumer rather than on the product. The essence of modern marketing lies in building of profit along with creating meaningful value satisfaction for the costumers.. Whose needs and desires have to be coordinated with the set of products and production programmes.

Consumer behaviour is affected by a host of variable ranging from personal, professional needs, attitudes and values, personality characteristics, social economic and cultural background, age, gender, professional status to social influences of various kinds exerted a family, friends, colleagues, and society as a whole. The combination of these factors help the consumer in decision making further psychological factors that as individual consumer needs, motivations, perceptions attitudes, the learning process personality characteristics ate the similarities. Which operate across the different types of people and influence their behaviour.

## **OBJECTIVES OF THE STUDY**

The overall objectives of the study analyse is to study the women consumers buying behaviour towards two wheelers in Walajapet town of Vellore district in Tamil Nadu in an analytical perspectives.

1. To identify the factors influencing women in purchase of two wheelers.
2. To analysis the factors that influencing on consumers decision making towards two wheeler purchases in the study area.

## **HYPOTHESIS OF THE STUDY**

Ho: There is no relationship between occupation and buying behaviours of responded in the study area.

Ho: There is no significant difference

between the factors that influence the purchase decision towards two-wheelers among the respondents in the study area.

#### **IMPORTANCE OF THE STUDY**

This study analyses the women consumers buying behaviour towards two wheelers in walajapet town of Vellore district in Tamil Nadu and satisfaction of the brand preference of the customers in the study area. Women play a significant role in the domestic and socio-economic life of the society.

The prominent role of the women in decision-making is due to increasing literacy, self-confidence, the control on independent income, and a more playing significant role in the family. The increase in urbanization, higher disposal incomes, falling increase rates, and poor public transport lead to increase in the volume of two-wheeler. An individual choose personalized transport, this research reveals the findings from an interpretative study of women consumers buying behaviour towards two-wheelers in the study area.

#### **REVIEW OF LITERATURE**

Duggani Yuvaraju (2014)<sup>1</sup> studied that the 100 Honda bikes customer samples through convenient sampling at Tirupati. Analysed the data using chi-square, percentages and founds significance difference between the preferable factors like mileage, pickup, price and design. Suggested more expenditure of TV advts, reduce bike cost, incentive dealers, set up dealer level service centres, home service and accurate service etc.,

Chauhan V.S (2015)<sup>2</sup> in this study "A Research paper on impact of Social Media on Sales Promotion – A Case Study on Indian automobile industry", discusses the various types of social media and its impact on sales promotion and how this would affect individuals and organizations in their buying decisions. This study inferred that social media does have a significant on the sales and sales promotion of automobiles.

Parinda V. Doshi (2016)<sup>3</sup> selected 100 Asian paints customers in Vadodara, through convenient sampling, to analyse the relationship of customer satisfaction with product and services, it also examined the significance of product and service on satisfaction of the customer and thus observes overall satisfaction of the customer of Asian Paint. Relationship of product

covered feathers, durability and variety; the relationship of services, and its dealers. Results had shown the positive relationship and effect on the product and services with satisfaction of the customers.

Athulya V. and Ramya M. (2017)<sup>4</sup> women are the world's most influential consumer's and their impact on the economy is rising every year. Customer perception remains a research topic of average household people will increase, so in future their demand and need both increases. The study was carried out to assess the amount of women's preference towards Two Wheeler brands. The outcome of the study was based on 200 consumers selected from Calicut city of Kerala. The data required for the study have been collected through questionnaires and analysed by using statistical techniques as tools, such as simple percentage and test. The study pointed out that the women's preference towards two wheeler brands.

Rajarajeswari M. (2018)<sup>5</sup> point out that in a modern growing economy, expanding cities and increasing work load demands are the core issues for better time management and resource management. For an executive, college student or business man, the need is for a set of wheels that will grant him or her mobility and prove to be affordable, efficient and reliable. A two wheeler is an affordable solution that will grant good mobility. In olden days, people felt that owning a two wheeler is a prestige on pride. But it is not an accessible want for each and every person. Realizing its increasing importance in the present scenario, more and more working women more on to possess two wheeler. Thereby two wheelers play an inevitable role in the present day working women life.

#### **METHODOLOGY OF THE STUDY**

In this chapter, the research methodology used in this study is described, and the research propositions relating to the objectives of the study are stated. Methods available for collecting data, and the characteristics of the sample group are set out in this chapter. The rights and safety of the participants and rules on ethics and confidentially collecting data are described. Also, the variables, questionnaire design, and techniques used to analyse data are stated.

Research Design is the overall plan for conducting the research to find out the answers to the research questions/hypotheses set in the beginning. It includes the sampling technique, the collection of data through various instruments, proper statistical tools to do the data analysis and interpreting the same. This study is an explorative one; wherein the primary data is sought through a questionnaire to answer the questions based on the relevant hypothesis.

**ANALYSIS AND INTERPRETATION**

This chapter provides data analysis and interpretation. It provides the back ground of selected customers of two wheelers. It identifies the important purpose of using two wheelers and important aspects of the purchase decision. Factors of customers' satisfaction towards the two wheelers are identified, and the inter-relationship between factors are studied. Influences of demographics on factors of customers' satisfaction towards the two wheelers are analysed.

**Age distribution of customers**

Customers using two wheelers were selected for the study. Customers are classified according to their age into four categories as below 25 years, 26-35 years, 36-45 years and above 45 years. Table -1 gives the age wise distribution of selected customers using two wheelers.

**Table - 1**  
**Age distribution of customers**

Particulars	Number of Customers	Percentage
Bellow 25 years	15	25.00
26 - 35 years	28	46.70
36 - 45 years	13	21.60
Above 45 years	4	6.70
Total	60	100

Source: primary data

Table 1 depicts the details of the age distribution of selected customers using two wheelers. Out of 60 customers, 46.70 percent of the customers are in the age group of 26 – 35 years. 25 percent of the customers are in the age group of below 25 years, 21.60 percent of the customers are in the age group of 36-45 years, and 6.70 percent of the customers are in the age

group of above 45 years. It is observed that majority of the customers using two wheelers 46.70 percent are using two wheelers are in the age group of 26-35 years.

Marital status of customers

Customers using two wheelers were selected for the study. Customers are classified according to their marital status in to two categories as married and single. Table 2 gives the marital status of selected customers using two wheelers.

**Table-2**  
**Marital status of customers**

Particulars	Number of customers	Percentage
Married	36	60.00
Single	24	38.90
Total	60	100

Source: Primary data.

Table-2 reveals that, out of 60 customers, 60.00 percent of the selected customers using two wheelers were married, and 38.90 percent of the selected customers using two wheelers are single. It is observed that the most of the customers using two wheelers 60.00 percent are married.

**PROFESSIONAL STATUS OF CUSTOMERS**

Customers using two wheelers were selected for the study. Customers are classified according to their Professional status into four categories as Students, Government employees, Private employees and Business. Table -3 gives the professional status of selected customers using two wheelers.

**Table -3**  
**Professional status of customers**

Particulars	Number of customers	Percentage
Students	6	10.00
Government Employees	17	28.33
Private Employees	21	35.00
Business	15	26.67
Total	60	100

Source: primary data

Table 3 explores the professional status of selected customers using two wheelers. Out of 60 customers, 35.00 percent of the customers are private employees, 28.33 percent of the customers are Government employees, 26.67 percent of the customers

are business personals, and 10.00 present of the customers ate students. It is observed that majority of the customers using two wheelers 35.00 present are private employees.

**MONTHLY INCOME OF CUSTOMERS**

Customers using two wheelers were selected for the study. Customers ate classified according to their monthly income into four categories as Nil, Below Rs. 15,000, Rs. 15,000 – Rs. 30,000 and Above Rs. 30,000. Table -4 gives the monthly income of selected customers using two wheelers.

**Table – 4  
Monthly Income of Customers**

Particulars	Number of customers	Percentage
Nil	6	11.40
Below Rs. 15,000	19	31.67
Rs. 15,000 - Rs. 30,000	23	38.33
Above Rs.30,000	12	20.00
Total	60	100

Source: primary data

Table-4 described the monthly income of selected customers using two wheelers. Out of 60 customers, 38.33 present of the customers are earning Below Rs. 15,000, 31.67 present of the customers ate earning Rs. 15,000 – Rs.30, 000, 20.00 present of the customers ate earning above Rs. 30,000, and 10.00 present of the customers do not have any monthly income. It is observed that majority of the customers using two wheelers 38.33 present are earning below Rs. 15,000 as their monthly income.

**MONTHLY EXPENDITURE OF THE RESPONDENT HOUSEHOLDERS**

**Table - 5  
Monthly Expenditure of the respondent householders**

S.No	Monthly Expenditure (in Rs.) Particulars	No. of Respondents Families	%
1	Below 5000	11	18.3
2	5001 – 10000	13	21.7
3	10001 – 15000	20	33.3
4	15001 – 20000	12	20
5	Above 20000	4	6.7
	Total	60	100

Source: Primary Data.

Table 5 Monthly Expenditure of the respondents. 11 respondents 18.3 percent of the Families spends. Expenditure for Below 5000. 13 respondents 21.7 Percent of the families spends to the Expenditure from 5001 – 10,000. 20 respondents 33.3 percent of the spend more money their 10,001 – 15,000. 12 respondents 20 Percent of the Expenditure of 15,001 – 20,000. 4 respondents 6.7 percent of the Expenditure of Spend to the money was also 20,000. It is observed that majority of the respondents to the spend of Expenditure 33.3 percent are Monthly below 5,000 as their Monthly Expenditure.

**Table-6  
Which type of advertisement mode is influence you before purchasing**

S.No	Which type of advertisement mode is influence you before purchasing?	No. of People	in %
1	TV Advertisement	34	56.7
2	Newspaper	7	11.7
3	Internet	5	8.3
4	Word of mouth	14	23.3
5	Total	60	100

Source: Primary data

The statistical data shown in table – 6 discussed that, 56.7 percent of people influence by television advertisement and 23.3 percent influence by word of mouth because these two modes of advertisement is best modes of advertisement and create a good impact in the mind of the consumer while 11.7 Percent go for newspaper and 8.3 Percent go for internet.

**Table-7  
Which company product do you used**

S.No	Which company product do you used?	No. of People	in %
1	Honda	33	28
2	Yamaha	3	12
3	Suzuki	10	52
4	Hero	14	8
5	Total	60	100

Source: Primary data

Data shown in table – 7 pointed out that 55 Percent population use the Honda two wheeler because their brand image is too good in market and their after sales service

is also good while 5 Percent prefer Yamaha, 16.7 Percent prefer Suzuki and 23.3 Percent respondent prefer Hero two wheelers.

**Table - 8**

**Are you satisfied with the after sales service of your company**

S.No	Are you satisfied with the after sales service of your company?	No. of People	in %
1	Yes	48	48
2	No	12	12
3	Total	60	100

Source: Primary data

The inference observed in table – 8 reveals that, 80 Percent respondent satisfied with after sales services and 20 Percent population dissatisfied with after sale services.

**Table - 9**

**Purpose of using two wheelers**

Particulars	Mean Rank	Chi-square Value
Shopping	4.38	41.27** (P<.001)
Office going	5.24	
Picnic	3.96	
Visiting friend's / Relative's house	4.18	
Pick up and drop family members	3.12	
Pick up and drop friends	3.58	

Note: Significant at 1 Percent level

Further, the mean ranks in the Table-9 show clearly that "Office going" and "Shopping" are the main purpose for which the customer are using two wheelers. "Pick up and drop friends" and "Pick up and drop family members" are the least purpose for which the customers are using the two wheelers.

**FINDINGS**

- Depicts the details of the age distribution of selected customers using two wheelers. Out of 60 customers, 46.70 percent of the customers are in the age group of 26 – 35 years. 25 percent of the customers are in the age group of below 25 years, 21.60 percent of the customers ate in the age group of 36-45 years, and 6.70 percent of the cust9omers are in the age

group of above 45 years. It is observed that majority of the customers using two wheelers 46.70 percent are using two wheelers are in the age group of 26-35 years.

- Out of 60 customers, 60.00 present of the selected customers using two wheelers were married, and 40.00 present of the selected customers using two wheelers ate single. It is observed that the most of the customers using two wheelers 60.00 present are married.

- Out of 60 customers, 35.00 present of the customers are private employees, 28.33 present of the customers are Government employees, 26.67 present of the customers are business personals, and 10.00 present of the customers ate students. It is observed that majority of the customers using two wheelers 35.00 present are private employees.

- Out of 60 customers, 38.33 present of the customers are earning Below Rs. 15,000, 31.67 present of the customers ate earning Rs. 15,000 – Rs.30, 000, 20.00 present of the customers ate earning above Rs. 30,000, and 10.00 present of the customers do not have any monthly income. It is observed that majority of the customers using two wheelers 38.33 present are earning below Rs. 15,000 as their monthly income.

- Monthly Expenditure of the respondents. 11 respondents 18.3 percent of the Families spends. Expenditure for Below 5000. 13 respondents 21.7 Percent of the families spends to the Expenditure from 5001 – 10,000. 20 respondents 33.3 percent of the spend more money their 10,001 – 15,000. 12 respondents 20 Percent of the Expenditure of 15,001 – 20,000. 4 respondents 6.7 percent of the Expenditure of Spend to the money was also 20,000. It is observed that majority of the respondents to the spend of Expenditure 33.3 percent are Monthly below 5,000 as their Monthly Expenditure.

- Discussed that, 56.7 percent of people influence by television advertisement and 23.3 percent influence by word of mouth because these two modes of advertisement is best modes of advertisement and create a good impact in the mind of the consumer while 11.7 Percent go for newspaper and 8.3 Percent go for internet.

- Pointed out that 55 Percent population use the Honda two wheeler because their



brand image is too good in market and their after sales service is also good while 5 Percent prefer Yamaha, 16.7 Percent prefer Suzuki and 23.3 Percent respondent prefer Hero two wheelers.

- Reveals that, 80 Percent respondent satisfied with after sales services and 20 Percent population dissatisfied with after sale services.

- Show clearly that "Office going" and "Shopping" are the main purpose for which the customer are using two wheelers. "Pick up and drop friends" and "Pick up and drop family members" are the least purpose for which the customers are using the two wheelers.

### CONCLUSION

As the study shows that the buyers of two Wheelers pay more attention on mileages. Colour, design and look of the two wheelers, and availability of spare parts, it will be beneficial for the companies to concentrate more on these aspects of production. Most of the respondents are influenced by advertisements and this shows the power of advertisements. As it shows, as the market of the product depends on the advertisement also, importance given to advertisement will help increase the sale.

### SUGGESTIONS

- The mode of purchase is through cash for most of the respondents, and there is a huge vacuum for the financial institutions to provide credit facilities at affordable interest rates to boost up sales volumes.

- Since most of the respondents are first owner of their bikes, they can be retained with introduction of free service camps in residential areas and work places.

- The factors like service, mileage, initial pick-up, outlook, color, seating comfort and brand image are much sought after by the customers in making their purchase decision, and they are satisfied with these factors in TVS bikes than others.

- The company service centers are given first priority and to retain that, the service centers should adhere to the timely delivery of the vehicles.

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## 55. STATUS OF WOMEN EDUCATION IN INDIA

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### Abstract

*The research attempts to analyze the status of women education in India. Education is essential to advancing human capital by enabling individuals to develop their knowledge and skill throughout their lives. Relatively high levels of education are often related to higher earnings and productivity, better career progression health, life satisfaction as well as to better investment in education and health of future generations. Education helps women to get employment opportunities and the higher education to improve their independence from the social and family constraints. The purposes of this paper explore the trends of women literacy rate in India, and their enrollment ratio, the study explains relationship between women education and their employment opportunities, and it explains women education related government policies and programmes*

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### INTRODUCTION

“Educate one man you educate one person; educate a woman you educate a whole Nation” Mahatma Gandhi

The quote indicates that empowering a woman is empowering a whole nation. Education is essential for human resource development. A woman has the responsibility of the whole family on herself, an educated woman is better capable of taking care of the health, nutrition and education of her children and more so be an active agent in the social and economic development of the country. It is evident that economic success everywhere is based on educational success. Literacy is the basic building block of education. It is a basic component of social cohesion and national identity. It leads to an improvement in the depth and quality of public opinion, as well as to more active participation of the marginalized in the democratic process. No society has ever liberated itself economically, politically, or socially without a sound base of educated women. Education has a direct impact on women empowerment as it creates in them awareness about their rights, their capabilities and the choices and opportunities

available to them. Higher education in India is defined as the education attained after the completion of 12 years of schooling. Higher education for women has gained a wider role and responsibility all over the world. Higher Education provides opportunities to the people to reflect on the critical social, cultural, moral, economic and spiritual issues facing humanity. The changes in the policies and infrastructural supports on primary, secondary and higher education reflect the initiatives of the Government of India towards women education.

### IMPORTANCE OF WOMEN EDUCATION

- Educated women get Economic and Financial development and prosperity
- Educated women conscious of the importance of health
- Educated women get equality of life
- Educated women know social justice
- Educated women living standard is improved
- Educated women get empowerment

**OBJECTIVES**

The objectives of this paper is to

- a. Analyse the trend of women literacy rate in India
- b. To explain relationship between female literacy and their enrollment in higher education
- c. Government policies and programmes related to women education

**I) the trends of women literacy rate in India**

Literacy is a fundamental human right and the foundation for lifelong learning. It is fully essential to social and human development in its ability to transform lives. Literacy rate means the total percentage of the population of an area at a particular time aged seven years or above. Literacy rate is estimated as the percentage of people educated to the respective total population and gap in literacy rate.

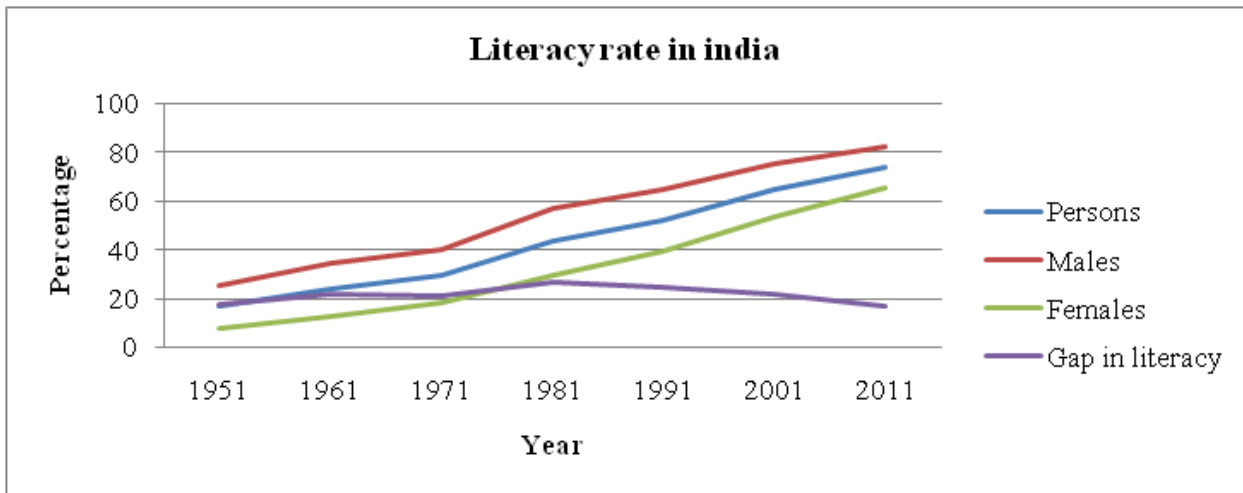
Effective literacy rate is defined as the percentage of literates to population aged 7 years and above => Effective Literacy rate = Number of Literates /Population age 7+ ×100

**Table 1**  
**Literacy Rate in India (1951-2011)**

Year	Persons	Males	Females	Gap in literacy
1951	16.67	24.95	7.93	17.02
1961	24.02	34.44	12.95	21.49
1971	29.45	39.45	18.69	20.76
1981	43.67	56.50	29.85	26.65
1991	52.21	64.13	39.29	24.84
2001	64.8	75.3	53.7	21.6
2011	74.0	82.1	65.5	16.6

Source: Census of India 1951 - 2011

**Figure 1**  
**Literacy Rate in India (1951-2011)**



Source: Table 1

That study explained the trend in the status of women education in India. This study based on secondary data. This data collected from Census of India, All India Survey Report in Higher Education, and Ministry of Human Resource Development. Literacy rate is estimated as the percentage of people educated to the respective total population and gap in literacy rate. The

Table 1 and Figure 1 shows the literacy rate which increased past few decades. In the year 1951 total literacy rate of India was only 16.67 percent, in which 24.95 percent was male literacy and only 7.83 percent was female literacy. The gender gap in literacy was about 17.02 percent. Beside in the year 1981 the total literacy rate of India reached at 43.67 percent of total literacy

increase, in which 56.50 percent increase male literacy and 29.85 percent was female literacy increased. And during the year 1951-1981 the gender gap in literacy was fluctuating. However both of the literacy increased from 52.21 percent in 1991 to 74 percent in 2011. The male literacy increased from 64.13 percent in 1991 to 82.1 percent in 2011. And the female literacy also increased from 39.29 percent in 1991 to 65.5 percent in 2011. But the literacy gap declined significantly during the year 1991-2011.

**II) The study explains relationship between female literacy and their higher education enrollment**

**Enrollment**

Enrollment means the total number of students properly registered and/or attending classes at a school or college. The improvement in literacy, India has witnessed a consequence increase in primary, upper primary as well as higher education enrollments of women.

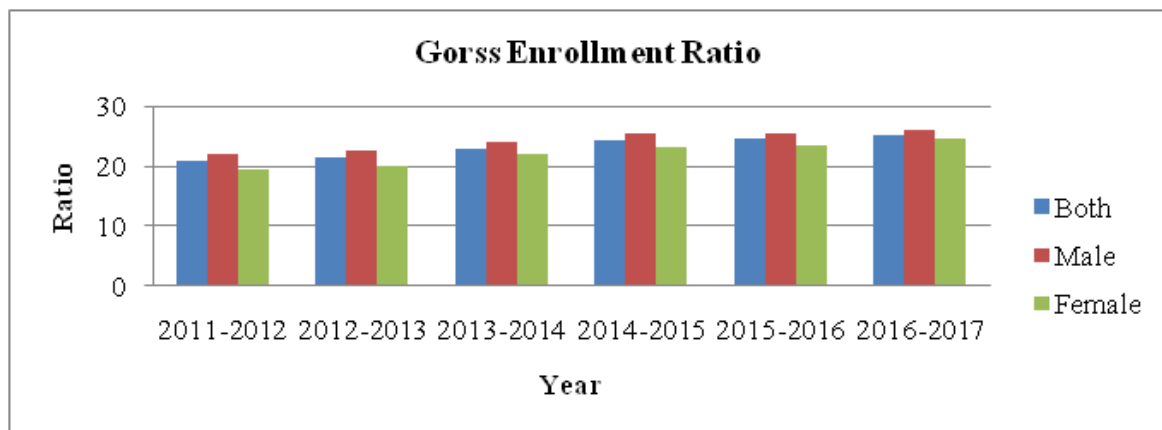
**Table 2**

<b>Gross Enrollment Ratio (2011-2017)</b>			
<b>State/UTs</b>	<b>All</b>		
<b>India</b>	<b>Both</b>	<b>Male</b>	<b>Female</b>
2011-2012	20.8	22.1	19.4
2012-2013	21.5	22.7	20.1
2013-2014	23.0	23.9	22.0
2014-2015	24.3	25.3	23.2
2015-2016	24.5	25.4	23.5
2016-2017	25.2	26.0	24.5

Source: All India Survey Report in Higher Education (2016-2017)

**Figure 2**

**Gross Enrollment Ratio (2011-2017)**



Source: Table 2.

The Table 3 and Figure 3 explained the total enrolment in higher education has increased from 20.8 percent in 2011-2012 to about 25.2 percent in 2016-2017. The male enrolment increased from 22.1 percent during in the year 2011-2012 to 26 percent in the period 2016-2017. And the female literacy also increased 19.4 percent during in the year 2011-2012 to 24.5 percent in the period 2016-2017. This analyze find female enrollment was increase but lesser than male enrollment.

**Table 3**  
**Student Enrollment at Various Levels (2011-2017)**

State/ UTs	Ph.D			M.Phil			Post Graduate		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
2011-2012	49296	32134	81430	15913	18241	34154	1769276	1597914	3367190
2012-2013	55654	39771	95425	13257	17117	30374	1769101	1679050	3448151
2013-2014	64772	43118	107890	13632	17748	31380	1888637	1933584	3822219
2014-2015	69584	47717	117301	14107	19264	33371	1867142	1986296	3853438
2015-2016	74547	51904	126451	17473	25050	42523	1818443	2098713	3917156
2016-2017	81795	59242	141037	16464	26803	43267	1820564	2187006	4007570

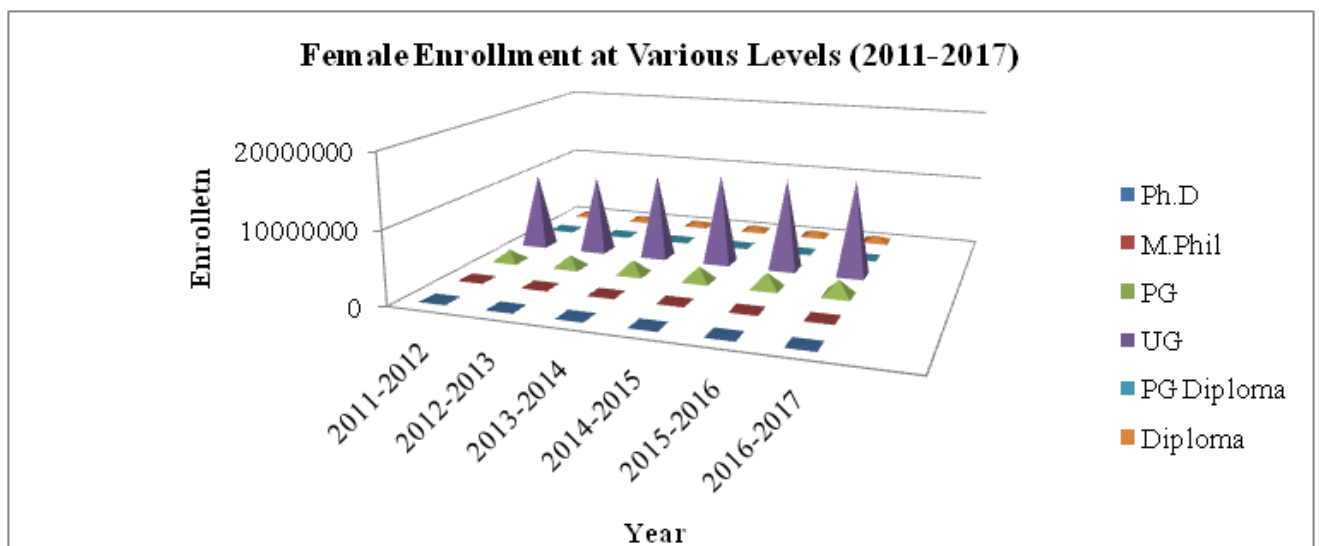
Source: All India Survey Report in Higher Education (2016-2017)

**Table 4**  
**Student Enrollment at Various Levels (2011-2017)**

State/ UTs	Under Graduate			PG Diploma			Diploma		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
2011-2012	12612513	10562437	23174950	146107	50052	196159	1445298	626311	2071609
2012-2013	12918796	10971513	23890309	142684	51388	194072	1571333	636218	2207551
2013-2014	13574434	11925891	25500325	153287	123215	276502	1634257	651319	2285576
2014-2015	14467226	12705120	27172346	121313	94059	215372	1788110	719584	2507694
2015-2016	14611603	12808847	27420450	123392	106167	229559	1793335	755825	2549160
2016-2017	14933909	13414288	28348197	120792	92259	213051	1820977	791232	2612209

Source: All India Survey Report in Higher Education (2016-2017)

**Figure 3**  
**Female Enrollment at Various Levels (2011-2017) - Source Table 3 & 4**



The Table 3 and Table 4 shows the number of enrollment of male, female and total enrollment at various levels of education in India during the period of 2011-2017. The level of education was classified as under graduate, Post graduate including M.Phil and Ph.D and other diploma courses.

The enrollment level of female was high in Under Graduate level and found to be low in Post Graduate and other diploma courses of education (Figure 3). Further the increase in female enrollment is lower than the male enrollment in higher education. This indicates that drop-out ratio of women is high during the course of study.

III) The women education related government policies and programmes Programmes for Women's Education India The government has introduces many programmes, policy and schemes to provide education and higher education for women. Education for All (EFA) it means equal and quality education for all children. National Policy on Education (NPE) this programme takes action gender equality of education and women empowerment.

- Operation Black Board
- Teacher Education
- Education Guarantee Scheme & Alternative and Innovative Education
- Sarva Shiksha Abhiyan (SSA)
- Kasturba Gandhi Balika Vidyalaya
- Mahila Samakhya
- District primary Education Programme
- National Programme for Education of Girls at Elementary Level
- Indira Gandhi National scholarship Scheme => Higher and Technical Education
- Swami Vivekananda Scholarship for Single Girl Child => UGC introduce
- Padhe Bitiya Badhe Bitiya
- Ladali Scheme
- Kishore Vaigyanik Protsahan Yojana
- Midday Meal Scheme
- National Literacy Mission Programme
- Sabla
- Access and Equity
- Quality Improvement in Schools
- ICT in Schools
- Integrated Education for Disabled Children
- Vocationalisation of Education
- Beti Bachao, Beti Padhao => (Save girl child, Educate girl child)

## **CONCLUSION**

The education of women is most powerful tool of change of status in society. Education means of improving women status within the family and society. The study is conclude the implementation of National Policy on Education (NPE) 1986, from the census 1991 gender gap in literacy is decreasing continuously. So the government programmes are proving various facilities to enhance the education for women, so these programmes very helpful to improving female education in India. The study find that still the female literacy rate is lagging behind male literacy rate. The improvement in literacy, India has witnessed a consequence increase in primary, upper primary as well as higher education enrollments of women. Education is the important measure to improving women empowerment and to accomplish their goals. This study suggests the government should take strict measure that allocation of funds towards up-liftment of women and reduce the gender inequality gap.

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## 56.POVERTY: A SOCIAL EVIL

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### ABSTRACT

*This paper explores the meaning of poverty and the various basis of poverty. Poverty is not new to the present day world. Most of the countries of the world are trapped in mass poverty. The problem is more serious in the Third World countries. And India is the member of the third world is trapped in severe mass poverty. At every stage of economic development, poverty is observed either in terms of absolute poverty or in terms of relative poverty. The cycle of development in any country rather moves to eradicate the poverty. Developing country like India is also facing a number of problems like poverty, inequality, unemployment etc. Among all these, poverty is a severe problem which is observed in every part of India. Majority of people in India is not getting even the basic necessity for their day-to-day life which is essential for their survival. Poor people are pressed by starvation and malnutrition. So the removal of poverty has become an important programme. However, before proceeding towards the plan implementation activities, one must know the poverty groups and their characteristics. The problem of poverty cannot be solved unless the planner knows its location, magnitude, and characteristics of poverty group. The identification, extent, and magnitude of poverty largely depend on various norms of the poverty which differs from country to country, state to state, group to group, particularly depending upon socio-economic political and psychological conditions of the society. By and large, there is a high degree of poverty in India.*

*Keywords: Poverty, Society, Inequity, Health, National Issues, Social Evils, and Women.*

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### INTRODUCTION

Poverty is one of the most important social evils and a major determinant of ill health. From time immemorial it is known that poor social status is a major determinant of disease and reduces longevity. The association of individual illness causing community disturbances and poverty and vice versa was noted. Health status is strongly determined by the socio-economic position and a large body of literature from developed countries demonstrates that most causes of deaths occur at a greater rate in groups with lower socio-economic status. In this article, we enumerate social circumstances and evils leading to poverty that is a major social evil. Mechanistic pathways from adverse social circumstances to ill health are then discussed and some suggestions are made for ameliorating the social evils.

Poverty is a worldwide legacy, experienced by almost all countries of the world. About 34 percent of less developed countries' population (730 million), 50 percent of the South Asian population (470 million) and 51 percent population of low-income group countries are facing the problems of poverty. However, at any stage of economic development, the condition of poverty has to exist, because the very

process of development itself illustrates an improvement over poor conditions. So, either relatively or absolutely, poverty is observed in the process of economic development. Indeed, the cyclic development moves because of poverty. Poverty situation is observed in every nook and corner of the third world.

Less developed countries are facing a number of problems, like poverty, unemployment, inequality, and underdevelopment etc. Poverty is mainly due to unemployment and inequality in some countries, whereas inequality is due to the socio-economic and political systems prevailing in the economy. Majority of such countries are not getting even the basic necessities of life. So, the survival of human beings has become an important programme rather than the actual perspective development of such countries. On one hand, poor people are being undernourished, and on the other hand, a section of the society is enjoying an extremely high standard of living. It means rich are getting more than they are required. Thus, a gap between haves and have-nots is increasing in LDCs. Consequently, of late, the issue of poverty has become the main theme of the policymakers. Nowadays the development of LDCs refers to the poverty eradication programmes

and to bring a distributive justice. However, before proceeding towards the formulation of effective policies and programmes, one must know the poverty groups and their economic characteristics. Poverty problem cannot be dealt- with directly without detailed information of its location, extent and its features or characteristics.

The extent and magnitude of poverty in any country depend on an average level of national income and degree of inequality. Poverty is the root cause of underdevelopment of LDCs. It is said that a country is poor because the inhabitants are poor. Poverty has different socio-economic consequences. So it is necessary to consider different aspects of poverty. But the questions arise, such as, what is poverty? Is it a problem? If so, to whom it is a problem? On the basis of different forms of poverty, it is possible to measure the poverty systematically. At least a few stalwarts have tried to measure it. i) Is Poverty a Problem? Poverty no doubt, is a more serious problem than any other problems because most of the problems arise due to the poverty.

Poverty sows the seeds of the problems. Similarly, poverty breeds poverty. So, it is a problem in a process of socio-economic upliftment of the society. Poverty is also a problem for a country, states, regions, blocks, community, and a certain section of the society and households, some castes and to a few individuals. In most cases, the concept is determined on a relative basis. In India, it is a problem for the states like Tamil Nadu, Rajasthan, Bihar and Orissa, it is a problem for a landless labour, beggars, people living in slums, landless labour, marginal labour, bonded labour, disabled, diseased (who cannot get diagnosed due to the lack of income) people, unemployed youths, prostitutes etc. But if some persons or unit of a society or a region do not feel as poor, then it may not be a problem for them. However, poverty is a problem for others, who do not belong to a class of poverty. So poverty may be a problem for the non to poor.

Poverty is a condition/ basics, where the gap is a comparative phenomenon. In India poverty is a problem to the voluntary organizations, trade unions, political parties, rich people, social reformers, and others who particularly identify the poor class on

the basis of the availability of basics and essentials for better and viable life.

## **POVERTY**

It is difficult to define the poverty in precise terms, so identification of poor is difficult. Moreover, no universal definition is possible, because of its multi-phased aspects. However, the term poverty refers to the state or condition of having little or no money, goods or means to support". By and large, poverty is a condition of unfulfilled material goods as well as unfulfilled non-material goods too.

The material needs include; food, shelter, clothes and other physical needs of the goods and commodities etc. while non-material needs include family atmosphere, sense of Non-alienation in place of work fulfillment of cultural and religious aspiration, sense of equity and justice etc. In India, poverty is only concerned with the unfulfilment of material needs. The non-material needs are least considered or not considered at all. Poverty may also be termed an absolute term. Most of India's population is poor in an absolute sense. Inequality is also the basic cause of the poverty particularly, in relative terms.

Relative poverty, unlike the absolute poverty, is more, a matter of subjective definition than of objective conditions. In such situations, a person may have everything that a normal human being requires - nourishment, clothing, shelter, entertainment - yet he may have the uncomfortable feeling that he is poor because he cannot keep up with next door. Hence, relative poverty is essentially a phenomenon of status discontent or relative deprivation. While it is easy to define and locate absolute poverty, it is difficult to comprehend poverty in its relative dimensions.

Numbers of studies have been concentrated on the poverty, particularly based on varieties of factors of only material needs. The relative and absolute poverty concepts are much-discussed concepts throughout the world. The behaviouristic approach of the poverty concept has been introduced on the basis of percentage of expenditure on gross consumption. This helps to identify the magnitude of poverty. Nutritional requirements of a person are again one of the norms to identify the poverty. But



nutritional requirements of food, clothing and sheltering have to be determined individually because all such requirements are basically dependent on individual characters and variations. Medical sciences have a vital role to determine the nutritional norms. Some authors of both social sciences and medical sciences have fixed the norm of food calories.

A few studies have identified the poverty on the basis of comparing the levels of living conditions, whereas terms and problems of unemployment are also considered as the base for defining poverty. Droughts, famines, floods, cyclone are also the causes of poverty. Thus, poverty is a condition which is determined on the basis of the causes of poverty rather than its relative and absolute terms. Most of the academicians have concentrated on the single range approach and neglected the multivariate approach. A few other studies have considered castes, communities, and races, population to identify the poverty, e.g. Dome, Dharkar, Netuwa, Mushar, S.C., S.T. etc. who continued to live below the poverty line as their culture of living conditions.

### **WHY POVERTY?**

It is always stated that poverty is a rich man's cow, which indicates a causal relationship between rich and poor. The origin of poverty lays inborn inequalities and exploitations, either among human beings or human and non-human entities alternatively. It may be because of genetic differences, individual maladjustments, failure, incompetence, social deprivations, and regional disparities etc. Another basic cause is that a small number of populations in the country own the assets - land, houses, stocks and shares and deposits in the banks; while the majority of the people are asset-less. Poverty is also a condition resulted due to socio-economic and political causes, e.g. black money, capitalism, caste system, the debt problem, unemployment, lack of education, soft state, fatalism, frustration, pauperism etc. Thus, poverty is a hydra-headed monster which takes varieties of shapes.

### **BASIS OF POVERTY**

As stated earlier poverty has any basis on which it is existing, almost every time. It may not consider anyone component as

it includes socio-economic and cultural components of human life. Following are some of the points which illustrate the basis of poverty.

### **POVERTY AS DEPRIVATION**

Poverty as a deprivation has four essential features. Firstly, it is deprivation from the basic necessities of life - food, clothing and Housing and other accompanying basics like, flow of m educational and intellectual deprivation, cultural and moral deprivation, which is also known as cultural poverty etc. Secondly, deprivation means being deprived of what one is entitled to get or has a right to get or acquire a decent standard of living. Thirdly, there are various degrees of deprivations such as; the poorest of the poor, the very poor and the poor etc. This is being used in the poverty alleviation programmes. Fourthly, deprivation involves its antinomy which is abundance, that is, many are denied their entitlement because some have more than their entitlement.

### **INEQUALITY AND POVERTY**

The concept of inequality is closely related to relative poverty. The measurements of inequality are of two types, objective measurement, and normative or subjective measurement. The former tries to gauge the overall extent of inequality with reference to statistical parameters, whereas the latter links with some normative notion of social welfare e.g. higher degree of inequality correspond to a lower level of welfare and vice versa.

### **INCOMPETENCY AND POVERTY**

It is observed that poverty is due to incompetence. According to a few sociologists, the elite perceives the poor as incompetent. Most of the poor persons are not competent to protect their own interests. The poor find themselves as incompetent, and the society is also so organized to keep the poor incompetent. Thus, the term incompetent may be replaced in specific terms such as 'dirty, ignorant, unworthy of attention and poor.

### **NON-PARTICIPATION OF THE POOR**

Most of the poor people are ignorant about the Governmental schemes, and also have limited knowledge regarding the procedures. That is the isolation of the poor

from the mainstream of the economy. Some poor people though they are covered in the schemes also lack guidance and participative involvement that leads to frustration.

### **SOCIO-ECONOMIC SYSTEM AND POVERTY**

Indian society is not homogeneous. The pattern of heterogeneity may be classified into three types: The concept of economic class relates to the institution of property. In rural societies land is the basic asset. Wherein big landlords, small landholders, landless laborers are being observed. The big landlords are fortunate enough to get the benefits from the Government programmes, because of their awareness and alertness in acknowledging the Governments' schemes. Development programmes will not percolate to the lowest strata as they have no common interest in it if rich are dominating in such programmes. The social stratification is also based on the caste and religion. In old days the functions of the societies were allotted to different castes and sub-eastern which are observed in a rural area to some extent though not in the barter system. Religion can also be taken as a part of the hierarchy as the household's activities which enjoys different social status. Their status, however, is largely influenced by their economic status. Social stratification is also based on the power or influence of different households involved in varieties of organizations. The major organizations that take decisions regarding various economic activities are the village panchayat where once again the rich dominate. Generally, elites hold economic social and political power and status in the society whereas the majority of people are deprived of all powers and status. Thus poor have no role in decision making.

### **HUMAN PERSONALITY AND POVERTY: INCOME AND ASSET**

Income and wealth assets are important economic components. They primarily refer to the material possessions, opportunities of acquiring income and command over other resources. In the case of poor people command over resources is always very low. The people who lack such opportunities and possessions are poor. The poor are poor because they are even lacking in skills, education and training etc. due to

which they are deprived of the possession of economic resources and rewards of the society. Psychologists have examined the relationship between poverty and human personalities. Under the background of certain circumstances, some individuals march up in achieving economic strength, while others do not, which may be due to psychological factors rubbing over the personalities e.g. locus control, need for achievement, power motive, orientation to change, leadership, cognitive conditions, efficacy, attitudes, rationality dimensions etc. Poverty, in turn, produces many psychological ill effects? Value System and Poverty: It is often said that most of the people are poor because they feel it is their past karma (sin). In a western sense, it is known as fatalism. People are expecting easy money without any hard work. Even a person who lacks in hard work is bound to become poor.

### **EDUCATION AND POVERTY**

Poverty may be due to the Ignorance, and illiteracy. The present educational system makes a person literate only, not professionalists in any economic activity. Education does not equip the people for productive work. Moreover, education is not available to all because of socio-economic reasons because of illiteracy; the majority of the people are left out of the mainstream of development of the economy. Poor people will not come forward to accept the challenges. Attitudes and Poverty: Public attitude towards self-improvement is another factor. Some people have no motivation to look for better opportunities. They do not struggle for material advancement. That is a negative the attitude on/part of the people results in poverty.

### **REGIONAL POVERTY**

Existence of disparities in living standards between two regions is also one of the important causes of the poverty. Some regions economically and industrially remain backward. So, people living in such areas have to experience the poverty. Poverty and Inflation is for the rise in prices is also an important cause of poverty. The rise in prices leads to reduce the purchasing power of the poor people. People living in a fixed income group and the people living in slums,

footpaths, landless laborers, marginal and small farmers may get affected due to rise in prices of the essential commodities.

Anti - Poverty Programmes for Women

Women in India have been set with the problems of illiteracy, poverty, child marriage, widowhood, dowry levy etc. In the wake of the British rule. The Christian missionaries highlighted the problems of women. While the Christian missionaries left their impact on the religious and social institutions, western education was responsible for the introduction of a new -pattern of thinking whose major characteristics were rationalism, democracy, and liberalism. The growing role of women in the economic, social and political spheres in the West after the Industrial Revolution and the growth of democratic movement stirred the conscience, of thinking men in this country. Social reformers, like Rajaram Mohan Roy, Mahatma Gandhi, and Annie Besant contributed their mite. In addition, certain women's voluntary organizations such as women's Indian association founded by Dr. Annie Besant in Madras in 1917, National Council of Women, 1925, Kasturibai Gandhi National Trust 1945, YWCA are playing significant roles in the upliftment of the womenfolk. After independence all-around efforts have been made to promote the welfare of the women.

Article 15 of the constitution confers equal rights on both sexes, though the state could make any special provision for women. Articles 14, 15 and 16 relating to Fundamental Rights guarantee to all citizens, irrespective of sex equality before the law, equal protection of the law and equality of opportunity 1:1 matters of public employment. It is in the light of these provisions in the Constitution that social legislation has been passed to improve their status and rights. Special steps are being taken to improve their education, health facilities, economic position and for ensuring their proper participation in family and community life. However, all these programme art: interlinked and one affects the other. For example, improvement in education may increase their status, give them economic independence, may bring improvement in health and ensure their better participation in family and community life.

## **CONCLUSION**

Poverty has so many determinants. It is a multi-dimensional phenomenon. It has many inter-relationships. So, it cannot be isolated from one aspect to another. Nutrition, basic needs, economic inequality, education, health, value system are some of the important determinants of it. So to eradicate poverty we need domestic approach. The endeavor here is to project its eradication based on not only economic parameters but non-economic parameters to hold up. in India, are considering only the economic parameters to conceptualize the poverty. A rich may be lacking in human values, whereas a poor may be lacking in money, wealth and other assets, but both are poor in different terms. Therefore it is difficult to define poverty and to identify a poor. Poverty does not refer to the economics alone as it is a multi-phased concept based on a number of factor determinants. But ultimate effects and repercussions of poverty affect the micro parameters of the economy. So in every aspect economic problem can be seen and overviewed. Poverty no doubt is an economic problem. Ho, here an attempt is made to review the literature on poverty.

Poverty is inherited in less developed countries. India being the member of the Third World countries, trapped into the mass poverty, and poverty has become the main problem in the country. It is a problem of low income and its unequal distribution of the small gains of development. Simultaneously, our Five Year Plan \ progress is just like writing on the sands which are washed away by the waves of growth of population. Poverty is the problem for the poor as well as non-poor. It is a natural and artificial problem. It affects the socio-economic life of the people. Poverty situation in India is different from other countries of the world Poverty is observed both in absolute and relative terms; there is a high degree of both types of poverty. So, it has become more serious than any other problems. Most of the authors have highlighted the problem with the help of mono-dimensional approach, but its identification is not possible easily because of its complex nature. Poverty in India is multi-dimensional. It is necessary to cover the social, political, economic arid psychological factors. India will have to define the "Indian way" to nutrition

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# 57. A STUDY ON ECONOMIC STATUS OF WOMEN DOMESTIC WORKERS In CHENNAI (A comparative study of two areas Kilpauk and Villivakkam)

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## ABSTRACT

*In the process of development the role of household maid workers places an important part. They form the major workforce of the informal sector. This paper attempts to analyse the socio-economic status of household maid workers in Chennai. This study tries to compare the wage structure of these workforces in two different parts of the city Kilpauk and Villivakkam. A sample 50 respondents from these areas are collected to analyse the objectives.*

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## INTRODUCTION

A maid, or housemaid or maidservant, is a person employed in housekeeping or to assist in house core work. As many working women to balance their carrier and house hold work they are dependent upon these support services either in part time or full time or to cooking .More over they need their services to take care of their children or to take care of their aged parents. Hence the services of these maids or helpers become inevitable both for working women and also for home makers. Now the question arises whether these inevitable labour is paid reasonably, treated well or get exploited. Having this question in mind, effort has been to taken to analysetheworking status and wage structure of these house hold workers in Chennai city.A comparative study has been done two areas of Chennai city . Kilpauk is in central Chennai with mostly upper-middle-class and Rich households living in apartments and individual houses. Villivakkam is a middle-class area, also in central Chennai, with a mixture of apartment complexes and individual houses. Though various aspects can be analysed about the status of the house maids, due to the paucity of time and other practical constraints this article focuses only on their general profile, ,wage structure and working hours.

## DEFINITION OF DOMESTIC WORKERS OR HOUSEHOLD MAIDS

It is very difficult to define the term "domestic" because it is very vague. The term "domestic" denotes a class of "menials" which includes many types of workers, like ayah, kitchen helper, cook and sweeper.This study deals with those maids who do cooking, , cleaning utensils, washing clothes, cleaning and sweeping the houses,care takers in return for the payment of wages". There are two types of housemaids. Part-time maids and full-time maids. Part-time maids are, those who are employed at one or more than one house to perform some definite duties and go away when the assigned work is over. They are not residential helpers. Full- time maids are attached to one house only. They are present for the whole day at employer's house and do whatever work is assigned to them.

## OBJECTIVES OF THE STUDY

This study aims at analyzing the following objectives

- 1.To analysis the socio economic profile of domestic workers
- 2.To understand their occupation structure and wage structure
- 3.To study their saving pattern
- 4.To study the problems and challenges faced by the domestic workers

**METHODOLOGY**

• **Sample size**

The study was based on primary data collected from the household maids by direct interview. A schedule had been used to collect informations regarding their socio-economic factors. 50 women domestic workers were selected from Kilpauk and Villivakkam area by purposive sampling method.

• **Area of Study**

The study is selected the two areas Kilpauk and Villivakkam as the researcher is residing in this areas.

• **Sampling Technique**

This study is based on convenient and judgment sampling.

• **Sources of Data**

The study used both primary data. Primary data was collected from 50 respondents in two different areas Kilpauk and villivakkam.

• **Tools used for analysis**

The data has been analysed by percentage analysis.

**Table 1.1 house maid workers community**

RELIGION	No. of Housemaids		
	KILPAUK	VILLIVAKKAM	TOTAL
A)SC	9	8	17(34%)
B)ST	7	7	14(28%)
C)BC	4	5	9(18%)
D)MBC	2	2	4(8%)
E)OC	1	1	2(4%)
Christian (B.C)	1	2(4%)	
Muslim (BCM)	1	2(4%)	
Total	25	50(100%)	

This table explains the religion and their community of the workers both the areas of study Kilpauk and Villivakkam. Majority (92 per cent) of the respondents are Hindus. Only 4 per cent of workers belong to other religions. Among Hindus majority of them belong to either SC or St or B.C community. As far as community and religion is concerned the same status is shown in both the areas.

**Table 1:2 Marital status of housemaid workers**

MARITAL STATUS	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Married	14	12	26(52%)
Un Married	6	7	13(26%)
Divorce	4	1	5(10%)
Widow	1	2	3(6%)
Total	25	25	50(100%)

This above Table 1.2 shows the marital status of housemaid workers compared with kilpauk and villivakkam. From the above table it is clear majority of domestic workers are married women. The number of married domestic workers are slightly higher in Kilpauk compared to villivakkam. It is clear this is more in the case of divorcees too.

The table 1.3 depicts the age composition of housemaid workers compared with kilpauk and villivakkam. The analysis shows majority of the domestic workers are middleaged women (31-40years). The rest are minimum and above 60 is negligible. Here also there is no much difference is seen in the area of study

**Table 1:3 Age Composition of housemaid workers**

AGE GROUP	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Below 21	2	3	5(10%)
21-30	3	5	8(16%)
31-40	11	10	21(42%)
41-50	5	5	10(20%)
51-60	2	1	3(6%)
Above 60	2	1	3(6%)
Total	25	25	50(100%)

**Table 1:4 Housemaid workers Education level**

EDUCATION	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Illiterate	1	1	2(4%)
Primary	8	9	17(34%)
Secondary/Higher secondary	10	12	22(44%)
Diploma	2	1	3(6%)
Graduates	2	1	3(6%)
College drop outs	2	1	3(6%)
Total	25(50%)	25(50%)	50(100%)

The table 1.4 explains education level women domestic workers in comparison with kilpauk and villivakkam. Majority of the housemaid workers are educated up to higher secondary level. It is pathetic to see even graduates and diploma holders are also come to this job. The disguised unemployment clearly seen here. The investigator could find out from the discussion with the respondednts that few of them took it as part time job along with other jobs they do outside. The educational status also does not show any difference as far as area is concerned.

#### **WAGE STRUCTURE AND WORKING HOURS OF DOMESTIC WORKERS**

This study explains about the different wage structure and working hours of housemaid workers in comparison with two places kilpauk and villivakkam. More number of workers 44% are involved in house keeping rather than cooking and care taking. The percentage is more in Kilpauk compared to villivakkam. The percentage of Residential maids are very less in both the places. Around 50% of them are able to get maximum of Rs. 4000/-per month in one house and maximum they could work totally for 8 hours in 2-4 houses put together. Hence their monthly income is around Rs.8000 to Rs.16000/-

Care takers in the same way they work for 8 hours in one house and earn maximum of Rs8000 to Rs.10000. same way the residential maids are also earning plus their food and stay.

**Table 1.5 Experience of housemaid workers in their work place**

EXPERIENCE IN YEARS	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Below 2 Years	10	12	22(44%)
2-5Years	9	7	16(32%)
5-8Years	3	4	7(14%)
8-11Years	2	1	3(6%)
Above 11Years	1	1	2(4%)
Total	25	25	50(100%)

This table explains about experience of housemaid workers in their work place which compared with kilpauk and villivakkam. Majority of the respondents have a maximum of 2 years experience and very few only are working for more than 10 years.

**Table 1.6 This table Savings pattern of housemaid workers**

SAVINGS	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Post Office	5	-	5(10%)
LIC Policy	3	1	4(8%)
Banking	13	9	22(44%)
Other	2	2	4(8%)
Total	23	12	35(70%)

This table 1.6 explains the savings pattern of housemaid workers in kilpauk and villivakkam. From the above analysis it is clear the Government's effort for financial inclusion has reached around 70% of the domestic workers. People have awareness about saving that too majority (44%) of them believe savings through banks. This analysis clearly shows that the domestic workers belonging to Kilpauk are having the tendency to save more compared to villivakkam. This may be due to their slightly higher wages they get in Kilpauk or may be due to their better standard of living comparatively. This may be even due to the employers' advise.

Table1: 7 Problem faced by housemaid women workers in their workplace

PROBLEM FACED BY WORKPLCE	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Low Salary	3	5	8(16%)
Low salary	6	4	10(20%)
Excessive duties and hours	3	3	6(12%)
Deduct wage for absence in work	9	8	17(34%)
No Leave	3	4	7(14%)
Others	1	1	2(4%)
Total	25	25	50(100%)

This table 1.7 explains the problems faced by housemaid workers at their work place. From the above table the low salary is the major problem of villivakkam domestic workers compared to kilpauk. But major problem of the workers belong to both the areas is salary cut due their absences. This concludes that low salary and heavy work load are the main problems faced by the housemaid workers.

Table 1:8 Challenges faced by housemaids women workers

CHALLENGES FACED BY HOUSEMAIDS	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Over Workload	11	12	23(46%)
Ill treatment	12	11	23(46%)
Sexual Harassment	1	1	2(4%)
Others	1	1	2(4%)
Total	25(50%)	25(50%)	50(100%)

The above table 1.8 explains about challenges faced by housemaid women workers which is compared with kilpauk and villivakkam. 46 per cent of the workers suffer due to over work load and ill treatment. Though only 2 per cent of the housemaid workers are facing sexual harassment in their work place which has to be prevented. Which is the responsibility of the society and Government.



Table 1.9 Employees opinion about their employers treatment in their workplace

EMPLOYER	NO OF HOUSEMAIDS		
	KILPAUK	VILLIVAKKAM	TOTAL
Verygood	1	5	6(12%)
Good	15	15	30(60%)
Better	9	5	14(28%)
Total	25	25	50(100%)

This table 1.9 explains about the Employees opinion about their Employers treatment in their work place .Majority of the domestic workers have good opinion about their Employers both kilpauk and villivakkam. But more number of domestic workers are happy with their their employers in villivakkam compared to Kilpauk

### Summary

The above analysis shows though the domestic workers form an important part of informal sector, their wage structure ,their working conditions and their dignity are not up to the mark.It has to be improved their services should be recognized and should be given the same status as that of the workers of informal sector. Government also recently has given rules to be followed while fixing wage structure .Hope it will be implemented at the earliest

### SUGGESTIONS

- Fixing wages to keep pace with other paid work in the informal sector.
- Providing the workers some degree of flexibility in working hours.
- Minimizing degree of command over the workers and employers and imposing acceptable workload to the workers.
- Building up proper understanding between workers and employers over worker's failure to attend at work.
- Providing equitable extra wage for extra workload due to arrival of employer's guests on holidays and festivals.
- Providing minimum leave facilities to the workers.

### CONCLUSION

To conclude it is not only the duty of the Government but also the society also should understand the problems faced by the domestic workers and give them safety security, protect their rights as human beingd ,fix a good wage structure and give them a proper place in society like any other workers of the society.

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## 58. WOMEN EMPOWERMENT THROUGH EMPLOYMENT IN GENERAL (INDIA)

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### ABSTRACT

*Employment plays an important role directly and indirectly in socio-economic development. Women are an integral part of the societies and their sustainable development must include the full and equal participation of women and men. Women literacy leading to reduction in poverty through employment, removal of income disparity and an increased social awareness for the betterment of life. The tried to analyze the women employment opportunities in the post – independence period and studied the factors affecting the extension of women employment in India.*

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### INTRODUCTION

Women empowerment is the process of providing rights, powers, opportunities and responsibilities to women so that they are able to develop their potential, think, and act freely at par with men. Empowerment of women is essentially the process of upliftment of social, economic and political status of women and it involves the building up of a society wherein women can live without the fear oppression, exploitation and discrimination that go with being a woman in a traditionally male-dominated society. Education and employment are the two basic tools which can change the economic and social status of females in the near future as well as over a long time. Further women empowerment is the utmost requirement for the inclusive growth and development of a nation like India.

The important role played by women in the socio-economic growth of the country. The Indian development model has yet to fully incorporate the important role played by women for propelling the socio-economic growth of the country. Current governments at state and central level must understand that no nation can progress unless its women are given equal access to opportunities and adequate safety and security.

### WOMEN EMPLOYMENT IN INDIA

India is the first among countries to give women equal franchise and has a highly credible record with regard to the enactment

of laws to protect and promote the interests of women, but women continue to be denied economic, social and legal rights and privileges. Though they are considered to be equal partners in progress, yet they remain subjected to repression, marginalisation and exploitation. It has been advocated by many researchers (Amartya Sen, 1990) that independent earning opportunities reduce the economic dependence of woman on men and increase her bargaining power in the family. This bargaining power depends on the nature of work she is employed in. But the income earning activities increase the workload of a woman unless the man accepts an increased share in domestic work. Since globalization is introducing technological inputs, women are being marginalized in economic activities, men traditionally being offered new scopes of learning and training. Consequently, female workers are joining the informal sector or casual labour force more than ever before.

Since Indian culture hinders women's access to jobs in stores, factories, and the public sector, the informal sector is particularly important for women. More women may be involved in undocumented or "disguised" wage work than in the formal labour force. There are estimates that over 90 percent of working women are involved in the informal sector and not included in official statistics.

The informal sector includes jobs such as

domestic servant, small trader, artisan, or field labourer on a family farm. Most of these jobs are unskilled and low paying and do not provide benefits to the worker. According to the 2011 census, the average age of all female workers was 33.6 compared with the male average of 36.5. These data are reported by local employment offices that register the number of people looking for work. Researchers have estimated that female agricultural labourers were usually paid 40 to 60 percent of the male wage. Even when women occupy similar positions and have similar educational levels, they earn just 80 percent of what men do, though this is better than in most developing countries. The public sector hires a greater share of women than does the private sector, but wages in the public sector are less egalitarian despite laws requiring equal pay for equal work. There is evidence that suggests that technological progress sometimes has a negative impact on women's employment opportunities. When a new technology is introduced to automate specific manual labour, women may lose their jobs because they are often responsible for the manual duties. For instance, on a village irrigated its fields through a bucket system in which women were very active. When the village replaced the manual irrigation system with a tube well irrigation system, women lost their jobs. Many other examples exist where manual tasks such as wheat grinding and weeding are replaced by wheat grinding machines, herbicides, and other modern technologies.

### **POPULATION VS LABOUR FORCE AND WORKFORCE IN THE POST REFORMS ERA**

Growth of population is the crucial determinant factor of employment of the country and the recovery in employment growth is reflected in the increase in the labour force participation rates. The growth of population is continuously increasing during 1983 to 2000. The growth rate per annum was registered by 2.12 percent during 1983-94 and 1.93 percent in 1994-2001. The percentage of labour force to the total population was 43 percent in 1983 followed by 42.2 percent in 1988, 42.7 percent in 1994, 40.4 percent during 1999-2000 and declined to 39.2 percent in 2001 respectively (Source: Planning and task force on employment opportunities 2000 and census

2001). Besides, the pattern of employment generation rate has sharply declined from 2.01 percent per annum during 1983 to 94 to 0.98 percent per annum during the period 1993-94 to 2004-05 (Economic survey 2006-2007 and EPW January 2007). Currently, India is passing through an unprecedented phase of demographic changes. The ongoing demographic changes are likely to contribute to an ever increasing size of labour force in the country. The Census projection report shows that the proportion of population in the working age group (15-59 years) is likely to increase from approximately 58 percent in 2001 to more than 64 percent by 2021. In addition to the overall variations in the estimates of labour force in the country, the gender dimension of the labour force is equally important to understand. In general, women participation in labour market has been typically low in India. Only 25 to 30 percent women in rural and 15 to 18 percent in urban areas participate in labour market. The workforce participation rates also mirror the changes in labour force participation rates, though to lesser extent. Table 1 reveals the trends in work force participation rates. A genderwise analysis suggests that the recovery of WPR corresponding to various segments, during 2004-05, from the fall during the previous period has been much sharper in the case of women than in the case of men.

Workforce Participation Rate As per Census 2011, the work force participation rate for females is 25.51% against 53.26% for males. Rural sector has a better female workforce participation rate of 30.02% compared with 53.03% for males whereas for urban sector. The participation rate of females trails at 15.44% against 53.76% for males. 41.1% of female main and marginal workers are agricultural labourers, 24.0% are cultivators, 5.7% are household.

### **EMPLOYMENT SITUATION**

The latest comprehensive labour market survey was conducted by NSSO during 2004-05. The next survey on employment and unemployment for the period 2009-10 has been started by NSSO in July, 2009 and will be completed by June, 2010. It is important to mention here that MoL&E (Ministry of Labour and Employment) has also taken a decision recently to conduct annual labour market surveys. The first

such survey will be conducted for the period 2009-10. Based on the 2004-05 survey, the estimates of total employment in the country varies from 385 million (as per CDS measure) to 459 million (as per UPSS measure). However, the data does not reflect the impact of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on rural employment as it was enacted in September, 2005. Overall assessment of employment situation based on UPSS in the country over relatively two longer periods, i.e., 1983 to 1993-94 (Period I-10.5 years) and 1993-94 to 2004-05 (Period II- 11 years) suggests that employment growth in period I was 2.06 percent per annum as against 1.87 percent in the period II . This high growth in employment achieved during the first half of the present decade is one of the positive outcomes of the fairly high growth of 6 to 8 percent per annum of the Indian economy during the same period. The high economic growth provided enhanced business opportunities in the country leading to increased demand for

labour and hence employment growth. However, it is important to recognize at this stage that the employment growth during the first half of the present decade has not been uniform across various population segments. First, the employment growth was much higher in urban areas than in rural areas. Second, the employment growth has been significantly higher for urban females than for all other three segments of population viz. rural males, rural females and urban males

**TRENDS IN QUALITY OF EMPLOYMENT**

The distribution of workers across, self, regular and casual status is widely taken as an indicator of the quality of employment and conditions in the labour market. Table 2 summarizes the trends in distribution of workforce by nature of employment. During the initial years of this century, there has been a significant increase in self employment in both male and female workers in rural and urban areas.

**Table 1. Women employment in organized sector (Figure in thousands)**

Year	Public Sector			Private Sector			Total		
	Women	Total	% of Women	Women	Total	Percentage of Women	Women	Total	Percentage of Women
1995	2600.4	19466.3	13.4	1627.5	8058.5	20.2	4227.9	27524.7	15.4
2000	2857.0	19313.7	14.8	2065.8	8646.0	23.9	4922.8	27959.7	17.6
2005	2921.0	18006.6	16.2	2095.3	8452.3	24.8	5016.2	26458.6	19.0
2010	3196.0	17862.0	17.9	2662.5	10846.0	24.5	5858.6	287708.0	20.4
2011	3171.0	17548.0	18.1	2783.0	11452.0	24.3	5954.0	28999.0	20.5

Women Employed in Organized Sector A total of 20.5% women were employed in the organized sector in 2011 with 18.1% working in the public sector and 24.3% in the private. The labour force participation rate for women across all age groups was 25.3 in rural sector and 15.5 in urban sector compared with 55.3 and 56.3 for men in the rural and urban.

The increase is more visible in the case of rural women accounting for nearly 2/3 of all jobs. Alongside the trend of increasing self-employment, there has been a discernable shift in the wage employment in general. The latest round data exhibits a visible deviation for the earlier data on casual employment, which indicated an overall trend of increased casualization of employment, except for urban women workers. During 1999-2000 to 2004-05, the share of casual employment in total employment declined by more than 7 percent.

Though shares of regular employment improved slightly in all categories except urban males, the fall in casual employment was so prominent that the aggregate share of wage employment has fallen considerably (Chandrasekhar and Ghosh, 2006). A closer examination reveals that even the increase in regular employment was largely in low paid segments such as domestic services which are indicative of the deteriorating quality of wage employment.

The self-employed women workforce was

**Table 2: Employment status, area and gender**

Year	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
<b>Self -Employed</b>						
1993-94	57.7	58.6	41.7	45.8	52.90	56.7
1999-00	55.0	57.3	41.5	45.3	52.80	55.6
2004-05	58.1	63.7	44.8	47.7	54.21	61.0
<b>Regular employees</b>						
1993-94	8.5	2.7	42.0	28.4	17.0	6.3
1999-00	8.8	3.1	41.7	33.3	14.0	7.3
2004-05	9.0	3.7	40.6	35.6	18.25	9.0
<b>Casual labour</b>						
1993-94	33.8	38.7	16.3	25.8	30.10	37.0
1999-00	36.2	39.6	16.8	21.4	33.20	37.1
2004-05	32.9	32.6	14.6	16.7	27.54	30.0

Source: various rounds of NSSO data.

Note: UPSS= Usual principal subsidiary status

56.7 percent and it was 6.3 and 37 percent in case of regular and casual labour in 1993-94. but in 2004-05, it was increased to 61. percent in self employed and to 9 percent of regular employees. Meanwhile, casual labour employees' workforce women labour has declined to 30 percent.

## CONCLUSION

Despite significant problems in a male dominated society, Indian women have found their way out for growth and empowerment either through self-help groups, NGOs, banks, government assistance, and micro finance institutions or through private sectors. In the coming years the role of women will be of immense importance for competing with the developed world as they are man power source as well as diverse consumer group. The civilization of the country will undergo a noteworthy positive change with educated and financially sound women folk. Given that one-third of the estimated 480 million jobs in the country are being performed by women, more than half of the advertising is targeted towards the Women.

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## **59.SOCIAL ENGINEERING AND AMELIORATION OF POVERTY ANALYSIS ON SELF HELP GROUP IN ERADICATING POVERTY IN TAMILNADU**

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### **INTRODUCTION**

The role of development thinking is to evolve strategies to reach a particular goal-involving the abolition of poverty and inequality, on one side and cultivating maximum people's participation in maximum activities related to political, economic and socio cultural etc. which will help to establish their dignity. The development is a result of human action and that any development process can be reoriented only through human action. World Summit on Social Development (WSSD) called for the recognition that empowering people, particularly women; to strengthen their own capacities is a main objective of development. In a country like India with a population of over 1.2 billion, almost 32% of people are living below the poverty line. India is working with the democratic process to mobilize the resources for development and achieve the necessary target for economic growth. Self-Help Groups (SHG) are started by non-government organizations [NGOs] that generally have broad anti-poverty agenda.

### **OBJECTIVE OF THE STUDY**

The implementation of almost all the development programs of the government as well as the NGOs are being planned through the Self Help Groups particularly woman s group, have been formed to achieve a number of goals and targets to improve the lives of women, their families and the communities. Considering these points the following objectives are framed:

- To analyse the performance of SHGs in Tamil Nadu.
- To study the role of government in promoting SHG.

### **MEANING OF THE SELF HELP GROUP**

The Tamil Nadu Corporation for Development of Women (1999) puts it as thus, "Self Help Groups were small, economically homogeneous and affinity groups of rural or capacitybuilding pre training leadership village committee gender issues book keeping credit management self-help group concept 4 urban poor, voluntarily formed to save and contribute a common fund to be lent to its members as per group decision and for workingtogether for social and economic uplift of their families and community." They agree to save regularly and convert their savings into a common fund known as "the Group Corpus".

### **SHGs - AN ALTERNATIVE**

Evolving an alternative credit mechanism in the form of Self-Help Groups (SHG) has become a logical necessity as the banks are no longer in a position to cope with the credit needs of the vast majority of the poor and weaker sections, an alternative system as a supplementary credit strategy has to be evolved. Studies conducted by voluntary agencies and by NABARD (National Bank for Agricultural and Rural Development) also confirm this opinion. Experiences of the formal credit institutions in the developing countries also reveal that under the existing banking norms and

avail credit facilities from banks. The Ninth Five Year Plan Document (1997-2002) lays emphasis on the participation of people in the planning process and the promotion of the self-help groups. It is of no meaning to say that the self-help groups stand at their own pillars. So, the main pillar of the construction of Self-help groups is capacity building that consists of leadership, self-help group concept, PRI training, credit management, gender issues, book keeping, and village committee. The capacity building of self-help group has been designed in the following ways to understand it much better.

### **SELF HELP GROUPS IN TAMILNADU**

Prof. Mohammed Younus introduced such a movement all over the world. Since then, people did not have any other livelihood other than agriculture. Once when this movement started in the world, people realized that this movement is a powerful tool of alleviating poverty. SHGs in Chennai city is extremely beyond our imaginations. The Government of Tamil Nadu has started various institutions to effectively promote, and to function Self Help Groups in Chennai. The institutions, which play important role in promoting Self Help Groups, are The MahalirThittam scheme, The Department of rural Development and Panchayat Raj, and the Tamil Nadu Corporation of Development of women (TNCDW). Tamil Nadu has started assisting various forms of incentives and subsidies to people living in rural areas to eradicate their poverty.

### **TYPES OF SHGS**

Types of self-help groups engaged in financial intermediation in Tamil Nadu is distinguished by their origin and source of funds:

- Pre-existing groups such as ROSCAs, nidhis, rotating their own savings with no external resources. Pre-existing ROSCAs that have been identified by banks and accessing banks loans.
- Promoted by NGOs: Thrift groups receiving no external funds (including those formed under component programs of sector development projects). Receiving only revolving fund grant from NGO/donor. Started with donor/government grants and subsequently linked to banks/MFIs. Receiving loans from NGO-MFI.

- Promoter by Non - Banking Financial Companies (NBFC): Promoted by bank staff and agents-receive loan from bank. Promoted by agents-receive loan from bank/NBFC.

- Promoted by DRDA/government/local government agency: Only receive revolving fund grant from government agency. Access loans from banks/MFIs.

### **OBJECTIVES OF THE SELF-HELP GROUPS – TAMIL NADU**

- To save the people from the clutches of pawnbrokers.
- To create the habit of economy and saving in the minds of the people who are economically backward.
- To make them know the importance of credit circle or revolving credit and the repayments of the credit.
- To elevate the economic standard of the members families.
- To create awareness among the members about their special and economic problems.
- To identify the common interest of the group members and carry out the operations in the most efficient and economical way.
- To enable the members to cross all social and economic barriers
- To promise and ensure human rights to men and women at all stages of their life cycle.

### **THE IMPACT OF SHG'S IN TAMIL NADU**

- Reduction in levels of poverty with increased per capita income (Poverty alleviation).
  - Asset creation at the bottom of societal hierarchy.
  - Empowering woman with disposable income considering their better decision making abilities.
  - Growth in literacy rate due to exposure to concepts otherwise alien among rural masses.
  - Reduction in dependency upon informal money lenders.
- Over and above the mentioned factors, SHG's have revolutionized the way businesses are operated at the grass root level. Advancement in technology and

export oriented products have empowered the rural woman to not just become better home makers but has also garnished the prospective of becoming the sole bread winner of their kin.

**Table – 1: Self-Help Groups in Tamil Nadu-2014**

Sl. No	Name of the District	No. of Groups Formed		
		Rural	Urban	Total
1	Ariyalur	5212	475	5687
2	Chennai	0	18557	18557
3	Coimbatore	9940	9878	19818
4	Cuddalore	11790	3257	15047
5	Dharmapuri	5207	750	5957
6	Dindigul	9270	1795	11065
7	Erode	11100	5102	16202
8	Kanchipuram	14807	5834	20641
9	Kanniyakumari	5772	7394	13166
10	Karur	6321	2039	8360
11	Krishnagiri	7267	814	8081
12	Madurai	8369	2784	11153
13	Nagapattinam	10192	1684	11876
14	Namakkal	6807	2702	9509
15	Nilgiris	3238	3477	6715
16	Perambalur	2766	390	3156
17	Pudukkottai	8390	1149	9539
18	Ramand	6912	1555	8467
19	Salem	10479	5658	16137
20	Sivagangai	8053	1110	9163
21	Thiruvannamalai	12660	1891	14551
22	Thirunelveli	10045	6177	16222
23	Thanjavur	12215	2993	15208
24	Theni	5719	3867	9586
25	Thiruvallur	9032	5067	14099
26	Thiruvarur	8083	1157	9240
27	Thoothukudi	10282	1753	12035
28	Trichy	8720	3529	12249
29	Vellore	11294	1827	13021
30	Villuppuram	13691	2063	15754
31	Virudhunagar	7869	2182	10051
Total	261502	108910	370312	

Source: Compiled from the Records of Tamil Nadu Corporation for Development of Women Ltd.,2014.

Table 1 shows the district-wise formation of Self-Help Groups in Tamil Nadu.

a)The Kanchipuram district has promoted more number of rural Self-Help Groups (14807) followed by Villuppuram district (13691) and Thiruvannamalai district (12660).

b)However, so far no rural group is promoted in Chennai district. The Perambalur district has promoted less number of rural groups (2766) followed by Nilgiris district (3238).

c)In case of promotion of urban Self-Help Groups, Chennai district has promoted more



groups (18557) followed by Coimbatore district (9878) and Kanniyakumari district (7394). However, promotion of urban Self-Help Groups was low in Perambalur district (390) followed by Ariyalur district (475).

d) Altogether, more Self-Help Groups were promoted in Kanchipuram district (20641) followed by Coimbatore district (19818). Perambalur district promoted less number of Self-Help Groups (3156) followed by Ariyalur district (5687).

### FINDINGS

The Self-Help Groups are voluntary associations of people formed to attain some common goals. The growth of self-help movement amongst the rural people in different parts of the country is emerging as a very reliable and efficient mode of micro-credit delivery. The Self-Help Groups in India have made steady progress. Nearly half the homes in Tamil Nadu have a claimed

monthly income ranging between just Rs.1,000- Rs.3,000. About 22.80 per cent of rural population and 22.20 per cent of urban population are living below poverty line in the State.

### ROLE OF GOVERNMENT IN PROMOTING SHGs

The government has been implementing several income generating programs for the working poor with the objective of creating sustainable and productive employment and safeguard their livelihood support systems. Since 1999, the Swarnajayanti Gram Swarozgar Yojana (SGSY), a national program has been implemented to help rural poor to identify and promote viable rural micro-enterprises. In fact, the SGSY is designed on the basis of the lessons learnt from the implementation of the former Integrated Rural Development Program (IRDP).

**Table - 2: Financial assistance provided by Government of India to SHGs for marketing their products-2012**

YEAR	AMOUNT OF FINANCIAL ASSISTANCE BY GOVERNMENT OF INDIA (RS. IN CRORES)	PERCENTAGE	NO OF GROUPS COVERED IN INDIA	PERCENTAGE
2006	1.25	3.04	11897	2.83
2007	2.10	5.11	14555	3.47
2008	2.80	6.82	29807	7.11
2009	5.56	13.54	65435	15.60
2010	7.34	17.88	88987	21.22
2011	9.78	23.83	98765	23.55
2012	12.21	29.78	109876	26.22
TOTAL	41.04	100	419322	100

(Source: Hand Book of planning commission of India from 2012)

Government of India has taken initiatives in order to increase the interest of the group members at the time of marketing their products all over the place. With the assistance provided by the government, the group members scatter their trade effectively all over the world. This is the reason why the Self Help Groups remain successful from the time it was started till now at the moment. From the above Table:2, we observe the government has enhanced its assistance due to the requirement and request of group's members. As shown in the

table, during the year 2005, 1.25 crore was sanctioned to 11897 groups to provide the access the marketing of their products while 2.10 crore was granted by the government to 14555 groups. Similarly, the government has raised its assistance to the tune of 2.80 crore to strengthen the marketing activity. In comparison with the year 2006 and 2012 the percentage has increased from 2.83 to 26.22 which shows a massive increase in the financial assistance by the government. Likewise the government has increased its financial assistance from time to time

based on the total strength of the groups. From which, it is believed that government increases the fund from time to time with ever increasing groups for the purpose of assembling.

**TABLE – 3: Amount incurred by the government for the purpose of training during the year 2014- 2015.**

S.No	Details	Amount (in Rupees)
1	Self -help groups member training	22,10,00,000
2	A & R training	4,05,00,000
3	Enterprise Development training for women	2,00,00,000
4	Skill training for youth	20,00,00,000
5	Development of community resource persons	60,00,000
6	PLF Executive Committee member training	1,53,31,000
7	IEC Training materials	42,00,000
8	Training through TNVRC	40,00,000
9	Capacity building of PMU, PIU, and Block level staff	50,00,000
	Total	51,60,31,000

(Source: Rural Development and Panchayat Raj (CGS III) Department G.O. (Ms) No.90)

From the above table, it is inferred that Government of India has sanctioned assistance to various self help groups in order to ensure training programmes to various Self Help Groups members. Rs. 22,10,00,000 was given to members of Self Help Groups training. Similarly, Rs.4,05,00,000 was sanctioned to Animator and Representative training. Whereas, Rs.2,00,00,000 was given way to enterprise development training for women. Rs.20,00,00,000 was granted to skill training for youth. Correspondingly, Rs.60,00,000 was offered to development of community resource persons. Rs.1,53,31,000 was released to PLF Executive Committee Member training. 42,00,000 was provided to IEC training materials. As a next phase, 40,00,000 was ensured to training through TNVRC. At last, Rs. 50,00,000 was presented to capacity of PMU, PIU, and block level staff.

### CONCLUSION

SHG is group of rural poor who have volunteered to organise themselves into a group for eradication of poverty of the members. In 29 districts of TamilNadu 21,454 Shg's were newly formed and the

number of new groups to be formed are 14,025. The percentage of achievement is 153% in the 2016. 50% of the groups formed in each block were exclusively for women. In the case of disabled persons, the groups formed is ideally disability-specific wherever possible, however, in case sufficient number of people for formation of disability-specific groups are not available, a group may comprise of persons with diverse disabilities or a group may comprise of both disabled and non-disabled persons below the poverty line. The findings of the study shows the assistance brought out by the government are much useful society for alleviating poverty among employees and increasing role of self- help groups, which will lead to growth and development of the nation.

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## 60.WOMEN ENTREPRENEURSHIP AND ENTREPRENEURSHIP DEVELOPMENT INSTITUTIONS – An Overview

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### ABSTRACT

*This Article is based on the study of the characteristics of Women entrepreneurs and the institutions engaged in the entrepreneurship development of women in Tamil Nadu. Through this study, a “Four factory Theory” has been derived which is helpful to ED institutions to analyze the potential characteristics of Women entrepreneurs and to give needed training and support to empower women through entrepreneurship.*

### INTRODUCTION

Women entrepreneurs may be defined as the women or a group of women who initiate, organize and operate a business enterprise. Women constitute half of the humanity. Participation of women in the sphere of economic activities on par with men is therefore necessary for the development of mankind. All talk of equality of women with men, however, would remain a myth till women became economically self-reliant. Entrepreneurship is one of the economic activities where women can contribute significantly.

### ENTREPRENEURSHIP DEVELOPMENT

Entrepreneurship is crucial for the economic development of the nation. Entrepreneurship development interpreted in its broadest sense includes all activities leading to the creation of an enterprise and in particular, awareness programmes, Career Orientation, new enterprise creation, self-employment, business survival and growth and simulating the entrepreneurial spirit in the country. The organizations /institutions that initiate entrepreneurship and self-employment development activities may be referred to as ED institutions.

### SCOPE OF WOMEN ENTREPRENEURSHIP

The emergence of women entrepreneurs and their contribution to the national economy is quite visible to India. The number of women entrepreneurs need to be lauded for their increased utilization of modern technology, increased investments, finding a niche in the export market, creating a sizeable employment for others and setting the

trend for other women entrepreneurs in the organized sector. With the corporate sector eager to associate and work with women owned businesses and a host of banks and non-governmental organizations keen to help them get going, there has rarely been in better time for women with zeal and creativity to start their own business.

### SIGNIFICANCE OF THE STUDY

A women entrepreneur has a mission and clear vision and intense to create out of vision, a product or service that will improve general outlook of the organization. It is time to use a new lens to guide research on women entrepreneurs. The present study has been planned to bring under its scope, an insight into entrepreneurial potential and the level of motivation of the women of Tamil Nadu, evaluate the environmental support offered to the growth of women entrepreneurship by Entrepreneurship Development Institutions in Tamil Nadu.

### OBJECTIVES

The objectives framed for the present study include:

- 1.To identify potential women entrepreneurs in Tamil Nadu and to study their entrepreneurial characteristics.
- 2.To evaluate the performance of the institutions engaged in the entrepreneurship development of women in Tamil Nadu.
- 3.To suggest measures to ED institutions for the fostering of women entrepreneurship.

**SAMPLING**

For identification of potential women entrepreneurs in Tamil Nadu, 50 sample units have been selected from employed women to study the extent to which the entrepreneurial characteristics are possessed by women in Tamil Nadu. A questionnaire was prepared to collect the relevant data for the purpose of evaluating the performance of the entrepreneurship development institutions for women in Tamil Nadu. The data regarding the number of ED programmes conducted, the number of beneficiaries, selection procedure adopted, the input provided by the institutions, average training period, type of training given and the follow up adopted by them were collected with the help of a structured interviewed Schedule.

**THE ANALYSIS**

The responses to the statements in the questionnaire obtained from the respondents were scored totaled and weighted mean was arrived at. This information is presented in Table 1.

**Table 1**

**ENTREPRENEURIAL CHARACTERISTICS**

Entrepreneurial characteristics	Mean Scores	Level of Motivation
Risk taking	18.07	Low
Hope of success and fear of failure	20.15	Medium
Resistance and hard work	23.21	High
Energy and mobility	21.36	High
Use of feedback	21.36	High
Personal responsibility	19.75	Medium
Self confidence and self reliance	20.68	Medium
Knowledge ability	21.28	High
Persuasion ability	20.32	Medium
Managerial ability	20.87	Medium
Innovativeness	23.51	High
Achievement orientation	21.62	High

The above Table 1 reflects the fact that the respondents have exhibited a rather uniformly high scoring on most of the

entrepreneurial characteristics, thereby indicating consistent entrepreneurship qualities.

The analysis and interpretation of entrepreneurial characteristics might be subjective in order to ensure objectivity in the analysis. The data have been subjected to be a multivariate statistical method of analysis known as Factor Analysis.

**FACTOR ANALYSIS**

The findings of the Factor Analysis have thus given a better understanding data matrix and has led to the conclusion that entrepreneurial potential is determined by four factors i.e.,

1. Personal
2. Self dependence
3. Dependence on others
4. Physical

Hence these findings may be taken to add to the fund of entrepreneurship theory and it may be named as the Four Factor Theory of Entrepreneurship.

**Table 2**  
**FACTOR ANALYSIS**

Sl.No.	Factors	Entrepreneurial Characteristics	Loading
1	Personal	Knowledge Ability	0.868
		Achievement Orientation	0.837
		Hope of success and fear of failure	
2	Self dependence	Self confidence	0.986
		Persuasive ability	0.871
3	Dependence on others	Use of feedback	0.780
		Risk Taking	0.760
4.	Physical	Persistent and Hard work	0.756
		Energy and mobility	0.685
		Personal responsibility	0.680
		Managerial Ability	0.655

## **QUALITIES REQUIRED FOR WOMEN ENTREPRENEURS**

An effective entrepreneur requires certain basic qualities which can be listed as follows.

- Innovative thinking and Fair sightedness
- Quick and effective decision making skills
- Ability to mobilize and marshal resources
- Strong determination and self confidence
- Preparedness to pay risks
- Accepting changes in right time.
- Access and alertness to latest scientific and technological information.

## **ED INSTITUTIONS**

It was found that the institutions were mainly involved in the following activities to empower women through entrepreneurship stimulatory activities such as imparting entrepreneurial education and making plant publicity of entrepreneurial opportunities and rendering help and guidance in selecting products and preparing project reports etc.

## **THE ACTIVITIES OF ED INSTITUTIONS**

The institutions involved in entrepreneurship development should do the following activities to strengthen women entrepreneurs.

## **STIMULATORY ACTIVITIES**

Such as imparting entrepreneurial education and making planned publicity of entrepreneurial opportunities and rendering help and guidance in selecting products and preparing project reports etc.

## **SUPPORT ACTIVITIES**

Such as registration of a unit, arranging finance, provision of common facilities, offering management consultancy, assistance in marketing etc., and

## **SUSTAINING ACTIVITIES**

Such as modernization, diversification, expansion, additional financing for full capacity utilization, help and diagnosing the cause of failure or low production/profit quality improvement at low cost etc.

## **CONCLUSION**

It is hoped that the four factor theory will have wider applications in identifying the entrepreneurial potential and motivation. This study accomplishes the fact that if the right persons are selected for ED programmes, it would enhance the success rate of the programmes for which it is worth giving. Women entrepreneurship helps to reduce poverty promote gender equality and empower women. Entrepreneurship among women, no doubt improves the wealth of the nation and Entrepreneurial Development institutions must come forward to give the needed training and support to them. Women Entrepreneurship must be molded properly with entrepreneurial traits and skills to meet the changes in trends, challenges in global markets and also be competent enough to sustain and strive for excellence in the entrepreneurial arena.

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# 61. THE ROAD OUT OF ENERGY POVERTY IN INDIA: CHALLENGES AND PROSPECTS THE ROAD OUT OF ENERGY POVERTY IN INDIA: CHALLENGES AND PROSPECTS

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## **ABSTRACT**

*Energy plays a pivotal role in determining the nation's economic and social growth as well as its environmental sustainability. Prevailing energy poverty in emerging economies, particularly in India prevents it's all round development and sustenance of happy human life in the present scenario. Therefore, Government's policies formulated so far aimed at addressing these pressing issues as well as the current status of non-renewable and renewable energy sources in India which have been discussed in the paper, so as to arrive at the prospect of a solution to the energy issues for finding a sustainable method to eradicate energy poverty in India which has been witnessed mostly among the depressed sections of the society.*

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## **INTRODUCTION**

**E**nergy poverty results in unmet basic needs in addition to depressed economic, social and educational opportunities that are pervasive among the poor, particularly among women and children. In order to realise the development goals of the Government, it is essential to eliminate energy poverty which hinges on the augmentation of electricity generation, transmission and distribution capacity. In the context of the climate change and environmental challenges, sustainable alternative energy sources should also be explored to address energy poverty in India (International Energy Agency, 2016). Increasing energy access and alleviating abysmal rural and urban poverty are complementary in nature. It is a fact that increased access to energy services alone will not eradicate poverty, but it can have immediate positive effects on the economy. India is home to 18% of world's population. Energy consumption in India is a meagre 6% of the world with a per capita consumption

at 1,222 KW or 1/3 of the world average consumption which has been considered as one of the lowest in BRICS countries. Almost a fifth of India's population lives in abject poverty or below poverty line with no access or low access to electricity and cooking fuel which indicate chronic under consumption of electricity in India. Such energy poverty has a bearing on the environment too, apart from the socio-economic impact, as it refers to greater reliance on unclean fuels such as wood and crop waste. Smoke from wood and bio-mass stoves is hazardous besides causing respiratory illness among millions of women and children which forced them to spend a hefty health care price(Nigel., 2014). Moreover, the ill effects of kerosene, an unclean fuel are many on which Government spends huge amount of money towards subsidizing the buying capacity of the poor (Gorden, S.B, 2014). As of late, due to an increase in electrification, consumption of kerosene has declined considerably, resulting in a fall of kerosene

subsidy (Lam, N.L., 2016).

Therefore, the Government has been focussing on the elimination energy poverty as well as on promotion of renewable energy technologies. But despite dedicated Government agencies, energy planning strategy, a sustained political mandate and continued heavy public funding by the Centre and States, India's progress remains tardy so far. However, in 2016 the Government of India has claimed that India has become an energy surplus nation and a net exporter of electricity indicating seemingly an end to energy poverty in India. But the ground reality reveals a contrasting scenario which shows that the government has not been able to meet its target of eliminating energy poverty completely in hamlets of far-flung and hilly regions so far. The focus of the paper is to bring to light the issues related to energy poverty, problems faced by the electricity distribution networks as well as the enhancement of electricity generation capacity particularly through renewable energy sources.

### **POWER SECTOR VALUE CHAIN**

The power generated in the generating stations is transported long distances through high voltage lines by the Transmission companies which is then distributed to households and industries by the distribution companies.

Removal of Energy Poverty and the Power Sector Value Chain

Removal of energy poverty depends on the good performance of power sector. However in India, State Electricity Boards have not performed well in all the states on account of continuous heavy losses incurred by them. The Power sector value chain is primarily divided into the following three:

1. GENCOS are known as generating companies such as Tata power and Reliance power.
2. TRANSCOs: Transmission companies operate the transmission lines like Power Grid Corporation of India.
3. DISCOMSs: Distribution companies such as GESCO and BSES.

The above three divisions of power sector should improve their performance for eliminating energy poverty in India.

### **SCHEMES FOR ELIMINATING ENERGY POVERTY**

Further, the Government has launched following several schemes such as 'LPG for all' and 'Power for all' in order to bring down consumption of unclean fuels as well as subsidy expenditure incurred by the Government, in addition to the maintenance of good environmental conditions. Through the Pradhan Mantri Ujjwala Yojana scheme, the Government aims to provide fifty million subsidized LPG connections to the women of poor households in the next three years. Similarly, Pradhan Mantri Sahaj Bijli Har Ghar Yojana or Soubhagya Scheme intends to provide funding to provide electricity to over 35 million poor families. However, so far only 11 million households alone have been connected and the Government finds it difficult to provide electricity to all and at all times 24x7 (Business Standard, 4.9.2018). As access to energy enhances economic, social and political development of India, energy poverty assumes a vital role. It has been estimated that 31 million rural households and five million urban households have not been connected to the grid. Even the electricity connected households are yet to get sufficient quantity and quality of supply round the clock. In order to achieve Millennium Development Goals as well as the goal set by the Central Government in the plan strategy, India needed sustainable energy to overcome energy poverty. Conventional thermal power plants are not able to meet growing demand on account of environmental, infrastructural and thermal limitations. Renewable energy technologies could provide a solution to this problem.

### **DIMENSIONS OF ENERGY POVERTY**

#### ***Universal Access to Electricity***

Government of India as well as State governments have set an ambitious target of providing 'Power for All' 24x7 by March, 2019 in spite of various obstacles in the scheme. Regional imbalances in access to electricity have also persisted even after 70 years of independence. Seven states such as U.P., M.P., Bihar, Odisha, Assam and Rajasthan have accounted for 90% of un-electrified households as well as two-thirds of India's population living below the line of poverty. This concurrence between economic poverty and energy poverty will



be an obstacle to social, human and overall development of the nation.

### **COST OF ELECTRICITY: IS IT AFFORDABLE TO THE POOR?**

Electricity distribution companies (DISCOMS) in the above stated seven states and in are highly indebted, accounting for 42% of accumulated debts of all DISCOMS as on March, 2016. In spite of continued State subvention, all these DISCOMS in all the States have been running at a loss, accounting for about 47% of the loss in electricity distribution business.

### **Electricity Boards Performance Improvement**

As seen above, all Electricity Boards have been functioning below their capacity, accumulating huge debt over the years. Some of the main causes have been listed below.

#### **Transmission Losses.**

Electricity transmission losses of the State Electricity Boards have been estimated at 34% as against less than 10% losses in developed countries. Following the model of western countries, India also trifurcated its power sector value chain into three divisions for better performance.

#### **Power theft**

Another major problem is power theft by the households, commercial units and manufacturing sector. Though heavy fine is imposed, detection of power theft has been a common problem. Added to this is the power theft by the political parties in organising their public meetings as well as by the religious and caste outfits for illumination and other purposes. Government should control these illegal activities with a heavy hand impartially. Employees of Electricity Boards should be made accountable for their lapses and failures.

In the present context, it is doubtful whether the government's goal of electrifying all 'willing households' by March 2019 would translate into universal access to electricity. Easing the electricity connection process by waiving connection charges could attract many poor households to opt for electricity connections in their homes. However,

existing subsidized electricity appear unaffordable to the poor

### **POWER FROM DIFFERENT RENEWABLE SOURCES**

#### **Bio-Gas Energy**

Bio-gas energy assumes importance in countries such as India, which possesses largest cattle population. For realising the potential, Government of India has started a separate scheme known as National Bio-Gas and Manure Management Programme which aims at the promotion of indigenously developed simple-to-construct and easy-to operate family type bio-gas plants.

#### **Solar Energy**

Solar thermal energy has been used of late for solar water heating systems, solar dryers and solar stills. For this, solar thermal application programme has been launched for providing financial assistance to the manufacturers as well as the buyers.

Solar Photovoltaic technology enables direct conversion of sunlight into electricity (Karakaya,E., Sriwannawit, P., 2015). This is considered as a viable energy and increasingly being used to meet the electrical energy needs especially in hilly areas, forest regions, deserts, islands, far flung villages and unmanned locations which require reliable and uninterrupted power supply (Ministry of New and Renewable Energy, 2017).

The solar power tariff of large solar photovoltaic (PV) power projects has come down to a record low of Rs.2.44/k.w. making it cheapest source of electricity during the day time. The International Renewable Energy Agency has pointed out by 2025, the global average cost of energy of solar PV system could fall by 59% from 2015 levels (Singh, 2016).

#### **Wind Power**

Wind power is another cheapest and clean and non-polluting source of power available which could be harnessed. Declining trend has been noticed in wind power tariff at Rs.2.64/ k. w. By 2025, the global average cost of wind power is projected to fall by a quarter further from 2015 levels, making it cheaper than coal based power. The cost of electricity storage in lithium-ion battery has also gone down on account of falling

prices of battery by more than 70%. and could reach Rs.3.0/ k.w. by 2025. Grid connected battery storage projects stabilize the grid during peak hours and have been commissioned in many states, and the latest one is at Puducherry.

In the context of low cost of battery, the automobile industry has been preparing for e-vehicles (EV) for the future to avoid air pollution and consequent health complications. Hence, e-vehicles will be a leading segment in passenger vehicles.

### **WORLD'S TOP 10 SMART ENERGY RENEWABLE CITIES**

Smart renewable cities are defined as cities with solar or wind power and a smart city plan that includes a renewable energy component. The report titled "Global Energy Renewable Trends" has been prepared by Deloitte, a consultancy firm in 2017. Jaipur has bagged the third rank in the list of world's top 10 Smart Renewable Cities (SRC) with a 33% of wind and solar share of annual electricity generation. The silicon valley of India, Bengaluru, has come at the sixth position with a renewable energy share of 10%. San Diego topped the list with 33%, while Paris has been ranked at the bottom of 10th spot with a renewable energy share of 4.2%. Jaipur's main SRC initiative has been its rooftop solar powering of infrastructure has benefited from the 100 Smart Cities Mission launched by the Government of India. Renewable sources such as solar and wind power contribute to de-pollution, decarbonisation, and resilience while facilitating clean mobility, economic empowerment, and business growth.

### **ENERGY EFFICIENT APPLIANCES**

Domestic appliances such as refrigerators, air-conditioning systems, and induction cooking stoves should be made more energy efficient with the latest technology. Induction cook top has been emerging as the safest, cheapest and most efficient way of cooking medium which is less polluting than gas stoves.

In future, the transition would be to renewable sources of energy which are most efficient, dominant and cheapest sources. By 2040, over 80% of country's established capacity would be based on non-fossil fuels. Moreover, installation of

coal based power plants would become costly. As a result of cheap generation of renewable energy, people will have their own solar and wind plants. Commercial, industrial and rich domestic consumers will move out of distribution companies or DISCOMS. As a result, DISCOMS which survived on high tariff from commercial and industrial consumers would become unviable and they would be made into distribution network operator (DNO) whose job would be to operate the distribution network just like internet providers of today. Consumers will have the choice of where to purchase electricity from. Smart grids would come into force where there will be millions of prosumers (producers-consumers) producing electricity using solar rooftops and the remaining power would be fed to the grids (Chandra, B., Kandpal, T.C, 2010). Distribution network will become buyers of power and sellers to the consumers. Further, virtual power firms would emerge, collecting power from the individual solar power producers and sell it to the needy persons. Just like car pooling Uber model, without any assets, smart grids would be operated. Petrol pumps would become electric power charging firms for the batteries of e-vehicles or the batteries will get swapped.

### **MDGS, SDGS AND THE ENERGY POVERTY AT THE WORLD LEVEL**

More than 1.5 billion people live without access to electricity, another billion have access to unreliable, erratic power supply only and nearly half of the global population depends on traditional bio-mass fuels for cooking and heating. Before the Sustainable Development Goals (SDG) strategy, Millennium Development Goals (MDG) scheme had been formulated at the 2002 Johannesburg Summit which acknowledged that access to energy services is an essential prerequisite of sustainable development. As many goals of MDG have not been realised till 2015, the U.N. General Assembly requested the world countries to implement a new set of 17 goals which are known as SDGs that are intended to improve the lives across the world by the year 2030. Under SDG, the seventh goal relating to energy aims to ensure universal access to affordable, reliable, sustainable and

modern energy which is the prerequisite for achieving all other sustainable development goals (Sreekumar, et al, 2016).

### **CHALLENGES AND PROSPECTS**

The distribution network capacity in several states remains fragile and inadequate to carry available electricity without due emphasis on augmentation of generation capacity and distribution network. Consequently, there were many challenges such as load shedding and continued blackouts particularly for the rural poor during the peak hours.

Many states have not properly utilised central funding to increase rural distribution network capacity under the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) utilising mere 17% of the allotted grants. Similarly, in the case of urban distribution network, 31% grants alone have been utilized reflecting sluggish implementation of earlier electrification schemes, as well as overburdened distribution network and lack of cooperation and incompatibility between the Centre and the States.

One of the challenges is how to connect and sustain un-electrified households in the laggard states, where most of the households live in hamlets. Use of bio-fuels which accounted for 32% of India's energy consumption affected mostly women and children. To lessen the use of bio-fuels, and promote the development of poor, one of the goals in India's Tenth Five Year Plan, is to provide electricity for all by the year, 2012. Government records show only the main villages have been electrified and do not take into account the hamlets around the village which remain un-electrified. Such habitations need to be identified and taken into account for coverage under various schemes of the Government or through renewable energy-based mini grids.

An additional challenge is the cost of wiring, metering and connection charges. Households which are interested in getting connections could be given at the subsidized or they could be connected free of cost. Another problem is low capacity utilization of power plants. Through improved technology, efforts should be made to achieve the potential. Unviable, old power plants could be closed to avoid recurring losses and in its place renewable energy such as solar PV plants could be started which will not only

reduce pollution but also provide sustainable energy.

What would happen to the 300 million poor with no access to electricity? In future, all will have access to electricity and the cost will be cheaper as a result of cheaper renewable energy. For the poorest among the poor, the Government will supply subsidized energy or provide direct cash subsidy. Hence, energy poverty would be no more by the year 2040. With fossil fuels exponentially decreasing, renewable energy sources are going to be crucial to India's ability to sustain itself. This scenario will be a reality, if proper policies are drawn and implemented for a new energy infrastructure without any political considerations.

### **CONCLUSION**

The Government of India finds it difficult to accomplish some of its unrealistic energy development goals and to facilitate achievement of the remaining goals; it will have to initiate far-reaching measures. The hapless poor should be taught about the environmental damage caused by the burning of high carbon content natural fuels such as coal and wood which has unending devastating consequences like deforestation, air pollution, and the accompanying global warming. Money invested in clean fuel energy has the potential to produce greater human development, savings and carbon mitigation returns. Access to renewable, clean and green energy can ensure safe ambience and perseverance of future generations. The Government will have to show more assertiveness in the promotion of renewable, green and clean energy technologies so as to accomplish sustainable development in India.

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# 62.A STUDY ON THE ROLE OF AGRICULTURE FINANCE IN RURAL INDIA (A Study with Special Reference to Kanchipuram District)

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## INTRODUCTION

Finance plays a dominant role and it is the life blood of all economic activities for the development of a country. This is true in India for the economic activity of agriculture which provides employment to about 25% of the people and contributes 25% of total National income. In olden days, rural debt was regarded as an un-mixed evil and milestone round the neck of the farmer. In due course, it is not regarded as something undesirable because it puts life into low productive and stagnant agriculture. Agricultural credit has enabled the farmer to adopt new farm technology resulting in the ushering green revolution. No doubt it is size neutral but not capital neutral. As a result in order to procure new farm inputs, the requirement of credit of cultivators have increased manifold. So effective arrangements are needed to provide credit to farmers to enable them to adopt better techniques of cultivation and enjoy its benefits. According to an old French proverb, "credit supports the farmer as the hangman's rope supports the hanged". Thus credit injects life into lifeless agriculture resulting in enhanced crop productivity which benefits both the farmer and the country.

## THE ROLE OF NABARD IN RURAL CREDIT

The role of NABARD is crucial in agricultural financing in India. NABARD was established in July 1992 as an apex institutions to co-ordinate the activities of financial institutions engaged in rural credit. It took over all the functions of RBI in the field of rural credit. It is designed specifically to provide focus to the credit problems of rural sector. It is an apex institution in involving in refinancing

credit needs of major financial institutions in the country engaged in offering financial assistance to agriculture and rural development operations and program. It involves framing policies and guide lines for rural financial institutions such as commercial banks, co-operatives etc.

## TYPES OF AGRICULTURAL CREDIT

The types of agricultural financial assistance given by financial institutions in India are discussed in the following part.

- On the basis of the time period of loans.

- On the basis of purpose.

On the basis of the time-period of loans it can be of three types:

a) **Short-term loans:** It is generally for a period and repaid after harvest. It can be used for the purpose of fertilizers, high yielding variety seeds, for melting expense on religious or social ceremonies.

b) **Medium term loans:** It is for a period up to 5 years, to make improvements on land, buying cattle, or agricultural equipments digging up of canals etc.

c) **Long term loans:** these loans are for a period of more than 5 years and are generally required to buy additional land or tractor or making permanent improvements on land.

**On the basis of purpose:**

a) **Productive:** Productive loans are the loans related to buy additional land and making permanent improvements on land.

b) **Unproductive:** it is used for personal consumption and not related to productive activity for example expenditure on marriages, religious ceremonies.

Sources of agricultural credit in India

This part discusses the sources of agricultural credit in India.

**a) Non-Institutional Credit:** The non-Institutional credit is an important source of rural credit in India, constituting around 40 percent of total credit in India

**i) Money lenders:** In the rural areas money lending has been the widely prevalent profession. The money lenders charge high rate of interest and mortgage the property of the cultivators and in some states the peasants and members of his family are kept as collateral.

**ii) Other private sources:** Traders, landlords, commission agents and credit from relatives. The agents give credit on the hypothecation of crops which when harvested is used to repay loans and also used for meeting personal expenditure.

**b) Institutional Credit:** Rural short-term credit co-operatives provide short-term rural credit and are based on a three-tier structure as follows:

**i) Primary agricultural credit societies (PACS):** These are organized at the village level. These societies generally advance loans for productive purpose. In India, around 99.5 percent of villages are covered by PACs.

**ii) District central co-operative banks:** These co-operatives are organized at the district level. The PACs are adulated to the district central co-operative banks.

**iii) State co-operative banks:** DCCBs are adulated to state co-operative banks, which coordinate the activities of DCCBs, organize provision of finance for credit worthy farmers, carry out banking business and act as leader of the co-operatives in the states.

**iv) Long term credit co-operatives:** These co-operatives meet long-term credit of the farmers and are organized at two levels:

**v) Primary co-operative Agriculture and rural development banks:** These banks operate at the village level.

**vi) State co-operative agriculture and rural development banks:** These banks operate at state through their branches in different villages

**vii) Commercial Banks:** Commercial Banks (CBS) provide rural credit by

establishing their branches in the rural areas. The share of commercial Banks in rural credit was very till 1969. The All India Rural Credit Review Committee (1969) recommended multi agency approach to the rural and especially agricultural credit. It suggested the increasing role of CBS in providing agricultural credit. Further, under the Social Control Policy introduced in 1967 and Subsequently the nationalization of 14 major CBS in 1969 followed by another six banks in 1980, CBS have been given a special responsibility to set up their advances for agricultural and allied activities in the country.

**viii) Regional Rural Banks (RRBS):** RRBS are the specialized banks established under RRB Act, 1976 for the needs not of the rural poor. The branch network of RRBS in the rural area form around 43 percent of the total rural branches of commercial banks. RRBS primarily cover small and marginal farmers, landless laborers, rural artisans small traders and weaker sections of the rural community. In recent years Government has initiated reform process to improve the functioning of RRBS.

**ix) Micro Finance Institutions (MRIS):** Banks offer concessional interest rates for the rural credit. But small farmers are unable to access them for many reasons. Thus, Non-Government Organizations (NGOS) are providing alternative means to enhance access to credit by the poor since mid-70's. In 1992 the RBI and NABARD encouraged commercial banks to link up with NGOS to establish and finance self-help group of the poor. The RBI has included financing of SHGS under priority sector lending.

**NEED FOR THE STUDY**

Rural farmers often face financial shortage due to failure of monsoon especially in the face of global warming. Often they seek fresh financial assistance despite their earlier loans. Recent news report that as cooperative societies are not able to meet the financial requirements of farmers, banks and other financial institutions have to arrange adequate financial assistance to the farmers. In the current scenario, this study is important as it throws light on the agricultural credit in India.

## OBJECTIVES OF THE STUDY

The study is an attempt to throw light on the role of agricultural finance in India. The following objectives were framed to attain the purpose of the study:

- To understand the role of Agricultural finance in rural India
- To highlight the institutional framework of agricultural credit
- To understand the eradication of rural poverty through providing agricultural credit to the farmers.

## RESEARCH METHODS

The study used both primary and secondary data to attain the objectives of the study. For the purpose of primary data collection, a well structured schedule was used to interview the respondents. The schedule

**Table 1 – Demographic profile of the respondents**

Variable	Percentage
<b>Age</b>	
25-35	17
36-45	43
46-55	18
56-65	22
Above 65	--
<b>Types of Farmers</b>	
Small Farmers	42
Marginal Farmers	58
Big Farmers	-
<b>Monthly Income</b>	
Upto 25,000	51
25,000-35,000	39
35,000-45,000	10
45,000 & Above	-
<b>Land Holding</b>	83
Upto 2.5 Acres	
2.5 – 5 Acres	17
5 Acres and Above	-

Source: Primary Data

Table 1 represents the demographic details of the respondents. Majority of the respondents belong to the age group of 36-45 (43%). Marginal farmers constitute the majority of the respondents (58%). Majority of the respondents (51%) earn monthly income of upto INR 25,000. Most of the respondents (83%) hold a land size of upto 2.5 acres.

contained questions with respect to demographic profile of the respondents, the details of their agricultural occupation and short term agricultural credit sources. 100 samples were selected from the rural areas of Kanchipuram district. Due to time constraints, convenience sampling was used.

## Analysis and Interpretation

Table 1 represents the demographic details of the respondents. Majority of the respondents belong to the age group of 36-45 (43%). Marginal farmers constitute the majority of the respondents (58%). Majority of the respondents (51%) earn monthly income of upto INR 25,000. Most of the respondents (83%) hold a land size of upto 2.5 acres.

**Table 2: Respondents' Sources of Agriculture Credit**

Source of Credit	Marginal farmers	Small farmers
	(In percentage)	
Institutional credit		
1.Commercial banks	52	21
2.Co-operative societies (PACs)	28	66
Non institutional Credit	19	14

Source: Primary Data

Table 2 presents the sources of credit obtained by the small farmers and marginal farmers. It is evident that small farmers are more dependent on Co-operative societies (66%). Whereas marginal farmers depend more on credit extended by commercial banks (52%). Non institutional credit were less preferred among both marginal farmers and small farmers. The reason reported by the farmers to the researcher was high interest rates charged by non institutional credit lenders.

## HYPOTHESIS TESTING

The study aimed to test whether there is any association between types of farmers and type of credit.

Null Hypothesis: Types of farmers and type of credit are not related.

Table 3: Chi square analysis

**Source of Credit \* Types of Credit Crosstabulation**

			Types of Credit		Total
			Small Farmers	Marginal Farmers	
Source of Credit	Institutional Credit	Count	50	34	84
		Expected Count	48.7	35.3	84.0
	Non Institutional Credit	Count	8	8	16
		Expected Count	9.3	6.7	16.0
Total		Count	58	42	100
		Expected Count	58.0	42.0	100.0

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.500 <sup>a</sup>	1	.479		
Continuity Correction <sup>b</sup>	.186	1	.666		
Likelihood Ratio	.495	1	.482		
Fisher's Exact Test				.583	.331
Linear-by-Linear Association	.495	1	.482		
N of Valid Cases	100				

Table 4 – Agricultural Credit extended in Kanchipuram District by the PACs

S.No	CROP NAME	CASH	MANURE	FERTILIZER	SEED	TOTAL
		Type of Assistance for 1 Acre of Land				
1	Paddy HYVP	19350	4500	1100	1600	26550
2	Paddy-Rainfed	9350	4000	1100	1500	15950
3	Paddy-Organic Farming	1700	10000	750	1300	29050
4	Paddy	15900	4000	1100	1000	22000
5	Groundnut-Irrigated	14450	4000	1300	4000	23750
6	Groundnut-Rainfed	8500	1500	700	3600	14300

Source: Secondary Data



Table 3 represents the chi square test done to test the hypothesis. The results reveal that there is no association between types of farmers and types of credit. ( $\chi^2 = .500$ ,  $df = 1$ ,  $p > .331$ ). It can be inferred that both the type of farmers rely mainly on institutional credit rather than the non-institutional credit. It may be because of the exploitation of borrowers by the non-institutional lenders.

Table 4 presents the type of agricultural credit extended in Kanchipuram district by the PACs. It is evident that apart from monetary assistance, other type of assistance like manure, seeds were also provided by the PACs.

## DISCUSSION

This part of the study discusses the inherent weaknesses in rural credit structure identified by the researcher during the course of the study. Further, suggestions were drafted to improve rural institutional credit system.

Weaknesses in Rural credit structure:

1. The rural credit institution had given overemphasis on the financial assistance to the cultivators only but not in form of guidance, expertise and counselling on agriculture issues.

2. There is multi agency credit system in India. They are providing the same kind of services but also there no coordination in the system.

3. Due to the failure of rural co operation society's government gave increasing role to the commercial banks. They are not expertise in the agro credit .Further finance sector reforms have put pressure on banks to improve their financial position and so banks are on concentrating on selected.

4. Despite of a large network of the institutional credit system, it has not been able to adequately protrude the informal rural financial markets. The results

5. The rate of interest charged by financial institutions from farmers continues to be considerably higher than those charged by financial institutions from urban consumers.

6. There is a problem of considerable delays in processing of loan applications and other things .So they are very much dependent on non-institutional sources.

7. The political decisions of waiving off

loans are further putting pressures on the financial system.

## SUGGESTIONS FOR IMPROVING INSTITUTIONAL RURAL CREDIT SYSTEM

1. A national consensus among political parties should be evolved for not politicizing the rural institutional finances and resist from announcement of loan or interest waiver schemes and giving calls for not repaying the institutional loans.

2. The co-operative credit system should be strengthened in order to use it in wider reach. They have to be recapitalized so as to provide funds for improving their financial positions.

3. To boost rural economic growth, the long term policy framework should be designed to improve infrastructure facilities like social, physical and economic infrastructure .These measures make the debt repaying capacity and provide greater opportunities to financial institution.

4. Series like consultancy about seeds, modern inputs and marketing etc should be provided by rural financial institutions.

5. Involving NGOs or rural youths in organizing farmers, or rural families in groups, making the institutions to reduce cost for all lending processes.

6. RRBs should be given more autonomy in planning and lending policies, so that the capacity in rural lending will be restored.

7. The banks should take steps to involve the micro finance agencies like SHGS, NGOs etc to understand the credit needs and recovery situations of the farmers.

8. Technological up gradation is necessary to improve the efficient of the financial system.

9. The banks may utilize the services of NGOs , village growth clubs ,and village panchayats , farmers clubs , and self help groups to credit counseling , awareness and finance education of effective expansion of financial institutions of financial services in rural areas.

## CONCLUSION

Government announces annual target for agriculture credit in the budget every year. Agricultural credit flow has been showing consistent progress every year. Agricultural credit of Rs.711,621 crore was provided to the farmers against target of INR 700,000 Crore in 2013-14. In the year 2014-15,

agriculture credit flow was INR 845,328.23 crore against the target of 800,000 crore. Target for the year 2015-16 was fixed at INR 850,000 crore and achievement is Rs. 877,224 crore. The target for the year 2016-17 has been fixed at Rs.900,000 crore has been disbursed if Rs.755,915.17 crore has been disbursed as a agriculture credit during April – September, 2016, 2017-18 10,00,000 crore and for 2018-19 11,00,000 crore.

Since India's independence, the main objective of the nation's agriculture policy has been to improve farmer's access to institutional credit and reduce their dependence on informal credit. In pursuit of this goal, the government of India has undertaken several initiatives. For example, major milestones in improving access to rural farm credit include acceptance of the rural credit survey committee report (1954) nationalization of the large commercial banks (1969 and 1980), establishment of Regional Rural Banks (1975) and the National Bank for Agriculture and Rural Development (1982) and the 1991 financial sector reforms. Since the package of the historic 1991 financial reforms in India, The government also launched farm credit programmes including the special agricultural credit plan (1994 – 95) Kisan Credit Cards (1998 – 99). Doubling Agricultural credit program, The Agricultural Debt waiver and Debt Relief Scheme (2008), The interest sub vention scheme (2010-11) and more recently, the 2014 Pradhan Mantri Jan Dhan Yojana.

The government's attempt to alleviate the plight of the poor was not only social engineering but badly-done social engineering. Yet poverty today is of a different order than poverty 50 ago. Still 5% of the people are living under poverty line. It is now the time to enhance agricultural credit system for the betterment of the nation.

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## 63.SOCIAL DISPARITIES OF HIGHER EDUCATION IN TAMIL NADU

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### INTRODUCTION

The Education is fundamental to development and growth. It is the most important tool to eliminating gender inequality, to reducing poverty to festering peace and for building and equitable society. Education also promotes national interest and acts as an integrative future in society, imparting values that foster social cohesion and national identity. This makes education a subject of high priority for every government. The Budget 2018-19 has also made some key announcements in the education sector. Integration of the existing schemes, providing improved access to schedule tribes (ST) shift from regular blackboards to digital blackboards, revitalization of the infrastructure of the higher education institutions and fiscal accountability are the key highlights of the union budget 2018-19. This article will focus on some of these highlights, which also found a key place in the national policy on education (NPE), 1986 and the subsequent programmed of action (POA), 1992.

The second largest population of world India, had a staggering 600 million people i.e., more than 50 percent of its population below the age of 25, till the latest count, and it is a matter of another couple of years that the nation will be the youngest in the world having more than throw forth of its population under 25 years of age. This gold mine fraction of our population, responsible for 34 percent of India's gross national income, will definitely be

going to demand for the right educational infrastructure, development of appropriate skills and adequate opportunities to get jobs or become entrepreneurs for their personal societal and country's growth.

The demographic dividend is never a burden on any nation but a window of opportunity, such differential population sports, called demographic dividends, have boosted the economic growth in many East Asian countries, like republic of Korea, in the recent past and will prove the same for ours too, only if these are strengthened and empowered. Empowerment is necessarily a process of inculcating values to equip the learner lead a life that is satisfying to the individual while being in accordance with the cherished values and ideals of the society. Youth empowerment, especially in Indian scenario, is imperative not only for national but also for personal development which can be pursued by promoting youth rights, youth activism and their active role in making community decision.

The key to youth empowerment is to educate them and make them employable. We cannot talk about sustainable development, for any nation, without the active role of its youth persons with active hands and heads. Lack of opportunities is just like making them to sit on the margin of society, waiting on the train track for a train that may never come.

### HIGHER EDUCATION IN TAMIL NADU

The current demographic structure of Tamil Nadu where the population is the age of

18-23 years, as per 2011 census was 77.7 lakh. It was by and large equally shared between males and females. It's share in 18-23 population at all-India was 5.5 per cent. The ratio among males was 5.3 percent and females 5.8 percent. The Gross Enrolment Ratio of 18-23 age group in higher education was 38.2 percent in Tamil Nadu as against 20.4 percent at all India during 2011-12. Among the major states in respect of Gross Enrolment Ratio in higher education, Tamil Nadu ranked first. Going by gender, the ration among males at 41.1 percent was higher than females (35.2%) in Tamil Nadu.

Among the social groups, the Gross Enrolment Ratio in higher education was higher in the case of STs (31%) as against SCs (27.1%). At the all-India the respective Gross Enrolment Ratio stood at 10.8 percent and 14.5 percent. In respect of all gender as well as social groupings Tamil Nadu stood first amongst major States the Gross Enrolment Ratio in higher education. The share of graduates and above to total state population was 8 percent. The ration was higher at 9.7 percent among males as

compared to 6.5 percent among females. With regard to Tamil Nadu the growth in higher educational service is phenomenal. This state has witnessed a remarkable not only in traditional streams like general education and professional education but many colleges have been upgraded as autonomous colleges and even the government colleges obtained autonomous status. However, employability of students like in any other part of the country is a major concern.

**STUDENT ENROLMENT OF HIGHER EDUCATION IN VARIOUS LEVELS OF TAMIL NADU**

The below table discuss the various years by student in under graduate to Ph.D in Tamil Nadu Colleges. In the year 2010-11 the level of Ph.D students is 7995 and the year 2016-17 Ph.D students level increases in 28684. Among the various degrees of M.Phil, PG and UG students levels increase in 2016-17.

Year	Ph.D		M.Phil		PG		UG	
	Male	Female	Male	Female	Male	Female	Male	Female
2010-11	4925	3070	1847	2765	201662	187009	810435	764762
2011-12	7092	5486	4688	8144	244234	260189	1037967	1041005
2012-13	8555	6502	5080	8735	236558	265520	1102362	1094629
2013-14	10536	7052	4680	9185	224102	274595	1098374	1131580
2014-15	11253	7753	5539	10709	213418	285601	1138732	1195130
2015-16	13059	9162	6405	13104	185764	266691	1140408	1163824
2016-17	16363	12321	5850	14811	176324	267673	1181357	1237806

Source: All India Survey on Higher Education in various years

**University's in Tamil Nadu**

The total number of Universities functioning in the State was 57 in 2016. Comprising the State Public University 20 and Private University 26. It accounted for a share of 9.2 percent at all-India. With 23 Universities, the State also ranks second on number of State Public Universities at the all-India, the first being Andhra Pradesh (31).

In the case of Private Deemed universities the State with 26. The State ranks first position with regard to Technical Universities followed by Andhra Pradesh and Madhya Pradesh among the States at all-India. With merger of the 6 Anna University, the number of universities, especially technical universities has come down-mention that this is done for greater synergy of uniformity of quality.

Year	Central University	Deemed University Government	Deemed University by Government Aided	Deemed University Private	Institute of National Importance	State Public University
2016-17	2	-	2	26	7	20
2015-16	2	-	2	26	6	20
2014-15	2	-	2	26	6	20
2013-14	2	-	1	27	6	20
2012-13	2	-	1	27	6	19
2011-12	2	1	1	27	4	23
2010-11	2	1	-	28	4	23

Source: All India Survey on Higher Education in various years

Year	SC		ST		OBC		Other Minority Community	
	Male	Female	Male	Female	Male	Female	Male	Female
2010-11	167296	138354	10637	6618	678265	555511	38533	26483
2011-12	241797	226771	14740	12680	-	-	-	-
2012-13	260025	243246	14606	9423	932449	855814	59801	61240
2013-14	260898	251915	14835	9541	932346	890181	61385	59197
2014-15	267619	272685	16113	11168	940683	924140	62703	65089
2015-16	274323	277354	14789	11667	937148	897210	5530	58569
2016-17	300930	302856	17870	11607	971613	968220	65393	75445

Source: All India Survey on Higher Education in various years

The above table shows in higher education student's level of various social category in Tamil Nadu. The table discuss about various years of higher education in Tamil Nadu. In the year 2010-11 period SCs student higher education level of 305650, about the year 2016-17 student level of 603786, in the recent year higher education SCs students level will be increased. In other social groups of STs, OBC and other Minority community students levels increased in higher education in Tamil Nadu.

### CONCLUSION

Higher education plays essential development of country and it will accelerate economic growth of our nation and improvement and development in all fields. Public and private institutions play various roles for delivering the educational service through both general and technical educations. Universities and national institutions are very less in India and Tamil Nadu state. Public players are very less and

majority of private holders were dominated in delivering higher educational service. The public institution may be established in needy areas. Besides the state shall focus on technical education. Moreover, periodical quality check in delivering system needs to be earmarked for effective delivering of service.

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## **64.PUBLIC HEALTH SERVICES IN SOUTH INDIA: A COMPARATIVE ANALYSIS**

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### **ABSTRACT**

*Good health is an important input for quality life and human development, which in turn contributes for economic development. Health status of people in a community or nation depends to a large extent on the importance assigned to it by government and also by people. Public health services, which generally include disease control, health education, water supply and sanitation, nutrition programmes, etc., play a crucial role in maintaining health status of people. Improvement in health over the last two centuries has resulted from three groups of forces; (1) improvements in the standard of living, in particular, better nutrition; (2) changes in the public health environment, including sanitation and the supply of clean water; and (3) improvements in medical technology, including antibiotics and other medical treatments (David N. Weil 2013). Although there is a divide in the debate on the extent to which credit for improved health should be given among these sources, undoubtedly all these public health programmes together have contributed for a better health status. World Health Organization (WHO 2007) states that an expenditure of one dollar on sanitation saves nine dollars on health, education and economic development, indicating various benefits from sanitation provisions. Contrarily, lack of public health services incurs huge cost on economy, for example, economic impacts of poor sanitation in India is about 6.4 per cent of GDP according to Water and Sanitation Program (World Bank 2010).*

*The relationship between morbidity, particularly of water based, vector borne and other communicable diseases, and absence or inadequate public health services necessitates government intervention for provision of public health services. In India, both the Central and state governments are responsible to provide public health services*

*The scope of public health services, covering clinical and non-clinical, is too wide and heterogeneous, hence this paper confines its scope to provision of safe drinking water supply, sanitation and vector control programmes. The analysis of data has been carried out at all India level and selected south Indian states namely Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.*

*Sanitation facilities at households and in public places are important public health services required to maintain health and hygiene, because inadequate provision of these services leads to unhealthy and unhygienic environment resulting high morbidity. In this regard availability of different types of sanitation facilities is presented here. At household level toilets or latrines are an essential sanitation services required to keep surroundings clean, hygienic and healthy. Information presented reveals that in 2011 about 47 per cent of households in India had toilet facilities, but a significant 53 per cent of households do not have the essential sanitation facility. Across rural and urban areas, toilet facilities are available only for about 31 per cent of households in rural, while among urban households it is over 81 per cent. Across south Indian states Kerala has reported highest number of households (95 per cent) having toilet facilities, but, in all other states around 50 per cent of households do not have toilet facilities.*

*Lack of safe drinking water supply and sanitation facilities result in high incidence of water borne and vector related diseases. Pattern of water borne and vector related diseases has been analysed here. For example among the various vector based diseases malaria is an important disease as over 10.9 lakh cases of malaria have been reported at all India level in 2016.*

*The present paper has been organized in four sections, where section I presents introduction, objectives, data, methodology and scope, section II illustrates status of public health services at all India and south Indian states, and section III presents summary and conclusions.*

## INTRODUCTION

Good health is an important input for human development, which in turn contributes for economic development. Health status of people depends, to a large extent, on importance assigned to it by government in terms of public health programmes and financial resource allocation to health sector. Allocation of financial resources and implementation of public health programmes for creation of health service infrastructure, manpower, medical technology, implementation of disease control programmes, provision of safe drinking water supply and sanitation, creation of awareness about hygienic and healthy environment, etc. are essential to develop health sector for meeting health needs of people. According to David N. Weil (2013) improvement in health over the last two centuries has resulted from three groups of forces; (1) improvements in standard of living, in particular, better nutrition; (2) changes in public health environment, including sanitation and the supply of clean water; and (3) improvements in medical technology, including antibiotics and other medical treatments. Although there is a divide in debate on the extent to which credit for improved health should be given among these sources, undoubtedly all these public health programmes together have contributed for a better health status. Further, studies have shown that public health programmes impact positively on health condition by reducing morbidity, mortality and increasing life expectancy; and reduction in mortality accelerates growth of income per capita and population size (Anthony Strittmatter and Uwe Sunde 2013) which indicates that good health contributes for economic development. World Health Organization (WHO 2007) states that an expenditure of one dollar on sanitation saves nine dollars on health, education and economic development, indicating various benefits from sanitation provisions. Contrarily, lack of public health services incurs huge cost on economy, for example, economic impacts of poor sanitation in India is about 6.4 per cent of GDP according to Water and Sanitation Program (World Bank 2011).

Importance of public health compelled governments to implement various programmes to supply health care services, provide safe drinking water supply, sanitation facilities and control diseases. These efforts over decades reduced different types of communicable diseases attributable to lack of safe drinking water supply and sanitation facilities. For instance, number of deaths occurred due to communicable diseases decreased from 31 per cent in 2000 to 21 per cent in 2015 at the global level, during the same period it declined from 44.75 per cent to 28.57 per cent in south Asian countries (WHO 2017). But, this reduction in incidence of communicable diseases varies across developed and developing countries. Developing countries require more efforts to reduce burden of communicable diseases. India being a developing country recorded significant reduction in incidence of diseases caused by inadequate public health provisions like drinking water supply and sanitation as number of deaths due to communicable diseases declined from 43.71 per cent to 28 per cent between 2000 and 2015. However, we should note that communicable diseases are still high (9559.07 thousand in 2015) posing challenges.

Relationship between morbidity, particularly of water based, vector borne and other communicable diseases, and absence or inadequate public health services necessitates government intervention for provisioning public health services. In India, responsibility of providing public health services lies with both the Central and state governments. In the above context, this paper attempts to examine status of public health services and relationship between provision of public health services and morbidity pattern among selected south Indian states and all India level. This comparative analysis reveals growth and status of public health services and disease pattern related to lack of or inadequate water supply and sanitation services; and depicts merits and shortfalls existing in provisioning of public health services.

## DATA AND METHODOLOGY

This paper analyses status of public health services in India and selected south Indian

states. Public health services conceptually include a wide range of clinical and non-clinical health services covering nutritional support, immunisation, safe drinking water supply, and sanitation to provision of hospital services of various kinds. However, this study focuses on a sub-set of non-clinical preventive health services like safe drinking water supply, sanitation and vector control measures. Scope of public health services, covering clinical and non-clinical, is too wide and heterogeneous, hence this paper confines analysing status of safe drinking water supply, sanitation and vector control programmes. Data on public health services like water supply and sanitation have been collected from Census Reports, publications of respective ministries or departments of central and state governments (Ministry of Water Supply and Sanitation and Ministry of Urban Development), while information on diseases pattern is from Ministry of Health and Family Welfare, Government of India (available on Website: [Indiastat.com](http://indiastat.com)).

The analysis of data has been carried out at all India level and selected south Indian states namely Andhra Pradesh, Karnataka, Kerala and Tamil Nadu. The erstwhile Andhra Pradesh has been divided as two states to form Telangana on 2 June 2014, therefore depending on availability data are used for Telangana. This paper has been organized in four sections, where section I presents introduction, data and scope, section II illustrates status of public health services at all India and south Indian states, and section III presents summary and conclusions.

## **Section II**

### **STATUS OF PUBLIC HEALTH SERVICES IN INDIA AND SOUTH INDIAN STATES:**

As discussed above public health programmes include clinical and non-clinical preventive and curative health services in general. Among several non-clinical preventive measures of health services safe drinking water supply, sanitation and vector control programmes are important as their provision and use prevents an individual falling sick and suffering from episode of illness. According UNICEF (2010) diarrhoeal diseases are second major cause of death for children under 5 years and around 88 per cent of diarrhoeal

deaths are attributed to lack of sanitation facilities. Considering the significance of these public health services central and state governments have implemented various schemes and programmes since independence for providing drinking water supply and sanitation facilities to habitations and households and also to control vector related health problems in rural and urban areas. This section illustrates the status of these public health services at all India and southern states level.

### **STATUS OF DRINKING WATER SUPPLY AMONG HOUSEHOLDS**

Concerted efforts of central and state governments over several decades have brought large number of households and habitations under the coverage of safe drinking water supply in both rural and urban areas in India. Information on main sources of drinking water supply at all India level and south Indian states (Census 2011), presented in Table 1 shows that over 43 per cent of households are covered with tap water connection followed by handpump / tubewell (nearly 42 per cent) and well with 11 per cent of households. In rural areas hand pump or tube well is still the main source of drinking water (nearly 52 per cent of households), while around 32 per cent of households are connected with tap water supply. Tap water is the major source of drinking water in urban areas with over 70 per cent of households using this means. Even in urban areas also large number of households (over 20 per cent) depend on hand pump or tube wells. Across the southern states tap is the major source of water in Tamil Nadu (79.77 per cent of households), followed by Andhra Pradesh and Karnataka. Compared to other states per cent of households covered with tap water is less in Kerala as over 76 per cent of households use wells as the main source of drinking water. Across rural and urban areas, coverage of households with tap water is almost equal (80 per cent) in Tamil Nadu, where as in other states a big disparity can be observed as large number of rural households are yet to be covered with tap water supply. It is interesting to see that in Kerala nearly 58 per cent of urban households are dependent on wells for drinking water. All south Indian states show



a higher coverage of households with tap water connection as compared to all India level, which indicates that programmes have been successfully implemented in south Indian states. However, considering the objective of covering all households with tap water connection these states also require to achieve a lot in both rural and urban areas.

**Table 1: Percent of households by main source of drinking water -Census 2011**

		Main sources				
		Tap	Well	Handpump/ Tubewell	Tank, Pond, Lake, River, Canal, Spring	Others
ANDHRA PRADESH	Total	69.88	6.35	20.63	1.18	2.09
	Rural	63.40	8.34	25.20	1.49	1.59
	Urban	83.49	2.17	11.02	1.55	3.15
KARNATAKA	Total	66.06	8.98	21.48	1.79	1.40
	Rural	56.36	11.89	27.99	2.99	0.84
	Urban	80.42	4.66	11.85	1.42	2.22
KERALA	Total	29.34	62.04	4.20	1.00	2.11
	Rural	24.46	64.81	3.87	4.21	2.71
	Urban	34.86	58.89	4.56	3.11	1.42
TAMIL NADU	Total	79.77	5.07	12.77	0.73	1.45
	Rural	79.27	5.76	12.92	1.57	0.66
	Urban	80.32	4.34	12.61	0.52	2.29
INDIA	Total	43.54	11.02	41.95	1.47	1.48
	Rural	30.81	13.31	51.91	2.69	1.36
	Urban	70.63	6.15	20.76	2.08	1.74

Source: Census 2011

Let us examine the progress of coverage of households with different sources of water from 1981 to 2011 in India (Table 2). The per cent of households covered with tap water connection has increased from 23 to 43 between 1981 and 2011 as shown by Census data, while during the same period number of households sourcing water from tube well or hand pump has also significantly increased from 15 per cent to 42 per cent. In 1981 wells were the main source of drinking water, which has shifted to tube wells or hand pumps. This shift is due to increased digging of borewells to fetch groundwater as the water availability in aquifers declined over the time. It should be noted that dependence on tanks, ponds, lakes, rivers, canals and springs declined for drinking water has declined over the years. A considerable increase in tap water connected and tube well or handpump based households is also seen across rural and

urban areas over the years; but increase in rural areas is relatively high compared to urban areas.

State-wise distribution of households with safe drinking water supply, tap and tube well or hand pump facilities, during 1981, 1991, 2001 and 2011 (Table 3) shows that in Tamil Nadu more number of households were covered with safe water supply compared to other states during 1981, which is even higher than all India level. However, by 2001 all south Indian states, excepting Kerala, have safe water sources to around 80 per cent of households, while the same was at 78 per cent at all India and this trend continued in 2011 also as around 90 per cent of households were covered with safe water provision in other states. The same trend is observed even across rural urban areas also among all states.

**Table 2: Distribution of Households with safe Drinking Water Facilities in India and south Indian states**

**(Percentage)**

States	1981			1991			2001			2011		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Andhra Pradesh	25.89	15.12	63.27	55.08	48.98	73.82	80.1	76.9	90.2	90.5	88.6	94.5
Karnataka	33.87	17.63	74.40	71.68	67.31	81.38	84.6	80.5	92.1	87.5	84.4	92.3
Kerala	12.2	6.26	39.72	18.89	12.22	38.68	23.4	16.9	42.8	33.5	28.3	39.4
Tamil Nadu	43.07	30.97	69.44	67.42	64.28	74.17	85.6	85.3	85.9	92.5	92.2	92.9
India	38.2	26.5	75.06	62.3	55.5	81.38	77.9	73.2	90	85.5	82.7	91.4

Source: GOI, Statistical Abstract India 2003, Ministry of Statistics and Programme Implementation, Govt. of India. (downloaded from Indiastat.com)

Water is essential for sustaining life and maintaining good health and hygiene, where a minimum quantity of water is required to meet needs like drinking water, cooking, bathing, sanitation, etc. of an individual. In this regard Government of India adopted a norm of 40 litres per capita per day (lpcd) of water supply in rural areas. Both central and state governments’ efforts are oriented to bring more number of habitations under this norm of drinking water supply. Based on these criteria, habitations are classified as fully covered, partially covered and not covered habitations, to facilitate speedy coverage of partially covered and not covered habitations. Information pertaining to habitations coverage (Table 3) shows that over 77 per cent of rural habitations have been provided with more than 40 lpcd of drinking water supply in 2017. It is to be noted that number of habitations covered with more than 40 lpcd has remained around 77 per cent since 2011, indicating necessity of increasing the pace of covering habitations with adequate level of water supply. Among states in Tamil Nadu more number of habitations (93 per cent) are provided water supply above the norm, but in Kerala and Karnataka percentage of habitations with partial coverage is high. This indicates the necessity of more efforts to increase coverage of habitations with adequate water supply.

**STATUS OF SANITATIONS FACILITIES AT ALL INDIA AND SOUTH INDIAN STATES**

Sanitation facilities at households and in public places are important public health services required to maintain health and hygiene, because inadequate provision

of these services leads to unhealthy and unhygienic environment resulting high morbidity. In this regard availability of different types of sanitation facilities is presented here. At household level toilets or latrines are an essential sanitation services required to keep surroundings clean, hygienic and healthy. Information presented in Table 5 reveals that in 2011 about 47 per cent of households in India had toilet facilities, but a significant 53 per cent of households do not have the essential sanitation facility. Across rural and urban areas, toilet facilities are available only for about 31 per cent of households in rural, while among urban households it is over 81 per cent. Across south Indian states Kerala has reported highest number of households (95 per cent) having toilet facilities, but, in all other states around 50 per cent of households do not have toilet facilities. Across rural and urban areas toilet facilities are not available in around 70 per cent of rural households, a grim situation which needs to be addressed soon by taking suitable measures to encourage households to have toilet facilities. In urban areas the situation is not so grim like that in rural areas, but excepting Kerala in all other south Indian states around 20 per cent of urban households still need to have toilet facilities.

It is to be noted that among those households which do not have toilet facility nearly 94 per cent of them depend on open spaces, as per Census 2011. This indicates the magnitude of open defecation as more than 50 per cent of households do not have latrine facilities in India, which is too severe in rural areas as over 97 per cent of households use

open place. Among states 95 and 92 per cent of households respectively in Andhra Pradesh and Karnataka and 88 per cent of households in Tamil Nadu depend on open place as an alternative source for latrine. All this reveals the prevalence of open defecation to a larger extent particularly in rural India.

**Table 3: Distribution of HHs having toilet facility - Census NSSO**

States	1991			2001			2011		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Andhra Pradesh	18.4	6.62	54.6	32.99	18.15	78.07	49.6	32.2	86.1
Karnataka	24.13	6.85	62.52	37.49	17.4	75.23	51.2	28.4	84.9
Kerala	51.28	44.07	72.66	84.01	81.33	92.02	95.2	93.2	97.4
Tamil Nadu	23.13	7.17	57.47	35.15	14.36	64.33	48.3	23.2	75.1
All India	23.7	9.48	63.85	36.41	21.92	73.72	46.9	30.7	81.4

However, the proportion of households without access to toilets facility in rural areas has come down to nearly 35 percent as on 17-7-2017, from 53 per cent in 2011. This shows that efforts of central and state governments have given result as more number of households have constructed toilets. These efforts need to be continued to make the country as open defecation free nation.

**Table 4: Percentage of rural households without access to toilets facility (as on 17-7- 2017)**

State	Percent of Households
Andhra Pradesh	44.33
Karnataka	32.9
Kerala	0.2
Tamil Nadu	25.13
All India	34.93

Source: Annexure-I referred to in the reply to Lok Sabha Unstarred question no. 2330 due for reply on 16/03/2017

Maintenance of health, hygiene and safe environment also depends on drainage system to carry waste water generated in households to out of habitations, as this would avoid stagnant water pools which are sources of vectors. It is to be noted that nearly 50 per cent of households are not connected with drainage system at all India level in 2011. Among rural households over 63 per cent of households lack this important facility, which indicates that waste water generated in households might be left on

**STATUS OF WATER BORNE AND VECTOR RELATED DISEASES**

Lack of safe drinking water supply and sanitation facilities results in incidence of water borne and vector related diseases. Diseases like malaria, dengue, typhoid, cholera, etc. are attributed to inadequate sanitation facilities and unhygienic environment. Incidence of these diseases also necessitates for provision of safe drinking water supply and sanitation services. Information on number of cases of diseases owing to unsafe drinking water and lack of sanitation facilities is illustrated here. Among various vector based diseases over 10.9 lakh cases reported were of malaria at all India level in 2016. However, number of

open places or roads adjacent to houses and this would have resulted in stagnant water bodies. This situation has not improved much as the per cent of households with no drainage facility has not declined much between 2001 and 2011. Among states Karnataka has more number of households connected with drainage system, while it is less in Kerala. In all states open drainage is more prevalent, particularly in rural areas compared to urban areas.

10.9 lakh cases reported were of malaria at all India level in 2016 . However, number of cases declined from 19.5 lakh cases in 2000 which might be due to various efforts initiated by governments to control malaria. Across the south Indian states Andhra Pradesh reported more number of malaria cases followed by Karnataka. Even across these states also there is a continuous decline in number of cases of malaria.

**Table 5: Number of Cases of Malaria - South Indian States and India**

States	2000	2005	2010	2015	2016	2017 (till Oct 2017)
Andhra Pradesh	80557	39099	33393	25042	23613	15544
Karnataka	109118	83181	44319	12445	11078	5768
Kerala	2940	2554	2299	1549	1547	1031
Tamil Nadu	43063	39678	17086	5587	4341	4641
Telangana				10951	3512	2101
India	1950765	1816342	1599986	1169261	1090724	733799

Many other diseases like dengue, chikungunya, which spread through mosquitoes occur due to open water bodies or unhygienic environment around households. At all India level number of cases of dengue stood at 1.57 lakh as on 24th December 2017 (Table 10) and it should be noted that dengue cases have been rising in India from 650 cases in 2000 to 1.57 lakh in 2017. Among south Indian states Tamil Nadu and Kerala reported higher number of cases of dengue followed by Karnataka. This trend needs to be arrested to control dengue before it becomes a major epidemic.

**Table 6 :Number of Cases of Dengue - South Indian States and India**

States	2000	2005	2010	2015	2016	2017 (till 24 Dec 2017)
Andhra Pradesh	5	99	776	3159	3417	4776
Karnataka	196	587	2285	5077	6083	17018
Kerala	0	1009	2597	4075	7439	19912
Tamil Nadu	81	1128	2051	4535	2531	23035
India	650	11929	28292	99913	129166	157220

Diarrhoea is another disease caused by lack of sanitation facilities and provision of safe drinking water supply to households, as consumption of unclean and poor quality water leads to incidence of water born diseases. During 2016 more than 139 lakh diarrhoea cases reported in India . This number is increasing continuously since 2006, indicating necessity of creating adequate provision for safe drinking water supply. Across south Indian states Andhra Pradesh followed by Karnataka have experienced high incidence of diarrhoea cases. It should be noted that among all south Indian states number of diarrhoea cases are less in Tamil Nadu, which might be due to proper provision of water supply and sanitation facilities.

Number of cases of typhoid has also increased over years in India from 4.7

lakh cases in 2000 to 22.22 lakh in 2016. Typhoid is the result of inadequate provision of safe drinking water and sanitation facilities. Among south Indian states Andhra Pradesh reported more number of typhoid cases followed by Karnataka in 2016. In 2010 all these states had high incidence of typhoid, by 2015 excepting Karnataka all other states had controlled number of cases of typhoid, while in Karnataka increasing trend continued and in 2017 it was over 97 thousand rising from 24 thousand in 2005. But, a significant point to be noted is Tamil Nadu has been able bring down number of cases of typhoid from 1 lakh in 2010 to 33 thousand in 2016.

### **Section III**

#### **Summary and conclusion**

Health an important input for economic development is determined by various

factors, among which public health services occupy a major place. Public health services like safe drinking water supply and sanitation facilities contribute for maintaining good health and hygienic environment. Inadequate provision of these services results increased incidence of water borne and vector borne diseases. In this background present paper analysed status of drinking water supply and sanitation facilities and incidence of water borne and vector borne diseases in India and selected south Indian states. The analysis revealed that nearly 85 per cent of households are provided safe drinking water supply (tap and bore well together) in India. Among southern states Tamil Nadu has covered more number of households with tap water connection which is a laudable achievement, but a comparison of these states with all India level indicates better performance in covering more number of households with safe drinking water supply. Provision for adequate level (40 lpcd) of drinking water has been created for over 77 per cent of habitations in rural area.

Along with drinking water supply provision of sanitation facilities is also essential requirement which is not a very good from different angles. According to Census 2011, 53 per cent of households were not having essential sanitation facility like toilet in India, where the proportion is much less in rural areas. Inadequate sanitation facilities have resulted rise in number of cases of diseases like dengue, typhoid and diarrhoea at all India and also in south Indian states. Realizing the inadequate provision of and dire necessity of sanitation facilities government has been implementing Swachha Bharat Programme, focussing both rural and urban areas.

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# 65.CONTEMPORARY ISSUES IN INDIAN ECONOMY- PROSPECTS AND CHALLENGES

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## ABSTRACT

*India is developing into an open-market economy, but traces of its past rigid policies remain. Economic liberalization measures, including industrial deregulation, privatization of state-owned enterprises, and reduced controls on foreign trade and investment, that began in the early 1990s accelerated growth. More recently, the government reformed one of its more opaque operational practices to make the auctioning of rights to exploit state-owned resources more transparent. Corruption, underdeveloped infrastructure, a restrictive and burdensome regulatory environment, rupee depreciation against dollars, low export growth, higher imports and poor financial and budget management demonetization and fuel cost continue to undermine overall development of India.*

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## INTRODUCTION

**D**uring the past couple of years, India has enjoyed the privilege of being among the most favoured investment destinations of the world. Oil and commodity prices have helped improve Indian public finances and reduced some of its external vulnerabilities. Some of those tailwinds are turning into headwinds now, threatening the health of the Indian economy.

In addition, some of the old legacy issues relating to the excessive corporate leverage of the past boom have come back to haunt the financial system today. The pile up of bad debt has made both firms and lenders more cautious, delaying a recovery in capital expenditure. The lack of decisive actions to unclog the pipeline of stalled projects has added to the problem.

As if all these were not enough to cloud the outlook on the Indian economy, the shock of demonetization has further weakened sentiment by lowering aggregate demand. If one believes, as several economists do, that the new GDP series overestimates growth figures, then the real slowdown could be far sharper than what the official estimates and the IMF forecasts suggest.

The challenge of reviving the growth engines of the economy, without raising public borrowing too far and risking the wrath of credit agencies, is a daunting one. India's economic growth has been propelled by government reforms, business innovation and a dynamic young workforce. Infrastructure development and steady investment growth as reasons for India's

recent economic success. Liberalization of foreign direct investment (FDI) policies has also played a part. This, in turn, has increased the ease of doing business in India and attracted some much needed FDI for economic growth.

## PROSPECTS OF INDIAN ECONOMY

According to the World Bank, the country can expect GDP growth of 7.3 per cent in 2018 and 7.5 per cent for 2019 and 2020. The FDI is pulling up to US\$50 billion into the country annually; a youthful populace is pushing up working hours and productivity; and deregulation of markets and a reduction in import tariffs are boosting private consumption. It is believed that the nation's growing working-age population will be one of the keys to ongoing success as new workers, including an increasing proportion of women, benefit from far better training and education than the Indian workforce received in the past. Creating an efficient workforce through skills training and education can lead to productive growth. This especially becomes important as technological disruption and innovation can make low-skill manual jobs unnecessary.

India will drive the third great wave of Asia's growth, following the footsteps of Japan and China. It is the culmination of a story that began in the 1990s when the economy opened up to global markets, private entrepreneurship and foreign investment. Several measures – such as industrial and trade policy changes, liberalizing foreign investment and banking sector reforms

have helped the economy, while the latest slew of policy developments that has pushed growth further include taking steps to improve the ease of doing business, power sector reforms, easing investment norms, a unified tax regime and digital inclusion.

“Make in India”, a nation-building initiative launched in 2014, has also encouraged multinational and domestic companies to manufacture their products in-country. Yet India’s progress has not been without setbacks. The nation is still recovering from the “twin shocks” of recent major economic reforms: the demonetization of high-value currency in 2016 and the introduction last year of a goods and services tax (GST).

The former policy, an attempt to crack down on the rampant black market economy, saw Prime Minister Modi’s government declared that all 500- and 1000-rupee denomination notes – more than 80 per cent of currency in circulation – would no longer be considered legal tender. It forced people to either deposit these notes into bank accounts or exchange them for newly designed and minted notes.

The GST, meanwhile, is seen as a means to streamline indirect taxation across a country that in the past had multiple tax authorities, while also removing trade barriers that prevented India from performing as a single market. The reforms have come under fire in some quarters for undermining business confidence because of the complexity of the tax regime and numerous changes in how specific classes of goods and services are taxed.

Both private investment and consumption are expected to rebound as the lingering effects of these interventions subside. Other positives are likely to be the bedding down of a new insolvency and bankruptcy code and recapitalization of public sector banks. Yet while the economy is being transformed, there are many social challenges to face from urbanization to education, health, gender discrimination, water scarcity, sanitation and lack of transparency in many government institutions leading to corruption and hampering competitiveness, growth and development.

Other challenges include a banking sector beset by a bad debt problem that is restraining credit growth and borrowing. With troubled balance sheets, many of

India’s banks are not in a position to lend.. India is at an “inflection point” and needs to deal with the banking issue, ensure that a growing workforce is afforded gainful employment, and navigate a series of looming elections in many large states as well as national parliamentary elections next year.

“Digital India” plan is also generating employment opportunities and promoting entrepreneurship, with the government fast-tracking the rollout of optical fibre to improve internet and streaming access. In such an environment there is likely to be a shift to real-time access to data and intelligence, which in turn could transform business strategies.

This innovation can be expected to move beyond manufacturing and production segments to encompass the system of partners, suppliers, customers, the workforce and operational considerations. It is believed that increased participation of women in the workforce – digital or otherwise – will also be important for India’s ongoing growth and innovation.

Education and healthcare have proved to be important yardsticks for socio-economic growth. The increased participation of women in the workforce can also lead to increased GDP. There is scope to ramp up innovation and development in more traditional sectors such as gold mining. Indians quest for Gold sees the nation import about 800 tonnes of the metal each year, while it produces only about two tonnes annually despite potentially huge gold resources awaiting exploration. With the government granting new mining leases and bringing in policy changes to encourage development of the gold mining sector, the sector is poised to flourish.

### **POSITIVE SIGNS OF GROWTH IN INDIAN ECONOMY:**

As India prepares for the next phase of its economic journey, the nation’s growth prospects remain promising, especially in the medium term. The bigger question is whether India can achieve and sustain the double-digit growth necessary to continue lifting vast population out of poverty, and create several millions of productive, formal jobs for its growing workforce. India has unrealized potential to drive productivity

growth and job creation in high-value sectors. Infrastructure and construction, for example, show promising signs of expansion on the back of the government's affordable housing drive. There are also high hopes for the financial services, telecommunications, retail, logistics and healthcare sectors.

India is in a time to enjoy decades of exponential economic growth, but it must the channel for vast quantum of resources it has and convert it into growth opportunities. The outlook is particularly bright in areas such as pharmaceuticals, software and research and development for information technology. Thousands of Indians now working overseas will return to India attracted by the opportunities, salaries and quality of life, all of which have substantially improved in this country over the past years and will continue to do so in the future.

While government bureaucracy and taxation issues could present hurdles for businesses and the economy, the relaxation in FDI policies and initiatives such as the nation's "Smart City Mission" project suggest that India is on the right path. India has a highly skilled, young and dynamic workforce. Companies which are able to harness this largely untapped potential ultimately succeed.

The recent upgrade of India's rating by the US based credit rating agency Moody's in recognition of the reforms agenda pursued by the Government is a major boost to investor confidence. Further, as the short term disruptions caused by major reforms such as the Goods and Services Tax (GST) and demonetization recede, the economy is on the rebound and is likely to achieve higher growth targets in the coming years.

### **GDP GROWTH**

Gross Domestic Product (GDP) is on a recovery path after slowdown in the first quarter of 2017-18, and real GDP growth for the second quarter (2QFY18) increased to 6.3% from 5.7% in the previous quarter, likely fallout of the introduction of GST. The second half of 2017-18 will witness a higher growth rate, and this is further expected to consolidate in the coming year, as the benefits of GST and other reforms gain traction.

### **SECTORAL GROWTH**

The agricultural sector registered moderate

growth as erratic monsoon in several parts and flooding in some states impacted performance. Industrial growth accelerated sharply during the second quarter of FY 2018 and jumped to 6.9% from 1.5% in the previous quarter, on account of a sharp increase in manufacturing and electricity, gas, water supply and utility services. Manufacturing registered an impressive growth at 7% in 2QFY18 as compared to 1.2% posted in the first quarter. Services sector grew only marginally at 6.6% in the second quarter as compared to 7.8% in the previous quarter.

### **INFLATION**

The economy saw high inflation during October 2017 owing to elevated food prices. Going forward, this is likely to be contained on account of a good harvest and favorable monsoons. The impact of GST on prices is likely to become clearer in the coming year as the teething problems related to its implementation ease out. Further, the GST Council's decision to cut tax rates on 177 items is also expected to partially ease the inflationary pressure, as the companies start passing the benefits of lower prices to consumers.

### **EXTERNAL SECTOR**

Healthy foreign fund inflows caused the rupee to strengthen during the latter half of the year. The recent Moody's upgrade is likely to encourage further inflows and the rupee could appreciate further. On the other hand, the impact of the decision in the US to raise interest rates and introduce tax cuts may work the other way. In any case, India's consumer markets are expected to remain a strong incentive to FDI.

A contraction in export growth pushed the merchandise trade deficit to a near 3-year high in October 2017, which was forcefully reversed in November with a positive growth rate of over 30%. With the streamlining of GST related issues and some changes in GST rules by the Government as well as firming of global recovery, export growth will emerge as a powerful growth driver in 2018.

### **MONETARY POLICY**

The Reserve Bank of India (RBI) kept policy rates unchanged in its fifth bi-monthly monetary policy meeting. However, industry



is hopeful that going forward, RBI would lower interest rates to boost broad-based investment and consumption activity which in turn would promote economic growth.

### **CREDIT GROWTH**

Credit growth to the non-food sector shows encouraging signs of pick-up in the last few months. Recapitalization of Public Sector Banks may bolster credit flows further and ease their stressed assets situation.

### **KEY CHALLENGES FOR THE INDIAN ECONOMY:**

Vulnerable rupee.

After the deal on production cuts, crude oil prices are rising and, if that continues, it will push up India's trade deficit depending on how the country's export sector performs. India's merchandise export grew at a healthy 96 percent in October, but given the bleak global macroeconomic environment, growing protectionism, uncertainty created by the referendums in the UK and Italy, and the U.S. presidential election, it's doubtful that export growth momentum will be maintained. If India's export growth is not sustained, rising oil prices will jeopardize its current account balances.

Capital inflows in the form of foreign portfolio investment (FPI) or foreign direct investment (FDI) could offer support where export growth momentum may drop off. However, foreign institutional investors are jittery while net FDI inflows as well as remittances are losing strength. In the last month, FDIs have pulled out over 5 billion from India's debt market. As expected, the U.S. Federal Reserve raised its benchmark interest rate by 25 basis points and gave clear hints at future rate hikes. On the other hand, the Reserve Bank of India (RBI) has reduced its policy rates, and there is pressure to prune it further even though RBI . Avoided a recent rate cut.

The U.S. Federal Reserve's action will reduce the relative interest rate gap between India and the U.S., and may induce capital outflows from India's debt market, which will put pressure on the rupee. Moreover, the falling yuan will make the RBI tolerant of a further slide in the rupee as India will likely not compromise with its export price competitiveness and risk losing its global export share. Things aren't as bad as they were in 2013, although downside risks are

increasing. Meanwhile, the rupee will remain weak and volatile in 2018. Going forward, given that a substantially high proportion (60 percent) of India's external commercial borrowings (\$182 billion) are unhedged, a weakening rupee will complicate matters for many companies.

### **FISCAL HEALTH AND MACROECONOMIC STABILITY**

Continued low commodity prices—especially of crude oil—have helped the Indian government contain its fiscal deficit and rein in inflation. However, oil prices are hardening again after the successful conclusion of an OPEC deal on production cuts and the willingness of non-OPEC members to cooperate. That is not good news for India's current account balances. It's likely to push up the government's subsidy bill and aid inflation. That may explain why RBI kept the benchmark interest rate unchanged in its last revision.

### **GROWING DIVERGENCE BETWEEN CONSUMPTION AND INVESTMENT**

While consumption has remained steady (growing at 6-7 percent)—at least until demonetization, as measured by gross fixed capital formation, has been in negative territory for the last three quarters. This is due to companies deleveraging their balance sheets, operating on a lower capacity (below 75 percent) and a demand slump in both domestic and export markets. It fell 1.9 percent in the last quarter of the 2015-16 financial year, and then fell 3.1 percent in the first quarter and 5.6 percent in the second quarter of the current financial year respectively. The decline in investment is a problem, particularly if oil prices increase, and given the increased government spending for the 7th pay commission, both of which will limit the government's ability to spend on infrastructure and other ventures. Demonetization.

As if a slump in investment was not enough, demonetization induced a reduction in consumption demand. The resultant decline in the sales of businesses will disturb Capital Expenditure plans, especially in the SMEs sector, which accounts for 45 percent of India's manufacturing GDP and 40 percent of its merchandise exports, and may reduce anything between 0.5 to 2 percent of the

country's GDP.

Also, according to the RBI, most of the demonetized currency notes will return to the banking system, so no windfall gains for the government from destruction of black money to the extent of 20 percent of the value of 500 and 100 currency notes in circulation as initially estimated. Now the government is claiming that the move will encourage digitization of financial transactions. It will, but on a smaller scale than is thought, given the low access and concerns on quality of Internet in smaller towns and rural areas.

### **NON-PERFORMING ASSETS MENACE**

Despite a series of measures to deal with bad loans by the government and the RBI, the non-performing assets of state owned banks increased. Many analysts claim that things are not so bad for private sector banks, but they have avoided the risky corporate loans necessary to support industrial expansion.

The high share of bank loans given by public sector banks could also be a result of banks offering loans sanctioned selectively by bank employees to favor capitalists rather than taking commercial considerations into account. This is a problem the Indian government has not been able to tackle effectively yet.

Indian banks have also been forced to write off bad loans. As a result of an increase in non-performing assets and write-offs, banks are not able to pass on the benefit of policy rate cuts to borrowers, especially those in the retail sector and SMEs. This will have implications on credit-financed demand in sectors such as automobile and housing that have backward and forward linkages for several upstream and downstream industries such as steel, auto components and cement.

Despite these challenges, India is expected to be among the fastest-growing large economies in the world in 2018. Mitigating these risks is important, particularly given global economic uncertainty, and failure to do so may prevent the economy from realizing its growth potential in the coming year.

### **CONCLUSION**

Stepping up private investment remains a major macroeconomic challenge in the next

year. Inflationary pressures also remain a concern. Though food prices are likely to be contained on account of favorable monsoons, caution must be exercised as upside risks still remain in the form of implementation of farm loan waiver and 7th Pay Commission hand-outs. India's share in world exports is currently at 1.8%. Efforts to increase this figure by way of providing export credit to manufacturers, increasing the capital base of Export Credit Guarantee Scheme (ECGC), increasing subvention to 4% etc. must be undertaken.

The economy benefitted from increased foreign inflows during the latter half of 2017. While this is good news, efforts to contain further appreciation of the rupee should be in place as further strengthening may affect exports and job creation. Bank credit growth hit a 20 year low in 2016-17 with Non-Performing Assets (NPAs) at 9.9%. India has been ranked fifth on the list of countries with highest NPAs. Though bank recapitalization efforts are underway, the economy needs to recover from the bad loan problem quickly for favorable economic growth in the future.

The infrastructure deficit is a major concern and infrastructure investment needs to be stepped up as currently it is not in par with the needs of the economy. Other challenges for the economy include addressing infrastructural bottlenecks in the agricultural sector, investment in human resources to leverage the demographic dividend, increasing expenditure on education and healthcare sectors, and social security provision for the unorganized sector. With on-going reforms that are beginning to positively impact the economy, policymakers need to be watchful and address the current macroeconomic challenges for a sustainable and fruitful recovery.

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## 66. A STUDY ON PERFORMANCE OF TUTICORIN PORT TRUST EMPLOYEES

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### ABSTRACT

*The hinterland of the port development depends up on the connectivity of transport. The study covered 185 port employees from officers and non cargo handing workers. According to the result of this study, most of the respondents are satisfied with the place of work 90.3 per cent and regarding the working hours 87.6 per cent of the respondents are satisfied with the stationery facilities available in the office.*

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### INTRODUCTION

The coastline is services by 12 major ports and about 200 minor and intermediate ports. Ports have assumed enormous importance in world trade. All the major ports taken together were 313.53 million tonnes in 2015-2016 an increase. Economy and trade progress of a country depends upon the nature and pattern of transport connectivity. Ports should act as an integral part of chain of transport linkages designed to move cargoes from origin to destination. The hinterland of the port development depends up on the connectivity of transport. The study know about the perception of the employees towards pay and benefits provided at Tuticorin port trust and highlights the socio economic background of the different category of Tuticorin port employees.

### TUTICORIN PORT

Among the Indian major ports Tuticorin has a long maritime history and also is one of the flourishing ports in recent times. It is well connected to various trade and production centres within Tamil nadu and neighboring states road, rail, water and air. In and around Tuticorin city is the major salt producer in the state and contributes 30 per cent of the total salt production in Tamil nadu. The main occupation of the Tuticorin district is agricultural and allied activities. Port here has handled all time record cargo traffic of 36.85 million tonnes during 2015-2016, 32.41 million tonnes increase of

13.70 per cent. Cargo for captive industries constitutes about 50 percent of the overall traffic at Tuticorin port.

The major captive industries located in Tuticorin are Tuticorin thermal power station (TTPS), Southern petrochemicals Industries Corporation (SPIC), Sterlite, Tuticorin Alkali Chemicals (TAC) chemicals and Dharangdhara Chemical works. They mainly consume thermal coal, copper concentrate, rock phosphate and sulphur. The traded at Tuticorin ports can be best addressed by viewing the past import and export of the port.

Tuticorin is majorly an import oriented port. Import constitutes about 75 per cent to 78 per cent of the traffic. Imports went up during 2015-2016 to 186.51 lakh tonnes from 163.70 lakh tonnes in the year.

The imports during the year increased by 13.94 per cent due to increase in the traffic of industrial coal, lime stone, DAP, Palm oil, Rock Phosphate, Sugar Raw, Tiber Logs, iron and steel materials, copper concentrate, containerized cargoes, sulphur, Liquid Ammonia, and raw cashew et. The exports during the year increase to 10.97 per cent due to decrease in the construction materials, sulphuric Acid, Granite stone, maize, sugar, garnet sand etc., due to global economic crisis.

**Table 1: Total number of port employees on 2015-2016**

Port employees	Staff strength	Scheduled castes	Scheduled tribes	Percentage
Class I	86	23	2	29.07
Class II	42	7	4	26.19
Class III	676	168	47	31.80
Class IV	358	112	31	39.94
Total	1162	310	84	33.91

Source: Administration Report of the Tuticorin Port Trust 2015-16

## METHODOLOGY

The study utilized both primary and secondary data to the socio economic background of the different category of Tuticorin port employees. Percentage analysis, averages chi-square test analysis were used.

## Analysis and Interpretation

**Table: 2 Association between different categories of port employees and education**

Education status	Class I	Class II	Class III	Class IV	Total
High school	23	5	13	18	50
Degree	6	8	78	23	115
Technical	3	2	3	4	20
Total	32	15	94	45	185

Primary data

About 31.9 per cent of the respondents had high school education about 62.2 per cent had pursued degrees. Further, about 5.9 per cent remained technical education and difference was statistically significant ( $P < 0.001$ )

**Table : 3 Association between different category of port employees and experience**

Experience	Class I	Class II	Class III	Class IV	Total
Less than 10 years	18	10	9	4	32
10 to 20 years	4	1	13	16	43
20 to 30 years	3	1	58	13	75
More than 30 years	7	2	14	12	35
Total	32	14	94	45	185

Source: primary data

It has also been observed from that table that 18.9 per cent of respondents had at least 10 years and more than 30 years of experience. 21.6 per cent of respondents have experienced for a period of 10 to 20 years. Moreover, 40.5 per cent have experienced for a period of 20 to 30 years. The chi-square analysis result  $P = <.0001$ ,  $df=9$   $V=0.4056$  significant relationship of experience of port employees at 5 per cent level.

**Table : 4 Association between port employees and satisfaction policies and systems**

Policies and systems	Class I	Class II	Class III	Class IV	Total
Handling procedure	13	5	22	4	44
Training program	8	4	26	19	57
Recruitment policy	6	3	14	8	31
Selection procedure	5	2	32	14	53
Total	32	14	94	45	185

Source: Primary data

The table showed that 30.8 per cent of the respondents agree that the port clearly communicates its training program with goals and strategies to them. 23.8 per cent and 16.8 per cent of the respondents agree handling procedure and with the present transfer policy and recruitment policy.

**Table : 5 Association between different category of port employees and benefits**

Benefits	Class I	Class II	Class III	Class IV	Total
Canteen facility	12	1	4	7	24
Allowances & housing facility	3	1	31	16	51
Medical and schooling facility	17	12	59	22	110
Total	32	14	94	45	185

Source: Primary Data

From the above table it is understood that 59.5 per cent of the respondents are satisfied with the medical and schooling facilities available in the office. Only 12.9 per cent of the respondents are very fairly satisfied with the canteen facility. Further, 27.6 per cent of the respondents are satisfied with the allowances and housing facility and the difference was significant  $P < 0.0001$ .

**FINDINGS**

- Port’s working condition could be much improved
- Apply more leverage on the space availability in attracting general cargo traffic to the port
- Port should give promotion to those employees who deserve it
- Be proactive in attracting more thermal power plants in the hinter lands of Tuticorin.

**CONCLUSION**

It is concluded that the employees of Tuticorin port trust are satisfied with the facilities and amenities provided by the organization. The employees also feel that they have adequate job security in view of the additional support in which the organization is concentrating apart from the organization’s goals and target.

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# 67.SHIPPING AND SEABORNE TRADE – THE ENGINE OF DEVELOPMENT IN THE GLOBALIZED WORLD

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## ABSTRACT

*Seaports are such an integral part of international seaborne trade. This port infrastructure increases the economic development in a positive way. There has been increase in the seaborne trade of POL, bulk and dry products. The economic, environment and social issues influence the growing international trade and traffic handled by the ports. The ship size increases the port facilities. The economic development of a country rests on many factors, particularly ports and shipping. Both the major and minor ports contribute for the development of a nation.*

*Keywords: Shipping, seaborne trade, logistics, economics growth*

## INTRODUCTION

Gerhardt Muller is of the new that a harbor or haven where ships may anchor, or a harbor area with maritime terminal facilities for transferring cargo/ passengers between ships and land transportation. Ports play a vital role in the development of an economy. The cargo traffic of Indian major and minor ports were 20.01 and 2.50 million tones in 1950-51. The cargo handled by minor and major ports increased by 78.55 and 25.95 times respectively. The new economic reforms ushered a dynamic change for the states having more ports. The economic, environment and social challenges facing port include growing and concentrated traffic volumes brought about by ever increasing ship size; the cost of adaptation of port hinterland infrastructure measures; a changing marketplace as a result of increased alliances between shipping lines; national budget constraints limiting the possibilities of public funding for transport infrastructure; volatility in energy prices, the new energy landscape and the transition to alternative fuels; the entry into force of stricter sulphur limits, increasing social and environment pressure; and potential changes in shipping routes form for new enlarged international passage ways. The present study Analyze the International Seaborne Trade and compare the logistics cost of select nations.

## REVIEW OF LITERATURE

Prabha Shastri Ranade (2003) made a study

on 'Impact on infrastructure development on the ports of India's western coast'. The infrastructure development in and around the ports of western coast positively influenced the cargo traffic handled by Jawaharlal Nehru port trust, marmugoa and new Mangalore ports. This helped the specialized cargo, import and export of liquid bulk cargo.

Satoshi Inoue (2002) examined ports and world trade. The ports are developed with the help of the public goods and resources of the local community, including coastal and land areas. These ports intern generates the socio-economic benefits to the community. Further, it creates jobs and provides the required regions economic activities.

Ghosh and Prabir De (2001) viewed the less attention paid by the economists to factors such as transportation and ports, manufacturing belt and urbanization signifying increasing returns. The relationship was rather asymmetric.

Rangachari, CS (1994) stated that the objective of the port authority would be to maximization of efficiency in handling ships and cargo. At the same time, the objective should be such that ports ensuring a reasonable return on are depreciation is allowed for.

## STATEMENT OF THE PROBLEM

The study looks at the impact of changes in trade pattern on ports. The way ports have adapted to these changes, and the

main methods that have been used to try to influence governments and policy makers to invest in ports development.

**METHODOLOGY**

The secondary data has been used for understanding the seaborne trade, vessels and logistics cost.

**Results and Discussions**

**Table 1 World Economic Growth, 2016–2018 (Annual percentage change)**

Region or Country	2016	2017	2018
World	2.5	3.1	3.0
Developed countries of which:	1.7	2.3	2.1
United States	1.5	2.3	2.5
European Union	2.0	2.6	2.0
Japan	1.0	1.7	0.9
Developing countries of which:	3.9	4.5	4.6
Africa	1.7	3.0	3.5
East Asia of which:	5.9	6.2	6.0
China	6.7	6.9	6.7
India	7.9	6.2	7.0
Western Asia	3.1	3.0	3.3
Latin American and the Caribbean of which:	-1.1	1.1	1.8
Brazil	-3.5	1.0	1.4
Countries with economies in transition of which:	0.3	2.1	2.2
Russian Federation	-0.2	1.5	1.7
Least developed countries	3.5	4.3	4.9

Source: Review of Maritime Transport 2018

Table 1 shows the world economic growth has been increasing over the years. It was 2.5% in 2016 and increased to 3.0% in 2018. The world growth is being propelled by the developing countries and the least developed countries with the annual world economic growth rate of more than 4 in 2017 and 2018. Brazil registered a negative growth rate of -3.5 in 2016 and managed to have positive growth rates in 2017 and 2018.

**Table 2 Development in International Seaborne Trade (Millions of Tons loaded)**

Year	Crude Oil, Petroleum Products and Gas	Main bulks	Other dry Cargo	Total
(all cargoes)				
2010	2772	2259	3378	8409
2011	2794	2392	3599	8785
2012	2841	2594	3762	9197
2013	2829	2761	3924	9514
2014	2825	2988	4030	9843
2015	2932	2961	4131	10024
2016	3055	3041	4193	10289
2017	3146	3196	4360	10702

Source: Review of Maritime Transport 2018

The year-on-year seaborne trade shows that there has been tremendous improvement in crude oil, main bulks and other dry. The total cargoes were 8409 in 2010 which increased to 10702 in 2017. This vividly portrays the development in international seaborne trade from 2010 to 2017.



**Table 3 World Fleet by Principal Vessel Types 2017-2018  
(Thousands of dead-weight tons and percentage)**

	2017	2018	Percentage change, 2017-2018
Oil tankers	535700	561079	4.74
	(28.8)	(29.2)	
Dry bulk carriers	795518	818612	2.90
	(42.7)	(42.5)	
General Cargo ships	74908	74458	-0.60
	(4.0)	(3.9)	
Container ships	245759	252825	2.88
	(13.2)	(13.1)	
other	210455	217028	3.12
	(11.3)	(11.3)	
Gas carriers	60003	64317	7.79
	(3.2)	(3.3)	
Chemical tankers	42853	44597	4.07
	(2.3)	(2.3)	
Offshore vessels	77845	78228	0.49
	(4.2)	(4.1)	
Ferries and Passenger ships	5944	6075	2.20
	(0.3)	(0.3)	
Other/Not Available	23810	23811	0.01
	(1.3)	(1.2)	
<b>World Total</b>	<b>1862340</b>	<b>1924002</b>	<b>3.31</b>

Source: Review of Maritime Transport 2018

The Gas carriers performed well in 2018. The percentage charge. 2017- 2018 show that -0.60 for general cargo ships by bulk carriers constitute more than 42% in both the years. Dry bulk and chemical tankers constitute the major change of world fleet.

**Table 4 Comparison of Logistics Cost**

Country	Logistics Cost/ GDP	Share of 3PL in Overall Logistics
INDIA	13-15%	10%
U.S	9.9%	57%
EUROPE	10%	30-40%
JAPAN	11.4%	80%

Source: Transport Corporation of India

Table 4 shows the 3PL or Third party logistics means provision of specialized services in operation warehousing and transportation. This could be customized to customer's needs based on market conditions and the demands. The logistic cost of India to GDP is on the higher side. It is the lowest for US with 9.9% followed by Europe. But the share of 3PL in overall logistics is less for India.

### CONCLUSION

The weakened role of trade areas stem from

overall shifts of factories to less developed countries due to cheap labour, shrinking transport costs, and deregulation. Seaborne trade constitutes the major part of economic integration. This makes the economy to grow on a fast rate. Port modernization will help the ships to conveniently load and unload the commodities another any difficulty. Further shipping and seaborne trade acts as the engine of economic growth.

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# 68.Effect of Income and Nutritional status of Pregnant Women in Rural Area of Salem District in Tamil Nadu

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## ABSTRACT

*The field of nutrition of pregnant women in rural area is sadly a much-neglected area of research. There is a dearth of literature on health and nutrition of pregnant women in rural area. Hence, the present study is undertaken to know the socio-economic and nutrition status of pregnant women in the rural area. Among the selected pregnant women 50 per cent belonged to age group less than 20 to 30 years, 43.3 per cent belonged to 20 to 30 years, 6.6 per cent belonged to above 30 years. Majority (55%) of the pregnant women were pass 10th standard only while 40 per cent were 6 to 8 standard. No one was illiterate in this group. Family income of the pregnant women was ranging from less than Rs 10,000 to more than Rs 20,000 per month. "Effect of nutritional status of pregnant women on outcome of pregnancy" was carried out in Salem city. For the study sixty pregnant women in their III rd trimester were purposively selected.*

*Key Words: Challenges, evolution, India, primary healthcare*

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## INTRODUCTION

Maternal nutrition and health is considered as the most important regulator of human fetal growth. A healthy mother can produce a healthy child. If women are not well nourished, they are more likely to give birth to weak babies resulting in high infant mortality rate. A woman's normal nutritional requirement increases during pregnancy in order to meet the needs of the growing fetus and of maternal tissues associated with pregnancy. Proper dietary balance is necessary to ensure sufficient energy intake for adequate growth of fetus without drawing on mother's own tissues to maintain her pregnancy (Mridula et al., 2003). The field of nutrition of pregnant women in rural area is sadly a much-neglected area of research. There is a dearth of literature on health and nutrition of pregnant women in rural area. Hence, the present study is undertaken to know the socio-economic and nutrition status of pregnant women in the rural area. The study analyze the socio-economic and nutritional status of the selected pregnant women of Omalur Taluk of Salem district in Tamil Nadu.

## MATERIALS AND METHODS

The study based on both primary and

secondary data. The secondary data collected from records from health centres, magazines, journals and web sites.

## SELECTION OF SAMPLE:

A sample of 60 pregnant women was purposively selected in their III rd trimester of pregnancy belonging to rural areas of salem district. The list of pregnant women was collected from Anganwadi workers and ANM (Auxiliary Nurse Midwife) working in those villages. All the selected pregnant women were personally interviewed by investigator with the help of pre-planned questionnaire, so as to elicit the information regarding socio-economic status, age, income, occupation and dietary pattern.

Determination of food and nutrient intake  
The food intake of selected pregnant women was assessed by one day weightment method (Marr, 1971). The weight of the raw edible food stuffs used to prepare food for the family and the corresponding cooked weights of the prepared foods were recorded for each meal in a prepared schedule. All the items of a meal were weighed and served for each selected pregnant women on the day of assessment. The actual intake of cooked foods for a day by the pregnant

women was recorded and converted it into corresponding raw weights. The intake of different nutrients per day by the pregnant women was then calculated from the food intake values using nutritive value of Indian foods. The average food and nutrient intake of pregnant women per day was compared with recommended dietary allowances of ICMR (2010) and expressed in terms of per cent value of RDA.

**REVIEW OF LITERATURE**

Kulkarni (2015) conducted study of the maternal weight gain and various factors associated with it. It is a hospital based prospective study. Target population was 500 women booked at 12 weeks of gestational period and who delivered at hospital during period. After the delivery, the newborn baby was weighed within 30 minutes of the birth, without clothing, on a lever type of weighing machine and weight was recorded in grams. Mean birth weight increased with the increase in maternal weight gain. The overall mean birth weight was 2728.9 grams. There was a difference of 335.1 grams in the birth weight at the two extremes of maternal weight gain. Maximum number of women i.e. 220 (44%) had weight gain of 5-7 kg. (Mean Birth Weight 2628.9 grams), 145 (29%) had weight gain of 8-9 kg. (Mean Birth Weight 2704.8 grams). Multiple linear regression analysis showed that maternal age, socio- economic status and gestational age showed significant association with maternal weight gain.

Krishna et al., (2013) studied the effect of anaemia during third trimester of pregnancy on gestational size and birth weight of babies in rural Lucknow, India. The sample size of 323 was calculated on the basis of prevalence of low birth weight in India which was 28.0 per cent. A total of 323 pregnant women were registered during third trimester of pregnancy at primary health centre. In present study, the prevalence of anaemia during third trimester of pregnancy was 72.4 per cent, moderate and severe degree of anaemia was present in about 16.1 per cent pregnant women. Prevalence of small gestational age and low birth weight among newborn babies was 11.8 per cent and 28.6 per cent respectively.

Loy et al., (2013) revealed a study on association between maternal consumption

of food groups and birth size among newborns. One hundred and eight healthy pregnant women in their third trimester, aged 19 to 40 years who visited the obstetrics and gynecology clinic of hospital universiti Sains Malaysia completed an interviewed-administered, validated semi-quantitative food frequency questionnaire. The included confounders were maternal employment, monthly household income, pre-pregnancy weight, weight gain rate, parity, gestational age at delivery and infant’s sex. Prior to pregnancy, 6.5 per cent of women were underweight (BMI<18.5), 53.7 per cent of women were normal weight (BMI 18.5-24.9) whereas, 25.9 per cent and 13.9 per cent of women were overweight (BMI 25-29.9) and obese (BMI≥30), respectively. The maternal socio-demographic, medical and obstetric histories and anthropometry measurements were recorded accordingly. Among all food groups, fruits intake was associated with higher birth weight (p=0.018). None of the food intake showed evident association with respect to birth length while only fruits intake was associated positively with head circumference (p=0.019). In contrast, confectioneries and condiments were associated with lower birth weight.

S.No	Frequency	Percent
Age of the Respondents		
< 20 years	30	50
20-30 years	26	43.3
>30 years	04	06.7
Total	60	100
Educational level		
No schooling	0	0
1 to5	3	5
6 to 8	24	40
10 and above	33	55
Total	60	100
Occupation level		
Employed	11	18.3
Unemployed	49	81.6
Total	60	100
Monthly family income		
<10000	4	6.7
10001-15000	32	53.3
15001-25000	14	23.3
>25000	10	16.7
Total	60	100

Source: primary data

The pregnancy outcomes, birth weight, birth length and head circumference were obtained from the medical records. The data were analyzed using multiple linear regressions by controlling for possible confounders.

**GENERAL INFORMATION OF THE SELECTED PREGNANT WOMEN**

The general information of the selected pregnant women is depicted in Table1. Among the selected pregnant women 50 per cent belonged to age group less than 20 to 30 years, 43.3 per cent belonged to 20 to 30 years, 6.6 per cent belonged to above 30 years. Majority (55%) of the pregnant women were pass 10th standard only while 40 per cent were 6 to 8 standard. No one was illiterate in this group.

Family income of the pregnant women was ranging from less than Rs 10,000 to more than Rs 20,000 per month. Maximum (53.3%) were having Rs. 10,000 to > 15,000 per month, while 23.3% had more than Rs. 15,000 to ≤ 25,000 and only 6.6 per cent had Rs less than or equal to 10,000 per month family income.

Morsy and Alhady (2014) studied about nutritional status and socio- economic conditions influencing prevalence of anaemia in pregnant women. In this study the prevalence of anaemia among pregnant women was investigated under the influence of some nutritional and socio-economic factors. This study revealed that the prevalence of anaemia was the same among women who attend clinical unit and using iron supplementation and women who do not attend or use iron supplementation. The study found that the maternal age and low socio-economic status of women on birth outcome.

Result shows that a young and poor woman reports more complications during pregnancy and lesser use of any health care services. Nisal (2015) revealed about nutritional status of pregnant women belonging to low income group.

Thus it can be concluded that the nutritional status of pregnant women belonging to low social classes is found to be very poor. There was a need to give special attention to these groups of pregnant women to improve the pregnancy outcome among them.

**Table 2. Meal pattern of the pregnant women**

S.No.	Meal pattern	Meal pattern Number of pregnant women Percentage	Meal pattern Number of pregnant women Percentage
1	Two times	4	6.66
2	Three times	56	93.33

Source: primary data

**Meal pattern of the pregnant women**

Meal pattern of the pregnant women is given in Table 2. It is seen from the Table that 93.33 per cent of pregnant women were taking the meal three times in a day while 6.66 per cent were taking the meal two times in a day

S.No	Name of the Food	Reasons	Pregnent women	
			Nos	%
1	Milk	Calcium rich, strong borne	12	20
2	Egg	Protein rich	10	16.6
3	Wholegram pulses	Good for health	10	16.6
4	Coconut water	Good for health, nutritious and vitamin C rich	6	10
5	Fruits		20	33.3
6	Sugarcane juice	Good for health	2	3.33

Source: primary data

The various reasons expressed by the selected pregnant women for the inclusion of special foods in the diet during pregnancy is depicted in Table 3. It is evident from the table that 33 per cent of pregnant women had included fruits in their diet during pregnancy. They expressed that fruits are good for health for the mother as well as for the growing fetus, nutritious and rich in Vitamin C. Coconut water was taken by 10 per cent pregnant women, the reason expressed was that coconut water is good for health. Milk was taken by 20 per cent pregnant women; the reason expressed was that milk is rich in calcium and good for formation of strong bone of the baby. Whole gram pulse and egg was taken by 16.6 per cent pregnant women. They told that whole gram pulses are rich in fiber and Egg is rich in protein. Sugar cane juice was

taken by 3.33 per cent of pregnant women; the reason expressed was that sugar cane juice is good for health.

**Table: 4 Amount spent for food**

S.No	Amount	No	Pregnant
1	3000 - 4000	4	7
2	4001 - 5000	8	13
3	5001 - 6000	10	17
4	6001 - 7000	15	25
5	7000 and above	23	38
		60	100

Source: primary data

The amount of money spent was that 38.33 per cent of pregnant women spent Rs. 7000 and above on food, 25 per cent spent Rs. 6000-7000 for food and 17 spent Rs. 5000-6000 on food per month. It is evident that majority of the pregnant women spent more amount of money on food. The various health and other risks associated with various forms of malnutrition vary by gender, age and context (geography, urban versus rural setting, etc.). Unfortunately, few data are collected at such disaggregation, making it very difficult to determine the cost and effectiveness of actions for specific groups of individuals. This remains a data gap that should be urgently closed.

**CONCLUSION**

The present study entitled "Effect of nutritional status of pregnant women on outcome of pregnancy" was carried out in Salem city. For the study sixty pregnant women in their III rd trimester were purposively selected. A pre planned questionnaire containing the general information of the pregnant women such as age, education, income of the family, type of family, no of family members and the information regarding obstetrical history as age at first pregnancy, parity, spacing and type of delivery was prepared. The information about complications during pregnancy, anthropometric measurements, biochemical examination i.e. haemoglobin content and blood group of pregnant women was also collected. The questionnaire also contained the information about meal

pattern and food consumption of the pregnant women.

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## 69. HEALTHCARE SERVICES INITIATIVE FOR TRIBALS IN KALRAYAN HILLS OF SALEM DISTRICT, TAMILNADU (INDIA)

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### ABSTRACT

*Good health is an essential pre-requisite which contributes significantly both to the improvement in labour productivity and human resource development. Health care is widely recognized to be a public good with strong positive externalities. Universal access, of an adequate level of care, with equitable distribution of financial costs, cost effective use of the results of relevant research and special attention to vulnerable groups such as children, women, disabled and the aged is a key component of a modern civilized society. India's poor tribal people have far worse health indicators than the general population. Most tribal people live in remote rural hamlets in hilly regions, forested or desert areas where illiteracy, trying physical environments, malnutrition, inadequate access to potable water, and lack of personal hygiene and sanitation make them more vulnerable to disease. The health and nutrition problems of the vast tribal population of Kalarayan hills in Pethanayakkanpalayam block of Salem district, Tamil Nadu, India were as varied as the tribal groups themselves, who presented a bewildering diversity and variety in their socio-economic, socio-cultural and ecological settings. The nutritional problems of different tribal communities located at various stages of development were full of obscurities and very little scientific information on dietary habits and nutrition status was available due to lack of systematic and comprehensive research investigations. Deficiency of essential components in diet leading to malnutrition, protein calorie malnutrition and micronutrient deficiencies are common. Goiter of various grades is also endemic in some of the tribal areas. The water borne and communicable diseases such as gastrointestinal disorders, particularly dysentery and parasitic infections are very common, leading to marked morbidity and malnutrition. Therefore, the paper addresses the availability and accessibility of health care services in tribal areas in general and the study area Pethanayakkan block of Kalrayan hills of Salem district in Tamil Nadu in particular. Majority of the tribal are poor health status and inadequate health infrastructure in the present study areas. The healthcare system of hill tribes traditionally depends on the siddha and ayurveda through forest resources such as herbal and medicinal plants which is available in the forest regions. This paper describes the identification and documentation of healthcare system of malayali tribes in the native people of Kalrayan hills, Salem district, Tamil Nadu (India).*

*Keywords: Communicable diseases, Healthcare, Malnutrition, Tribals, Water borne diseases*

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### INTRODUCTION

**G**ood health is an essential pre-requisite which contributes significantly both to the improvement in labour productivity and human resource development. Health care is widely recognized to be a public good with strong positive externalities. Universal access, of an adequate level of care, with equitable distribution of financial costs, cost effective use of the results of relevant research and special attention to vulnerable groups such as children, women, disabled and the aged is a key component of a modern civilized society. The role of government is

crucial for addressing these challenges and achieving equity in health. To achieve this, Government of Tamil Nadu has converged more resources on health and nutrition, strengthening health infrastructure to reach world class standard, augmenting medical manpower resources and encouraging health outreach activities. The health-seeking behaviour was earlier low among the tribal people. Factors such as inaccessible areas and native practices were at play. Now, it is changing slowly with tribal people coming out to seek healthcare services including lab tests and check-ups.

India's poor tribal people have far worse health indicators than the general population. Most tribal people live in remote rural hamlets in hilly, forested or desert areas where illiteracy, trying physical environments, malnutrition, inadequate access to potable water, and lack of personal hygiene and sanitation make them more vulnerable to disease. This is compounded by the lack of awareness among these populations about the measures needed to protect their health, their distance from medical facilities, the lack of all-weather roads and affordable transportation, insensitive and discriminatory behavior by staff at medical facilities, financial constraints and so on. Government programs to raise their health awareness and improve their accessibility to primary health care have not had the desired impact. Not surprisingly, tribal people suffer illnesses of greater severity and duration, with women and children being the most vulnerable. The starkest marker of tribal deprivation is child mortality, with under-five mortality rates among rural tribal children remaining startlingly high, at about 100 deaths per 1,000 live births in 2005 compared with 82 among all children.

### **TRIBAL HEALTH**

Health Culture of the Tribes in India Tribes is relatively isolated and autonomous groups. The existence of own cultural and medical system is one of the important features of a tribal society. The tribal social structure has its own structural and ethnic specificity and the diseases that inflict upon the tribal people are likewise specific to the attribute of their social structure. Moreover, the knowledge of disease, their classification and etiology are constituents of their cultural system and they develop methods and ways of curing the diseases. However, contrary to the vast range of eco-cultural distribution and differences there are only a few studies on tribal dealing with health, disease and treatment. Sonowal and Jojo (2003) stated that tribal health maintenance system is attached with a lot of complexity intertwined with socio-cultural beliefs and practices. Even the concept of health of the tribal groups of India has not yet been properly defined. It has also been observed that the universal index of a threat to health is expressed through withdrawal from work

### **NUTRITIONAL STATUS**

The health and nutrition problems of the vast tribal population of India were as varied as the tribal groups themselves, who presented a bewildering diversity and variety in their socioeconomic, socio-cultural and ecological settings. The nutritional problems of different tribal communities located at various stages of development were full of obscurities and very little scientific information on dietary habits and nutrition status was available due to lack of systematic and comprehensive research investigations. Deficiency of essential components in diet leading to malnutrition, protein calorie malnutrition and micronutrient deficiencies are common. Goiter of various grades is also endemic in some of the tribal areas. Water borne and communicable diseases: Gastrointestinal disorders, particularly dysentery and parasitic infections are very common, leading to marked morbidity and malnutrition. Malaria and tuberculosis still remain a problem in many tribal areas, while the spectrum of viral and venereal diseases has not been studied in-depth. High prevalence of genetic disorders mostly involving red blood cells: Genetically transmitted disorders like sickle cell anaemia, glucose phosphate dehydrogenase deficiency and different forms of thalassaemia are also common. All these defects lead to the early destruction of red blood cells and add to the overall anaemia. As for the nutritional status of children, which is a determining factor for child health, about 57 percent of children are underweight. Only 59 percent of mothers received at least one antenatal care in the last three years period, while 18 percent of pregnant women delivered their babies in some kind of institution. Tribal populations still largely depend on agriculture and forest products for their livelihood and they follow a relatively homogenous lifestyle with their food habits, dietary practices and general pattern of living. Most tribes still rely on their indigenous foods, which usually consist of wild unconventional forest products although some cultivate grains and other farm products for subsistence. The most frequently used cereals are maize, millet or rice and these form part of a major meal at least once daily.



## **NUTRITION AND HEALTH**

Life cannot be sustained without adequate nourishment. Man needs sufficient food for growth, development and to lead an active and healthy life. The major part of life is spent for producing enough food for the survival of man and his family. It is generally believed that the nutritional status of a person is a function of his/her socio-economic condition. In fact social and economically better people enjoy high nutritional status. Whereas vast mass of rural people particularly SC and STs suffer from under nutrition or malnutrition primarily due to unemployment and poverty. The health of a person depends upon various factors ranging from the quality and quantity of food intake and also other surrounding environmental factors including the type and quality of house they live in. Health has been defined by WHO (1956) as the "state of complete 156 physical, mental and social well-being and not merely the absence of disease or infirmity".

## **CHILD HEALTH**

On society's fringes are 700 tribal communities whose women and children lag behind the national population on all measures economic standing, health and education on account of decades of discrimination and violation of rights. Across the continuum of care, women in tribal communities have poorer access to adequate maternal health services than the rest of the country. For instance, only 10% of tribal women meet the recommended protocol of four antenatal visits and 18% have institutional deliveries. As a result, more than half of all maternal deaths in India occur in tribal communities. Similarly, the Infant Mortality Rate (IMR) among tribal children is 30% higher than the national average and 61% higher for tribal children under-five. Research data strongly suggests that disproportionate health outcomes are a result of three systemic factors that enhance the vulnerability of Scheduled Tribes inadequate and ill-trained healthcare workforce, poor service delivery and insufficient health financing. Not only do systemic barriers keep tribal women and children in poor health, they also impact generations to come. Poor nutrition weakens women's ability to survive childbirth, and malnourished mothers are more likely to

bear low birth-weight babies, who are more likely to die in infancy.

As India increasingly focuses on improving the status of its mothers and children, addressing the needs of tribal women and children will be indispensable to moving the needle on any national and global health indicators.

Primary Healthcare Services in Tamil Nadu Primary Health Centres (PHCs) and Health Sub-Centres (HSCs) are rendering the preventive, curative and rehabilitative health care services to the rural people. The rural health care infrastructure has been strengthened and fine-tuned under the National Rural Health Mission in order to realize the objective of Health for All. The number of PHCs functioning in the Tamil Nadu State was on the increase over the last four years. It had gone up from 1539 in 2010-11 to 1751 in 2013-14 and during 2016-17. All PHCs are functioning on 24x7 bases. The network of 1751 PHCs and 8706 Health Sub-centres has been rendering universal health care delivery to rural population on a mission mode and with a holistic approach. The State has excelled in meeting the norms as envisaged. One Health Sub-Centre (HSC) for a population of 5,000 in plains and 3,000 in hilly and tribal areas. One Primary Health Centre (PHC) for 30,000 population in plains and 20,000 in hilly and tribal areas and one Community Health Centre (CHC) for a population of one lakh.

## **SECONDARY AND TERTIARY HEALTHCARE SYSTEM IN TAMIL NADU**

There are 31 District Head Quarter Hospitals, 154 Taluk Hospitals, 76 Non-Taluk Hospitals, 19 Dispensaries, 10 Mobile Medical Units, 7 Women and Children Hospitals, 2 T.B. Hospitals, 2 T.B. Clinics, 7 Leprosy Hospitals/Centres and 47 Medical Education College Hospitals, catering to the requirements of both secondary and tertiary healthcare systems in the State. Totally 9184 doctors, 12,848 nurses and 6924 para medical staff are working in these institutions in 2013-14. The total bed strength in these institutions in 2013-14 was 55,084.

In addition to rendering secondary healthcare services, the District Headquarters Hospitals and Medical Education College Hospitals also follow close behind in offering specialized health care facilities backed by excellent

diagnostic tertiary care support anywhere in the State. In such situation, the progress made under tertiary healthcare has been inbuilt with secondary healthcare system. The primary, secondary and tertiary health care delivery systems are being revamped and fine tuned in such a way that health care is delivered efficaciously to the people at the bottom of the economic pyramid. Considerable achievements have been made in Tamil Nadu in health indicators like life expectancy at birth, infant mortality rate and maternal mortality rate. Among the major States Tamil Nadu ranks 'fourth highest' in terms of life expectancy at birth, 'second lowest' next only to Kerala in terms of infant mortality rate and birth rate, 'third lowest' in terms of maternal mortality rate and 'tenth lowest' in terms of death rate. Small pox, polio and guinea worm have been eradicated.

#### Review of Literature

Jayakumar and Palaniyammal (2016) the research found that social and economic justice, equality of status and opportunities and cultural and educational status are insured by the Constitution of India for all citizens and also provide enriched provisions for scheduled caste and tribes. This paper addresses the socio-economic status of the scheduled tribes in Kalrayanhills Salem district Tamilnadu (India). The majority of the household occupations are Agriculture. Cultivation is the primary occupation participated by the most heads of the sample households. Income from cultivation support majority of the sample population. More than 83 percent of the agriculture has from income around below Rs 5000-10000 level. Even daily wage labours are present in the sample population. There is a need to put more attention on educational aspects of scheduled tribes, where this only can motivate them for future life.

Sunil Franklin and Muthuswamy (2016) was explored the tribal population in India constitutes 8.6% of the country's population (Census, 2011) and is considered as socially and economically backward and disadvantaged. Tribal poverty has come into sharp focus since their food sources from the forest have started dwindling. Also, widespread poverty, illiteracy, undernutrition, absence of safe drinking water and sanitary living conditions, poor maternal and child

health services and ineffective coverage of national health and developmental services have been identified by several studies, as possible contributing factors to the dismal health conditions prevailing among the tribal population in India. In this article, the author focuses on certain interacting factors like the infant mortality rate, life expectancy, genetic disorders, sexually transmitted diseases, nutritional status, child health and health care practices which are generally responsible for determining the health status and health behavior of tribal communities.

Venkatachalam and Nagarajan (2012) has been childhood is an important phase in human life span and it should be protected at any cost, because during the childhood, a child has to get all the essential inputs. The healthy food, happiness, recreation, love, care, affection etc., are prominent among them. If any one of the things is missing, even partially, the desired outcomes cannot be expected from the child. The social institutions have crucial role to bring up the children positively. However, many of our children are unable to live comfortably and happen to face many problems in their life. Some of them are not attending the schools, few are roaming in the streets and others suffer with the underweight. Though, many programmes of India are focusing on the welfare of the children and we are not in a position to reach the most wanted results. The health is a compact mechanism because; healthy individual can contribute their best in institution building process. In this context, a considerable proportion of the children are born in India with low weight due to under-nutrition. Even though it is related to health dimensions but the socioeconomic factors are involved much in it. The ignorance of the mothers and the prevailing social phenomena are still playing significant roles in malnutrition of the children. In this context, the paper throws its light on the issue on the basis of an empirical study.

The Twelfth Plan (2012-2017) report has been focused that its attention on reducing infant mortality rate to 13 per thousand live births and maternal mortality rate to 44 per lakh live births, universal access to public health services, prevention and control of communicable and non-

communicable diseases, maintaining gender and demographic balance, revitalize Indian Systems of Medicine and promoting a healthy lifestyle. The total funds earmarked for health sector during the plan period is Rs.10,832crore which accounted for 5.1 percent of the total Twelfth Plan outlay of the State.

### **CHALLENGES AND OUTLOOK**

The public health sector suffered with the following limitations:

The unfinished agenda of maternal and child mortality, HIV/AIDS pandemic and other communicable diseases still exerts immense strain on the overstretched health systems. Health systems are grappling with the effects of re-emerging diseases (drug-resistant TB, malaria, SARS, avian flu and the current H1N1 pandemic). The Integrated Disease Surveillance Project was set up to establish a dedicated highway of information relating to disease occurrence required for prevention and containment at the community level, but the slow pace of implementation is due to poor efforts in involving the critical actors outside the public sector. Public health diagnostic laboratories have a good capacity to support the government's diagnostic and research activities on health risks and threats, but are not being utilized efficiently. Mechanisms to monitor epidemiological challenges like mental health, occupational health and other environment risks are yet to be put in place.

Private out-of-pocket expenditure dominates the cost financing healthcare the effects are bound to be regressive. There is an increasing trend in lifestyle diseases. Non-availability of life saving drugs in health institutions. Reluctance of doctors to serve in rural areas. There is a growing tendency in using antibiotics in treatment of many diseases without understanding the ill-effects of such irrational use. Indiscriminate use of antibiotics will result in reduction in the immune system of the body and ultimate result of diseases becoming not resistance to antibiotics. There was a wide spread practice among the public to purchase even the harmful drugs without knowing their ill-effects over the counter of the medical shops without any prescriptions.

### **RESEARCH GAP**

From the above literatures of previous studies the researcher has identified the research gap in the present study. There are studies in the field of healthcare services and various types of components associated. Only few researchers have been conducted in healthcare services approaches. Further, few the researchers have been conducted in tribal health conditions approaches. They have also considered only limited factors. The researcher has identified the core factors from the literatures. Such as ailing and treatment seeking behavior of tribes, fiscal capital, human capital, physical capital, environmental conditions of surrounding of tribes, women and child nutritional and health status, health protection measures like insurance conditions for ability to pay for insurance premium etc., the researchers has also extended to study the demographic variables with healthcare factors between these dimensions. It is evident that the researchers have gone through various literature pertaining to social, cultural, economic, and environmental and health status of tribes. But none of the studies has made an attempt to rectify the above gap through conducting an academic survey of household respondents. In order to fulfill the research gap in the present study is being undertaken. So the researcher has been intended to study the economic analysis of health status of tribes in KalrayanhillsinTamilnadu.

### **THEORETICAL BACKGROUND**

Health economics is a behavioral science. It provides valuable insights and empirical evidence on important health policy issues and health services research. The health economists investigate positive issues-empirical relationships among variables as they are more frequently than they do normative issues, or policy recommendations about how resources should be allocated and distributed. The positive issues are inquiries into the response of demand to changes in the price of personal health care services, individuates choices among several health insurance plans, the decision to short or stop smoking, the decisions pharmaceutical manufactures make about investment in research and development, determinants of physicians fees and hospitals price and

output decisions.

### **STATEMENT OF THE PROBLEM**

The role of healthcare in improving a nation's wealth and spurring economic growth is well established. India is among the fastest growing economies in the world and is poised to become the second largest economy in the world according to a recent report from the Price Water House Coopers International Limited (PWCIL). India's human development index score, weighed down by poor healthcare indicators is, however poor at 0.519 ranking India at 199 out of 169 countries just ahead of Timor-Leste and Swaziland India's healthcare.

The literature available reflects that there are no much studies conducted on socio-cultural perspectives of health and illness. There are very less studies held on tribal health especially in the case of Kalrayan hills. The earlier studies have given more emphasis on particular aspects like health, economic status where as present study will give more emphasis on socio-cultural aspects in Tamilnadu district of Kalrayan hills. A scientific method of study is necessary to gain knowledge of the problem of a study. In order to make the present study a scientific one the researcher followed certain research procedures. The present study is an attempt to analyse what are the problems existing among the elderly tribal healthcare services and how the attitudes of the member of the society affect the elderly women.

The objective of this study is to understand the health status of tribes in Kalrayan hills in Tamilnadu. It is also to exhibit the tribal's perception and preparation for ailing and health treatment behavior of tribes in the present study area. It could perceive losses of child due to diseases long and short span. Farther it could examine their adaptation measures, demographic characteristics, and environmental conditions of tribes in the study area.

### **SIGNIFICANCE OF THE STUDY**

As things stand today, there is a marked emphasis in favour of already developed section the settled agriculturist tribes at the cost of least developed ones. Everywhere in the country the tribes show a great variation in the economic, social, political, educational, and health spheres. They are also subject to differential treatment

from the government, NGOs and social scientists. As a consequence they have differential opportunities of development which affects their probability of survival in the present circumstances the probabilities and circumstances that are not natural but man-made. It is important, therefore, to reclassify the Indian tribes, and institute new perspective and strategy for tribal development. The tribal's suffering is also due to inferiority complex. There are problems of alienation of land in their native places. The fertility of land also gets reduced due to carelessness. There is heavy economic loss due to indiscriminate deforestation. Owing to the impact of governmental programmers and modernization, tremendous changes took place in the living conditions of the tribal 26 community. The tribal's in India are passing through a phase of economic change along with the rest of the society.

### **RESEARCH QUESTIONS**

The following questions are there to find answers subsequently in this research study:

- How effective tribal healthcare programmes and schemes implemented by the government in the present study area?
- How effective the tribal child and women nutritional status of the present study area?
- How does effectiveness of programmes on environmental awareness perceived by tribes in the study area?

### **OBJECTIVES OF THE STUDY**

- To examine the demographic characteristics of tribes in Kalrayan Hills in Tamil Nadu.
- To exhibit health status of tribes in Kalrayan Hills of Tamil Nadu.
- To analyse child nutritional and health status of tribal's in the present study area.
- To study the environmental conditions of surrounding of tribes in the study area.
- To understand the perceived effective of tribal healthcare services related programmes responded by tribal household respondents in the study area.

### **Hypothesis**

H1: There are no significant gaps in effectiveness of tribal healthcare services in the present study area.

## **METHODOLOGY**

### ***Area of the Study***

The present study area is Kalrayan hills in Salem district in Tamil Nadu. The study mainly to addresses the health status of Scheduled Tribal population in the Kalrayan Hills. The study areas are selected from two panchayats on the basis of higher scheduled tribal population in Salem district scheduled tribal population in Pethanickenpalayam in Kalrayanhills selected in two Panchayats in Chinnakalrayan hills Therkunnadu in Kurmandurai, Chinnakalrayanhills Vadakkunadu in Pagudupattu,.

### ***Period of the Study***

The duration of the survey was carried out for primary data collection during October 2017 to September 2018.

## **RESEARCH DESIGN**

### ***Sources of data***

The present study based on both primary and secondary data. The primary data have been collected through well-structured interview schedules. The details regarding demographic characteristics, healthcare, morbidity pattern, child and women care, etc. were collected through the well-structured interview schedule. The secondary data has been collected from the reputed published and unpublished annual reports, records, documents, and journals which were related to the health have been used for analysis. The secondary sources were collected the office of Assistant Directorate of statistics at Salem district, Deputy Director of Family Welfare Office, Deputy Directorate of Medical and Rural Health Services office, Healthcare Centres in the Salem district.

### ***Sampling Technique:***

The present study has been as a descriptive study used probability sampling procedure with the help of multi-stage stratified random sampling technique has been to apply in the present study.

### ***Sampling Size***

The data to be collected in two revenue villages are randomly selected to study namely Chinnakalrayan Hills Therkunadu, and Chinnakalrayan Hills Vadakkunadu in Salem district tribal areas in Kalrayan hills region. Apart from these, each village consists of 50 households are

interviewed and the total sample size is  $(2 \times 50 = 100)$  based on convenient sampling technique. The total tribal population in the above mentioned present study areas in Pethanayakkanpalayam block of Kalrayan hills block wise and village wise are presented below.

## **RESULTS AND DISCUSSION**

The total population of Tamil Nadu stood at 7,21,47,030 in 2011, with the tribal population at 794,697. The tribal population has risen from being 1.04% of the total population in 2001 to being 1.1% of the total population as per the Census of India, 2011. Tamil Nadu has 0.76% of the total ST population in India. 1.13% Most of the ST population in Tamil Nadu is rural. Greater urbanization has occurred among STs in other parts of India, than in Tamil Nadu. 1.8% of the ST population is rural, (increased from 1.6% in 2001) but the urban population has stood at 0.4% unchanged from 2001. Apart from the study areas information reveals that the General characteristics of the respondents are inferred that Of the 100 respondent's majority (66%) were females. Fifty percent of those interviewed were aged 25 to 44 years and 29% were aged 45 years or more. With regard to literacy status, 53% were illiterates; 45% were literate of whom 2% had not attended any school but could read and write, and the remaining had formal schooling. Regarding employment, among those interviewed 45% were engaged in Agriculture work; 39 (8%) were skilled labourers, only 2% were in government service and 33% were housewives.

The people of tribal community often fall sick. Lack of nutritious food is one of the reasons for the low immunity which increased the susceptibility to diseases. The women of Tribal communities' suffer from low blood count and anemia. Traditional practices which these tribes followed are on the decline. There is also a shift in the agriculture from food crops to plantation crops. Tribal are exploitation by middlemen and traders in the process of getting their forest produce to the market and village shandies to be held in weekly and monthly situated in their surrounding areas.

The study observed Mobile Medical Unit (MMU) of the respective Primary Health

Centre (PHC) goes for village visit and by doing they would be visiting every village atleast once in a month. The tribals unwillingness to access even medicare and a pregnant woman from the tribal village was brought to PHC by the medical team for delivery and she ran out of hospital without anybody's knowledge in the hospital and went back to her village. The MMU went in search of her could not convince her to come to PHC. By staying campaigns need to go for some more time-till such time the health seeking behavior of the people becomes good.

**INADEQUATE HEALTH INFRASTRUCTURE**

The number of allopathic doctors, nurses and midwives in India is less than a fourth of the WHO bench mark (Rao et al 2011). This has led to recourse to unqualified medical practitioners in the rural areas (Rao,

Bhatnagar and Berman2009). Besides, the ratio of nurses to doctors in India is extremely unfavourable in comparison to some of the better performing countries. When adjusted for qualification, the ratio of nurses to doctors is about 0.6:1, i.e it is less than one nurse per doctor (Rao et al 2011). In many developed countries this ratio is about 3:1, three nurses to one doctor. Furthermore, there is an acute shortage of paramedical and administrative professionals. Many patients, especially those living in tribal areas, are still receiving health services from unqualified practitioners. The industry needs an additional 1.54 million doctors and 2.4 million nurses to match the global average. India's healthcare average professional and infrastructure shortage is one of the major reasons for the country's high mortality rate. It is depicted the following Table No.1.

**India and Other Countries during 2013**

	<b>Health Infrastructures (2013)</b>	<b>India (%)</b>	<b>China (%)</b>	<b>Brazil (%)</b>	<b>Russia (%)</b>	<b>Africa (%)</b>	<b>USA (%)</b>
1.	No.of Beds / 1000	0.7	1.57	2.38	9.65	3.50	4.10
2.	No.of Physicians/1000	0.58	1.57	2.38	4.31	0.77	2.67
3.	No.of Nurses/ Midwives/ 1000	1.27	1.28	2.91	8.52	4.08	9.62
4.	No. of Dentist/1000	0.43	1.9	2.3	6.0	5.3	7.73
5.	No.of Pharmacists/1000	1.72	2.3	3.5	10.2	5.44	6.71

Source: World Health Statistics-2013

**Table No.2**

**Health status of Tribals in Kalryan hills in Tamil Nadu during 2014**

<b>S.No</b>	<b>Indicators</b>	<b>Kalrayan Hills</b>	<b>Tribal Situation</b>	<b>Tamil Nadu</b>	<b>India</b>
1.	Life Expectancy at Birth	-NA-	-NA-	68.6 M 71.8 F	64.6 M 67.8 F
2.	Crude Birth Rate /1000	-NA-	-NA-	15.6	21.4
3.	Infant Mortality Rate/1000	147	110	79	301
4.	Crude Death Rate	20	13	7.0	7.3
5.	Maternal Mortality Rate/1,00,000 live births	* No Maternal mortality	-NA-	66	130
6.	Total Fertility Rate	-NA-	-NA-	1.8	2.9
7.	LBW Babies/ 1000 new born	-NA-	40%	16.3	14.3
8.	Family Size	-NA-	4.2	3.9	4.8
9.	Delivery by TBA	-NA-	12%	-NA-	-NA-

Source: National Institution for Transforming India, Govt.of India (NITI Aayog)

\* No Maternal mortality in the last 10 years

The Table No. 2 clearly inferred that the number of patients increasing every year with 31811 patients seen in 2014. There was no maternal mortality in Kalrayan hills in the past ten years as per 2013. Infant mortality rate was brought down from 147 per 1000 in 1993 to 20 per 1000 in 2013. Malnourishment in children has reduced by 70%. Pregnant mothers' checkup increased from 11% to 95%.

Deficiency of essential components in diet leading to malnutrition, protein calorie malnutrition and micronutrient deficiencies (vit A, iron and iodine) are common. Water borne and communicable diseases: gastro-intestinal disorders, particularly dysentery and parasitic infections are very common. Genetically transmitted disorders-Sickle cell anemia, glucose 6 phosphate dehydrogenase deficiency, thalassaemia Measles, chicken pox, unsafe delivery, snake bite, fever, typhoid, malaria, pneumonia, tetanus, fits excess consumption of alcohol in few tribal communities. Without awareness of health issues, most tribal populations tend to fall ill more frequently and wait too long before seeking medical help, or are referred too late by untrained village practitioners. In the past, most health awareness campaigns, which need significant investments over long periods of time for noticeable impact, were planned by the medical community instead of by communications experts. The form and content of health messages was not pre-tested to ensure proper comprehension and absorption by target groups. Moreover, the campaigns' meager effect was easily nullified by the tribal population's poor experience with health workers.

#### **FACTORS INFLUENCING TO INCREASED DISEASE IN THE TRIBAL AREAS:**

- Poverty and consequent under nutrition
- Poor environmental sanitation, poor hygiene and lack of safe drinking water
- Lack of access to healthcare facilities resulting in increased severity and/ or of illness
- Social and economic barriers preventing utilization of available healthcare services
- Specific diseases they are prone to such as genetic diseases, infections, etc.
- Diseases which are which are more prevalent in tribals

- Lack of awareness about and access to healthcare
- Make the awareness about preventive and curative medical care through traditional and modern healthcare systems
- Awareness and understanding about healthy food habits and food processing
- Cleanliness and sanitation into their surroundings
- Use of balance diet to solve the problems of vitamin and protein deficiency
- Establishment of traditional medical and care centres with qualified doctors in Auyurved, homeopathy, Unani and Sidha.

#### **Major Findings**

- The number of patients increasing every year in Kalrayan hills tribal area.
- Malnourishment in children has reduced by 70%.
- Pregnant mothers' checkup increased from 11% to 95%.
- Majority 95% of pregnant mothers are undergoing medical checkups.
- There are 7 out of 100 children still die during the first year.
- Underweight children are only 30% compared to 50% earlier
- There is lower the rate of maternal mortality / mothers died in childbirth during the last 3 years.
- There was no maternal mortality in Kalrayan hills in the past ten years as per 2017.

#### **SUGGESTIONS**

The important suggestions can be made regarding healthcare services in tribal areas.

- \* Improvement of healthcare infrastructure
- \* Developing a flawless referral system
- \* Provide diagnostic facilities for genetic defects
- \* Follow up of anemic and other severe patients
- \* Carryout population genetic survey programmes
- \* To provide better health education
- \* To provide necessary and adequate genetic counseling
- \* To provide necessary marriage counseling
- \* To give prenatal diagnosis properly
- \* The availability of primary health centres and with sufficient requirement of medicines
- \* To effective implementation of the

health & family welfare programmes

- \* To frequently monitoring, early detection of problems of implementation and midcourse correction

Regular clinics in all villages to see all pregnant mothers and children less than five years

- \* Refreshing and sharing knowledge with tribal women

- \* Tribal girls working as health workers

- \* There is an emerge to postnatal checkups in all tribal villages once in a week

- \* Health education and discussion of social problems

- \* Dramas and cultural shows to spread information

- \* Outpatients & inpatients seen at the Tribal hospital

- \* Bring all tribal women and children through childbirth alive and well

- \* To ensure children grown up well nourished

- \* To give easy and to provide good healthcare at cheaper price

- \* To share their knowledge of healthcare with tribal communities so it becomes part of their wisdom and day to day experience

- \* To attain the highest possible level of physical, mental and social health

- \* To create an atmosphere highly conducive for the growth and development of local cultures and customs

### **CONCLUSION**

From this paper we concluded that health has to be acquired and cannot be bestowed on anyone all. Therefore, this applies equally to the individuals and community. People themselves and community organisations play a pivotal role in initiating, promoting and sustaining health development of the society. Ignorance of the people needs to be placed by knowledge and skill. A massive information, education and communication drive is necessary to inform the tribal people on health institutions. NGO's and others concerned are must to ensure health for all in the country. Unless the people are healthy, it is very difficult for them to participate effectively in economic development. It is necessary to continue with primary healthcare educational activities, national and regional level health and tribal health programmes and other necessary measures of providing proper

nutrition and counseling and with the help from experts from multi-disciplinary fields, the health status of the tribal population can be improved.

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# 70. AN ECONOMIC ANALYSIS OF INDIA'S BALANCE OF PAYMENTS SINCE 1991

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## INTRODUCTION

**B**alance of payments is the economic transactions of a country with the rest of the world. The balance of payments has been an important indicator of the growing economic activities in all the countries. It shows the true economic situation of a county at the external front and any favourable balance of payments would be driving the economy for further development. It reflects how much a country is technically developed and competitive in the world market. A study of balance of payments helps in the formulation of trade and fiscal policies. It may be useful even to those who are involved in domestic affairs only, since they too are affected by fluctuations in foreign exchange rates and by changes in price levels abroad. It is of great value in forecasting its business and economic conditions. The more accurate the material in the balance of payments, the more valuable it becomes as a basis for the study of economic and business conditions of a country.

## IMPORTANCE OF BALANCE OF PAYMENTS

A nation's balance of payments is a quantitative summary of a country's international transactions over a period of time. It reveals various aspects of the country's international economic position. It informs the government about the international financial position of a country. It also helps the government in taking decisions on monetary and fiscal policies on the one hand and external trade and payments issues on the other. Balance of payments is also used to determine the influence of foreign transactions on the level of national income. In the case of an underdeveloped country balance of payments shows the extent of dependence of a country's economic development in financial assistance given

by the developed capital lending country. The greatest importance of the study of balance of payments lies in its serving as an indicator of the changing international economic position of a country. The balance of payments is an economic barometer which if properly handled by economic analysis can be used to appraise a nation's short term international prospects to evaluate the degree of its international solvency and to determine the appropriateness of the exchange rate of a country's currency.

## OBJECTIVES OF THE STUDY

The researcher has framed the following objectives to inquire into the research area

1. To analyse the trend and pattern of balance of payment under current account during the study period.
2. To study the trend and pattern of balance of payment under capital account during the study period.
3. To suggest suitable policy measures to correct disequilibrium in balance of payments and correcting balance of payments deficit.

## METHODOLOGY

The present study is based mainly on the information from the published data and secondary sources which are released by National and International financial Institutions like Reserve Bank of India, Department of Director General, Government of India, and the World Bank. The compilation of data on Balance of Payments from Reserve Bank of India (RBI) Bulletins and visible trade by Directorate General of Commercial Intelligence and Statistics (DGCIS). This is the chief sources of India's Balance of payments. The study covers 22 years period that is from 1991-1992 to 2012-2013. The study period is

chosen because of the cause of the major economic reform programmes and political changes that have occurred from 1991 in India and availability of the data for this period.

**Period of the Study**

The amount of work is always limited by shortage of time and resources in most of the research works. The period of study is confined from 1991-1992 to 2012-2013. However, the period varies depending on the availability of data.

**Statistical Tools**

Application of Statistical tools is mainly concerned with reduction of large number of observed data to the point where general trends become apparent. An attempt is made to employ the following tools like annual compound Growth rate, Method of Least Squares and Co efficient of Regression are used in this study.

**Tabular Analysis**

Tabular analysis technique was largely used. Ratios, percentages, mean etc., were also worked out.

**Trend Analysis**

To know the trends in the balance of payments over a period of 22 years (1991-1992 to 2012-201) trend analysis has been calculated:

General Exponential Equation  $Y = a + bx$

**Table 1**

**Trends in the Receipts and Payments of Current Account Components**

Year	Receipts (Rs.Billion)	Growth rate %	Payments (Rs.Billion)	Growth rate &	Net Balance (Rs.Billion)	Growth Rate %	Receipts/ Payments
1991-92	683.72	-	706.07	-	-22.35	-	96.83
1992-93	818.06	19.64	945.67	33.93	-127.64	471.09	86.50
1993-94	1066.48	30.36	1102.82	16.61	-36.34	-71.52	96.70
1994-95	1331.68	24.86	1437.51	30.34	-105.83	191.22	92.63
1995-96	1679.25	26.10	1875.71	30.48	-196.46	85.63	89.52
1996-97	1972.86	17.48	2135.68	13.85	-162.82	-17.12	92.37
1997-98	2189.48	10.98	2398.31	12.29	-208.83	28.25	91.29
1998-99	2528.95	15.50	2696.84	12.44	-167.89	-19.60	93.77
1999-00	2942.02	16.33	3145.33	16.63	-203.31	21.09	93.53
2000-01	3556.30	20.87	3672.28	16.75	-115.98	-42.95	96.84
2001-02	3884.53	-18.88	3720.27	1.30	164.26	41.62	104.41
2002-03	4628.36	60.45	4321.76	16.16	306.60	86.65	107.09
2003-04	5493.28	18.68	4853.45	12.30	639.83	108.68	113.18
2004-05	6933.35	26.21	7055.09	45.36	-121.74	-80.97	98.27
2005-06	8634.08	24.52	9071.45	28.58	-437.37	259.26	95.17
2006-07	11000.17	27.40	11444.00	26.15	-443.83	1.47	96.12
2007-08	12660.96	15.09	13295.76	16.18	-634.78	43.03	95.22
2008-09	16283.91	28.61	17560.20	32.07	-1276.29	101.06	92.73
2009-10	16379.17	0.58	18176.16	3.50	-1796.99	40.70	90.11
2010-11	20328.93	24.11	22525.47	23.92	-2196.54	22.23	90.24
2011-12	25359.97	24.74	29119.70	29.27	-3759.73	71.16	87.08
2012-13	28865.83	13.82	33661.93	15.59	-4796.10	27.56	85.75
Average	8100.97	20.35	8860.06	20.65	-713.64	65.16	93.57

Source: Handbook of Statistics on Indian Economy, Reserve Bank of India (Various Issues).

Table 1 deals with the current account component of Balance of Payments in India. The current account net deficit has been continuously rising during whole period of study. The current account receipts has been increasing from Rs.683.72 billion in 1991-1992 to Rs.1066.48 billion in 1993-1994, Current account receipts again shows rising trend and increased to Rs.3556.30 billion in 2000-2001. It increased significantly to Rs.16283.91 billion in 2008-2009 and to Rs.28865.83 billion in the last year of study period. Current account payments during the study period increased than receipts it is Rs.706.07 billion in 1991-1992, and then again increased to Rs.2135.68 billion in 1996-1997, which further increased to Rs.4853.45 billion in 2003-2004. It again rapidly increased to Rs.11444.00 billion in 2006-2007 and finally stood at Rs.33661.93 billion in 2012-2013.

The current account deficit was maximum in the year 2012-2013 (Rs.4796.10 billion) and minimum in the year 1991-1992 (Rs.22.35 billion). On the average, net current account deficit is Rs.713.64 billion. The annualized average receipts is Rs. 8100.97 billion and payments is Rs.8860.06 billion on this account. It is evident from table that ratio of receipts/payments declined from 96.83 percent in 1991-1992 to 85.75 percent in 2012-2013. The current account shows a surplus during the periods and ratio of receipts to payments exceeds 100 percent (2001-2002 to 2003-2004). Therefore due to increased inflow in the current account in the years 2001-2004 showed surplus in BoP. The balance of trade does not balance and shows a deficit in all the 22 years of study period except three consecutive years from 2001-2002 to 2003-2004. In the years 2011-12 and 2012-13 trade deficit has substantially increased due to Economic Slowdown in advanced countries and its severe impact on emerging market economies coupled with high crude oil and gold prices. The current account receipts and payments are having both visible and invisible components. The change in the proportion of this component do have the impact on overall Current Account Deficit (CAD).

Table 2 reveals capital account components of BoP. Net balance on this account increased from Rs.121.27 billion in 1992-

1993 to Rs.4857.34 billion in 2012-2013. Net receipts showed a continuous positive increase but during 1998-1999 and 2001-2002 it remained stable. During post liberalization period, the capital account of India's balance of payments indicated strength and reliance. Net capital inflows showed decreasing trend during eight years out of the 22 years of Post liberalization Period. Net inflows on Capital account increased from Rs.279.03 billion in 1992-1993 to Rs.266.94 billion in 1994-1995 and further increased to a notable figure of Rs.426 billion in 1996-1997, Factors responsible for four fold rise in the Net Surplus on the capital account during 1996-1997 were a sharp rise in non-resident deposits respectable increase in foreign investment flows, net inflows of external assistance and a decline in repayments to the IMF.

Afterwards, net balance on this account declined to Rs.453.28 billion and then to Rs.410.80 billion in 2001-2002. It was mainly due to reduction the volume of Private capital inflows in the result of East Asian Crisis. But from 2002-2003 onwards, again net balance rose significantly from Rs.523.66 billion in 2002-2003 to Rs.1253.67 billion in 2004-05 and then declined to Rs.1119.65 billion in 2005-2006 again increased to Rs.2474.91 billion in the year 2006-2007. It reached the peak level from Rs.17579.33 billion in 2007-2008 and to Rs.256456.56 billion in the year 2012-2013. It was mainly due to increase in the contribution of Private capital receipts to total capital receipts along with official capital receipts.

The receipts on the capital account has been showing significant increase which lead to capital account surplus. The receipt on this account increased from Rs.572.99 billion in the year 1991-1992 to Rs.1285.59 billion in the year 1996-1997, it further increased to Rs.4416.75 billion, and finally stood at Rs.256456.56 billion in the year 2012-2013. The payments on capital account have also been depicting increasing tendency but lesser than receipts. Hence there has been surplus balance registered in this account. But this movement of trend is not uniform due to extensive fluctuations in its components. For almost all the years under the study period the net capital account

has been considered surplus. Totally, the analysis reveals that capital account balance remained in surplus during the whole episode.

On the whole the average receipts on this account is 17812.01 billion while average payments is 70.54 as a result current account surplus Rs.1227.48 billion. On other hand average receipts growth rate is 70.54 percent while average payment 22.30 percent as a result net receipt growth rate is 64.26 percent. The receipts/payments ratio increased from 120.65 percent in 1991-1992 to 1233.01 percent in 2012-2013 respectively.

IMF.

**Table 2 Trends in the Receipts and Payments of Capital Account Component**

Year	Receipts Rs.Billion)	Growth rate %	Payments Rs.Billion	G r o w t h rate &	Net Balance Rs.Billion)	G r o w t h Rate %	Receipts/ Payments
1991-1992	572.99		474.90		98.09		120.65
1992-1993	660.45	15.26	539.18	13.53	121.27	23.63	122.49
1993-1994	908.23	37.51	629.20	16.69	279.03	130.08	144.34
1994-1995	813.63	-10.41	546.69	-13.11	266.94	-4.33	148.82
1995-1996	816.45	0.346	673.33	23.16	143.12	-46.38	121.25
1996-1997	1285.59	57.46	859.45	27.64	426.14	197.75	149.58
1997-1998	1461.02	13.64	1094.97	27.40	366.05	-14.10	133.43
1998-1999	1435.60	-1.73	1076.79	-1.66	358.81	-1.97	133.32
1999-2000	1758.22	22.47	1304.94	21.18	453.28	26.32	134.73
2000-2001	2474.91	40.76	2068.81	58.53	406.10	-10.40	119.62
2001-2002	2064.04	-16.60	1653.24	-20.08	410.80	1.15	124.84
2002-2003	2242.37	8.63	1718.71	3.96	523.66	27.47	130.46
2003-2004	3479.74	55.18	2707.47	57.52	772.27	47.47	128.52
2004-2005	4416.75	26.92	3163.08	16.82	1253.67	62.33	139.63
2005-2006	6399.46	44.89	5279.81	66.91	1119.65	-10.69	121.20
2006-2007	10517.67	64.35	8483.94	60.68	2033.73	81.90	0.12
2007-2008	17579.33	67.14	13300.07	56.76	4279.27	110.10	132.17
2008-2009	14324.36	-18.51	14034.33	5.52	290.04	-93.22	102.06
2009-2010	16400.01	14.49	13959.52	-0.53	2440.48	741.42	117.48
2010-2011	22900.45	39.63	19988.78	43.19	2911.67	19.30	114.56
2011-2012	22896.39	-0.017	19706.10	-1.41	3190.29	9.56	116.18
2012-2013	256456.56	1020.07	20799.22	5.54	4857.34	52.25	1233.01
Mean	17812.01	70.54	6093.75	22.30	1227.48	64.26	172.20

Source: Handbook of Statistics on Indian Economy, Reserve Bank of India (Various Issues)

Projected Values for Current Account Receipts and Payments:

General Exponential Equation  $Y = ae^{bx}$

a) Estimated Exponential Trend line for Current Account Receipts is

$$Y = 619.0e^{0.175x}$$

Slope coefficient (b) = 0.175

Y-intercept (a) = 619.0

Years (x) = converted years 1, 2, 3...

b) Estimated Exponential Trend line for Current Account Payments is

$$Y = 647.5e^{0.176x}$$

Slope coefficient (b) = 0.176

Y-intercept (a) = 647.5

Years (x) = converted years 1, 2, 3...

**Table 3 Projected Trend of Current Account Receipts and Payments**

Years	X	Current Account Receipts	Current Account Payments
2016-2017	26	58577.46	62888.51
2017-2018	27	69780.18	74990.66
2018-2019	28	83125.37	89421.71
2019-2020	29	99022.79	106629.85
2020-2021	30	117960.52	127149.49
2021-2022	31	140520.02	151617.90
2022-2023	32	167393.95	180794.95
2023-2024	33	199407.41	215586.78
2024-2025	34	237543.32	257073.88
2025-2026	35	282972.58	306544.68

Source: Handbook of Statistics on Indian Economy, Reserve Bank of India (Various Issues)

Above table indicates the projected values for the Capital Account Receipts and Payment for India for a period of 10 years ranging from 2016-2017 to 2025-2026. Compared to 2016-2017 the Capital Account Receipts in 2025-2026 will have a 5.84 fold increase and the Capital Account Payments will have a 6.22 fold increase for the same period.

### CONCLUSION

The Development of a country may be inward and outward oriented. The external trade found a significant contribution to the growth of many countries in the world. The gate of Indian economy was deliberately opened in 1991 due to the crisis of external front. There has been significant change in the Indian Macro economy in a short period during post economic Reform. The balance of payments crisis of 1991 led the policy makers to review the trade strategy and as a result 'outward and oriented strategy' was adopted. The government undertook several reforms in the fiscal, financial, industrial and trade sectors. As the country is increasingly integrated into the world, it cannot remain impervious to developments abroad. Globalization and the process of liberalization over the past decades has led to the emergence of new capital markets, flexible exchange rate regimes and removal of controls on capital flows over the world. At the same time it led to fall in foreign investments, depreciation of rupee, and a reduction in industrial growth rate. A broader perspective of an external sector of Indian vividly presents its unique condition

in the world economy. No doubt the Indian economy has been making positive stride in world economy but with a problem in Balance of Payments. The economic reform remained a bag of mixed pleasing for India's growth strategy. A consistent and dynamic foreign exchange management, export promotion and integrating the Indian economy in a conscious way will prove to be the solution for its sustained Growth.

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# **71.FLY ASH GENERATION, DISPOSAL& UTILIZATION IN THERMAL POWER PLANTS– A STUDY OF TWO TPPS IN TAMIL NADU.**

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## **INTRODUCTION**

**P**ower development is the key to the economic development. Coal based thermal power stations are presently the mainstay of power development in our country and this is likely to be so in the immediate future also, considering the present status of the projects and various constraints in development of hydro and nuclear power. In India, unlike in most of the developed countries, ash content in the coal used for power generation is 30-40%. High ash coal means, generation of the large amount of Coal Combustion Residues(CCRs), out of which fly ash is the most prominent one.India ranks fourth in the world in the production of fly ash as by-product waste after USSR, USA and China (Senapathi., M. R (2011). Nearly 90 million tonnes of fly ash is generated per annum at present and is largely responsible for environmental pollution. In developed countries like Germany, 80 percentage of the fly ash generated is being utilized, whereas in India only 3% is being consumed and the remaining is discharged into land and mixed with water bodies.

Tamil Nadu which is the fourth largest State of the country, have four major coal based thermal power plants in the state with a capacity of around 2200 MW. The Thermal Power Plants (TPP) in Tamil Nadu generates about 100 lakh tonnes (10 million tonnes) of Fly ash every year. The cost of ash disposal in the state is becoming a problem as the land costs is on the rise and as environmental norms become more stringent. The present study aims to find out the method of disposal of fly ash in two major power plants of Tamilnadu. Moreover the method of utilization is also dealt with. Need and significance of the study:  
In Tamil Nadu fly ash is mainly utilized

by Cement Companies (at Rs.60/Tonne), and Small Scale Industries (Bricks, Construction, etc. at Rs.10/Tonne). But the total consumption is less than 6%, with the balance being pumped into the sea after mixing with sea water (eg. Ennore Thermal Power Plant, Chennai, Tamil Nadu). In Tamilnadu, the TamilNadu Pollution Control Board (TNPCB), established in 1982, is implementing the Pollution Control Legislations and Rules and Notifications framed there in. In discharging the duties entrusted to it, the Board investigates, collects and disseminates data relating to water, air and land pollution, lays down standards for sewage/trade effluent and emissions. The Tamil Nadu Pollution Control Board (TNPCB), is presently taking strict action to promote large scale utilization of Fly ash in building material industry. The Fly ash Brick Manufactures Associations and Tamil Nadu Industrial Development Corporation (TIDC) have suggested the Government to issue a new Fly ash policy. The present article attempts to highlight production and consumption of fly ash by two thermal power plants in TN.

Given the fact that economic growth of the nation is generally linked to power availability and given the trend of high proportions of coal based thermal power stations (TPS), fly ash generation is expected to reach 300 million tons per year and likely to continue to grow with same pace at least for next two to three decades(<http://cbrienviis.nic.in>). In Tamil Nadu 75% of the total energy production is met by thermal sources. So zero generation is an impossibility. Therefore the main concern is without affecting generation, how to take care of fly ash disposal. The best option is utilization. There are differences in fly ash utilization between state-owned, central government

owned units are utilizing out of compulsion, because Ministry of Environment and Forest wants it to be done in a phased manner. Tamil Nadu Electricity Board has arrived at an action plan for all four thermal stations to achieve 100% utilization before 2015 as directed in the GOI notification 1999. CEA report shows that this target is not achieved and among the state-owned units, differences exist in terms of utilization. In this context, the present study proposes to look into this contradiction between two thermal power plants in TN(Mettur & North Chennai).

### **REVIEW OF LITERATURE**

Michael, P. Bahor & Ken, L. Ogle (1981) in their report evaluated the economics of alternative methods of coal ash disposal for a new coal-fired power plant. In the study the wet versus dry methods were compared by evaluating the economic impact of each system component. The purpose of the study was to provide an indication of trends in ash disposal costs. A secondary purpose was to provide background information concerning ash disposal system design and selection. Present Worth and Total System Cost analyses were used. Their analyses indicated that economic selection of an ash disposal system is primarily influenced by site topography. Tarun R. Naik, and Shiw S. Singh (1993) in their work describes production and utilization of fly ash throughout the world. The utilization potential for fly ash generated from conventional as well as advanced coal combustion technologies is addressed. They have divided constructive use options for fly ash into three classes: low technology applications; medium technology applications; and, high technology applications and listed the options included in each class. For them the low technology applications include the use of fly ash in fills and embankments, pavement and sub-base courses, subgrade stabilizations, landfill cover, soil improvement, land reclamation, slurried flowable ash, and water pollution control. The medium technology applications include the utilization of fly ash in blended cements, lightweight aggregates, various types of concrete, precast/pre-stressed products, bricks, blocks, paving stones, artificial reefs, etc. The high technology applications involve the use of fly ash as a raw material for metal recovery,

filler for metal matrix composites, polymer matrix composites, and several other filler applications. TERI (2006) in its report aimed at understanding the ground realities in terms of associated costs and benefits accruing to users of fly ash. The cost-benefit analysis among the stakeholders in different sectors of utilization will help in distilling the perceived and real barriers to gainful utilization of fly ash. For this an Analytical Hierarchical Process model has been developed to rank the barriers identified in order to assess the most important barrier for each sector. This will help in addressing the barriers by the authorities. Sharda Dhandse et al (2008) in their review presents different ways of using fly ash and policies of Government of India regarding utilization and disposal of fly ash. Environmental and occupational health hazards associated with fly ash are also discussed.

The brief literature review shows that earlier studies attempted to estimate the potential of fly ash utilisation. But a continuation in analysis is required to find out the trend.

### **OBJECTIVES**

1. to examine the fly ash generation and utilization details of the two thermal power plants (Mettur and North Chennai) in Tamil Nadu
2. to measure the changes in amount of utilisation of fly ash by the Mettur and North Chennai TPP.
3. to analyse the mode of utilization of fly ash in both the power plants under study.

### **METHODOLOGY**

The study makes use of secondary sources of data. Fly ash generation, disposal and utilization data were collected for the respective power plants from the TNEB, Tamil Nadu Pollution Control Board & Central Electricity Authority (CEA) etc. Simple statistical techniques like tables, bar-diagram and Percentages have been made use of. A trend line is also fitted to the data so as to show the changes in amount of utilisation of fly ash between the two power plants. Fly-ash utilization depends on fly-ash generation. Fly ash generation in turn depends on the installed capacity of the power plant as well as on the coal consumption. So the installed capacity as well as the coal consumption details of the two power stations are taken into consideration.

**Table: 1. Installed capacity ofMTPP and NCTPP in Tamil Nadu. (mw)**

Name of Power Utility	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Mettur TPP	840	840	840	1440	1440	1440	1440
North Chennai TPP	630	630	630	630	1830	1830	NA

Source: CEA Report

The above table shows that MTPP had more installed capacity than NCTPP till the year 2013-14. But after 2013-14 there was an expansion in the installed capacity of NCTPP.

In order to achieve our country’s economic growth of 8-9 percent, total coal demand, has been forecasted to increase from 730mt in 2010-11 to 2000 mt in 2031-32 (India Energy Book, 2012). Indian coal is low grade with ash content of the order of 30-45%. High ash coal means more generation of fly ash. As energy consumption goes up, co-generation of fly-ash also goes up. The table below shows the coal consumption details of the two Power Plants.

**Table: 2. Coal Consumption inMTPP &NCTPP in Tamil Nadu. (mtpa)**

Name of TPP	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Mettur TPP	4.53	4.89	4.56	6.53	7.00	6.66	6.38
North Chennai TPP	3.29	3.07	3.48	2.84	7.31	7.29	NA

Source: CEA Reports

\*mtpa – million tonnesper annum

The above table illustrates the amount of coal consumed by MTPP and NCTPP. Till 2013-14MTPP consumed more as the installed capacity was more for it. But after 2013-14 NCTPP preceded MTPP.

Indian coal is of low grade with ash content of the order of 30-45 % in comparison to imported coals which have low ash content of the order of 10-15%. Coal available from different sources is graded in terms of the UHV(USEFUL Heat Value). Using this technique, available coal in India has been classified into seven grades, A to G. For superior grades (A, B, C), the (A+M; A= Ash content and M = Moisture content) percentage is less than 30.0 while for inferior grades (E, F, G), it is more than 30.0. In between lies the intermediate grade D (Mujumder., 2002). The table below shows the fly ash generation of the two power plants under study.

**Table: 3. Fly Ash Generationof MTPP and NCTPP in Tamil Nadu. (mtpa)**

Name of TPPs	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Mettur TPP	1.61	1.65	1.34	1.68	1.81	2.07	2.07
N o r t h Chennai TPP	1.16	0.96	1.11	0.83	2.13	2.25	NA

Source: CEA Reports

It is evident from the table that the MTPP produces more fly ash when compared to NCTPP till 2013-14. But afterwards when installed capacity increased in NCTPP, there was more usage of coal and so more by-product.

1. to measure the changes in amount of utilisation of fly ash by the Mettur and North Chennai TPP.

A large number of technologies have been developed for gainful utilisation and safe



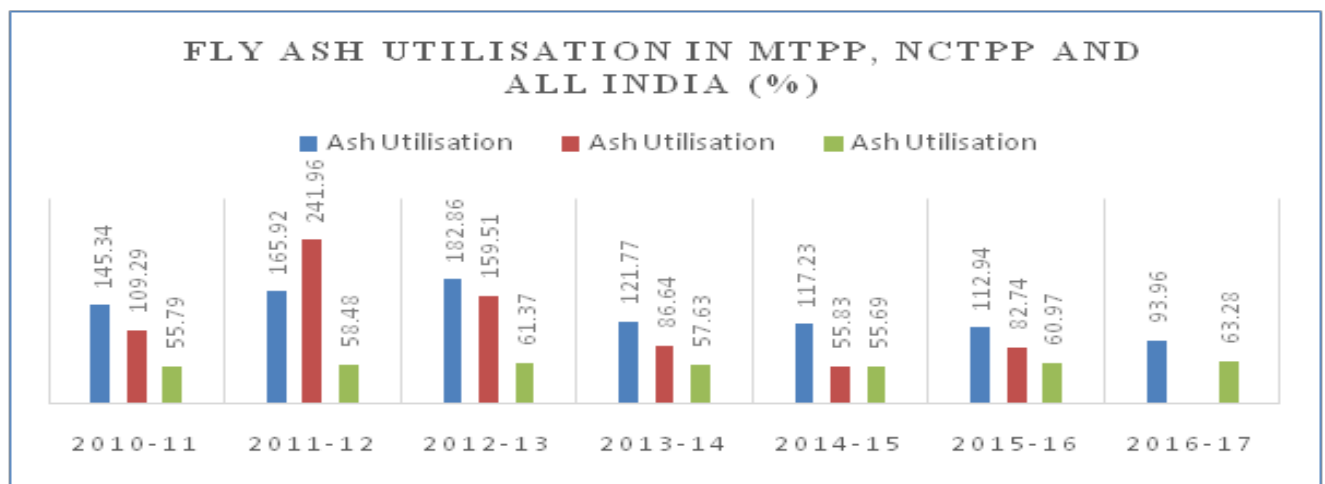
management of fly ash under the concerted efforts of Fly Ash Mission of the GOI since 1994. The quality of fly ash produced by TNEB power stations is extremely good in chemical and physical content. GOI, MOE&F have (vide notification No. S.O. 763(E) dated 14/9/1999) issued directives to thermal stations to make necessary arrangements for 100% utilisation of ash in a phased manner. In Tamilnadu, most of the ash is being disposed in two ways – dry and wet form. Pressurised dry disposal is through silos except EnnoreTPS (manual collection). In wet collection, fly ash is mixed with water in the ratio of 1:12.5 and pumped to ash pond in slurry form. The pond ash is collected by cement manufacturers in Mettur since the slurry matter is formed by Cauvery river water. Remaining TPS it is unclaimed since it is mixed with sea water. The table below shows the utilisation pattern in the two respective power stations along with the national level utilisation.

Name of TPPs /Year	Mettur TPP			North Chennai TPP			India		
	Generation MT	utilisation MT	%	Generation MT	utilisation MT	%	Generation MT	utilisation MT	%
2010-11	1.61	2.34	145.34	1.16	1.27	109.29	131.09	73.13	55.79
2011-12	1.65	2.74	165.92	0.96	2.32	241.96	145.41	85.05	58.48
2012-13	1.34	2.46	182.86	1.11	1.77	159.51	163.56	100.37	61.37
2013-14	1.68	2.05	121.77	0.83	0.72	86.64	172.87	99.62	57.63
2014-15	1.81	2.12	117.23	2.13	1.19	55.83	184.14	102.54	55.69
2015-16	2.07	2.34	112.94	2.25	1.86	82.74	176.74	107.77	60.97
2016-17	2.07	1.94	93.96	0.00	NA	NA	169.25	107.1	63.28

Source: CEA Reports

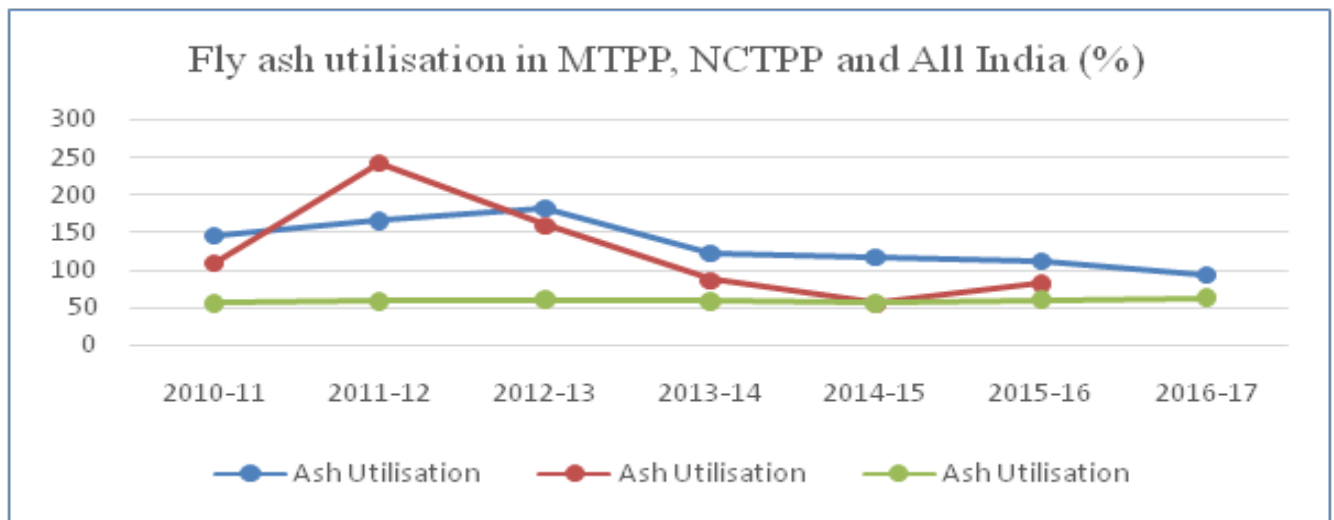
The above table shows the ash generation and utilisation data as well as the percentage of utilisation in MTPP, NCTPP and All India level. Fly ash generation and utilisation is high in MTPP compare than NCTPP.

**Chart: 1. Percentage of Fly Ash utilization of MTPP and NCTPP in Tamil Nadu.**



From the chart it is obvious that except in the year 2011-12, in all the remaining years the utilization of Mettur Power Plant was more. But when compared to the all India average both the TPPs in TN were better off in terms of utilization. The trend line below shows that there is a wide fluctuation in the amount of utilization especially in the NCTPP.

**Chart: 2. Percentage of Fly Ash utilization of MTPP and NCTPP in Tamil Nadu.**



2. to analyze the mode of utilization of fly ash in both the power plants under study.

The main modes of utilisation in Mettur power plant is cement and bricks respectively. Since the cost of production of clay-bricks are dearer here, demand for fly-ash bricks are gaining momentum.

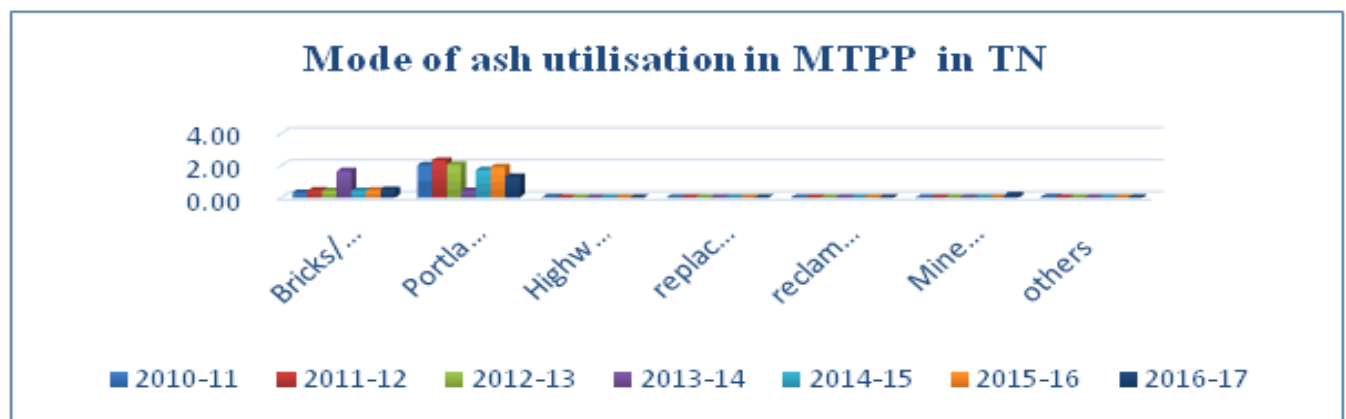
**Table:5. Mode of ash utilisation of MTPP in Tamil Nadu (in Million Ton)**

Year	Bricks/ Tiles etc.	Portland pozzolana Cement	Highways , Roads & Flyovers	replacement of cement in concrete	reclamation of low lying Area	Mine filling	others	T o t a l Utility
2010-11	0.30	2.02	0.01	0.00	0.00	0.00	0.02	2.34
2011-12	0.44	2.30	0.00	0.00	0.00	0.00	0.00	2.74
2012-13	0.41	2.05	0.00	0.00	0.00	0.00	0.00	2.46
2013-14	1.64	0.41	0.00	0.00	0.00	0.00	0.00	2.05
2014-15	0.42	1.70	0.00	0.00	0.00	0.00	0.00	2.12
2015-16	0.45	1.89	0.00	0.00	0.00	0.00	0.00	2.34
2016-17	0.49	1.30	0.00	0.00	0.00	0.16	0.00	1.94

Source: CEA Report

It is evident from the table that bricks and cement are the major modes of utilisation in these years. Except for one year (2013–2014), in all the other years, cement utilisation surpassed bricks. This may be due to the steps taken by TPS in implementing the provisions of fly ash notification. For better exposition, the modes of utilisation is given in the following figure.

**Chart:3. Mode of Ash Utilization in Mettur TPP of Tamil Nadu**



Utilisation of fly-ash in NCTPP is also increasing. The main 3 modes of utilisation are Highways, roads and fly-overs (HRF), Cement and Bricks respectively. Since the wet-ash component is more here, more utilisation is in HRF. It is presented in the following table and Chart respectively.

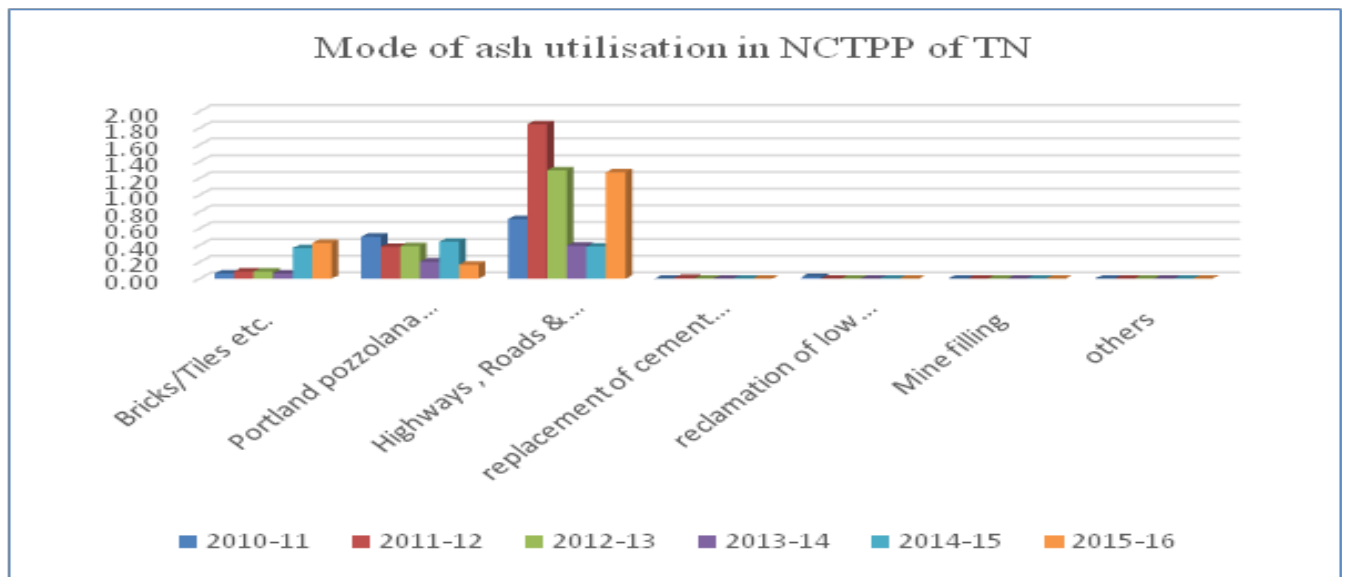
**Table:6. Mode of Ash Utilization in North Chennai TPP of Tamil Nadu (in Million Tonnes)**

Year	Bricks / Tiles etc.	Portland pozzolana Cement	Highways , Roads & Flyovers	replacement of cement in concrete	reclamation of low lying Area	M i n e filling	others	T o t a l Utility
2010-11	0.06	0.50	0.71	0.00	0.02	0.00	0.00	1.27
2011-12	0.09	0.38	1.85	0.01	0.00	0.00	0.00	2.32
2012-13	0.09	0.39	1.29	0.00	0.00	0.00	0.00	1.77
2013-14	0.06	0.20	0.39	0.00	0.00	0.00	0.00	0.72
2014-15	0.36	0.44	0.38	0.00	0.00	0.00	0.00	1.19
2015-16	0.42	0.17	1.27	0.00	0.00	0.00	0.00	1.86
2016-17	NA	NA	NA	NA	NA	NA	NA	NA

Source: CEA Report

The above table shows the mode of ash utilisation in NCTPP. Ash used in highways, roads and flyovers purpose is the major component when compared to the others.

**Chart:4. Mode of Ash Utilization in North Chennai TPP of Tamil Nadu**



**CONCLUSION**

Coal-fired power plants and the pollution they release every day are a major threat to human health and our environment. We need to reduce our dependence on dirty coal by replacing these plants with clean energy alternatives like wind, solar, and improvements in energy efficiency. As these alternatives are not possible in the immediate future, Environmentalists and Policy Makers have come up with two options, ie., limiting fly ash generation and enhancing utilisation. The fly ash generation in India has already crossed 200 million tonnes per year and likely to increase to more than 300 million tons in the near future. The utilization and disposal of such large quantity of fly ash is a herculean task which has to be performed within various environment protection laws. When compared to this option, the second option of effective utilisation is considered the best one in mitigating the ill effects. This option would not only minimize the disposal problem but help in conservation of scarce minerals, reduce emission of green-house gases and enhance performance and durability of structures.

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## 72. A STUDY ON FACTORS AFFECTING MOBILE PHONE BRANDS IN RURAL CONSUMERS IN TIRUVALLUR DISTRICT OF TAMIL NADU

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### ABSTRACT

*In India brand plays a major role in marketing of the products or services. Hence an objective is to study on factors affecting mobile phone brands in rural consumers in Tiruvallur district of Tamil Nadu. The Methodology adopted is collection of primary data with well-structured Qualitative Questionnaire from 50 men and 50 women in rural Mobile Phone consumers in Thiruvallur District of Tamil Nadu using Likert 5 point Scale. The data were statistically analysed using Reliability Analysis, Factor Analysis and Chi-square Test by using Statistical Package of Social Science (SPSS) to find results. The demographic factors were analysed and found that both men and women are using the branded mobile phones. It is found using reliability analysis that the data selected were reliable. From Factor Analysis, four components were found and each factor was given name like, Brand Awareness, Brand Preference, Post Purchase Opinions and Brand Loyalty. The variables were analysed using factor analysis and found some of them are very near to 1 are good and variables which are far from 1 needs attention. Each variable were tested using Chi-Square Analysis and found that all are significant. Brand Awareness has got rank 1 implies consumer got brand awareness, Post Purchase opinion has got Rank 2 reveals that the consumer has post purchase opinion, Brand Preference has got Rank 3 exposes consumers have brand preference and Brand Loyalty has got Rank 4 clears that consumer loyalty towards Brand needs improvement. It is concluded that brand awareness, post purchase opinion and brand loyalty plays a major role in selection of Mobile Phone.*

*Key words: Mobile Phone; Brand awareness, preference, opinions, loyalties.*

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### INTRODUCTION

**I**n India brand plays a major role in marketing of the products or services. The brand is derived from the Old Norse word brandr, which means "to burn". Brands were and still are the means by which owners of cattle mark their animals to identify them. The American Market Association defines brand as a 'name, term, sign, symbol or design or a combination of them intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competition" (Deller, 2003, p3). Stephen King (WPP Group, London) follows this line of reasoning concerning the difference between a brand and a product". A Product is something made in a factory, a brand is something that is bought by a customer. A product can be copied by a competitor; a brand is unique. A product can be quickly outdated, a successful brand is timeless". (Aaker, 1991, p.1)

### LITERATURE SURVEY

In a wider perspective, a brand is the

symbol of all information connected with a product or service. A brand typically includes a name, logo and other visual elements such as images or symbols. It also covers the set of expectations associated with a product or service which typically arise in peoples' minds (Brand-Wikipedia, the free encyclopaedia, 10-16-15). One of the brand's purpose is to be an identify to the products and services so that it can be separated from other products and services in the same category. In that way, just by seeing the name or the logo, the customer gets a certain indication of the product. The brand knowledge may work as a protection both for the customer and the manufacturer (Aaker, 1991). Hankingson and Cowking (1996, p.1) also highlight the fact that the brand should help to distinguish the product. They define brand as: "A product or service which can be distinguished from its competitors".

According to Schmitt (1999), brand cannot only be seen as an identifier. He states

that a memorable name and a good image is not enough; the company has to deliver experiences. Schmitt suggests two approaches to branding; the first is to see the brand as an identifier where the names, logos and slogans give the consumers awareness and a specific image. The other approach is to see the brand as an experience provider where the names, logos, slogans events and other consumer contacts give the consumers, sensory, affective, creative relations and lifestyles with the brand. There is a need to do "A Study on Factors Affecting Mobile Phone Brands in Rural Consumers in Tiruvallur District of Tamil Nadu.

**3. OBJECTIVES OF THE STUDY**

The objectives are as follows.

1. To study on the demographic variables on usage of mobile phones by men and women in rural area of Tiruvallur district of Tamil Nadu.
2. To study on the reliability of data selected using Reliability Analysis.
3. To find out factors that affect branding using Factor Analysis.
4. To find out Significant of variables selected using Chi-square Test.

**4. METHODOLOGY OF THE STUDY**

The Methodology of the study is to collect primary data with well-structured Qualitative Questionnaire from 50 men and 50 women in rural Mobile Phone consumers in Thiruvallur District of Tamil Nadu.

**Table 1: Preliminary Statistical Analysis**

		Male	Female	Total
1	Gender	50 Nos	50 Nos	100 Nos
	Age	18-25 years = 20	18-50 years =25	100 Nos
2		25-40 years =20	25-40 years =20	
		Above 40 =10	Above 40 =5	
	Education	XII = 15	XII = 20	100 Nos
		Graduate = 25	Graduate = 20	
3		Post Graduate=5	Post Graduate=6	
		Professional = 5	Professional = 4	
	Occupation	Agriculture = 10	Agriculture = 15	100 Nos
		Government=8	Government=2	
4		Private=20	Private=28	
		Self Employed=10	Self Employed=5	
	Brand Used	Samsung	Samsung	100 Nos
		Nokia	Nokia	
5		Motorola	Micromax	
		Micromax	Apple	
		Xiaomi	Oppo	
		Apple		
		Oppo		
	6	Duration	Upto 2 years =1	Upto 2 years =8
		2-3 years =1	2-3 years =12	
		3-5 years = 8	3-5 years =10	
		> 5 Years = 40	> 5 Years =20	
7	Source of Information	Radio = 20	Radio = 30	100 Nos
		Newspaper = 30	Newspaper=25	
		Magazines = 30	Magazines=32	
		Television=40	Television=45	
		Friends/Relatives=20	Friends/Relatives=25	
		Neighbours = 10	Neighbours=35	
		Hoardings/Banners=40	Hoardings/Banners=10	
8	Factor to choose brand	Price discount = 30	Price discount = 40	100 Nos
		Free Gift = 10	Free Gift = 20	
		Special Offer= 5	Special Offer= 8	
		Instalment = 40	Instalment = 45	
		Additional Warranty = 5	Additional Warranty = 5	
		Attractive Features= 5	Attractive Features= 25	

The data collected is using Likert 5 point Scale from Strongly Agree [SA][5], Agree [A][4], No opinion [NO][3], Disagree[D][2] and Strongly Disagree[SD][1]. The data were statistically analysed using Reliability Analysis, Factor Analysis and Chi-square Test by using Statistical Package of Social Science (SPSS) to find results.

**Reliability Analysis**

The Likert 5 point scale were analysed using Reliability Analysis and the results were given in table 2 and 3.

		N	%
Cases	Valid	100	100.0
	Excluded <sup>a</sup>	0	.0
	Total	100	100.0

a. Listwise deletion based on all variables in the procedure.

**Table No.3: Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.864	.866	46

Source: Computed data

The alpha value > 0.9 is excellent, > 0.8 is good, > 0.7 is acceptable, >0.6 is questionable, > 0.5 is poor and < 0.5 is unacceptable.

Here the alpha value is 0.864, which is good and the primary data collected from 50 men and 50 women are more reliable.

**Factor Analysis**

The factor analysis was made using SPSS package and the KMO and Bartlett's Test value is given in table 3.

**Table No. 4: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.687
Bartlett's Test of Sphericity	Approx. Chi-Square	5688.358
	df	1035
	Sig.	.000

Bartlett test of sphericity is significant and that the Kaiser\_Meyer-Olkin measure of sampling adequacy is far greater than 0.6.

**Table No.5: Communalities, Rank and Component Matrix**

S.No.	Variables	Extraction	Component 1 Brand Awareness	Component 2 Brand Preference	Component 3 Post Purchase Opinions	Component 4 Brand Loyalty
1	I exactly know the brand of the product	.944	.872			
2	I can understand about the brand from the advertisement	.765	.387			
3	I depend on others to know about the brand	.950	.904			
4	I am not interested in brands	.865	.870			
5	I know the features in brand	.702	.371			

S.No.	Variables	Extraction	Component 1 Brand Awareness	Component 2 Brand Preference	Component 3 Post Purchase Opinions	Component 4 Brand Loyalty
6	I can differentiate my brand from other brands	.691	.499			
7	I always go for this brand	.654	.520			
8	I even recommend this brand to others	.854	.582			
9	I can recollect the brand name even from its symbol / emblem	.774	.584			
10	I will stick on with this brand even in future	.665	.509			
11	All brands have similar features and Quality	.946	.889			
12	I prefer only this brand over the others	.769		.602		
13	I prefer this brand due to its quality	.779		.484		
14	I prefer this brand due to its price	.790		.450		
15	I prefer this brand due to its features	.774		.586		
16	I prefer this brand due to the offers	.897		.552		
17	I prefer this brand due to its advertisements	.710		.480		
18	I will not shift to any other brand even in future.	.790		.523		
19	I will shift to other brand when price changes	.780		.309		
20	I will shift to other brand when I get better features	.749		.435		
21	I will shift to other brand when I am assured of better service	.636		.603		
22	Brands are not important, as they are similar	.950		.902		
23	I decide the brand before go to shopping	.741		.527		
24	I choose among the brands in the shop	.703		.476		
25	I take help from salesperson to choose the brand	.840		.571		



S.No.	Variables	Extraction	Component 1 Brand Awareness	Component 2 Brand Preference	Component 3 Post Purchase Opinions	Component 4 Brand Loyalty
26	While choosing, brand name is very important	.815		.583		
27	Make repeated purchase if the product is satisfactory	.700			.360	
28	Lodge complaints to the seller if the product fails to satisfy	.674			.465	
29	Speak well about the product and brand if it fulfils expectations about the brand	.728			.317	
30	Want others to get familiar with the brand name	.757			.509	
31	Advertisement lead to price hike	.753			.398	
32	Advertisement provides product information	.721			.494	
33	I speak ill of the product, if it fails to satisfy	.655			.482	
34	I shift to other brand, if it fails to satisfy	.654			.439	
35	Advertisement provides misleading information	.755			.595	
36	Features given by the brand are not useful	.960			.891	
37	Brands spend more only on advertisement	.977			.905	
38	Brands do not attach due importance to quality of the product	.968			.897	
39	Always buy the same brand	.636				.615
40	Recommend this brand to others	.967				.831
41	Adjust even with its shortcoming	.941				.835
42	Not concerned about its price	.956				.805
43	Do not check the features of other brands	.966				.856
44	When the brand not available, wait for it	.982				.863
45	Appreciate those who use the same brand	.981				.845
46	When the brand not available, go to other shops to buy it.	.913				.782

The extraction method used is principal component analysis.

Four components are extracted and the name given for four factors are 1. Brand Awareness [1-11 variables], 2. Brand Preference [12-26 variables], 3. Post Purchase Opinions [27-38variables] and 4. Brand Loyalty [39 to 46 variables].

From the table 4 it is also found that variable no.39 i.e., always buys the same brand has got less communality i.e., 0.636 among others.

**Chi-Square Test**

The Chi-Square Test was conducted for all 46 variables of four factors and is given in table 5.

**Table 6: Chi-Square Test**

S.No	Variables	Chi-Square	df	A s y m p . Sig.	Hypothesis Result	Mean Rank
Brand Awareness [ Mean value = 3.9364][Rank-1]						
1	I exactly know the brand of the product	128.900a	4	.000	Significant	39
2	I can understand about the brand from the advertisement	141.300a	4	.000	Significant	1
3	I depend on others to know about the brand	146.400a	4	.000	Significant	45
4	I am not interested in brands	129.500a	4	.000	Significant	46
5	I know the features in brand	116.300a	4	.000	Significant	3
6	I can differentiate my brand from other brands	148.900a	4	.000	Significant	2
7	I always go for this brand	306.400a	4	.000	Significant	31
8	I even recommend this brand to others	306.400a	4	.000	Significant	31
9	I can recollect the brand name even from its symbol / emblem	184.800a	4	.000	Significant	29
10	I will stick on with this brand even in future	197.900a	4	.000	Significant	18
11	All brands have similar features and Quality	146.400a	4	.000	Significant	43
Brand Preference[ Mean value = 3.8607][Rank 3]						
12	I prefer only this brand over the others	220.600a	4	.000	Significant	10
13	I prefer this brand due to its quality	256.600a	4	.000	Significant	16
14	I prefer this brand due to its price	272.400a	4	.000	Significant	19
15	I prefer this brand due to its features	289.000a	4	.000	Significant	21
16	I prefer this brand due to the offers	227.400a	4	.000	Significant	11
17	I prefer this brand due to its advertisements	256.000a	4	.000	Significant	33
18	I will not shift to any other brand even in future.	234.400a	4	.000	Significant	14
19	I will shift to other brand when price changes	227.400a	4	.000	Significant	12

S.No	Variables	Chi-Square	df	A s y m p . Sig.	Hypothesis Result	Mean Rank
20	I will shift to other brand when I get better features	211.600a	4	.000	Significant	20
21	I will shift to other brand when I am assured of better service	225.600a	4	.000	Significant	22
22	Brands are not important, as they are similar	146.400a	4	.000	Significant	43
23	I decide the brand before go to shopping	256.600a	4	.000	Significant	17
24	I choose among the brands in the shop	214.000a	4	.000	Significant	9
25	I take help from salesperson to choose the brand	272.400a	4	.000	Significant	36
26	While choosing, brand name is very important	225.200a	4	.000	Significant	33
Post Purchase Opinions[ Mean value = 3.8800][Rank-2]						
27	Make repeated purchase if the product is satisfactory	144.400a	4	.000	Significant	7
28	Lodge complaints to the seller if the product fails to satisfy	148.300a	4	.000	Significant	6
29	Speak well about the product and brand if it fulfills expectations about the brand	142.600a	4	.000	Significant	4
30	Want others to get familiar with the brand name	118.500a	4	.000	Significant	5
31	Advertisement lead to price hike	227.400a	4	.000	Significant	13
32	Advertisement provides product information	201.400a	4	.000	Significant	8
33	I speak ill of the product, if it fails to satisfy	225.600a	4	.000	Significant	23
34	I shift to other brand, if it fails to satisfy	280.900a	4	.000	Significant	37
35	Advertisement provides misleading information	306.400a	4	.000	Significant	30
36	Features given by the brand are not useful	146.300a	4	.000	Significant	40
37	Brands spend more only on advertisement	141.600a	4	.000	Significant	42
38	Brands do not attach due importance to quality of the product	146.300a	4	.000	Significant	40
Brand Loyalty[ Mean value = 3.8325][Rank-4]						
39	Always buy the same brand	297.600a	4	.000	Significant	23
40	Recommend this brand to others	264.100a	4	.000	Significant	35
41	Adjust even with its shortcoming	174.400a	4	.000	Significant	15

S.No	Variables	Chi-Square	df	A s y m p . Sig.	Hypothesis Result	Mean Rank
42	Not concerned about its price	211.680b	3	.000	Significant	38
43	Do not check the features of other brands	225.600a	4	.000	Significant	23
44	When the brand not available, wait for it	232.900a	4	.000	Significant	28
45	Appreciate those who use the same brand	225.600a	4	.000	Significant	23
46	When the brand not available, go to other shops to buy it.	225.600a	4	.000	Significant	23

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20.0.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 25.0

Null Hypothesis 1: There is no significant difference in exactly knowing the brand of the product by consumers.

Alternate Hypothesis 1: There is significant difference in exactly knowing the brand of the product by consumers.

From table no. 5 the value of  $p < 0.05$  and the null hypothesis rejected and alternate hypothesis accepted. That is there is significant difference in exactly knowing the brand of the product by consumers.

Similarly Null hypothesis 2 to 46 are created for sl.no.2 to sl.no.46 of table no.5, Chi-Square Test were conducted and found that all were rejected as  $p < 0.05$ . All the 46 variables are significant as per table no.5

Brand Awareness [Rank 1] variables has got rank 1, 2 and 3. Post Purchase opinion variables [Rank-2] have got rank 4, 5, 6, 7 and 8. Brand Preference [Rank 3] variables have got rank 9 and 10. Brand Loyalty has got overall Rank 4 among other three factors. The remaining ranks are given in table 5.

**6.FINDINGS, SUGGESTIONS AND CONCLUSIONS**

A study was conducted to find factors affecting mobile phone brands in rural consumers in Tiruvallur district of Tamil Nadu. The demographic factors were analysed and found that both men and women are using the branded mobile phones. It is found using reliability analysis that the data selected were reliable. From Factor Analysis, four

components were found and each factor was given name like, Brand Awareness, Brand Preference, Post Purchase Opinions and Brand Loyalty. The variables were analysed using factor analysis and found some of them are very near to 1 are good and variables which are far from 1 needs attention. Each variable were tested using Chi-Square Analysis and found that all are significant. Brand Awareness has got rank 1 implies consumer got brand awareness, Post Purchase opinion has got Rank 2 reveals that the consumer has post purchase opinion, Brand Preference has got Rank 3 exposes consumers have brand preference and Brand Loyalty has got Rank 4 clears that consumer loyalty towards Brand needs improvement. It is concluded that brand awareness, post purchase opinion and brand loyalty plays a major role in selection of Mobile Phone.

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## 73.PERFORMANCES OF INDIA'S HEALTH SECTOR IN THE POST-LIBERALISATION PERIOD

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### INTRODUCTION

Health plays a crucial role in the human resources formation of a society. Globalisation, which was introduced in 1991, has its own impact on the Indian health sector. The major thrust of economic liberalization is to give more leverages to market forces (Ghuman and Akshat Mehta, 2009). Development today involves both economic development and human development (Kanmony, 2009). The main aim for providing health care services is to improve the health status of the population. The goals have been fixed in terms of life, less population growth rate, nutritional status, availability of basic sanitation, health requirements and resource development (Raj, 2009). Health of the people depends largely on the availability of public and private health care systems. In India, as the per capita income is low and majority of the people are in the lower strata of the society, the demand for public health care system gains importance in recent years and financing of public health care system aims at achieving equity, efficiency and sustainability (Bhat and Nishant, 2006). As defined in the preamble of the WHO Constitution, "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being and that governments have a responsibility for the health of their people, which can be fulfilled only through the provision of adequate health and social measures". Health is considered as a fundamental human right (Sathyamala, 2008 and Kanmony, 2009) and it has been recognized by numerous International Institutions, Covenants, Conventions, Declarations and also by our Constitution. The Alma-Ata conference of 1978, which

was attended by 134 member countries convened by the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) promised "Health for All by 2000 AD" and it is considered one of the most significant public health initiatives of the 20th century. But it remains unrealistic even 30 years after the event (Chakravathi, 2008 and Sathyamala, 2008). It is due to the low share of public expenditure to total expenditure. Health inequality in India is also very sharp in comparison with many other countries (Chatterjee, 2009).

Central government has focused on its five-year plans for the coordinated planning with the states, and for sponsoring major national health programmes. For most of national health programmes the central and state governments jointly share their expenditures. Health care expenditure is a very necessary social expenditure. Even in some advanced countries, the role of the state has been extremely critical in making that health care universal and equitable. Whether it is a developed country or a developing country, state's role in developing a good health infrastructure and assuming good health to everybody is very important (Chatterjee, 2009).

At the time of India's Independence, health facilities were very poor. The past five decades have witnessed significant improvement in investment to develop a network of health centres all over India. Through the vast infrastructure facilities such as Sub-Centres, Primary Health Centres, Community Health Centres, the government is providing good health to the needy people (Soundarapandian, 2009). But, investment has not been effectively utilized. Hence, health care facilities in various parts of India have progressed unevenly (Reddy, 2009). However, Chowdary (2002), points out that low expenditure on health care is the reason for the vast inequity in the

distribution of health care services between different sections of the population.

In the light of the above facts, it is clear that we have not achieved the millennium development goal but we are on the track on achieving the MDGs relating to health care. India has recorded many improvements over the past three decades in its health systems and yet it is struggling to achieve important health outcomes, especially in many poor states. (Narain, 2010).

In this backdrop, this paper tries to analyse the status of India in human development particularly health care with some other countries both top and bottom countries. In this paper, only secondary data are made use of to substantiate the various aspects

taken for analysis. This paper is divided into four sections. The first section compares India’s human development with some other important countries. The expenditure on health by both the centre and states is given in section two and in section three the health care facilities are illustrated. The final section gives a bird’s eye view on health indicators.

**INDIA’S GLOBAL POSITION ON HUMAN DEVELOPMENT**

The human development covers health status of individuals, infant mortality rate, nutritional standards, life expectancy and literacy. India’s global position on human development is given in Table - 1.

**Table - 1: India’s Global Position on Human Development**

Sl. No	Country	Human Development Index (HDI)				
		2000	2004	2007	2012	2015
1	Norway	0.956 (1)	0.965 (1)	0.971 (1)	0.955 (1)	0.949 (1)
2	Australia	0.947 (5)	0.957 (3)	0.970 (2)	0.938 (2)	0.939 (2)
3	China	0.730 (96)	0.768 (93)	0.772 (92)	0.699 (101)	0.738 (90)
4	Srilanka	0.747 (89)	0.755 (81)	0.759 (102)	0.715 (92)	0.766 (73)
5	Indonesia	0.682 (110)	0.711 (108)	0.734(111)	0.629 (121)	0.689 (113)
6	India	0.577 (124)	0.611 (126)	0.612 (134)	0.554 (136)	0.624 (131)
7	Pakistan	0.511 (138)	0.539 (134)	0.572 (141)	0.515 (146)	0.550 (147)
8	Bangladesh	0.510 (145)	0.530 (137)	0.543 (146)	0.515 (146)	0.579 (137)
9	Nepal	0.500 (142)	0.527 (138)	0.553(144)	0.463 (157)	0.558 (144)
10	Niger	0.268 (172)	0.311 (177)	0.340 (182)	0.304 (186)	0.353 (187)

Source: Compiled from Human Development Report 2016, and EPW Research Foundation (2007).

\* Figures in brackets give the rank among countries.

It is clear from the above table that India ranks 131 out of 187 countries and its human development index (HDI) is 0.624 in 2015. Norway ranks first in all the years taken for analysis and the HDI is 0.949 in 2015. Australia holds the second place in 2015 but in the year 2000 it was in the 5th rank among 172 countries. India had a better position in 2000 but its performance is very poor in 2007, i.e., India has lost 10 places i.e., moved from 124 to 134. Norway, Australia and China have showed a consistent performance. India is one of the developing countries experiencing a substantial economic development. However, its performance in human

development is very poor. Hence, there is a need for special emphasis on policy to attain targets in key human development areas.

**HEALTH CARE EXPENDITURE IN INDIA**

It is important to recognise that our health status is intimately linked to the condition of our lives and the livelihood that we pursue. Health status is determined by various factors. Among them, availability of public and private health services (health expenditure, physicians, nurses and midwives, hospital beds) is the most important. The planning commission’s latest review of the country’s health sector reveals that there is one doctor for 1800 and one bed per 1123 persons. Government hospitals are in desperate need of more than 42000 doctors. It is due to various factors including low government expenditure on public health, low salary to doctors and less

facilities available in government hospitals. Health expenditure is the sum of public and private health expenditure. In terms of public spending on health, India ranks an abysmal 171st position out of 175 countries compared (Chatterjee, 2009). Developed countries possess the capability of incurring greater public and private health expenditure (Pain, 2009). A brief review on public and private health expenditure and availability of physicians, nurses and midwives and beds in hospitals among G-8 countries and SAARC countries is given in Table - 2.

**Table – 2: Expenditure on Health and Availability of Facilities in Hospitals of G-8 and SAARC Countries during 2007 & 2003-'08**

S. No	Country	Public and Private Health expenditure	per 100000 people		
			Physicians	Nurses and midwives	Hospital beds
<b>i)</b>	<b>G-8 Countries</b>	<b>2007</b>	<b>2007</b>	<b>2003-'08</b>	<b>2003-'08</b>
1	Canada	10.1	190	1010	340
2	France	11.0	370	810	720
3	Germany	10.4	350	800	830
4	Italy	8.7	370	690	390
5	Japan	8.0	210	950	1400
6	Russian Federation	5.4	430	850	970
7	United kingdom	8.4	220	60	390
8	United States	15.7	270	980	310
<b>ii)</b>	<b>SAARC Countries</b>				
1	Bhutan	2.6 (2006)	50(1994-'04)	-	-
2	Bangladesh	3.4	30	30	40
<b>3</b>	<b>India</b>	4.1	60	130	90
4	Maldives	5.5	10	20	60
5	Nepal	5.1	20	50	500
6	Pakistan	2.7	80	40	60
7	Srilanka	4.2	60	170	310

Source: Compiled from World Development Indicators 2010, pp: 120-122.

The above table gives a bird's eye view on public and private health expenditure among G-8 and SAARC countries. Among the G-8 countries, United States tops the list with the health expenditure of 15.7 per cent of GDP. Russian Federation spends 5.4 per cent of GDP on health which is the lowest among the G-8 countries. However, physicians are more, i.e., 430 for every one lakh population, which is the highest among G-8 countries. Japan ranks first in hospital beds with 1400 per one lakh population and with 1010 per one lakh population Canada holds the first place in nurses and midwives. Among SAARC countries, Maldives, a small island, finds itself at the top, which spends 5.7 per cent of GDP. But, the number of physicians is only 10 per one lakh persons. It is the lowest among the SAARC nations. Pakistan's public and private expenditure on

health is the lowest but physicians are more in number i.e., 80 per one lakh population. India's expenditure on public and private health is 4.1 per cent of GDP whereas the numbers of physicians, nurses and midwives, and hospital beds are 60, 130 and 90 per one lakh population respectively. Though India's performance regarding total expenditure on health and the availability of physicians, nurses and midwives, and hospital beds among SAARC countries is good, its performance is very poor in comparison with G-8 countries. The overall picture shows that SAARC countries are far behind the G-8 countries in the health status.

#### **INDIA'S EXPENDITURE ON PUBLIC HEALTH CARE**

India has entered a high economic growth rate of 9 per cent. This high rate of growth,

however, is not accompanied by a high level of social development. The social sector particularly, health, has been accorded a very low priority in terms of the allocation of resources (Ghuman and Akshat, 2009). Health expenditure includes the provision of health services- preventive, curative, family planning and nutrition activities and emergency aid designated for health. The total public health expenditure consists of both current and capital accounts (Reddy, 2009).

Public sector health spending in India accounts for only a small portion of total spending on health. India lags behind other

developing countries in public health care spending, with only 0.91 per cent (2003-'04) of the country's GDP. It is lower than the rate of growth of population (Sethi, 2009). The comparison of health expenditure with some Asian countries suggests that India's public health expenditure is only about 15 per cent and the remaining 85 per cent is spent from pockets of individuals (Bhat and Nishanth, 2006 and Narayana, 2010). The table - 3 gives a clear picture on health expenditure made by both central and state governments during the year 1990-'91, 1995-'96 and 2000-'01 to 2008-'09.

**Table - 3: Combined Health Expenditure by Central and State Governments**

Sl. No	Year	Expenditure on Health ( in crores)	Percentage to total social sector expenditure
1	1990-'91	7309	4.47
2	1995-'96	14135	4.66
3	2000-'01	28000	4.74
4	2001-'02	28578	4.43
5	2002-'03	30184	4.34
6	2003-'04	33504	4.26
7	2004-'05	37535	4.37
8	2005-'06	45428	4.73
9	2006-'07	52126	4.7
10	2007-'08 (RE)	65158	5.0
11	2008-'09 (BE)	75055	5.1

Source: Compiled from Economic Survey- 2008-'09, pp: 267 and EPW Research Foundation (2008).

RE – Revised Estimates, BE – Budget Estimates.

It is very clear from the table – 3, that there is a significant increase in health expenditure over the years. In the year 1990-'91, the expenditure made on health is only Rs. 7309 crore, it is 4.47 per cent to the total social sector expenditure. But, in between 2002-'03 and 2004-'05, this percentage shows a slight fall. In 2005-'06 it increased to 4.73 per cent. But, in the budget estimates for the next two years, it shows a rise, 5 per cent and 5.1 per cent respectively.

There is an upward trend in the total expenditure made by both the central and state governments. The public health expenditure was very small in the fifties and it reached a rate of 1.05 per cent in 1985-'86. As per the data given in the following table, since 1990-'91, i.e., during the post-liberalization period it is lower than before and hovering between 0.83 and 0.96. The details are depicted in the Table – 4. The central government gives more attention to medical, public health and family welfare. The revised budget for 2000-'01 had allocated Rs. 5271 crore for the Ministry of Health and Family Welfare. Of which about Rs 779 crore went to public health. Rupees 856 crore and Rs. 59 crore were allotted

to rural family welfare and urban family welfare respectively. But in the budget for 2008-'09, the allocation made on health and family welfare is Rs.16968 crore, which is nearly tripled in a period of 7 years

In this budgetary expenditure, central government allocates Rs. 2164 crore to public health and Rs. 2336 crore to rural family welfare and Rs. 155 crore for urban family welfare (EPW Research Foundation, 2008). Table - 5 shows the central government's expenditure on medical, public health and family welfare under different annual plans during 1990-91 to 2008-09.



**Table – 4: Trends in Public Health Expenditure in India (GDP is at Market Price, with Base Year 1993-'94)**

Year	Public Health Expenditure as % of the GDP		
	Revenue	Capital	Total
1950-'51	0.22	NA	0.22
1955-'56	0.49	NA	0.49
1960-'61	0.63	NA	0.63
1965-'66	0.61	NA	0.61
1970-'71	0.74	NA	0.74
1975-'76	0.73	0.08	0.81
1980-'81	0.83	0.09	0.91
1985-'86	0.96	0.09	1.05
1990-'91	0.89	0.06	0.96
1995-'96	0.82	0.06	0.88
2000-'01	0.86	0.04	0.90
2001-'02	0.79	0.04	0.83
2002-'03	0.82	0.04	0.86
2003-'04	0.86	0.06	0.91

Source: Ghuman and Akshat, 2009.

**Table - 5: Central Government's Expenditure on Medical, Public Health and Family Welfare during 1990-91 to 2008-09**

Year	Medical and public health (in crores)	Family welfare	Total social sector expenditure (in crores)
1990-'91	1048.8	782.2	9606.6
1991-'92	924.8	1023.3	10298.7
1992-'93	1213.9	1008.1	11322.8
1993-'94	1300.4	1312.6	14016.6
1994-'95	1625.9	1684.9	17409.2
1995-'96	1929.1	1743.5	20848.4
1996-'97	2068.3	223.7	25209.6
1997-'98	2641.5	1822.2	26867.1
1998-'99	5411.9	2342.7	38737.9
1999-'00	3568.7	2969.1	38439.4
2000-'01	4055.3	3200	40919.5
2001-'02	4408.5	3613.9	46474
2002-'03	4340	3735	56954
2003-'04	4649	4230	62726
2004-'05	3915	4039	67981
2005-'06	3414	4904	92350
2006-'07	2884	6421	61768
2007-'08)	3332	8717	78798
2008-'09()	5201	9677	100778

Source: Compiled from Economic Survey- 2008-'09, pp: 267 and EPW Research Foundation (2008).

The table - 5 clearly shows the trend of expenditure on medical and public health expenditure over the years. In the year 1990-'91, the expenditure made on medical, public health was Rs. 1048.8 crore, it is five times more (Rs. 5411.9 crore) in comparison with the allotment made in the budget for 1998-'99. Subsequently, the government expenditure shows some ups and downs. At the same time, expenditure on family welfare also increased from Rs.782.2 crore in 1990-'91 to Rs. 9677 crore in 2008-'09.

GDP on public health services it shows an upward trend. The expenditure made on health by various states ranges from 3.63 per cent to 5.75 in the budget for the year 2003-'04. The overall state's allotment for health sector is only 4.97 per cent to the total budget allocation. However, in comparison with previous year it is very low. During the pre-globalisation period, it was 7.02 per cent. But, it decreased to 5.72 in 1992-'92 and 5.70 in 1995-'96 and 5.48 per cent in 1999-'00. It means that there is adverse impact of globalisation on health sector as far as state governments are concerned. It is illustrated in table - 6.

**Table - 6: Expenditure on Health in Revenue Budget of Major States (in %)**

Sl. No.	States	Years				
		1985-'86	1991-'92	1995-'96	1999-'00	2003-'04*
1.	Andhra Pradesh	6.41	5.77	5.70	6.09	5.21
2.	Assam	6.75	6.61	6.08	5.25	4.39
3.	Bihar	5.68	5.65	7.80	6.30	4.84
4.	Gujarat	7.45	5.42	5.34	5.21	3.68
5.	Haryana	6.24	4.19	2.99	4.08	3.63
6.	Karnataka	6.55	5.94	5.85	5.70	4.85
7.	Kerala	7.69	6.92	6.81	5.95	5.42
8.	Maharashtra	6.05	5.25	5.18	4.59	4.39
9.	Madhya Pradesh	6.63	5.66	5.07	5.18	4.89
10.	Orissa	7.38	5.94	5.42	5.03	4.47
11.	Punjab	7.19	4.32	4.56	5.34	4.27
12.	Rajasthan	8.10	6.85	6.18	6.39	5.75
13.	Tamil Nadu	7.47	4.82	6.40	5.51	5.26
14.	Uttar Pradesh	7.67	6.00	5.73	4.42	5.13
15.	West Bengal	8.90	7.31	7.16	6.30	5.23
16.	All States	7.02	5.72	5.70	5.48	4.97

Source: Ghuman and Akshat, 2009. \* Budget Estimates.

Low public sector spending on health services results in over-dependence on private sector for getting health services. In India, the share of private sector on health care expenditure constitutes around 72 per cent and household sector being the major constituent of the private sector claims 68.8 per cent of expenditure on health care (Table - 7). In other words out-of-pocket expenditure comprises major share of expenditure on health care. All the three governments (central, state and local) together constitute only 23.8 per cent of the total finance made on health services. It is very clear from the data, which are available for only one year, 2001-'02, that private financial sources constitute nearly 72 per cent whereas, governments (centre, state, local) is only 23.8 per cent.

**HEALTH CARE FACILITIES**

Due to high variation in health expenditure and low government expenditure, the facilities available are not only limited but also skewed. Hospital facilities and other related facilities are very limited in rural areas in comparison with the urban areas. In India, the ratio of hospital beds to the population is 15 times lower in rural areas than in urban areas and sixty nine per cent of primary health centres

had only one bed (Raj, 2009). Lack of facilities in health centres is due to the neglect of health care services by the government (Kanmony, 2009). There is also a shortage of basic facilities such as health centres. There was a shortage of 20855 Sub-Centres (SCs), 4833 Primary Health Centres (PHCs), and 2525 Community Health Centres (CHCs) as per 2001 Census (Economic Survey, 2008-'09).

**Table - 7: Health Care Infrastructure Facilities Available in India since 1951**

Sl. No.	Category	1951	1991	2005	2008	2012
1	Sub-centres, Primary Health Centres, Community Health Centres	725	57353	171608	171687	177248
2	Dispensaries and Hospitals	9209	23555	27770	33855	35416
3	Beds (Private and Public)		569495	914543	-	-
4	Nursing personnel		143887	865135	1572363	2124667
5	Doctors (Mordern system)		268700	656111	-	883812

Source: Compiled from Economic Survey- 2008-'09 and EPW Research Foundation, 2007.

The table - 7 clearly indicates that doctors in modern system were 656111 in 2005 whereas in 1951, there were only 61800 doctors. In 1991, there were a total of 57353 Sub-Centres (SCs), Primary Health Centres, and Community Health Centres. But, in another 17 years (i.e., 2008) the number is 171687, nearly tripled. Dispensaries and hospitals in 2008 are 33855 against 9209 in 1951 and 23555 in 1991. Thereafter, it increases significantly. Nursing personnels increased from 143887 in 1991 to 1572363 in 2008. Number of beds has increased from 1.17 lakhs in 1951 to 9.15 lakhs in 2005. The increase is very significant in comparison with 1991. In 1991, there were only 5.6 lakh beds, an increase of 3.46 lakh beds within a period of 14 years. There is shortage regarding SCs/ PHCs/CHCs, dispensaries and hospitals, beds, nursing personnel and doctors. Many researchers observed that there is an increase in these facilities. But, these facilities are very limited in comparison with the demand as majority of rural population depends on these centres. It shows the need for strengthening of the health care infrastructure in the country.

#### Important Health Indicators

The health status of a population is a reflection of the socio-economic development of the country and is shaped by variety of factors such as the level of income and standard of living, housing, sanitation, water supply, education, employment, health consciousness and personal hygiene. Healthy atmosphere, good balanced food, proper sanitation, protected water to drink, fresh air to breathe and good medical care facilities at the time of illness are some of the important factors that influence the health conditions of human beings. Poverty, malnutrition, anemia and infant mortality, maternal mortality rates, low-birth weight,

low adult literacy rate, low life expectancy of birth, non-availability of enough public and private health care systems and basic amenities such as water, sanitation, food, clothing and shelter are the most important indicators of poor health of people of a nation. The table - 9 clearly depicts the different health indictors in India during 1951, 1981, 1991, and at recent years.

in the year 1951, the crude birth rate (CBR) is 40.8 per 1000 population. Between, 1951-'91, the CBR decreased only by 11.3 per 1000 population. But in 2007, the CBR is 23.1, a decrease of 6.4 per 1000 population. It shows that there is significant decrease in the crude birth rate. Likewise, crude death rate also shows a sharp decrease from 25.1 per 1000 population in 1951 to 7.4 per 1000 population in 2007. There is a significant reduction in fertility among women. In 2008, total fertility rate is only 2.7 compared to 6.0 in 1951, 4.5 in 1981 and 3.6 in 1991. Infant mortality rate has also decreased over the years. In 2009, the rate is 50 per 1000 population. Maternal mortality rate is concerned; it is 437 per one lakh population in 1991 and in the year 2001-'04 the rate has decreased to 212 per one lakh. Age under 0-4 the morality rate per 1000 children is 57.3 in 1951, 41.2 in 1981, 26.5 in 1991 and 17 in 2006. The life expectancy rate is concerned, the expected life for men and women increased significantly over the years. In short, all the health indicators shown in the table indicate some improvement though not significant. It is clear from the rate of decrease of various indicators. The rate of decrease is only 4.4 per cent between 1981 and 1991 (10 years per year 0.44) and it is 6.4 per cent between 1991 and 2007 (16 years only 0.4), as far as CBR is concerned. The figures are 0.27 per year between 1981 and 1991 and 0.18

between 1991 and 2004 for CDR. The infant mortality rate has declined at the rate of 3 per year between 1981 and 1991 and 1.67 between 1991 and 2009. It means that the rate of decrease is lower during the post-globalisation period than pre-globalisation period.

From the above analysis, it is clear that though in absolute term the health expenditure increases substantially, the rate of increase is not substantial particularly during the post-globalisation period and the same is observed in the health indicators also.

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## 74. INEQUALITY AND SOCIAL PROBLEMS

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### ABSTRACT

*One way to think about how inequality relates to social problems are generated. Social stratification based on race, class and gender forms the structural context from which social problems are created. Social inequality structured into society, blocks opportunities for some groups, generating the conditions from which social problems emerge. The sociological literature offers countless examples of the consequences of blocked opportunity.*

*Social problems stemming from structural inequality are also prevalent in education and work. School dropout rates too significantly relate to both race and income status. Family disadvantage also strongly relates to racial variations in math and reading comprehension for school children and the higher the family income is the higher are student test scores and rates of educational attainment. At the root of educational attainment problems lie inequalities among schools themselves. Inner-city schools with large concentrations of minority and poor students suffer from inadequate facilities, poor funding and understaffing. Furthering the problem of inequality in schooling is the desegregation of schools that is currently under way.*

*Structured inequality is also present in the social problems associated with work where, how and whether people work is fundamentally a matter of race, class and gender. Much research shows that gender and race are good predictors of earning differentials, they also strongly influence occupational distribution. Indeed, the greater the concentration of women and minorities in an occupation, the more degraded is the pay. Gender and race affect not only the economic status of women and people of color but also the social and psychological consequences of persistent race and gender discrimination in the work place.*

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### INTRODUCTION

Social inequality is a perennial and a universal social problems as it gives rise to high and low social status in world societies. The principles on which it rests determine the distribution of societal resources among individuals, families and groups. It is multi-dimensional and dynamic. It is not monolithic. All Industrialized societies today have structures of inequality derived out of unequal economic and social positions. The socio-economic inequality brings about changes in the life of people. Hence it is important to study this phenomenon as it is a prominent feature of any society.

There are two important consorted views regarding inequality one view is Inequality is directly linked to conditions inherent in the nature of society which cannot be eliminated. Another view is considers it a result of the conscious, intentional and willful actions of individuals or structures

created in society which can be altered. It is for this reason that social stratification is sometimes also called structured social inequality in order to emphasize that it is built into society. That is it is supported by widely accepted norms and values. Income, wealth, gender, ethnicity, power, status, age and religion are some of the positions on which the society is stratified into various layers. These are considered unequal in relation to each other.

Social class, largely determined by income, occupation and power is an important aspect of social stratification in contemporary societies. People in the same class share not only their interest over economic resources but also similar interest in consumption patterns, life style etc. Caste an age-old social institution is entrained with life of Indians in all respects. It still remains the basic and dominant criterion of social stratification across India. Studying

any system of social stratification in India without referring to caste system would be incomplete as it greatly influences the social life of Indians. Therefore, in contemporary India, preferably class can be studied in relation to caste. However class has emerged as an important system of stratification.

### **CONCEPT OF INEQUALITY SOCIAL PROBLEM**

A Social problem is a condition which is defined by a considerable number of persons as a deviation from some social norms which they cherish. It is a way of behavior that is regarded by a substantial part of society as being in violation of one or more generally accepted or approved norms.

Social problems like corruption, drug addiction and communalism. It is not applicable for certain social problems like population explosion. Further, some problems are caused not by the abnormal and deviant behavior of the individuals but by the normal and accepted behavior.

### **OBJECTIVES OF THE STUDY**

- To enlighten the inequality and social problems.
- To enlighten the types of social inequality.
- To enlighten the concept of inequality social problem.
- To indicate the causes of inequality and social problems.
- To study the impact of inequality and social problems of Indian social life.

### **TYPES OF INEQUALITY SOCIAL PROBLEMS**

There are five major types of inequality of social problems are;

1. **Political Inequality:** The inequality in which there is no civic equality in front of the law.
2. **Income and Wealth Inequality:** It is the outcome of result which is primarily in the earnings of individuals.
3. **Life Inequality:** This refers to inequalities of opportunities if provided can improve the quality of life.
4. **Inequality of Treatment and Responsibility:** Although this idea is less examined but it generates problems in agency and responsibility.
5. **Inequality of Membership:** This exists in the membership of faith, family and

nation.

### **CHARACTERISTICS OF SOCIAL PROBLEM OF RURAL AND URBAN IN INDIA**

We have referred to characteristic differences between the rural and urban areas and social problems are often identified by these differences.

### **RURAL PROBLEMS**

The significant characteristics of the rural areas in India which are associated with certain social problems are;

- a. People are directly or indirectly dependent on agriculture and a large number of landowners have small and medium sized landholdings.
- b. The upper caste people still hold large lands while people of the lower castes own either marginal land or work as landless laborers.
- c. Rural people are scattered in comparison to the urban people.
- d. Not only the norms and values but the practices of the rural people too continue to be traditional.

e. The price the farmers get for their produces is less in relation to the work they put in.

Though the rural economic distress does not affect all farmers equally but the lower and middle class farmers who are in a majority are forced to send their siblings to the urban areas to find new sources of livelihood. In cities, they are forced to remain in slums and work as daily wage earners due to the lack of education and proper training. The political economy of the state and the correlation of class forces are primarily responsible for their plight.

The standard of living of the rural farmers is very low and their exploitation by big landlords, intermediaries and moneylenders is far greater. The other rural problems are due to the fact that since the rural people do not live in concentrated masses, the availability of specialized services to them is minimal. This is true for medical, market, banking, transport, communication, education, recreation and many other necessary services for modern living. Thus in a general way, people in the rural areas are at a great disadvantage and have to suffer many social problems.

**URBAN PROBLEMS**

Just as many of the rural problems is the result of isolation and scattered living, many urban problems spring from concentration of population. Again, the political economy of the state and the correlation of class forces are primarily responsible for the plight of not only the rural poor but also the urban poor.

Slums, unemployment, crimes, delinquencies, begging, corruption, drug abuse, environmental degradation etc, are all urban problems which are generally the result of intolerable living conditions in town and cities. In city life, anonymity increases cases of riots, communal conflicts and agitations.

**CAUSES OF INEQUALITY OF SOCIAL PROBLEMS**

There is little question that many people in India are better off than most other people in the world. That being said poverty also impacts millions of people in India. Why do such social inequalities exist? Let’s examine the two prevailing explanations of poverty blaming the poor and blaming society. One approach that the poor are responsible for their own poverty. There is some evidence to support this theory, because the main reason people are poor is the lack of employment.

According to this view society has plenty of opportunities for people to realize the Indian dream and people are poor because they lack the motivation, skills or schooling to find work. Another approach to explain poverty is to blame society that society is responsible for poverty. While it is true that unemployment is a main contributor to poverty the reasons people don’t work are more in line with this approach. Loss of jobs in the inner city is a major contributor to poverty. There simply isn’t enough work to support families.

- Rapidly rising population.
- Low productivity in agriculture.
- Low rate of economic development.
- Unemployment.
- Lack of proper distribution of capital.
- A small services sector.
- Neglecting the poor.

- Land inequality.
- Landowners and powerful pressure groups.
- Policy of money lenders.
- Caste based society.

**IMPACT OF INEQUALITY AND SOCIAL PROBLEMS**

There are various serious effects of population growth on Indian society. The major effects of poverty and inequality in the society. The paper indicates the causes of poverty and impact of inequality Indian social life.

- Problem of suicide.
- Increase in social crime.
- Increase in corruption.
- Increase in the rate of unemployment.
- Problem of child labor.
- Rise in child abuse, violence against Woman.
- To increase in alcoholism and drug abuse.

**Drug Addiction or Abuse Related Suicides in Some Indian States**

States	Per Million Population
Kerala	14.2
Maharashtra	12.2
Tamil Nadu	7.7
Tripura	5.2
Mizoram	4.6
Madhya Pradesh	4.2
Delhi	2
Andhra Pradesh	2
Punjab	1.4
Jammu & Kashmir	0.1

Source: Ministry of Statistics.

**SOLUTION OF INEQUALITY OF SOCIAL PROBLEMS**

There are five ways of possible solutions of inequality of social problems; they are

- Make politicians live like the voters.
- Eliminate inequality
- Unleash innovation.
- Deploy technology to democratize education.
- Improve relations with key neighbors

## **CONCLUSION**

Social problems in India are a crucial problem in today's world. In order to fully understand this problem, it is important to see what is causing the illiteracy, the effects of it and what has been happening to solve this problem. The culture and economic causes of this problem like gender biases and inadequate money lead to drastic effects such as female infanticide and a skewed sex-ratio.

Besides solving social problems as well as entertaining people, community radio also acts as an intermediary between the government and the local masses. This is the place from where people can air their grievances to the government as well as get the solutions to their problems too. Needless to say, community radio has played a major role in bridging the communication gap between the government and the people.

The important instruments in strengthening our "Right to Freedom of Speech and Expression". The overall social impact of community development programmes like women empowerment, communal harmony, health and sanitation and education indicated by various community development programmes had great impact on leadership behavior.

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# 75. O&M BEST PRACTICES IMPROVE POWER PLANT EFFICIENCY

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## INTRODUCTION

In India, installed power capacity growth progressed from 1362 MW in the year 1947 to current capacity of 344,700 MW in June 2018 from all sources of energy. Energy consumption continue to grow due to growth of GDP, population increase, urbanization, commercial and growing industries. To get the sustainable energy, nuclear and thermal power should play a major role.

Thermal power alone contributes around 64 per cent to the national existing capacity. With the introduction of Electricity Act 2003, private companies have started showing tremendous interest in power sector and as a result, various independent power projects (IPPs) are coming up. The capacity addition target for 12th Plan is 88,537 MW. The generation growth is moving faster than transmission & distribution. Transmission & distribution areas need to be focused for rural consumers.

## POWER PLANT OPERATION & MAINTENANCE BEST PRACTICES

It is essential to implement operation and maintenance (O&M) best practices, specifically in operation that can improve power plant efficiency. These include following well-established operating procedures, reducing prolonged period of operating the unit with low load or operating it beyond the design limit, cycling the unit as per the recommendation of the manufacturers, operating controllable parameters as per original equipment manufacturer (OEM)'s guidelines.

Power plant operating team continue to face low load operation and load cycling tendency. These tendencies may further aggravate due to increasing supply from wind, solar and hydro sources which are extremely variable. To operate the power plant, O&M team continue to focus on the plant availability, plant load factor, station heat rate, auxiliary power consumption and

specific oil consumption for startup and load support.

The management practices include to establish generation target-setting, plant budgeting, cost management and inventory management .O&M team plays a very crucial role to identify the following typical key performance indicators (KPI) as target that needs to be delivered for the benefit of efficient operation as well as to meet the stakeholder's obligation:

- Power plant availability > 95%
- Power plant load factor > 85%
- Power Station heat rate <2350 Kcal/kWh (Subcritical thermal Units) & <2200 (Supercritical thermal Units)
- Plant specific oil consumption <0.5 ml/kWh
- Auxiliary power consumption <6.5%
- Demineralized water makeup <1%
- Load cycling ~ 4-5 times day (control load to full load).
- Load ramp rate ~ 3-5 MW /Minute
- Low load operation ~ 60% of maximum continuous load
- Forced /planned outages ~ 2-3 per Year

To achieve the targeted key performance indicators (KPI), the operating team has to follow the best practices that are outlined in Table 1. On daily basis, the operation team should perform the plant walk down, review safety & emissions, equipment or parameters abnormalities, identify operating gaps, maintain proper record keeping, operator aided posting, operator workaround, provide a clear direction, ownership, watch standing practices, control of equipment, standard operating procedure (SOP) usage and action & verifications including shift turnover and relief, housekeeping, interface with switchyard controls and communications with State Load Distribution Center (SLDC) and commercial team.

**Table 1: Best Operating Practices**

- Adopt best safety & fire practices
- Minimize forced outages
- Avoid frequent cycling of the unit
- Reduce prolonged low load operation
- Maintain critical operating parameters per OEM
- Use fuel within the range of practices
- Implement on-line monitoring system
- Encourage annual energy auditing every year
- Ensure availability of plant equipment & instrumentation
- Regimentally follow SOPs for operation
- Proper ramp rate (3-5 mw/min)
- Benchmarking the plant operation & KPI
- Conduct RCA for equipment failure & Unit trip with corrective action
- SWAS system availability and chemistry monitoring
- Continue to assess generation risk & proactively address them
- Encourage capacity test and various performance tests
- Participate V-E-D analysis based generation risk areas
- Identify controllable parameter's gaps and address on regular basis
- Follow work management process

During operation, various challenges are experienced, such as maintaining proper water chemistry, load ramp rate, metal temperature fluctuations (SH / RH), process control stability, frequent startups with oil / gas, introduction of coal through mills, auxiliary power consumption, plant performance and efficiency.

Therefore, plant operation team should clearly understand the operation fundamentals and conduct operation. Figure 1 - provides a roadmap for operation. In addition, O&M team should synchronize and communicate with all plant team for operating the plant efficiently. Figure 2 - indicates power plant management platform and various activities that need to be performed on daily/weekly/monthly basis with good team work.

**POWER STATION HEAT RATE (SHR)**

Power Station Heat Rate (SHR) is an important index for assessing the cost of generation and plant efficiency. The station heat rate is defined as the amount of heat energy used to generate a unit of electrical energy. A more efficient power plant uses less coal, has lower emissions, and lower variable costs and thus, reducing the generating cost, thereby contributing to the country's energy efficiency. There are two methods for heat rate evaluation of Thermal Power Stations. Indirect Method or heat loss method, which is relatively accurate and Direct Method or input/output method that is very commonly used by commercial for SHR. In general, there is a difference of 25-

35 Kcal/kWh observed between these two methods. Example:  
(Subcritical unit, average MW generation ~ 210 MWh and coal consumption = 135 TPH. Gross calorific value = 3500 Kcal/kg. The station heat rate =  $(135 * 1000 * 3500) / 200 * 1000 = 2363$  Kcal/KWh, Power Plant cycle efficiency is  $860 / 2363 = 36.4\%$ )  
The key parameters impacting the station heat rate are unit load or MW output, coal moisture, boiler efficiency and controllable parameters are identified. Power plant performance team should continuously monitoring controllable parameters, identify the gaps and address them on regular basis with operation.

The SHR can be reduced by implementing steam turbine seal & steam turbine overhauling or up gradation, implement intelligent soot blowing, automated boiler drains, APH basket replacement or cleaning, combustion optimization, reduce HP valves steam leakages, maintain condenser vacuum, and cycle alignment programs. Uncontrollable parameters, such as steam turbine efficiency and age can be regained during annual overhauling. As best practices, operation and performance team should constantly monitor the controllable parameter's deviation including steam quality and address them periodically to operate the plant efficiently.

Table-3 Parameters	Unit	Deviation	Heat Rate loss (Kcal/Kwh)	Cost in Rs Crores Impact/Year
MS Pressure	Mpa	1.0	10	4.2
MS Temperature	Deg C	5.0	3	1.3
RH Temperature	Deg C	5.0	2.5	1.1
Boiler Eff	%	0.5	12	5.0
Condenser Vac	Kpa	0.5	9	3.8
Moisture	%	5.0	30	12.6
SH Spray	TPH	25	9	3.8
RH Spray	TPH	25	10.5	4.4
Feed Water temp.	Deg C	2.0	1.6	0.7
<b>Total Losses</b>	<b>Crores</b>			<b>~ 37.0</b>

\* Plant Generation is considered at 80% PLF for 600 MW Unit  
 \* Average Cost of coal is considered as 4000 Rs/MT and GCV ~ 4200 Kcal/kg

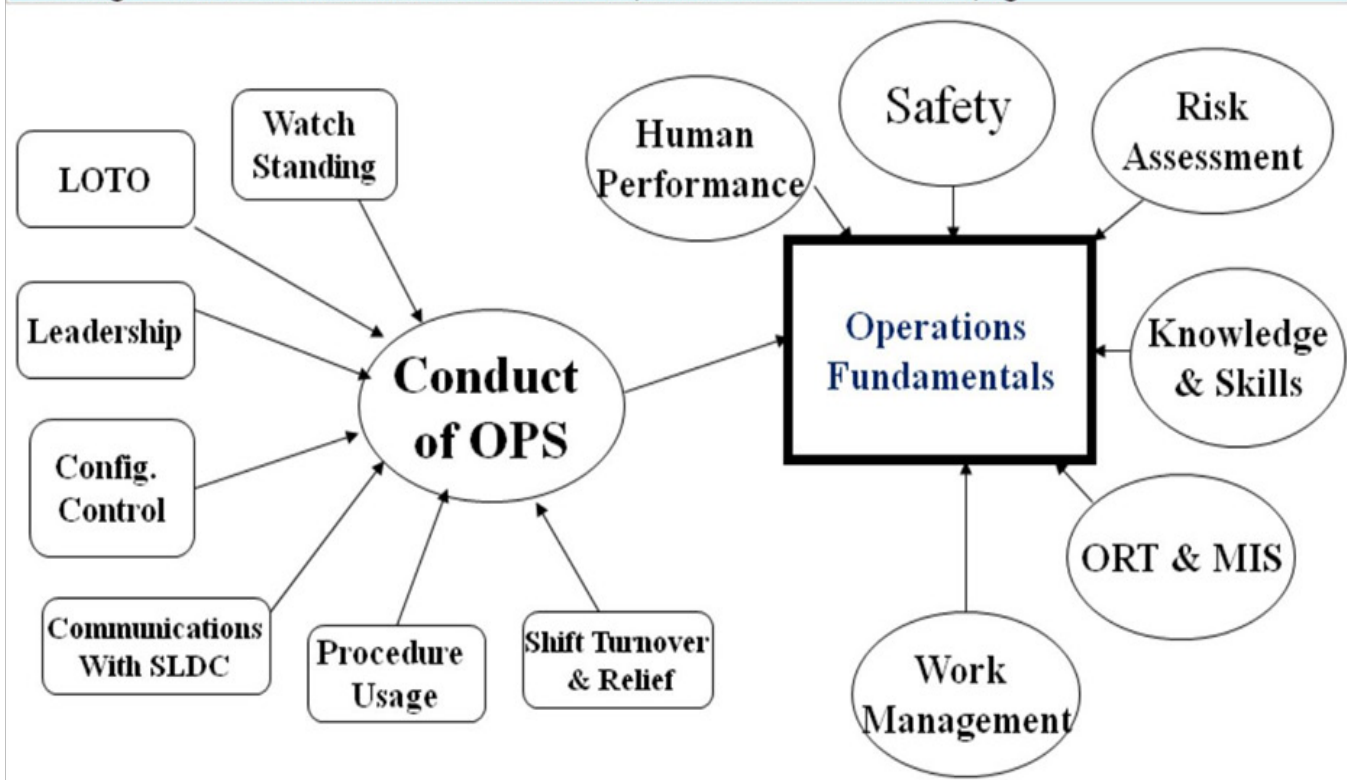


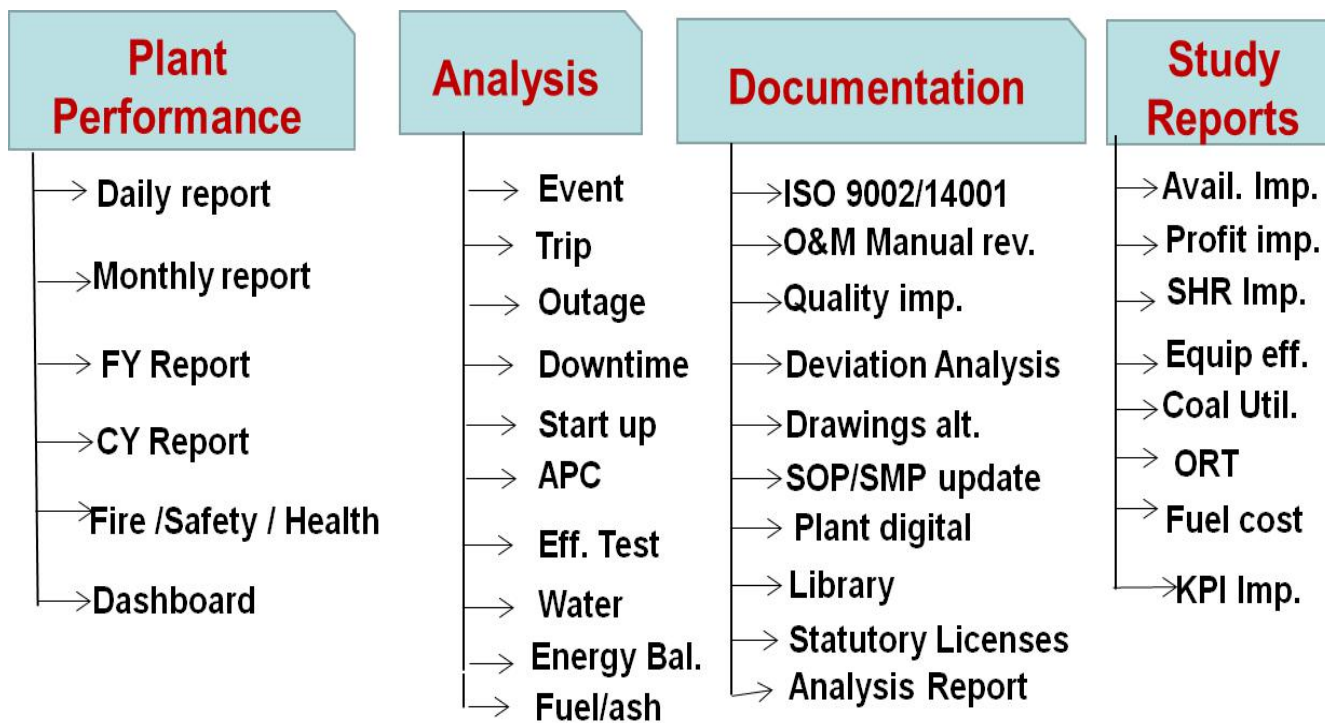
Figure -1 Conduct of Operations

**BOILER EFFICIENCY**

The boiler efficiency is another key parameter to influence the SHR thru indirect method by using PTC 4.1 per ASME code. For the purpose of this discussion, the boiler efficiency is calculated quickly using the direct method which is not an accurate ie. Input & Output method. The boiler efficiency is the ratio of the heat absorbed by water & steam to the chemical heat in the fuel fired (GCV). Example:

$$\text{Boiler efficiency \%} = \{ \text{Steam Flow Rate} \times \text{Steam Enthalpy} - \text{Feed Water Flow Rate} \times \text{Enthalpy} \} \times 100 / ( \text{Fuel Firing Rate} \times \text{GCV of Fuel} )$$

The parameters impacting boiler efficiency are GCV as received, coal moisture, unburned carbon in the ash, excess air, stack temperature and APH air in leakage. The operation team has to monitor during operation the unburned carbon in the ash stream, coal fineness, mill outlet temperatures, PA/ Coal ratio, excess air and stack temperatures.



**Figure 2- Power Plant Management Platform**

**POWER PLANT LOAD FACTOR (PLF)**

The plant load factor is one of the major indicator that determines how much load or MW delivered from the generating station. PLF is defined as the ratio of MW generated during the period to the installed capacity. The power plant is gauged by the PLF and unutilized available station capacity. If the unit is declared at 85% PLF, potentially the station is already losing the turbine heat rate of 15-20 Kcal/kWh

There are many factors impacting the PLF such as inadequate predictive & preventive maintenance practices, water chemistry,

equipment failure due to not structured CBM activities, emission constraints due to ESP performance, plant age, reluctant to update the state of the art technologies, condition assessment, RLA study & R&M gaps, inadequate infrastructure to evacuate power, power price is not supporting to sell open market, coal shortages associated with high price in and around the global, ash disposal facility limitations, and generating cost being higher than the power purchase agreement cost for IPPs.

O & M team should constantly reviewing the generation risk associated with critical equipment such as boilers, all rotating equipment, generator and auxiliaries to ensure that all equipment should be available. Maintenance practices

enhancement shall require proper planning, condition monitoring, preventive and proactive maintenance to support availability & reliability of the power plant.

The PLF is also linked with the plant availability & reliability. Coal-fired power plants are typically designed for base load operations and O&M team should adopt best practices to minimize shutdown and startup and reduce frequency of load cycling.

### **POWER PLANT SPECIFIC OIL CONSUMPTION (SOC)**

The objective of using oil or gas for boiler startup is to bring the boiler temperature so that coal can be introduced in the boiler for firing. LDO/HFO are the common oils are used for startup as well as support the load if needed. The oil consumption is influenced by coal characteristics, such as hard groove index (HGI), GCV and Low-Medium volatile coals or Medium-High volatile coals.

The common practice to introduce coal for firing after primary air temperature is reached 150 Deg C, secondary air temperature is reached around 180-220 Deg C, and the combustion temperature inside the boiler should be above 450-500 Deg C. The temperature of the boiler can only increase by 70 Deg C for every hour to minimize thermal stress and uneven boiler expansion. The furnace exit flue gas temperature at furnace arch should be maintained below 500 Deg C to protect the RH surface during startup.

As a best practice, the oil consumption should be around 0.3 to 0.6 ml/kWh and it is coal and boiler size specific. The state of art technology, such as micro oil gun with PA air heating system can be implemented to reduce SOC below 0.1 ml/kWh

### **AUXILIARY POWER CONSUMPTION (APC)**

The quantum of energy consumed by auxiliary equipment of the thermal generating station, and transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all

the units of the generating station. Typically, power station is targeting APC of 6 - 8% at the desired load factor. The part load operation and frequent load cycling, sea water based WTP plants, standby equipment operational with main equipment is deteriorated condition, not optimized cooling pumps and cooling tower fans, not optimized lighting, fans and air conditioning in the plant may lead to the higher APC percentage that are unit specific.

### **WATER CHEMISTRY**

Maintaining and monitoring water chemistry parameters such as sodium, silica, iron, pH, dissolved oxygen, copper and cation conductivity during operation is a major requirement. Typical issues anticipated for during operation are corrosion fatigue, fireside corrosion, oxygen pitting, phosphate hideout leading to acid and caustic attack, silica and iron deposits, air in-leakages and acid and caustic attack. Any one of the factors leads to boiler tube failure and turbine blade deposition. Therefore, maintaining water chemistry is very crucial in the power plant.

### **CONCLUSION**

In summary, O&M best practices will not limit to the areas that are discussed in this article. The O&M team should adopt some of the highlighted best practices to operate the complex nature of the thermal power plant to enhance the power plant efficiency. It is possible that the availability of power in the country can be enhanced by more than 17 percent (as against energy deficit of 9 percent) if all the available generation units can be utilized at an average PLF of 85% through renovation & modernization combined with better O&M practices. Management interventions is vital for enhancing power plant efficiency with O&M team and focus on the efficiency management.

# **76.IMPACTS OF SPECIAL ECONOMIC ZONES (SEZ) ON EMPLOYMENT GENERATION IN INDIA: A STUDY**

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## **INTRODUCTION**

**I**n this era of globalization, most developing countries are witnessing a shift away from an import substitution based development strategy to one based on export promotion policy. Since establishing world-class industrial infrastructure throughout India will be an extremely expensive, long-term endeavour, the next best solution is to build pockets of excellent infrastructure in the form of SEZs. A Special Economic Zone (SEZ) is a geographical region that has economic laws that are more liberal than a country's typical economic laws. The category 'SEZ' covers a broad range of more specific zone types, including Free Trade Zones (FTZ), Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Ports, Urban Enterprise Zones and others. Usually the goal of an SEZ structure is to increase foreign investment. The main objectives of the SEZ Act are the generation of additional economic activity, promotion of exports of goods and services, promotion of investment from domestic and foreign sources and creation of employment opportunities and development of infrastructure facilities. In this background the study analyze the role of SEZs on both direct indirect and women employment generation in India.

## **TAX AND OTHER FISCAL INCENTIVES FOR SEZ UNITS**

Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units. 100 per cent Income Tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first 5 years, 50 per cent for next 5 years thereafter and 50 per cent of the ploughed back export profit for next 5 years. Exemption from Minimum Alternate Tax under section 115JB of the Income Tax Act. External commercial borrowing by SEZ units up to US \$ 500 million a year without any maturity restriction through recognized banking channels. Exemption from Central

Sales Tax, Service Tax, State Sales Tax and other levies as extended by the respective State Governments.

Besides the incentives provided to SEZ Units, with a view to attract private sector investments in infrastructure development, a number of fiscal incentives in the form of tax exemptions are available to SEZ developers also. They are exemption from Customs/ Excise duties for development of SEZs for authorized operations approved by the Board of Approval, Income Tax exemption on export income for a block of 10 years in 15 years under Section 80-IAB of the Income Tax Act, exemption from Minimum Alternate Tax under Section 115 JB of the Income Tax Act, exemption from Dividend Distribution Tax under Section 115 O of the Income Tax Act and Exemption from Central Sales Tax (CST) and Service Tax (Section 7, 26 and Second Schedule of the SEZ Act) and also exemption from income tax for ten years and from customs duties. The government also offers a host of incentives to firms setting up units in SEZ, 100% foreign direct investment (FDI) in the manufacturing. Off shore banking units are allowed in these areas and they are allowed 100%, The SEZ units enjoy freedom to bring in export proceeds without any time limit and have freedom to keep 100% of export proceeds in the EEFC account and to make overseas investment from it.

The SEZs, except those product specific and port/airport based units, must have at least 1000 hectares of area to set up SEZ. They have to set up their processing units in the 35 % of the earmarked area and they have full freedom in allocation of space and built up area to approved SEZs on commercial basis. They are authorized to provide and maintain services like water, electricity, security, restaurants and recreation centers on commercial lines. The SEZs are made free from the environmental and labour laws and they are exempted from public hearing under Environment Impact Assessment notification.

## REVIEW OF LITERATURE

While analyzing the direct employment impact of SEZs, one finds that they have played a significant role with respect to their contribution to employment creation in several countries. Many of the most successful SEZs in terms of employment creation were established in Asia. According to an estimate (Jenkins et al 1998), among zones that have been in operation for five or more years, the median zone in Asian countries has 10,500 employees, while in Latin America the median zone has just over 3500 employees. Currently, SEZs constitute 6 per cent of the manufacturing employment in the country (Aggarwal 2006). According to Mondal (2003), in Bangladesh, growth of employment in the SEZs is much faster than in the total organized manufacturing sector that was over sixteen times that of the organized manufacturing sector during 1983-4/1987-8 and over four times higher 1988-9/1999-2000. It is uncertain whether these economies would have been able to create so many jobs and as much income in the absence of SEZs. In Africa, Mauritius which introduced its SEZ programme in 1970 reduced official unemployment from 23 per cent in 1979 to 2 per cent in the early 1990s (before it increased in recent years to 8 per cent in 2000) as the country's SEZs generated 88,000 new jobs. As a matter of fact, SEZs in Mauritius began to experience labour shortages at the end of the 1980s and began to import foreign labour. In the Dominican Republic, there were more than 19 SEZs in the late 1990s that employed about 141,000 workers. Some of the zones in the Dominican Republic are among the largest SEZs in the world. Two of the zones: the Santiago and the San Pedro de Macoris employ about 35,000 workers each. All successful examples are not necessarily among the small economies. Even in a large economy like Mexico, zones have played.

There are also countries where zone development and resulting employment creation did not live up to expectations. A report covering Southern Africa points to distinct and common SEZ failures (Jauch 2002). In particular, employment creation has been meagre. Kenya for instance spent millions of dollars on SEZ promotion but in the first five years, only 2800 new jobs were created (Rolfe et al. 2004) . Senegal

established its first zone in Dakar in 1974. In 1999, twenty years after its creation, the zone was shut down (Madani 1999). At the time of its demise, it had just 14 active enterprises with a mere 940 jobs. In Central America, Guatemala zones could not live up to expectations. According the official figures, traditional SEZs in Guatemala had only 9 firms employ around 1400 workers in the late 1990s.

Female employment: Women dominate the workforce in EPZs in most developing countries. For instance, in Philippines the share of women workers in total EPZ workforce was 74 per cent in 1980. It remained the same in 1994. In Korea, it was 70 per cent in 1990. In Mexico, it was as high as 77.4 per cent in 1981; it declined to 60 per cent by 1993. Many others however have shown that increased employment opportunities have empowered women and have made them more independent improving their relative status and bargaining power within households (Kibria 1995). SEZ opportunities have provided job opportunities to many young women from rural and adjoining areas that have been instrumental in reducing poverty in these regions.

## IMPACT OF SEZS ON EMPLOYMENT DIRECT EMPLOYMENT

The employment effect of SEZs operates through three channels: one, SEZs generate direct employment for skilled and unskilled labour ; two, they also generate indirect employment; and three, they generate employment for women workers. It is believed that employment creation generates incomes, creates non pecuniary benefits, improves the quality of life of labour and enhances their productivity. These, in turn, have poverty reduction effect. Direct employment generation In so far as SEZs comprise labour-intensive activities, enterprises in SEZs constitute, a priori, a significant source of new employment. Due to the availability of labour at low wages, developing countries generally attract investment into simple processing labour intensive industries. This increases the demand for unskilled labour within the zone. Shift towards higher value added activities as SEZs grow, might increase demand for skilled labour also. SEZs also generate

employment for unskilled labour by creating demand for physical infrastructure within the zone. The indirect effect is manifested as ancillary employment opportunities generated in sectors of the economy affected by the operations of the SEZ. These include, transport, communication, automobile, civil aviation, shipping, tourism, hospitality, packaging, banking, and insurance. Employment opportunities are, thus generated for both unskilled and skilled labour.

ILO (1998) concludes that SEZs do play an important role in employment generation in developing countries. But employment generation by itself does not ensure human development and poverty alleviation. Crucial questions are whether employment in EPZs results in higher wages, better working conditions and higher levels of living.

### **IMPACT OF SEZs ON EMPLOYMENT INDIRECT EMPLOYMENT**

A complete assessment of the employment impact of EPZs should take into account both direct and indirect employment creation by zones. Unfortunately, comparable data on the indirect employment effects of EPZs are not widely available. Limited evidence that is available indicates that indirect employment effects of zones could be more pronounced than direct effects. For instance, Romero (1995) reported that in 1993, 174,000 indirect jobs were created by the maquila enterprises in Honduras where, at the time, the workforce in the zones was less than 50,000. Similarly, indirect jobs generated by firms outside the Katunayake Zone (Sri Lanka) was said to be three times the number in the zone, according to the Chairman of the Free Trade Zone Manufacturers' Association. While analyzing the employment impact of Masan SEZ in Korea, Cling and Letilly (2001) have argued that the success of Masan SEZ (Korea) in direct employment contribution is moderate but its impact on indirect employment is expected to have increased substantially. This is because subcontracting to local enterprises in this zone has grown considerably. There were 76 sub contractors in 1976 representing 15 per cent of the jobs in the SEZ working directly for the zone. By the end of 1980s, the number of domestic subcontractors increased to 525. The number of employees

in these companies was roughly the half of the SEZ employment. According to Curimjee (1990) the construction, transportation and financial sectors have all been greatly stimulated as a result of zone operations in Mauritius. In Sri Lanka, local producers of packing materials grew significantly and began to play an important role in supplying these materials to SEZ firms (Wijewardane 1990). The indirect employment effect of SEZs however depends on backward and forward linkages of the export processing zone industry with local suppliers of raw materials and other required inputs and the success of SEZs in attracting investment. The creation of backward linkages with the expansion.

### **IMPACT OF SEZs ON EMPLOYMENT WOMEN EMPLOYMENT**

Employment for Women Evidence suggests that women's share to total employment in SEZs is substantially higher than both the economy as a whole as well as the manufacturing sector outside the SEZs (Kusago and Tzannatos 1998). Women workers are considered more disciplined and hard working. It is found that employers prefer female workers to male workers in the belief that manual dexterity, greater discipline and patience make women more suitable for the unskilled and semi-skilled activities carried out in the zones. Besides, they are less likely to exert pressure for high wages and better working conditions. Majority of women are young, single and come from rural and poor backgrounds.

### **CONCLUSION**

Employment generation, both direct and indirect and women, has thus far been the most important channel, through which SEZs have impacted on human development and poverty reduction in India. The SEZ Act in place, there has been a surge in the establishment of new zones, which is likely to generate huge employment potential in the economy. Much of this will be a net addition to employment as investment relocation/diversion in export oriented production is likely to be limited. Zones have proven to be particularly beneficial to female employment. SEZs have opened up opportunities for wage employment for women in the formal sector, thereby



increasing their employability as well as improving their position in the household. This is an important contribution of zones because female employment is crucial for equitable growth.

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# 77. ENVIRONMENTAL IMPACT OF USAGE OF CHEMICAL FERTILIZER IN AGRICULTURE SECTOR: A STUDY OF INDIA

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## ABSTRACT

Agriculture plays a key role in the development of any economy. It contributes significantly to the process by supply of raw materials to manufacture, wage goods to workers in other sectors, employment to the work force, investible surplus and markets of products of industry. Agriculture provides basic sustenance to all living beings. It is very important that ecologically, socially and economically sustainable agriculture should become the backbone of the development process of the country. Population of India is raising at a faster rate, the consumption larger and larger doses of chemical fertilizers the only way to augment agricultural production. For boosting agricultural output the use of chemical fertilizers has an important role. The new Agriculture Strategy was based on increased use of chemical fertilizer. Fertilizer used in increasing because fertilizers are very potent means of increasing crop production, supplying deficient, and nutrient improves both the quality and the quantity of the crop. India is the second largest consumer of fertilizers in the world after China. At the times of onset of green revolution in 1966-67 consumption of fertilizers was about 1 million tonnes. In 1970-71 total fertilizers consumption increased to 2.26 million tonnes which further increased to 12.73 million tonnes in 1991-92, total fertilization consumption reached record level of 75.8 million tonnes 2016-17. Chemical fertilizers can make soil infertile is by increasing its acidity. Instead, the unused fertilizer will seep into the ground, where it can be carried by rain and irrigation ditches into streams, rivers, lakes, reservoirs and oceans. The chemical compounds in the fertilizer can contaminate drinking water supplies and disrupt ecosystems. Nitrogen groundwater contamination also contributes to marine "dead zones". The biggest issue facing the use of chemical fertilizers is groundwater contamination. Groundwater contamination has been linked to gastric cancer, goitre, birth malformations, and hypertension; testicular cancer and stomach cancer. With its increased use and projections of future use of chemical fertilizer, this problem may increase several fold in the coming decades. In this back ground the present study examine the usage of chemical fertilizers and its role on environment.

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## INTRODUCTION

Agriculture may be defined as an integrated system of techniques to control the growth and harvesting of animal and vegetables. Human beings started practicing farming/cultivation some 10,000 years ago. Over the ages these developments in agriculture have radically transformed human ecology, society, organizations, demography and even art and religion and have to a certain extent determined the course of scientific progression. With the industrial revolution, the entire facet of agriculture changed. The development and easy availability of agricultural techniques led to increased agricultural productivity. Agriculture plays a vital role in India's economy. 54.6% of the population is engaged in agriculture and allied activities (census 2011) and it contributes 17.4% to the country's Gross Value Added for the year 2016-17 (at

current prices). Given the importance of agriculture sector, Government of India took several steps for its sustainable development. With the introduction of eco-friendly pesticides and fertilizers, crop yields increased to a remarkable level. The early 20th century witnessed the usage of synthetic nitrogen, along with mined rock phosphate, pesticides and mechanization including the synthesizing of ammonium nitrate. Rice, wheat, and corn were the main crops that gave the best yield, thus introducing the Green Revolution. Export of technologies, pesticides and fertilizers from the developed countries to the developing countries, further increased the yields in all regions almost equally. Agricultural exports increased from Rs. 2,27,193 crore in 2012-13 to Rs. 2,27,554 crore in financial year 2016-17 registering a growth of nearly 0.15%. The share of agricultural exports in

2016-17 registering a growth of nearly 0.15%. The share of agricultural exports in India's total exports decreased from 13.90% in 2012-13 to 12.27% in 2016-17.

**Role of Fertilizer on Agriculture Production**  
With advancement of technology, new machines related to cultivation, harvesting, etc. are being introduced to enhance the productivity in agriculture.

Today productivity has been increased by a major proportion and the entire credit goes to fertilizers. Fertilizers are a superior and advanced means to promote and enhance productivity. All the fertilizers have been categorized into several types depending on their constituents, strength and various other features. However each fertilizer contains adequate amounts of the needed chemicals, minerals and elements to ensure a healthy and fast growth. A fertilizer is essentially a blended mixture of one or more organic or inorganic compounds or chemicals needed by the plants for enhanced and nourished growth. Based on these constituent compounds, fertilizers have been divided in the following categories.

### **TYPES OF FERTILIZERS**

A fertilizer is essentially a blended mixture of one or more Organic or inorganic compounds or chemicals needed by the plants for enhanced and nourished growth. Based on these constituent components, fertilizers have been divided in to organic and inorganic fertilizers.

### **ORGANIC FERTILIZERS**

Organic fertilizers constitute of decayed or partially decayed organic material which is to a great extent bio degradable. It includes animal waste and rotten green manure or also any natural elements which adds to the humus content of the soil and nourishes it is termed manure or fertilizer. It is used by the plants with the help of the microorganisms in the soil which decompose the matter releasing the nutrients and thus making it soluble and ready to be taken in by the plants. Certain examples of organic fertilizers are: Compost, Manure, fish and bone meal, etc.

### **INORGANIC FERTILIZERS**

A chemical Fertilizer is known as inorganic fertilizer when its constituents are originated

through synthetic means making them non- degradable. To sustain reliable and hastened growth, these fertilizers are added to the soil. Generally these fertilizers are manufactured keeping in mind the natural elements needed by the plants for healthy and convenient growth. They contain one or more of the essential growth nutrients such as nitrogen, phosphorus, and potassium and various others. Once added to the soil, these nutrients fulfill the required demands of the plants and provide them the nutrients they naturally lacked or helps they retain the lost nutrients.

### **Bio Fertilizers**

Bio-fertilizers are eco-friendly fertilizers, which are being used to improve the quality and fertility of the soil. Bio-fertilizers are made from biological wastes and they do not contain any chemicals. They are beneficial to the soil, as they enrich the soil with micro-organisms that help in producing organic nutrients, which in turn help the soil to fight diseases. They therefore enrich the nutrient quality of the soil. They also restore the depleted nutrients of the soil. The main sources of bio-fertilizers are bacteria, fungi and cyanobacteria (blue-green algae). Plants have a special relationship with bacteria and fungi. They provide the plant with nutrition, resistance against diseases and the ability to combat worst climatic conditions. Bio-fertilizers are being viewed as the future of fertilizers, as they have the ability to solve the problems of salinity of the soil, chemical-run offs from the fields. They, therefore, ensure the well being of the nutrients present in the soil, therefore making the soil more fertile with time.

### **IMPACT OF CHEMICAL FERTILIZER ON ENVIRONMENT**

Fertilizers were welcomed with open arms, for they immediately increased the yield of crops. They work faster than the organic fertilizers. The elements are in the easily soluble form and thus are taken in by the soil immediately. Farmers have identified chemical fertilizer as a great ladder to huge success in agro revolution. Unlike the longer time-period taken by organic fertilizers to work on the growth of the plants, Chemical fertilizers work in a hastened manner and work their appropriate actions on the plants in the required time-frame. But

their recurrent use has done an irreparable damage to the environment. Excess use of chemical fertilizers has led to the pollution and contamination of the soil, has polluted water basins, destroyed micro-organisms and friendly insects, making the crop more prone to diseases and reduced soil fertility. More and more farmers are now looking for more eco-friendly options. It has been observed that intensive farming can alter the natural environment leading to some major problems. Following are the ways by which agriculture can affect nature: Increasing area being brought under cultivation can have a negative impact on the wildlife and can completely reduce wildlife habitat. Surplus use of fertilizers can pollute rivers and lakes. It can hugely affect the flora and fauna. There can be depletion of mineral in the soil. Agriculture can also create bad odor from the agricultural wastes It can lead to soil erosion.

### **WATER**

Agricultural run-off is a major contributor to the eutrophication of fresh water bodies. For example, in the US, about half of all the lakes are eutrophic. The main contributor to eutrophication is phosphate, which is normally a limiting nutrient that allow the growth of algae, the demise of which consumes oxygen.<sup>5</sup> Furthermore, alien prokaryote specific amino acids produced by cyanobacteria blooms, such as microcystins toxins, can wreak havoc on eukaryote cellular machinery resulting in rapid death not only for the organism, but the eukaryote organisms that consume it. The nitrogen-rich compounds found in fertilizer runoff are the primary cause of serious oxygen depletion in many parts of oceans, especially in coastal zones, lakes and rivers. The resulting lack of dissolved oxygen greatly reduces the ability of these areas to sustain oceanic fauna.<sup>1</sup> The number of oceanic dead zones near inhabited coastlines are increasing. As of 2006, the application of nitrogen fertilizer is being increasingly controlled in northwestern Europe<sup>2</sup> and the United States.

### **NITRATE POLLUTION**

Only a fraction of the nitrogen-based fertilizers is converted to produce and other plant matter. The remainder accumulates in

the soil or lost as run-off<sup>3</sup>. High application rates of nitrogen-containing fertilizers combined with the high water-solubility of nitrate leads to increased runoff into surface water as well as leaching into groundwater. The excessive use of nitrogen-containing fertilizers (be they synthetic or natural) is particularly damaging, as much of the nitrogen that is not taken up by plants is transformed into nitrate which is easily leached.<sup>3</sup> Nitrate levels above 10 mg/L (10 ppm) in groundwater can cause 'blue baby syndrome'. The nutrients, especially nitrates, in fertilizers can cause problems for natural habitats and for human health if they are washed off soil into watercourses or leached through soil into groundwater.

### **TRENDS AND PATTERN OF USAGE OF CHEMICAL FERTILIZERS IN INDIA**

The Government of India encouraged investment in domestic fertilizer production plants in order to reduce dependence on imports. It introduced a "retention price" subsidy in 1975/76. The scheme led to a sharp increase in domestic capacity and production between the mid- 1970s and the early 1990s. There are 56 large size fertilizers plants in the country manufacturing a wide range of nitrogenous, phosphatic and complex fertilizers. Out of these, 30 units produce urea, 21 units produce DAP and complex fertilizers, 5 units produce low analysis straight nitrogenous fertilizers and the remaining manufacture ammonium sulphate as product. Besides, there are about 72 medium and small-scale units in operation producing SSP. In case of phosphates, the paucity of domestic raw material has been a constraint in the attainment of self-sufficiency in the country. Since the rain fed areas, which constitute 70% of the cultivated areas, consume only 20% of the total fertilizers, the government has been taking steps in recent years to increase the consumption of fertilizers in these areas. The government has sanctioned a national project and development of fertilizers use in low consumption rain fed areas in 60 identified districts in 16 states. The trends in intensity of fertilizer consumption in India (kg/ha) 1950- 1951 to 2011-12 is given in table 1.

**Table 1 : Consumption of Chemical Fertilizers in India (Lakh Tonnes)****Year Urea Nitrogen (N) Phosphate (P) Potash (K) Total (N+P+K)**

Year	Urea	DAP	MOP	Complex	Nitrogen	Phosphate	Potassium
2001-02	199.17	61.81	19.93	49.63	113.10	43.82	16.67
2002-03	184.93	54.73	19.12	48.10	104.74	40.19	16.01
2003-04	197.67	56.24	18.41	47.57	110.77	41.24	15.98
2004-05	206.65	62.56	24.06	55.08	117.13	46.24	20.61
2005-06	222.97	67.64	27.31	66.94	127.23	52.04	24.13
2006-07	243.37	73.81	25.86	67.99	137.73	55.43	23.35
2007-08	259.63	74.97	28.80	65.70	144.19	55.15	26.36
2008-09	266.49	92.31	40.78	68.05	150.90	65.06	33.13
2009-10	266.74	104.92	46.34	80.25	155.80	72.74	36.32
2010-11	281.12	108.70	39.31	97.64	165.58	80.50	35.14
2011-12	295.65	101.91	30.29	103.95	173.00	79.14	25.75
2012-13	300.02	91.54	22.11	75.27	168.21	66.53	20.62
2013-14	306.00	73.57	22.80	72.64	167.50	56.33	20.99
2014-15	306.10	76.26	28.53	82.78	169.46	60.98	25.32
2015-16	306.35	91.07	24.67	88.21	173.72	69.79	24.02
2016-17	296.14	89.64	28.63	84.14	167.35	67.05	25.08
Average	258.68	80.10	27.93	72.12	146.65	59.51	23.09

Source: Governmental India, Stat of Indian Agriculture, 2017-18, Ministry of Agriculture, New Delhi,

Consumption of Nitrogen fertilizer in India is increased from 113.10 lakh tonnes in 2001-02 to 173 lakh tonnes in 2011-12 and reduced to 167.50 lakh tonnes in 2012-13 and increased to 173.72 lakh tonnes in 2015-16 with the average increase of 146.51 lakh tonnes. Phosphate consumption is increased from 43.83 lakh tonnes in 2001.-02 to 80.49 lakh tonnes in 2010-11 and reduced to 67.05 lakh tonnes in 2016-17 with the average of 59.51 lakh tonnes. In the mean time consumption of Potassium from 16.67 lakh tonnes in 2001-02 to 36.32 lakh tonnes in 2010-11, there after recorded a declining trend of 20.63 lakh tonnes in 2012-13 and a gradual increase with decreasing usage of potassium and reached 25.08 lakh tonnes in 2016-17 with the average usage of 23.09 lakh tonnes. Phosphate usage in cases for 43.82 lakh tonnes in 2001-02 to 80.50 lakh tonnes in 2011-12, then shows the usage decreased to 56.33 lakh tonnes in 2013-14, then a marginal increase in year by year and reached to 67.05 lakh tonnes in 2016-17 with the average usage of 59.51 lakh tonnes of Phosphate in India. Among all chemical fertilizers used in Indian agriculture is urea,

its usage increased from 199.17 lakh tones in 2001-02 to 306.35 lakh tones in 2015-16, and r declined to 296.14 lakh tones in 2016-17, with an average of 258.68 lakh tones.

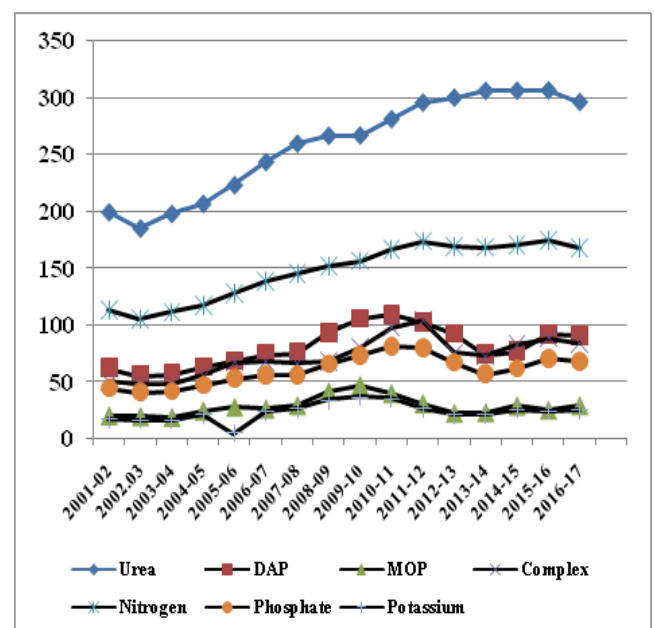
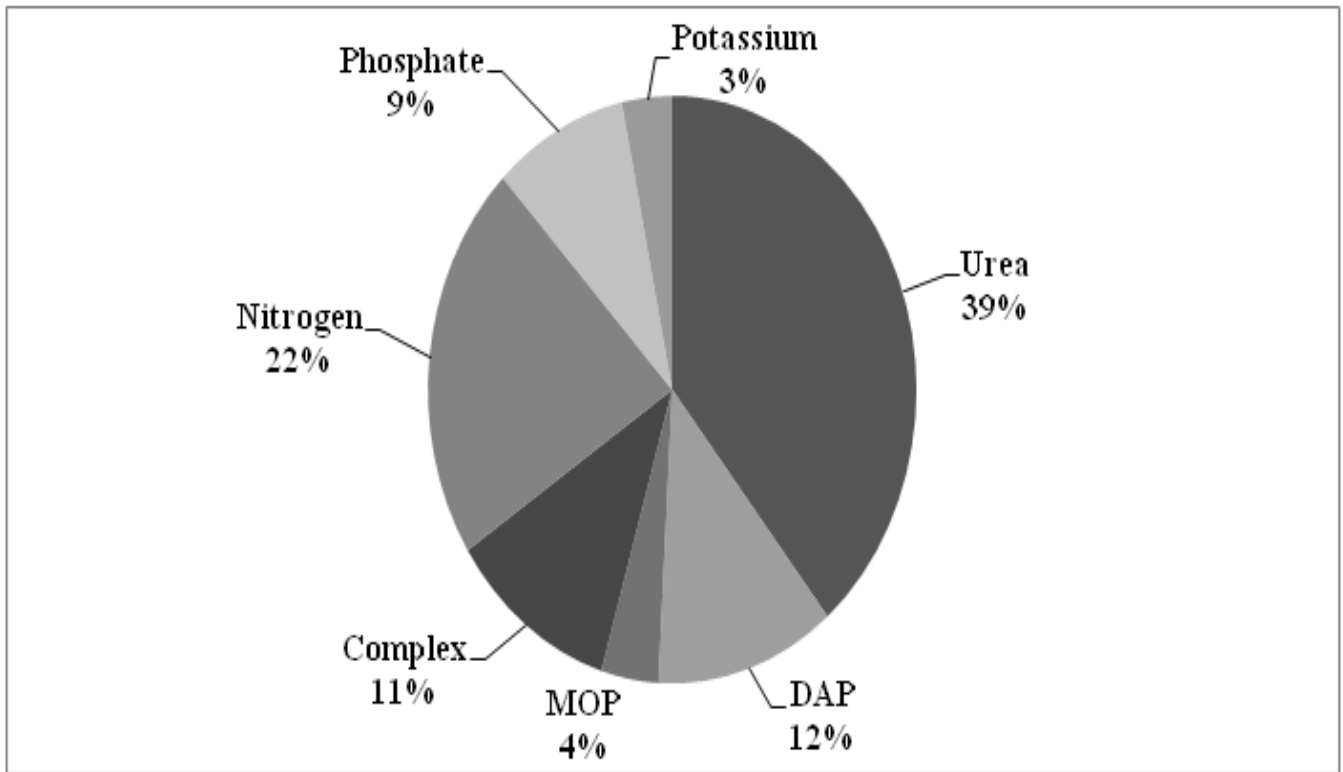
**Chart-1 : Consumption of chemical Fertilizers in India (Thousand Tonnes)**

Chart 2: Consumption pattern of chemical fertilizers in India , 2016-17



The above chart 1 and 2 clearly explain that Nitrogen is the largest quantity of chemical fertilizer used in India compare with other chemical fertilizers.

Even though India is the third largest fertilizer user, average rate of nutrient application is only 85 kg/ha. While the North and South zones have a consumption of more than 100 kg/ha, in the East and West zones the consumption is lower than 80 kg/ha. Consumption is highly concentrated in certain areas with many large areas receive very little fertilizer. Out of 500 districts (sub-units of state), 25 percent of total fertilizer is consumed in 38 districts, 50 percent in 102 districts and 75 percent in 201 districts.

**CONCLUSION**

The use of fertilizers is seen as a necessary agricultural technology, because soil restores nutrients. Chemical fertilizers can make soil infertile is by increasing its acidity. Instead, the unused fertilizer will seep into the ground, where it can be carried by rain and irrigation ditches into streams, rivers, lakes, reservoirs and oceans. The chemical compounds in the fertilizer can contaminate drinking water supplies and disrupt ecosystems. Nitrogen groundwater contamination also contributes to marine

“dead zones”. The biggest issue facing the use of chemical fertilizers is groundwater contamination. Nitrogen fertilizers break down into nitrates and travel easily through the soil. Because it is water-soluble and can remain in groundwater for decades, the addition of more nitrogen over the years has an accumulative effect. The increased use of future chemical fertilizer, this problem may increase several fold.

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## 78. IMPACT OF SOCIO-ECONOMIC INEQUALITY ON EDUCATION AND INCOME.

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### ABSTRACT

*This paper examines the impact of socioeconomic inequality. The study helps in the reduction of income inequality in diverse layers. Like Corruption, poor education/income/management, poor technology, unproductive utilization, institutional inefficiency might be some of the factors causes aid ineffectiveness of educational systems in India. The most important influence on economic inequality in India is system of education. In this paper revisit the question whether inequality in education and human capital is closely related to income inequality. Using the most popular functional forms describing the relationship between, first, output and human capital and, second, education and human capital which find that the effect of inequality in schooling on income inequality is very low, even insignificant in an economic sense. Also, it cannot confirm that a more equal distribution of education leads to higher income per capita, even though this result is sensitive. The paper indicates that education is strongly associated with generalized trust and that a large part of this association is mediated by individuals' literacy skills, income and occupational prestige. In particular, the relationship between literacy skills and generalized trust is stronger in the presence of greater birthplace diversity but is weaker in the presence of greater income inequality.*

*Keywords: Economic inequality, lack of education, ways to reduce economic inequality developments in technology, high school courses, education, and family.*

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### INTRODUCTION

Many scholars argue that socio-economic incongruities are the first region of inequality-the one that forces or augments inequality in other domains. Socio-economic inequality refers to the unequal distribution of economic resources (e.g., money, usually measured by income or wealth, and access to credit), opportunities to build human capital (e.g., from schooling, technology, and job training), and social resources (e.g., access to social capital and information). Socioeconomic inequality also plays out by gender. Differences in economic resources (income and wealth) typically favour men. In 2010, women obtained 81 percent of the median weekly wages of their male counterparts.

In 1979, the first time comparable data became available, women got 69 percent of the median weekly earnings of their male counterparts. Thus, things have improved, but inequality continues (Bureau of Labor Statistics, 2011). The long history of bias that produced these inequalities has also

served to reify them, causing them to seem to be "natural" models rather than artifacts of a social system. This then leads to sustain such inequalities, even as the fundamental limits that produced them are removed. Thus, despite changes, the increasing income divide maps onto ongoing inequalities, avoiding past momentum toward more balance along racial and gender lines. It is important to note that institutional inequality-as held by the distribution of educational achievement have not widened in recent decades.

Furthermore, family and gender inequalities in cultural outcomes have narrowed, often considerably, in the last 40 years. Ethnic disparities in high school graduation and college enrollment have likewise narrowed in the last decade. Institutional disparities that have adversely affected females historically have also decreased. Among most racial and ethnic groups, females are graduating and attending college at higher rates than males.

The moment of education in developing

the expected economic well-being and quality of life among young people has long been understood and emphasized by economic and educational policymakers: high-quality education and training systems are key preconditions for the high levels of sustainable, knowledge-based growth and jobs that lie at the heart of the Lisbon strategy. At the same time, the importance of education in ensuring equity, social inclusion, integration of persons with the migrant background, and civic participation among citizens, has also been increasingly emphasized. Recent violent terrorist attacks across different countries have underlined the need to promote inclusive and equitable education, which is accessible to all social groups irrespective of their ethnic background, socioeconomic status and personal characteristics to ensure that children and young people acquire social, civic and intercultural competences. This can be achieved by promoting liberal values and fundamental rights, social inclusion, non-discrimination, and effective citizenship. In addition, it is necessary to enhance the critical thinking, media literacy and education of disadvantaged kids and young people, by ensuring that our education and practice policies address their needs. Notwithstanding these positive developments, however, patterns of inequalities in educational opportunities and outcomes. The present report aims to provide an overview of the different areas of life that are influenced by education and other relevant determinants at both individual and societal level.

### **ROLE OF EDUCATION**

People are constantly evolving. Although the science behind that statement may be questionable, it is true in regards to knowledge. Over the course of history, as discoveries are made and humans learn about them, each generation knows more than the last, or so it is hoped. The most important impact on economic inequality in the United States is education. Lock and Key of Numerous Opportunities Education is both the lock and the key to numerous opportunities in multiple different fields. In this day and age, one's level of education practically dictates their income. Although this is not always true, there is a clear

pattern. The majority of high paying jobs in the United States require at least a high-school diploma. For example, in 2012, 65% of all jobs required a post-secondary education, completely reversed from the only 34% that did in 1975 (Keane).

### **EDUCATION AND PARENTAL BACKGROUND**

Current academic research has strongly indicated the importance of family background in shaping societies' education and socioeconomic inequalities. Finnish sociologists have recently challenged the often-stated strong relationship between educational attainment and income, observing that the economic effects of an individual's educational achievements are mediated by parental income. Individuals from high-income parents (especially men) are more likely to stay in a higher income bracket and not to fall to middle-bracket despite lower educational achievements. This effect of parental income was higher among men than among women. Men who have achieved only the lowest level of education have a higher probability of entering the highest income group and a lower probability of entering the lowest income group if they originate from a high-income family. This does not apply to women to whom basic-level education is equally disadvantageous, regardless of parental background (Sirnio et al., 2016). Recent research in the US has confirmed that there is a strong relationship between low-income family background and lower education achievements: greater levels of income inequality could lead low-income youth to perceive that property in their own human capital yields a lower rate of return (Kearney and Levine, 2016).

### **EDUCATION AND GENDER**

Gender has long been seen as one of the key factors that impact various aspects of enriching performances, together with socio-economic status and background. However, the gap between male and female early leaving rates narrows as the socioeconomic status of students.

### **LACK OF HIGHER EDUCATION AND ECONOMIC INEQUALITY**

This clearly puts those lacking a higher education at an immediate disadvantage.



How is this fixed? There are many options: Most importantly, creating a more affordable higher education system, and confronting technology and generational poverty in order to move people to better economic standings. Not only are those with less education making less, but the college-educated are now making more. In 1975, employees with some post-secondary education earned about \$1.55 for every \$1 earned by those with only a high school education or less. By 2012, that figure had climbed to \$1.80 (Keane). So, why is this happening?

Institutional factors of education inequalities A European study found that the comprehensiveness of a country's education system is an important factor that influences the educational achievements of children, in conjunction with the parental background (Burger, 2016). The study found that the effect of parental education on a child's educational achievement is stronger in highly tracked education systems, and in systems with a shorter annual instruction time. However, the social composition of a school's student population also affects the intergenerational transmission of education, and it interacts with annual instruction time, such that the effect of school social composition on a child's achievement is stronger in education systems with a longer instruction time. Thus, overall, the results challenged the hypothesis that social inequality in education could be minimized by extending the school year.

### **EDUCATION, INCOME, AND SOCIOECONOMIC STATUS**

According to the Human Capital theory used by neoclassical economists, which seeks to explain differences in individuals' earning profiles over time, the level of education directly impacts an individual's income during their subsequent years (Guidetti and Rehbein, 2014). Individuals invest in as many years of education as they expect to profit from as they would otherwise have gained from any other alternative financial investment. Consequently, the earning profile of a worker depends on the amount of investment and is influenced by two additional factors: individual ability, and background characteristics such as gender, parental status, and income.

### **EDUCATION, HEALTH, AND QUALITY OF LIFE**

The areas of life affected by education inequalities are not limited to income and socioeconomic status. Another significant area of life affected by education and education inequalities is health. Higher education levels are linked to higher self-rated health rates (SRH) and lower morbidity rates (Badley et al., 2015). Also, health returns to education are particularly elevated among those who come from disadvantaged families: education may be a health resource that compensates or 'substitutes' for lower parental socioeconomic status (Andersson, 2016). Furthermore, higher levels of education reduce the risk of adult depressive symptoms when childhood disadvantage is present in terms of lower levels of parental education or higher childhood financial strain (Andersson and Vaughan, 2017). A recent research assessed health inequalities based on the assumption that socioeconomic status is a 'fundamental cause', which embodies an array of resources that can be used to avoid disease risks (Mackenbach et al., 2015). Education seems to affect some quality of life outcomes for individuals, for example, income, self-efficacy, social support network, mortality risk, observed health status, and time spent in developmentally enriching activities with children (Edgerton et al., 2012). Numerous familial outcomes are also associated with the level of educational attainment, including household poverty, out-of-wedlock childbearing, early parenthood, child nutrition, and child abuse. Development in Technology

Over the past quarter century, the entire employment landscape has changed. A major reason for this is technology. Development in technology has eradicated the need for many low skilled jobs. Incomes are raised as more and more improvements are made in technology. The problem is that this happens disproportionately as rewards go to highly trained workers (Yglesias). Those who are already educated have the time and money to keep up on the latest technological knowledge, while the uneducated are working multiple jobs just to pay their bills. The gap is continuously widening for many in America.

### **SOME POSSIBLE SOLUTIONS**

So, how can this problem be fixed?

Technology cannot and will not be stopped. As a species, we disdain the slowing or stoppage of progress. The answer is education. Once again, where it is the problem it can also be the solution. Instead of lengthening the time it takes in school to get a good job, the opposite must be done. Technical schools have the right idea, but instead of offering a full two years after high school, the programs should be absorbed into the high school system. The skills taught will need to be technologically advanced and ready to be put to work. It will be powerful when a student can graduate from high school with a skill he/she can take straight to the job market. This will be perfect for students who are not able to or do not want to attend college. Classes could be absorbed into the students' schedule, or treated like an extracurricular activity (this way a small fee would be required for those that are able to pay). Of course, not everyone would make use of this program, leaving them in the lower paying jobs that do still need to be filled. However, those that will take advantage will have the potential to become the next great American middle class, therefore exponentially shrinking the economic gap.

### **EDUCATION RUNS IN THE FAMILY**

A large factor that makes education such a considerable part of economic inequality in America is that education runs in the family. Just because a mother reads *To Kill A Mockingbird* while she is pregnant does not mean the child will be born with an indescribable knowledge of the book's major themes. Nonetheless, being born into a family with a strong history in education, or even having two parents with high school diplomas gives children a considerable advantage.

### **CHILDREN BORN IN POVERTY AND POVERTY CYCLE**

According to The Urban Institute, one in six U.S. newborns are born into poverty. About 50% of them will go on to spend at least half of their childhood in poverty (Lee and Burkam). Children who spend half of their childhood in poverty are 90% more likely to enter their twenties without a high school diploma than children who have never been poor (Baker). The poverty cycle is

undoubtedly intertwined with education, and as illustrated by these statistics, it is not easy to break. What makes the poverty cycle the sturdy thing that it is, is the mentality that comes along with it. The imprinting that begins when a child is born continues throughout their life as they observe their surroundings and learn what is expected of them (Lee and Burkam). Schools in low-income areas will need to focus on breaking that mentality by exposing the students to a world outside of what they see every day. In order to shrink the economic inequality in America, the next generation must understand that it is possible for them to have more than their parents. This may take a long time to accomplish as there are multiple ways to change a child's mindset but it is integral to the nations' economic development as a whole. For, as Malala Yousafzai said, "we cannot succeed when half of us are held back".

### **FIXING ECONOMIC INEQUALITY**

Economic inequality is caused, in large, by education. But, it can also be fixed by education. Economic inequality will never be fully eradicated, but it can be scaled down, and education can make that happen. Through added technology subjects in a great circle to prepare students for the job market and by starting at the base of the poverty cycle, I believe we can once again address America the land of opportunity it was meant to be.

### **CONCLUSION**

This summary of considerations indicated that education inequalities both affect and are concerned by a number of important areas of life. The parental background is a key determinant of education inequality, and families' low socio-economic status, income, and parental education are some of the key factors in reducing children's access to quality education. Recent data shows that children from disadvantaged socio-economic background often face significant psychological difficulties linked to levels of household support, self-esteem, and value attached to education, which offers to educational inequalities in later years. However, there are also indications that some public policies design and reproduce educational exclusion and inequity for

disabled learners by identifying, analyzing and categorizing 'difference' within (or outside) mainstream school settings. Similarly, some institutional settings in schools contribute to education inequalities: early tracking, lack of standardization in curricula and assessment systems, regionalized funding, residential segregation and education and gender.

To conclude, key areas of life are dependent on the level of educational attainment, including individual skills, income level, socio-economic status, health and overall quality of life. Educational attainment has a very strong relationship to both proficiency in literacy and problem-solving in technology, before and after accounting for the influence of other socio-demographic characteristics. So, there is a strong link between higher levels of education and higher self-rated health rates, lower morbidity and better way to prospects.

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# 79.WOMEN, OCCUPATION AND STRESS MANAGEMENT - A COMPARATIVE STUDY OF EDUCATION AND FINANCIAL SECTORS

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## ABSTRACT

*Stress has become a very common trend of routine life, and an unavoidable consequence of the ways in which society has changed. The aim of this study is to compare women occupational stress, factors causing women occupational stress and preferable methods of reducing stress if any, educational and financial sectors, based on the certain factors. A comparative study of the factors causing stress in the women working in the educational and financial sectors disclose that the reasons are rather comparable and do not vary much. The women in both sectors look forward to face challenges at their work place and are not bothered about heartless comments, if any. They have a sense of belonging to the organization and do not feel stagnated. In addition, the working women are much less stressed by the family associations than the work and organizational-related problems which shows that the family develops a positive attitude and supports her attempts.*

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## INTRODUCTION

The role of women in India has changed from being traditional homemaker to an active participant in the nation building. Mahatma Gandhi brought a radical change in the Indian society by encourages women to discard veil and join liberty movement. From then on, the revolution process brought lot of change in the society, workplace and in family also. When we say women are in process of revolution, it does not mean that they are away from the responsibility. They are trying to bring the balance between the work-life (her & family) and this we call as work life balance. At the time of making balance, some critical situation generates harmful hormones which affect her poorly. These undesirable conditions are the resource of stress.

"From Kitchen to Boardroom" Even the new Companies Bill 2012 gives emphasis on the appointment of one woman director. The Mckinsey study also indicates that companies representing organizational excellence had higher number of women in their top management. Gender multiplicity can progress the corporate brand image. To successfully manage a stress situation, we must first define what we mean by "stress" and identify what causes it in order to

recognize the effects of exposure to stress. Recent dictionary definitions associate the word "stress" with disease. The Shorter Oxford Dictionary (2007) describes stress as, "a condition or adverse circumstance that disturbs, or is likely to disturb, the normal physiological or psychological functioning of an individual".

## STEDMAN'S MEDICAL DICTIONARY (2005, 28TH EDITION) STATES:-

- Stress is the reaction of the body to forces of a deleterious nature, infections and various abnormal states that tend to disturb its normal physiological equilibrium.
- In psychology, stress is a physical or psychological stimulus which, when impose upon certain individuals, produces psychological strain or disequilibrium.

According to Fred Luthans." Stress is an adaptive response to an external situation that results in physical, psychological and behavioral deviations for organisation participants."

## NATURE OF STRESS

Change is said to be main reason of stress among the work force. The wide ranges of workplace conditions are associated with the pressure, physical and mental-

illness. Change becomes a powerful stress agent because it requires adaptation whether it is supposed as a negative or positive experience. If the stress is managed in a positive manner, it becomes healthy and productive.

It is necessary to identify and measure the main sources of stress at workplace. Some of them are identified here:

- **Job Related Stress:** It includes workload, organization and physical work environment, long working hours, culture and politics of the organization, the restrictions forced on behaviour and so on.
- **Relationship Related Stress:** It extends within and outside the organization. Changing family status/equations also plays important role in creating stress. Moving out from the organization, city or from family creates worry.
- **Stress Associated with the Home and Work Interface:** It includes conflicts of reliability, life events and life crisis and split over of demands from one environment to another.

## CAUSES OF STRESS

### General Causes

- Organizational Problem
- Insufficient Back –Up
- Long and Unsociable Hours
- Uncertainty and Insecurity
- Poor Status, Pay and Promotion Prospects

### Specific Causes

- \* Unclear Role
- \* Role Conflict
- \* Poor Status, Pay and Promotion Prospects
- \* Unrealistic High Expectations
- \* Inability to finish job
- \* Powerlessness
- \* Conflicts with colleagues
- \* Overwork and Time pressures

## IMPORTANCE OF THE STUDY

The present world is fast changing and there are lots of pressures and demands at work. These pressures at work, lead to physical disorders. Stress refers to individual's reaction to a disturbing factor in the environment. Hence this study would

help the organization to know the factors of stress and to reduce the stress in employees. Since it is a well known fact that healthy employees is a productive employee.

## REVIEW OF LITERATURE

Malik (2011), Collected data from public sector and the private sector banks employees in Quetta, Pakistan, the researcher finds that there is a significant difference in the level of stress to which both groups are subject, and that public sector bank employees face a high level of occupational stress.

D'Aleo, Stebbins, Lowe, Lees, and Ham (2007), examine a sample of Public and Private sector employees to assess their respective risk profiles. They find that public sector employees face more stress than private sector employees.

Srivastava (1991), The researcher surveyed employees of the Life Insurance Corporation and reports that there is a significant positive correlation between various dimensions of role stress and symptoms of mental ill health. Stress arising from role uncertainty and role stagnation is the most intensively correlated with anxiety.

## RESEARCH STATEMENT

"Women, Work and Stress Management - A Comparative Study of Education and Financial Sectors conducted at Kanchipuram District.

## OBJECTIVES OF THE STUDY

1. To identify the level of stress in Educational and Financial Sectors.
2. To identify the factors causing stress among the employees.
3. To find out the level of stress among the employees of different age groups.
4. To identify the coping strategies to manage stress.

## RESEARCH METHODOLOGY

Methodology is a way to systematically solve the research problem. In this Research suitable analysis and statistical tools can be applied to solve the research problem. It includes, Sources of data, Tools used for data collection, Research design, Sampling, Hypotheses.

## **RESEARCH DESIGN**

This research has been categorized as descriptive because the study includes survey and fact finding studies of various kinds. The major purpose of this research is description of the state of affairs or problems.

**Sampling Design:** Universe Type: Finite (100)

**Sampling Design Type:** Simple random probability sampling.

**Sampling Unit:** Kanchipuram District as a sample unit because of its rapid growth and work force.

### **Selected Samples**

#### **Educational Sector**

Play School / Kindergartens, Public Schools, Government Colleges, Aided and Unaided Undergraduate Colleges, Post Graduate Colleges.

#### **Financial Sector**

Life Insurance Corporation, Max Life Insurance, State Bank of India, Indian Overseas Bank, Canara Bank, IDBI Bank, Federal Bank, Indian Bank, Karur Vysya Bank, Kotak Securities, Prestige Private Ltd(Accountant).

**Sample Size:** Researcher has collected 100 responses from both the sectors.

## **DATA COLLECTION**

**Primary Data:** Questionnaires directly collected from respondents.

**Secondary Data:** Internet, books on related issues and research reports of various researchers in relevance to study.

## **DATA ANALYSIS AND STATISTICAL TECHNIQUE METHOD**

Various statistical tools have been employed like frequency distribution, pie charts, bar graphs, Average or mean, Standard deviation and Independent two-sample t-test for analysis and representation of data.

### **Parameters of Interest:**

#### **Organization-Related Stress:**

- Bothered about your peers scheming

Worried about sudden displacement and is family unhappy

- Feeling stagnated
- Feeling of belonging

#### **Job-Related Stress:**

- Better career prospects
- Anxious about added responsibility and skill related inadequacies
- Very often feel neglected when you are in team
- Work loaded

#### **Family-Related Stress:**

- Incompatible life-partner
- Marriage is a man-made institution; at times it fails
- Earnings
- Sickness of self/ family member affects the mental peace

#### **Self-Related Stress:**

- Spiritual growth
- People laugh at your spiritual learning
- Life is series of achievements and meeting challenges
- Love to take risk when the stakes are high

## **LIMITATION OF THE STUDY:**

- Research is concentrated only on Kanchipuram District.
- Analysis of stress has not been done on the basis of level in the organization.
- Stress level and its management is studied and discussed only in context with working women. Home makers also undergo the process of stress.
- As the study was done within a limited time, investigator could no select a sufficiently large sample for the study.
- The questionnaires were collected by 100 employees only.

## **ANALYSIS AND INTERPRETATION**

Testing of hypothesis in order to find out whether there is any significant different between the satisfaction levels of management pressure is main reason for stress among Education Sector and Financial sector.

RESPONSE	Education Sector	Financial sector	TOTAL
STROGLY AGREE	12	18	30
AGREE	26	26	52
DIAGREE	10	6	16
STRONHLY DISAGREE	2	0	2
TOTAL	50	50	100

H<sub>0</sub>: There is no significant different between the management pressure is the main reason for stress among Education Sector and Financial sector.

H<sub>1</sub>: There is significant different between the management pressure is the main reason for stress among Education Sector and Financial sector.

$$\text{Chi-square} = \sum \left[ \frac{O_i - E_i}{E_i} \right]$$

Calculated value = 4.2

Table value @ 5% level of significance with degrees of freedom 3 is = 7.815

Therefore calculated value < table value.

$$4.2 < 7.815$$

Inference

Since calculated value is less than the table value (4.2 < 7.815) H<sub>0</sub> is accepted and it is concluded that there is no significant different between the management pressure is main reason for stress among Education Sector and Financial sector.

Testing of hypothesis in order to find out whether there is any significant different between the satisfaction levels of work related stress among the age group.

RESPONSES	BELOW 20	21-30	31-40	ABOE 40	TOTAL
HEADACHE	0	12	4	0	16
ANGRY	0	22	10	0	32
TENSION	0	37	7	2	46
OTHER ABNORMAL SYMPTOMS	0	0	6	0	6
TOTAL	0	71	27	2	100

H<sub>0</sub>: There is no significant different between the works related stress among age group.

H<sub>1</sub>: There is significant different between the works related stress among age group.

$$\text{Chi-square} = \sum \left[ \frac{O_i - E_i}{E_i} \right]$$

Calculated value = 16.812

Table value @ 5% level of significance with degrees of freedom 3 is = 7.815

Therefore calculated value > table value.

$$16.812 > 7.815$$

Inference

Since calculated value is more than the table value (16.812 > 7.815) h<sub>1</sub> is accepted and it is concluded that there is significant different between works related stress among age group.

**Findings:**

• No significant different between the management pressure is main reason for stress among Education Sector and Financial

sector.

- There is significant different between works related stress among age group.

- It is found that the current stress level among the employees of both Education and Financial Sectors is low which shows that both have good attitude towards the welfare of the employees.

- There is no significance difference among the employees of both Education and Financial Sectors with regard to the current stress level.

- The factors which affect the job stress level of the employees are different in both Education and Financial Sectors.

- Lack of higher management support is rated low by the respondents of Education sector.

- The task related factors causing job stress are different in both the Education and Financial Sectors.

- In education sector work load is the major task related factor of job stress.
- The method of reducing work stress is different in both the sectors.
- The most preferable method of reducing stress in education is Yoga and health classes.
- The most preferable method of reducing stress in financial sector is organisational get together.
- The least preferable method of reducing stress in both the sector is workshop and training.
- Organizational Stress, In the Educational sector, women are not worried about the heartless remark as they are more concerned about the organization and their work, while in the Financial sector, difference is less and sometimes peer scheming bothers them.
- Job-Related Stress, Work is being enjoyed by females in the Educational Sector while in the Financial Sector, sometimes female employees feel that they are overloaded.
- Family-Related Stress, 80% and 78% of the respondents from the Educational and Financial Sectors respectively are less worried about incompatible partner.
- Self- Related Stress, Most of the respondents in both the sectors have answered that people are not interested in the spiritual learning of the respondent and consider it as their personal matter.

equally. Nevertheless, the percentage of the women affected by sickness in the family is much higher in the educational sector than in the finance sector. In the case of the self-related stress, the women employees in the two sectors do not differ much. From these studies, it may be concluded that the working conditions for the women employees in the educational and finance sectors are equal and do not differ radically.

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**Conclusions**

The results of Education and Financial Sectors depend on the employees of the concern. The psychologically healthy employees lead to the progress of the organisation. Occupational stress and the workplace health have been the issue of major concerns over last decade. The factors causing stress in the women working in the Educational and the Financial sectors and their management are comparable and do not differ greatly. The percentage of the respondents affected by the work-related stresses, namely organizational stress and the stress related with the type of the job is same, in both the sectors under study. The family-related stress also affects the women employees in both sectors almost



# 80.ECONOMIC GROWTH AND DEVELOPMENT THROUGH PROGRAMMES - STRATEGIES ADOPTED BY PANDIT JAWAHARLAL NEHRU AND INDIRA GANDHI

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## ABSTRACT.

*This article explores in details the poverty amelioration programmes which had been initiated by the Congress Party after independence during the Jawaharlal Nehru and Indira Gandhi years. In a period of three decades, there were a number of strategies which were pursued to eradicate the high level of poverty which were prevailing in the rural areas of the country. By the end of the 1950s, there was a definite move to eradicate rural poverty through definite programmes. The absence of proper land reform legislations and the dominance of the upper and middle class leadership of the Congress prevented the Government machinery in initiating plans for the amelioration of the economic status of the small peasants and the agricultural labourers. The Nehruvian logic of an integrated agricultural development found shape in the Twenty Point Programme of the 1970s. These policies had their own successes and weaknesses and they could to some extent reduce the poverty figures by the early 1980s. The most interesting side of this narrative is the states' deep involvement with the poverty reduction schemes, which by the early 1980s came to be criticised by a dominant section of the Congress. Such debates were responsible for the shift towards a liberalized market economy in India which instead of reducing poverty, increased the prospects of a rich poor divide in the society*

## INTRODUCTION

In the last 150 years or more covering the transition from colonial rule to independence in India, a wide range of issues have acquired a great deal of importance. During this period, economic issues occupied a significant part in the official policy decisions, both in terms of agenda and debate. It has been argued, the protagonists in this debate were many; the Government of British India, the nationalist critiques, such as Naoroji, Dutt and Ranade, the Indian National Congress, which later became intricately linked to the government of India and last but not the least the critics of the Congress. In colonial India, the British presence was seen as beneficial especially to the poor. This in a large measure served to legitimize the British rule over its alien subjects. William Hunter observed, "(For) no government has a right to exist which does not exist in the interests of the governed. The test of British rule in India is not what it has done for ourselves but what it has done for the Indian people.

## POVERTY IDENTIFIED AS SIGNIFICANT PROBLEM OF INDIA

The main problem for the British was to

provide comfort to the people of India from the pangs of starvation, or what we today define as absolute poverty, engulfing a large part of the population. In the colonial period the problem of poverty was essentially seen as a problem of the rural society but very little was written about the deprivation suffered by the ryots, various small peasants and agricultural labourers.

The British view of absolute poverty in India in the last decades of the nineteenth century could be summed up as follows: 1) India was a poor country, with limited development of productive forces and potentials. It had been so despite the beneficial effects of more than century of British rule. 2) In such a poor country, poverty was something natural and inevitable, since the failure of the monsoon caused famines. So did a number of factors, demographic, technological, and cultural – all beyond the control of government and were the cause of poverty. Indeed this was a 'trickle down' view of poverty at the household levels for a significant part of the population was seen in terms of the low mean income standards of the country. 3) While many were poor, few were hungry

and there was definitely enough for people's wants, which in any case were simple. The requirements and expectations of the poor were almost always defined in terms of hunger and that of having enough to eat, so that poverty became a one dimensional phenomenon of whether there was enough food to eat, or that of nutritional adequacy or inadequacy.

It is not possible to discuss poverty in this period without reference to famines and famine policy. As David Arnold has argued that this recurring, acute manifestation of poverty was not one that the government could ignore, since it threatened lives and livelihoods, as well as revenue and social stability

### **EARLY DECADES OF OF THE TWENTIETH CENTURY**

The nationalists felt that the British policy had impoverished India in a number of ways and had left it with a heavy burden of poverty. These were the land revenue policy, the burden of a costly foreign administration leading to the economic drain of wealth from the country and barriers to Indian industrialization which was encouraged by a tariff policy friendly to the interests of the Manchester lobby. In the early decades of the twentieth century, there was a certain ambiguity at the

heart of the social policy of the Indian National Congress vis-.-vis the issues of poverty.

In one of his correspondences, Jawaharlal Nehru in 1936 had stated "You seem to separate the three objectives – India's independence, the creation of a socialist state, and

the solution of the problem of India's poverty and unemployment and you suggest that the last named should be tackled first. I am afraid this whole conception of our struggle is wrong. If all of us in India devoted ourselves to fighting poverty under the present

system – political and economic – we shall not get rid of it. If we could get rid of it then the problem is a simple one and even the need for swaraj is not very apparent." Thus it would seem that poverty eradication would be at the centre of the Indian National Congress political agenda. But, much earlier, the Karachi Resolution of 1931 which was widely regarded as the first major statement

of the Indian National Congress on social policy contained no explicit reference to the problem. Poverty related policies seemed to have been little discussed by the Indian National Congress and this trend continued to find a space in the deliberations of the National Planning Committee. The radical Congress Presidents Jawaharlal Nehru in Faizpur and Subhas Chandra Bose in Haripura made references to the problem of poverty in their Presidential address but it received very little thought from the other sections of the Congressmen. The Indian National Congress believed that colonial policies kept India poor by disabling its potentialities through limited industrialisation. This undoubtedly did encourage a macro view of economic policy, where industrial growth was seen as a strategy, that could be employed to reduce poverty overtime by increasing the incomes of the poor along with per capita income.

At the same time a section of the Indian Congress leadership believed that a socialist pattern of industrialization, would give economic planning a pro-poor orientation. They were also disturbed by the developments which affected the agricultural sector, since it provided livelihood for the majority of the Indians. It was apparent that the colonial power had created a structure of land ownership and land tenure which was unequal and inimical to the interests and welfare of the rural poor and one which would not automatically come to an end with independence.

This matter were clearly highlighted by the reports on agrarian distress published by the United Provinces Provincial Congress Committee. They clearly pointed to the need for policy interventions in post colonial India, alongside the implementation of the Gandhian ideal of trusteeship.

### **POVERTY AS A PROBLEM AT NATIONAL LEVEL**

In the years after the Indian independence, the government's perception of poverty displayed important elements of continuity and discontinuity with the colonial period. In fact, there was a one dimensional, minimalist view of what constituted poverty. There was an inclination to view poverty as a problem at the national rather than at the personal or household level. The important official

and unofficial documents of the period, such as those of the First and Second Five Years' Plan did not clearly state the strategies to be favoured for eradicating poverty. But, they seemed to have discussed poverty in the realm of ideas and possibly were less interested in its eradication. India was viewed as a poor country with a low per capita income and it was more to do with the fact that the majority of the Indians had very low levels of income. But there was no simple and direct link between a low GNP and poverty measured as income below a defined minimum subsistence level, irrespective of whether poverty is measured by its extent (the head count ratio) as well as its severity ('the poverty gap'). At the same time, poverty as also defined in terms of income of consumption below a norm which was commonly expressed in terms of a nutritional minimum or in simple terms, the ability or inability to avoid hunger or malnutrition. The problem with this approach lay in its single dimension of actual or targeted consumption. In the first place by default, it denied the poor certain 'other' rights such as to choose between alternative occupations or patterns of consumption or some basic human rights such as proper access to the legal system. The other is that it encouraged a false distinction between the economic and the social characteristics of poverty where a low rank or score in the latter might be a significant determinant of a low rank or score in the former. In fact, policies to improve the health or educational status of the poor came to be viewed as supplementary or ancillary to the major target of raising the consumption of the poor rather than as a condition for a sustainable poverty reduction strategy. Significantly, the Indian Government under Nehru did make attempts to move out of the prevailing frameworks of thought related to poverty. In fact, poverty was no longer viewed by the state as a natural phenomenon. The government believed that for removing poverty there had to be an active drive for creating a large and diversified modern industrial sector and that the state had to be very actively involved in this enterprise. However, its promise of reducing poverty through economic growth was not always fulfilled because there had been too little increase and also because of the nature of

the processes involved with this expansion.

### **THE POST INDEPENDENCE DECADES AND THE MAKING OF A NEW ECONOMY: THE NEHRUVIAN VISION**

In fact political power in post independence India was mostly held by Congress Party. The Congress led by Nehru was nationalist and socialist in its ideology. It has been argued that the Congress seeking to represent the interest of the nation as a whole came to be influenced more by the 'proprietary classes'

At the time of independence, India had certain advantages compared to most other post-colonial societies. As Aditya Mukherjee and Mridula Mukherjee have argued that despite the incipient trends in the reverse directions towards the end of the colonial period, the Indian economy in 1947 "was still basically structurally colonial; and externally oriented, internally disarticulated economy, with a very weak infrastructural and industrial base especially in capital goods and stagnant and if not declining agriculture still dominated the economy".

In the years following independence a major effort was made to restructure the inherited colonial structure. One of the striking aspects of the Indian economy since independence had been its extremely low dependence on foreign trade. The total foreign trade as a proportion of the country's GNP remained wound 10% to 13% only between 1953 and 1977. Unlike most of the post colonial third world countries, especially the NICSSs, the export sector of India has not been crucial, accounting for only 5% or 6% of the GNP over this period. It has been observed, "The Indian economy was thus no longer typically extroverted as it had become under the impact of colonialism which had destroyed the traditional balance between agriculture and industry turning the country into an exporter of raw materials and food and importer of manufactured goods. Indian production since independence has been primarily dependent on the home market and inter-sectoral exchanges within the economy. The Indian economy is thus to an extent not crucially conditioned by or dependent upon the changes occurring in the metropolitan economies".

In January 1957, the Congress replaced the word Socialistic in favour of Socialist.

In fact two years later at the Nagpur session, the Congress spelt out the objective in more clear terms for both the industrial and agricultural sectors. The Congress in one of its resolutions observed the future agrarian pattern should be that of cooperative joint farming in which the land shall be pooled for joint cultivation, the farmers' continuing to retain their property rights and getting a share from the common produce in proportion to their land as a first step ..... service cooperative should be completed within a period of three years". Thus at the Avadi, Indore and Nagpur sessions, Nehru tried to give a direction to India's development programmes. But this was not enough. Nehru observed "I am not a politician cut out for a job. I am a man who wants to do something in India, to change India within the few years left to me. In the Bhubaneswar session of the Congress he persuaded the Congress to give unequivocal support to the need of socialism. The Bhubaneswar Session may be regarded "a turning point in the history of the Congress because it marks the end of the controversy regarding socialism" The Congress was no longer divided on the question of Socialism and it became its accepted goal.<sup>14</sup> The only question which remained was how to bring the socialism. But this socialism was different from Marxism as if it did not have any clear cut allegiance to the doctrine of class war, rather it expressed its faith in democracy, in worth and dignity of the individual and principle of decentralization. Instead of maximum possible state ownership and nationalization it laid stress on mixed economy in which the state was to be the more dominant partner, but the role of the private sectoring no means insignificant. Atul Kohli has argued that businessmen group played a significant part in the shaping of its early economic policies and the Congress also built its political support in the countryside through the upper caste land owning groups. However it needs to be stressed that the Congress as a national platform of different social categories had been affected by such developments since the early decades of the 20th Century. In the 1950's and 60's the Congress was however simply not a party of the Indian elite alone. Nehru's socialist commitments had

greatly widened the Congress' social base, promising progress to India's downtrodden. Aditya Mukherjee and Mridula Mukherjee have pointed out that before initiating a debate on the size, strength and nature of the Indian bourgeoisie, there should be an emphasis on certain important historico-structural factors which had influenced specific developments in both colonial and post colonial India. They emphasized more on the legacy of the Indian national movement. The founding fathers of the Indian national movement had by the last decades of the nineteenth century developed a comprehensive and sophisticated critique of imperialism and the colonial structure. It as been argued that they were the first in the world to do so.

After independence, the land reforms despite being slow and oriented in favour of the rich sections of the peasantry broke the political and economic strength of this class. Rich peasants and to a lesser extent Junker type of capitalist landlords were able to exercise their dominance over the feudal landlords in the rural localities. They exercised considerable political and economic clout at the national level.

The working class in India had been unionized on a large scale in the organized sector and had a long tradition of trade union struggles. However, the left as an alternative national political current did undergo a secular decline over time even among the working class. This was partly because of the economism which influenced the Indian left and partly because of its inability to correctly characterize the Indian reality. The Indian left has consistently waged false battles based on a wrong reading of Indian reality, largely influenced by its doctrinaire position. The maintenance of a certain minimum amount of national consciousness has prevented a situation of popular upsurge, whether under left wing or right wing hegemony. Possibly, this actually did not lead to a situation, where the bourgeoisie would go over to imperialism and seek external help for its survival.

#### **THE CHALLENGES BEFORE THE GOVERNMENT'S ECONOMIC POLICIES:**

The Diffulties of the 1960s and 1970s Nehru's economic policies met with both failure and success. Despite the best efforts

the overall growth rate of the economy was relatively sluggish, failing to keep pace with the growing population. Perhaps the problem lay with poor planning and ill directed strategies vis-à-vis their implementation. The significant progress made during the first three plans failed to prevent the Indian economy from being gulfed by a massive crisis by the mid 1960's. This crisis changed India's image from a model developing country to a basket case. Two successive monsoon failures of 1965-66 added to the burden on an agriculture which was beginning to show signs of stagnation. The agricultural output fell by 17 percent and food grain output diminished by 20 percent. The rate of inflation which did not exceed 2 percent per annum in 1963 rose sharply to 12 percent per annum between 1965 and 1968 and food prices rose nearly at the rate of 20 percent per annum. The inflation was partly due to the droughts and partly due to the two wars of 1962 and 1965 which had led to a massive increase in defence expenditure. The Government's consolidated fiscal deficit rose in 1966-67 to 7.3 percent of the GDP. The balance of payment situation, fragile since 1956/57 deteriorated further with the foreign exchange reserves averaging about \$ 340 million between 1964/65 and 1966-67, that was enough to cover less than two months of imports. The dependence on foreign aid, which had been rising over the first three plans, now sharply increased due to food shortages as well as due to the weakness of balance of payments. The Indian economy was really in a very difficult situation with high inflation, very low foreign exchange balance, food stocks being low as to threaten famine conditions in some areas, calling for large imports and at least half of the imports having to be met through foreign aid. The US, the most important donor took the decision to suspend its aid in response to the Indo-Pak war and refused to renew the PL-480 wheat loan agreement on a long term basis. These were done to pressurize India to accept some of the conditions of the US. The United States along with the World Bank and the IMF wanted India to liberalize its trade and industrial control, devalue the currency and adopt a new agricultural strategy. While there was considerable indigenous support for a new initiative in agriculture, there was plenty of suspicion

over trade and industrial liberalization. There were also differences of opinion over devaluation. The devaluation of the rupee nominally by 36.5 percent and the trade liberalization initiated by Prime Minister Indira Gandhi in the mid 1960s got associated with the prevailing recession in industry, inflation and the decline in exports, all of which at least created a crisis like situation in 1966-67. In any case, these policies were condemned before their long term effects could be realized. It has been often argued that Nehru's emphasis on heavy industry had meant the neglect of agriculture and alongside a set of policy decisions had serious consequences for India's poor. The steady growth in the figures related to poverty, thus bring out the absence of a systematic policy to promote agricultural growth in India. The reliance was more on re-educating the peasantry and on enhancing the incentives to the land tiller via land reforms. The former was probably wrong in terms of conception and the poor quality of the subordinate bureaucracy was largely responsible for the faulty implementation of the ameliorative measures probably wrong in terms of conception and the poor quality of the subordinate bureaucracy was largely responsible for the faulty implementation of the ameliorative measures.

### **INDIRA GANDHI- IRON LADY PRIME MINISTER OF INDIA**

Indira Gandhi's Garibi Hatao slogan in the days prior to the 1971 general elections coincided with this changed idea vis-a-vis rural development. However, it is difficult to imagine that Indira Gandhi's economic policies anticipated the World Bank's ideas about rural development. A World Bank sector paper entitled 'Rural Development' published in 1975 pointed out that "rural development is a strategy designed to improve the economic and social life of a specific group of people—the rural poor. It involves extending the benefits of development to the poorest among those who seek a lively hood in the rural areas. The group includes small scale farmers, tenants and the landless." In the 1971 elections, she popularized the slogan of Garibi Hatao and made it a point to reach out to the various sections of the unprivileged groups of the rural society.

In fact, like her father, Indira Gandhi also emphasized the need for structural changes in agrarian relations. She described the judiciary as an obstacle in realizing this objective and the constitution was amended to establish the supremacy of the parliament over the courts. But the issue of land reforms received a partial attention during the Fourth and the Fifth Five Year Plans. She later stressed that she intended to implement land reforms with determination. Scholars like Ghanshyam Shah has argued that this determination remained only in words and the Indira regime so far as restructuring of land relations were concerned remained half hearted. Yet Indira Gandhi has to be praised for her leadership in initiating several measures which were radical in terms of ideas. The Maharajas were stripped of their remaining privileges, anti monopoly laws were strengthened, new taxes were imposed on the rich, access to credit was broadened and stricter land reforms were initiated and programmes in public work initiatives were sponsored. These were all done so that the income of poor increased. The early 1970's were pregnant with expectations of real social democratic possibilities in India. The untouchability amendment bill of 1972 was renamed the protection of civil rights act of 1976. In 1980, Indira Gandhi observed, "atrocities on harijans, casteism that is something that cannot be removed by the government decision or action, it has to be a peoples' movement." In the mid 1980's, the Indira Gandhi Ministry's scheme of Garibi Hatao became a point of debate among India's social scientists. The debate which was sparked off by the writings of Nilkanth Rath found a firmer voice in the number of other scholarly presentations which highlighted the short comings of the integrated rural development programme. The critics ignored two important points regarding the essentials of the programme. In the first place, the shortcomings in the choice of beneficiaries were not uniform. Rath quoted from a survey conducted by the NABARD and stated that misclassification was less than on percent in Uttar Pradesh, Bihar and Orissa, where half the nation's poor lived. Secondly the studies showed that the incremental income from diaring was about 45% of the loans advanced. In

fact, Rath's ideas relating to the alternative strategy as regards wage employment through NREP and RLEGP also were questioned by scholars. They argued that apart from distortions it was evident that those with land resources determined the schemes and their location and also benefited disproportionately from them. This explained the reason behind the failure to include backward areas and groups. This made the quality of work patchy. However, this is not to say that the programmes initiated by the Indira Gandhi ministry lacked relevance. The government realized the need for massive social forestry on common lands. But, it was argued by all that the magnitude and extent of poverty was such that its alleviation would need a multi pronged attack and the real issue was not the strategy options but implementation.

### **CONCLUSION**

The Nehruvian period witnessed a number of programmes seeking to improve the productivity level of the agricultural sector. The most important of this were the Community Development Programmes which were started in October 1952 with 55 community development oriented projects. Each of the 55 projects was to cover about 3 development blocks or 500 villages and a population of about 3 lakhs. The launching of the Community Development Programme had its origins in the programme of the Grow More Food Campaign. In 1957, a Committee on Plan Projects observed that unless the people and their democratic institutions took full responsibility in the planning and supervision of the programmes, the movement of community development would never reach the desired goal. Since the new agricultural strategy was found urgent, the first step taken towards this end was witnessed in the beginning of the Third Five Year Plan. Based on a new agricultural strategy, a scheme called "Intensive Agriculture District Programme" (IADP) was started in 1960-61. The criticisms of Indira Gandhi's integrated rural schemes have to be made in a proper perspective. The programmes were important policy innovations aimed to provide productive assets to the poor in order to raise them above the poverty line. They were integral to India's development and its strategy of the major criticisms of the programme

were conceptual. The subsidy and differential rate of interest had been criticized by those who argued in favour of changes in the relations of production that is land reforms as a pre condition for poverty alleviation. At the same time, asset transfer was also criticized as 'wasteful' by those who argued that development needs were better served by increasing the resource base through investment. But, what was missed in these debates involving the structuralists and neo-classicists was the extension of the scope and coverage of welfare measures as policy innovations which had tried to provide secured livelihood to the poor. However, the 'garibi hatao' programme been the most difficult to design and implement. The infrastructure projects like roads, rural electrification, drinking water, housing etc required the allocation of resources and technical efficiency. The projects were visible and the benefits apparent in short terms. The welfare programmes like health, education, nutrition, family welfare etc required primarily an efficient organization for service delivery. In this case, the visibility tends to cover the problems of achieving the more medium term goals which depend on ensuring access to service. However, the programmes like the IRDP and RLEGP sought to target the poor, that is the 'special public' that is groups in special need and which also sought to generate income. They were the most complex because they depended on interplay of a number of factors like the infrastructure service facilities provided by the state, the motivation of the village level officials to ensure service delivery and access, as well a positive response on the part of the special public to the assistance. The special publics could not be reached through the institutional arrangements adopted for the welfare programmes and this was one of the major weaknesses of the anti poverty programmes. The special publics' constraints, needs and capabilities need to be taken into account. The rural poor were not very visible; the view from the road excluded inaccessible households; the diffidence of women responsible for maintaining the family and the lack of contact with the landless and migratory labour. The poor were averse to risk because they were prone to disaster. They appreciated the benefits of high

yielding varieties, but they area also aware of the political role of the institutions which denied them irrigation, credit and fertilizers when they need them most and ruin them. On grounds of efficiency, government institutions were also often reluctant to help the poor when they could meet the target otherwise. The redistribution policy also affected the power balance and elites as well as the bureaucracy, since they were interested in maintaining the status quo. The 'special publics' in such cases continued to be kept out of the confines of the ameliorative schemes to ensure the dominance of the privileged sections of the rural society.

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# 81. POVERTY ALLEVIATION AND THE SIGNIFICANCE OF MGNREGA- AN APPRAISAL

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## ABSTRACT

*National Rural Employment Guarantee Act 2005 (or, NREGA No 42, later renamed as the “Mahatma Gandhi National Rural Employment Guarantee Act”, MGNREGA), is an Indian labour law and social security measure that aims to guarantee the ‘right to work’.*

*It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.The act was first proposed in 1991 by P.V. Narasimha Rao.In 2006, it was finally accepted in the parliament and commenced implementation in 625 districts of India. Based on this pilot experience, MNREGA was scoped up to covered all the districts of India from 1 April 2008.The statute is hailed by the government as “the largest and most ambitious social security and public works programme in the world”.In its World Development Report 2014, the World Bank termed it a “stellar example of rural development”. This paper analysis the significance of the programme from various perspective.*

*Key Words: Livelihood, MGNREGA and world bank.*

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## INTRODUCTION

Poverty is an unacceptable human condition that should not persist for a long time. In order to develop a country, the first and foremost task is to eliminate poverty and reduce social imbalances. Long term and sustainable economic growth and right programmes and policies are keys to fighting poverty. Reduction of poverty can help growth and enable the poor to participate in the overall economic activities. Not only economic growth may improve the condition poverty, all along development such as quality of life and participation in decision making, need to be focused. Poverty is a complex multidimensional problem with origins in both the national and international domain. Poverty in India is mainly a rural problem. It is also strongly associated with religion, culture and geographical locations and is highest among scheduled castes and tribes in rural

areas. While poverty has declined overall in the last decade, among these groups it has decreased to a much lesser degree. Large number of poorest people lives in semi-arid tropical region.

## MGNREGS

Rural Employment Guarantee Act”, MGNREGA), is an Indian labour law and social security measure that aims to guarantee the ‘right to work’.It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.

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scoped up to covered all the districts of India from 1 April 2008. The statute is hailed by the government as “the largest and most ambitious social security and public works programme in the world”. In its World Development Report 2014, the World Bank termed it a “stellar example of rural development”.

The MGNREGA was initiated with the objective of “enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every household whose adult members volunteer to do unskilled manual work”. Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds and wells). Employment is to be provided within 5 km of an applicant’s residence, and minimum wages are to be paid. If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance. Thus, employment under MGNREGA is a legal entitlement.

The significance of this scheme could be understood with the following data analysis and interpretation.

**Table No.1**  
**Status of Persondays Generated under MGNREGS**

Year	Persondays (In Cr.)
2017-18	234.28
2016-17	235.6458
2015-16	235.1465
2014-15	166.21

Source: MGNREGA website.

From Table No.1, it is understood that a greater number of persondays were provided in the year 2016 with 235.6458 crore persondays. In the year 2014 – 15, the minimum number of persondays were achieved with 166.21 crore persondays.

**Table No.2**

Year	Persondays out of Total workdays (%)
2017-18	53.46
2016-17	56.16
2015-16	55.26
2014-15	54.88

Source: MGNREGA website.

Table No.2 shows that women participation

in MGNREGS is maximum in the year 2016-17 with 56.16 percent. In the year 2017-18, the percentage is minimum. It reveals the one of the important objectives of the MGNREGS has been achieved because of maximum women participation under MGNREGS.

**Table No.3**  
**Showing the Total No of HHs completed 100 Days of Wage Employment**

Year	Number of Households
2017-18	29,60,107
2016-17	39,91,202
2015-16	48,47,975
2014-15	24,92,654

Source: MGNREGA website.

From the Table No.3, it may be found that maximum number of households in the year 2015-16 completed the 100-day employment under MGNREGS. It is minimum in the year 2017-18. There is significant increase in the household completing the 100 day employment.

**Table No.4 showing the completed works under MGNREGS**

Year	Number of works (lakhs)
2017-18	60.19
2016-17	65.46
2015-16	36.18
2014-15	29.44

Source: MGNREGA website.

It may be interpreted from the table no.4 that 65.46 Lakhs of works were completed in the year 2016-17 which is maximum for the last four financial year. In the year 2014-15, the number of completed works under MGNREGS is 29.44 lakhs. It is also understood that more number of households are provided with the job that increase the completed works.

**Table No.5 Showing the total expenditure under MGNREGS**

Year	Expenditure ( in cr.)
2017-18	63,667.44
2016-17	58,062.92
2015-16	44,002.59
2014-15	36,025.04

Source: MGNREGA website.

It may be understood that in the year 2017-18, Rs.63667.44 crore were spent under MGNREGS. It is Rs.58062.92 in the year 2016-17, Rs.44002.59 in the year 2015-16 and Rs.36025.04 in the year 2014-15 which is also minimum amount of expenditure.

**Conclusion**

MGNREGS is a world largest employment generating scheme in the world. If is properly implemented, it would have a positive impact on our economy that would eliminate poverty in our country. Therefore, it is in the hands of the implementing agencies to see that there is no shortcoming in the name of corruption, delay in payment to workers and expediate the works.

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