# REALIGNING INDIAN VOCATIONAL EDUCATION FROM AGRICULTURE TO AN INDUSTRIALISED ECONOMY

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## *Abstract*

There is a direct relationship between vocational education and productivity which is usually estimated with the help of earning to human capital variables such as year of formal schooling, experience and on-the- job training variables. Vocational education is helpful in raising the productivity of the individual by increasing cognitive skills among labour force. Vocational education and training program has gained much more attention in the past some years in India, the main aim of vocational education is creating employment opportunities and developing the skill for self-employment in the unorganised sector. Industrial sector is  the backbone of Indian economy. This sector is one of the main sectors that contribute to the Indian GDP. The industrial sector is made of manufacturing, mining and quarrying, and electricity, water supply and gas sectors the industrial sectors account for around 29 % of Indian GDP and it employs 25% of the total works force of the country.  The growth of industrial sector in India is higher than the agriculture sector.

Keywords: Vocational, Skill Development, GDP, Unorganised Sector.

## 1.1 Introduction

The Indian National Education policy 1986 clearly focus on the role of education system in the productivity of the country and also focussed the need of human resources requirement for the economic development of the country. Education is a key instrument for the productive employment generation and  this aim can be achieved  with the help of proper and well planned programs. In this context vocational education system  serve as an instrument for  enhancing the employment and skill in  labour according to the demand of the market. Such education

system fulfils the requirement of the economy and reduce the gap between demand and supply of skilled manpower and provide better alternative opportunities. There is a direct relationship between vocational education and productivity which is usually estimated with the help of earning to human capital variables such as year of formal schooling, experience and on-the- job training variables. Vocational education is helpful in raising the productivity of the individual by increasing cognitive skills among labour force. Vocational education and training program has gained much more attention in the past some years in India, the main aim of vocational education is creating employment opportunities and developing the skill for self-employment in the unorganised sector.

Vocational Education includes institution-based training programs which fall outside the formal schooling cycle, and is mainly provided through polytechnic's, Technical Institutes and Vocational Courses run by the universities etc.

## 1.2 Review of literature

**The World Bank report (2013)** indicates that education remains an area of concern, particularly the poor quality of elementary education, which lays a weak academic foundation and makes it difficult for students to cope at higher levels. This in turn has a direct effect on the quality of human resources available to develop and sustain economic growth.

**Bennell (1996)** observes that all countries, especially developing countries, need balanced development through *all* of the educational sectors in order to make significant progress in terms of national development.

**Alam (2007),** human capital theory has powerful influence on the analysis of labour market. Finds that investment in education and training produces benefit both to the individual and to society as a whole. The return on investment for society will be a skilled workforce that will enable global competitiveness and economic growth, while the return of the individual will be a better career path, increased earning and a better quality of life.

**Jeong (1999)** claims that before joining at the labour force, workers need to be trained to be more productive and to perform their tasks properly.

**Atcharena and Caillods (1999)** say that workers need training before joining the labou force, and also need in-service training to maintain up-to-date skills.

**Ul-Haq and Haq (1998)** argued in *the Human Development Report in South Asia 1998*: Vocational and technical education is a passport to better employment opportunities. This is the experience of Japan the East Asian industrializing tigers where unemployment rates have remained consistently low, both because their populations possessed employable technical skills and because of the high economic growth rates that these skilled populations engineered.

Government of India, 2006 - According to the employment and unemployment survey of 2004-05 conducted by the National Sample Survey Organization (Government of India), in the age group age 15-29 years, about 2 per cent of the population are reported to have received formal vocational training and another 8 per cent are reported to have received non-formal vocational training.

## 1.3 Objective of the study

We start from the following objectives-

➢ To explore the Indian Agriculture sector and Manufacturing Sector.
➢ To analyse the role of vocation education in productivity of agriculture sector and manufacturing sector.
➢ To analyse the current situation of employment in both sectors.

## 1.4 Research Design

### 1.4.1 Collection of data

The study is fully based on the secondary data which is collected from the Reserve bank of India, CSSO, NSSO, Ministry of Employment Govt. of India, Ministry of Human Resource Development Govt. of India etc.

### 1.4.2 Research Methodology

The study find the cause and effect relationship between vocational education and Employment in agriculture sector and industrial sector and productivity where the vocation education is independent variable and employment and productivity are dependent variables so

we will use **Paired t test** to find out the Impact of vocational education and training on the productivity of agriculture and Industrial sector we are using Excel software to show this result.

## 1.5 Current Situation of Agriculture Sector in India

The theory of "unbalanced growth" discusses the relationship between the sectors and also find out that agriculture could not become leading sector for any economy because of its weak backward growth and lineages. The agriculture sector in India is a most prominent part of the Indian economy. About 50 % of the Indian works force are engaged in the agriculture activity and agriculture occupies more than one third geographical area. The contribution of agriculture in GDP has been continuously declining since independence but this sector is the single most contributor in the economy. Agriculture sector play a vital role for the development of rural sector of India and it provide all the necessary raw material to the manufacturing sector.

### *Table No. 1. 1*
### **Descriptive Statistics**

|  | *Variable 1* | *Variable 2* |
|---|---|---|
| **Mean** | 750.699 | 936.602 |
| **Variance** | 4985.7645 | 6713.64 |
| **Observations** | 10 | 10 |
| **Pearson Correlation** | 0.8419717 | |
| **Hypothesized Mean Difference** | 0 | |
| **Df** | 9 | |
| **t Stat** | -13.28944 | |
| **P(T<=t) one-tail** | 1.607E-07 | |
| **t Critical one-tail** | 1.8331129 | |
| **P(T<=t) two-tail** | 3.213E-07 | |
| **t Critical two-tail** | 2.2621572 | |

*Sources: RBI, calculated by author*

Table no. 1.1 which analysis Paired t test between the Pre and Post Productivity of Agriculture from 1990 to 2009 in which variable 1 is the value of Agriculture productivity from1990-2000 which is pre Vocational education and training period and the variable 2 is the value of Agriculture productivity from 2001-2010 which is the Post Vocational education and training period the value of P (P< 0.05) the Calculated P value is -0.0000000160. the mean

value of variable 1 is 750.669 and Variable 2 is 936.602 which shows that there are positive changes taken place in post Vocational education periods because the average productivity has increases in variable 2 as compare to variable 1. The correlation between the variables is 0.8419717 means 84 % variation is recorded in the variables i.e the variables is strongly positive correlated and $t_{,09}$= -13.28944 revels that that is significant .This test is calculated at 5% degree of freedom.
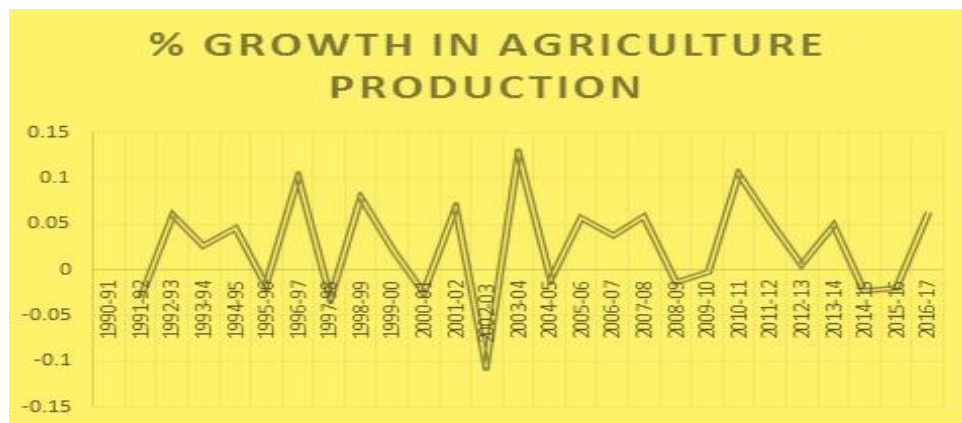
## Figure 1.1



Figure 1.1 shows the percentage growth or changes taken place in the productivity of agriculture sector from 1990-2017 the overall figure shows that the growth rate of the productivity is not constant of symmetric over the period there are many up and downs taken place in the growth in the year 1991-92,1995-96,2000-01,2002-03,2008-09 and 2015-16 the growth rate is negative. 2002-03 is the maximum downfall rate and 2003-04 is the maximum growth rate over the period.

## 1.6 Current Situation of Industrial Sector in India

Industrial sector is the backbone of Indian economy. This sector is one of the main sectors that contribute to the Indian GDP. The industrial sector is made of manufacturing, mining and quarrying, and electricity, water supply and gas sectors the industrial sectors account for around 29 % of Indian GDP and it employees 25% of the total works force of the country the growth of industrial sector in India is higher than the agriculture sector. Industrial sector is a very important sector for any economy specially for developing economy in the developing nation with the help of industrialisation the country may fight against poverty and backwardness. Industrial sector creates employment in the economy and provide various macroeconomic benefits to the developing economy. The development and growth of industrial sector depend upon the productivity of the sector. The industries which have good productivity

growth are very efficient and more contributing in the economy. Productivity is the ratio between output and input. It is quantitative relationship between what we produce and what we have spent to produce. Productivity is nothing but reduction in wastage of resources like men, material, machine, time, space, capital etc. It can be expressed as human efforts to produce more and more with less and less inputs of resources so that there will be maximum distribution of benefits among maximum number of people. The main objectives of the firms in  industries is to provide value satisfaction to the consumers at profit means profit is the main objective of the firms. Every firms wants not only to earn profit but also maximise its profit and for  profit it is very important to enhance the productivity of the firms. There are various ways to enhance the productivity of the industries and one of them is to improve the labour skill. Labour is the Main source of  production activities without labour production is not possible. Vocational education and training is the key for enhancing  productivity,  with the help of vocational education and training ,in the unskilled labour , skills can be created and this will enhance the productivity  in labour as well as industries. Vocational education and training trains  the unskilled laboured for the industries,  it enhances the labour capacity and utilization.   From  past many years the government is focusing in the development of vocational  education and training. It is very important for those economies which has larger numbers of unskilled labour force.

## Table 1.2

## Descriptive Statistics

|  | Variable 1 | Variable 2 |
|---|---|---|
| Mean | 2949.699 | 5419.898 |
| Variance | 291291.4 | 1185454 |
| Observations | 10 | 10 |
| Pearson Correlation | 0.997096 |  |
| Hypothesized Mean Difference | 0 |  |
| Df | 9 |  |
| t Stat | -14.1468 |  |
| P(T<=t) one-tail | 9.37E-08 |  |
| t Critical one-tail | 1.833113 |  |
| P(T<=t) two-tail | 1.87E-07 |  |
| t Critical two-tail | 2.262157 |  |

*Sources: RBI, calculated by author*

Table no. 1.2 which analysis Paired t test between the Pre and Post Productivity of Industries from 1990 to 2009 in which variable 1 is the value of Industrial productivity from1990-2000 which is pre Vocational education and training period and the variable 2 is the value of Industrial productivity from 2001-2010 which is the Post Vocation education and training period the value of P (P< 0.05) the Calculated P value is -0.00000000937. the mean value of variable 1 is 2949.669 and Variable 2 is 5419.898 which shows that there are positive changes taken place in post Vocational education periods because the average productivity has increased in variable 2 as compare to variable 1. The correlation between the variables is 0.997096 means 99 % variation is recorded in the variables i.e the variables is strongly positive correlated and $t_{,09}$= -14.1468 revels that that is significant .This test is calculated at 5% degree of freedom
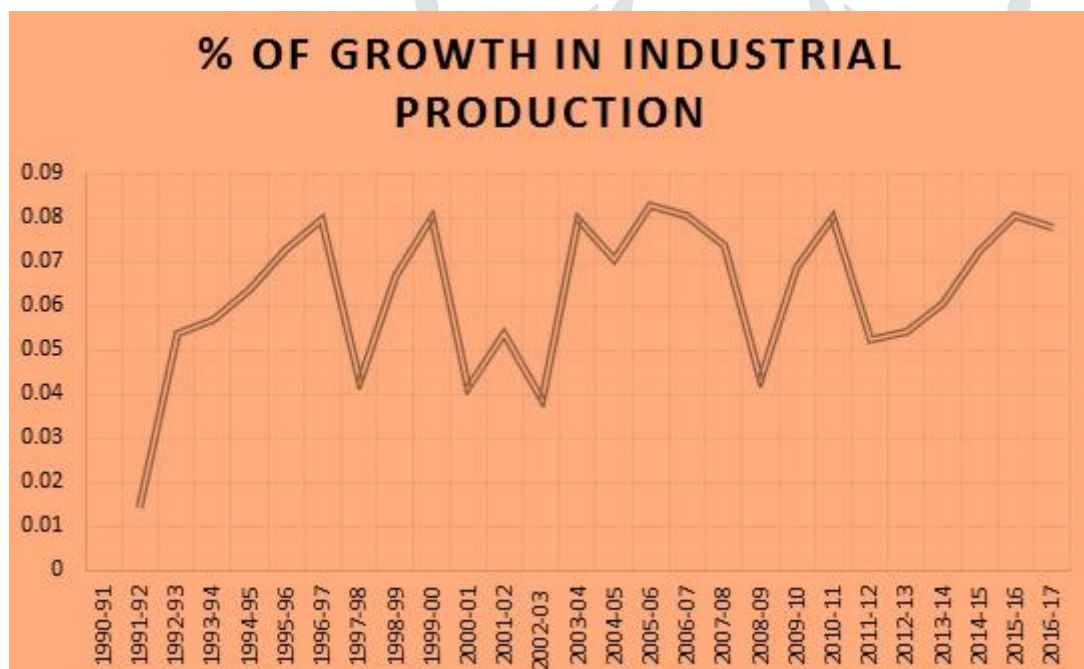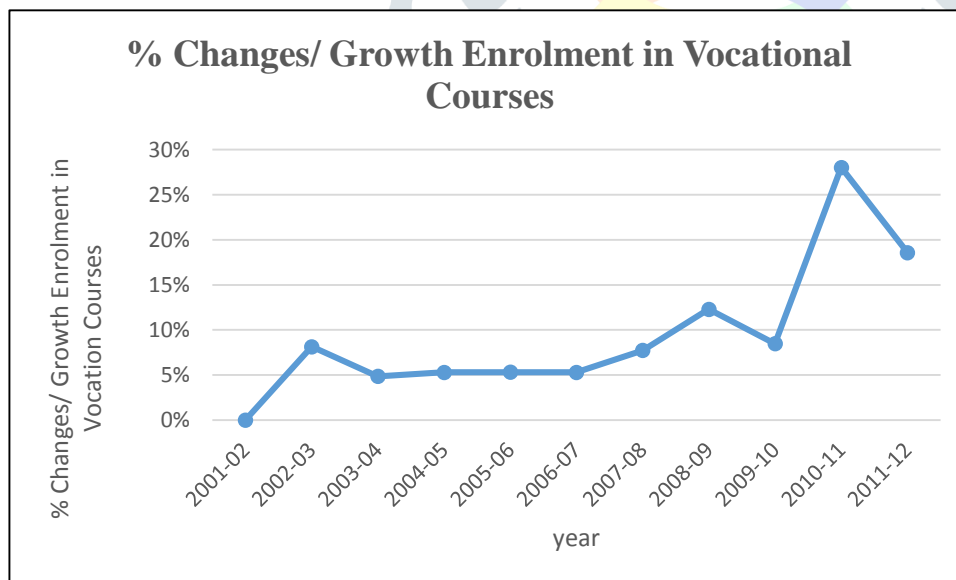
**Figure 1.2**



Figure 1.2 shows the percentage growth or changes taken place in the productivity of Industrial sector from 1990-2017 the overall figure shows that the growth rate of the productivity is increasing and symmetric over the period there are many up and downs taken place in the growth. This figure shows there are significant growth rate recorded in the industrial sector over a period.

## 1.7 Conclusion and Result

In this paper the author analysed  the role of vocational education and training in enhancing the productivity in the agriculture and industrial sector the Paired t test tool is used to find out the impact of vocational education and training on the productivity of agriculture and industrial sector as we know vocational  education and training is very important for  increasing the productivity  and skill development amongst the labour In India . The concept of vocational education is not new but from the year 2000 it has been paid more attention as compared to past years because this time India is adopting  new technology and this created  the demand of vocation education and training. So in this paper the author has divided the period before and after 2000 and measured the significant changes in the agriculture and industrial sector. In this paper the author finds that the impact of vocation education and training is more on the industrial sector the post Mean of industrial sector is almost double from the pre-test period which shows the strength of the industries and development.

## Figure 1.3



*Sources: NSSO, calculated by author*

In the figure 1.3 the percentage Changes/ growth in the enrolment of Vocational courses is shown from 2001-2011. This figure clearly shows the demand of vocation education and training is continuously increasing over the period after 2001 because in this year  many structural changes took place in the country which created the demand for this type of courses.. So we can say that vocation education and training has a positive impact on  both the  agriculture

and industrial productivity but the impact of vocational education is more on industrial sector as compared to agriculture sector.

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