

SECTORAL LINKAGE BETWEEN LITERACY AND OCCUPATIONAL STRUCTURE: A STUDY OF SOME SELECTED VILLAGES OF NAWADA DISTRICT, BIHAR

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ABSTRACT:

This study investigated the socio-economic progress and social cohesion of workers on occupational structure of some selected villages of some CD Blocks of Nawada district, Bihar. The study attempted to find out the answers by survey design and purposive sampling techniques to collect data from 4497 respondents of workers with the heads of so many structured questionnaire and personal interview in the selected CD blocks. In the study area, respondents comprised head of households of workers. The finding reveals that literacy on occupational structure in search of economic fulfilment also employment rather than to continue their child's education as concluded by a lot of past statistics. It also reveals that the social cohesion of workers falls down day after. The focus is on the economic and social repercussions of migrants on the families and communities staying behind. The leading question is: what literacy has securing the livelihood of their society who stays in the rural sending areas? This research recommended government policy to close the lacuna between literacy and occupational structure portrays economic progress and social-cultural cohesion and also it will be very effective and will bear positive sign for the district by adopting some suggestions after completing the whole empirical research.

KEYWORDS: Socio-cultural cohesion, literacy, occupational structure, economic progress

INTRODUCTION:

Impact of education on occupational structure highlights the extent of educational inequality existing among different sections of occupational structure. Through both are integral parts of the Indian society. Various authorities have referred to these using different techniques. An eminent sociologist has viewed the importance of education as "Education is a crucial factor (or pre-condition) for development since it promotes economic growth". Thus, Education relates with work i.e. with occupational structure and nature of economy. However, 'education' is a knowledge based industry, labour intensive, categorized by four-fold inter-sectoral linkage. It is universal and regular supplier of knowledge. The contribution of education is not on material. Investment in education is a kind of expenditure leading to the formation of human capital, either for individual or for society at large scale.

Eminent educationist *Rabindra Nath Tagore* stated that education is always an ornament to find out the best of one's efflorescence. The principal mechanism for developing human skills and knowledge is the formal educational system. Almost third world countries have led to believe that the rapid quantitative expansion of educational opportunities is the key to success end development.

Occupational structure is defined as 'the distribution of the working force by occupation and origin to measure the structure of the economy through the redistribution of working force over a period of time as a concomitant of economic development'. The analysis and interpretation in the present work are mainly directed towards finding out how faithfully the process of development that has occurred is reflected with the change in the occupational structure of the economy. The occupational structure plays a crucial role in the development of the economies; which generally reflects the distribution or divisions of its population into different occupations. High level of actual income is always related with a high level of the working population in tertiary industries and low income which are associated with low participation of working in tertiary sector and a high percentage of primary sectors. India's economic under-development and social backwardness are clearly reflected in its work force participation rate. The work force participation rate is much lower (around 37.68 per cent in 1991) than in advanced countries (around 52 to 65 per cent). The occupational structure of

India reflects clearly the backwardness of the Indian economy. For the least 90 years, the proportion of working population engaged in primary sector has been steady and not fallen below 70 per cent. This is really significant, since a large percentage of population dependent on the primary sector is a clear indication of the prevalence of large scale disguised unemployment in agriculture and consequently of low per capita productivity and the prevalence of widespread poverty.

Acknowledging the close linkages between education and occupational status, leaders of modern democratic nations look upon education as an equalizing agent for the removal of traditional social inequalities. It is believed that equal educational opportunity for all sections of the society can create a more equal and ideal society. In particular, education is seen as an important indicator for the upliftment of the poor and the underprivileged sections of the society.

AIM AND OBJECTIVES:

The present research work analyzes behind the level of literacy on occupational structure of selected villages of Nawada district, Bihar. Literacy is one of the important paradigms of the changing socio economic condition of any region. The present study has the following objectives:

1. To examine the spatio-temporal relation between literacy and occupational structure of the study area
2. To portray the level of literacy
3. To identify the nature of occupational structure of the study area
4. To correlate the influences of determinants of literacy on occupational structure

STUDY AREA:

Nawada district is located between 24° 31'N and 25° 08'N latitudes and 85° 00'East to 86° 03'East longitudes and falls on Survey of India Topographical sheet No. 72 H & 72 G (Fig.1). Nawada district boundary towards Nalanda and Sheikhpura district in north, Jamui district in the east, Gaya district in the west and southern half is bounded by Jharkhand State. A total geographical area of the district is 2494 Km² which occupies only 1.43% of the total

geographical area of the Bihar State. As per the count of the district, it has a total population of 22.16 lakh (census 2011) while density of population has been worked out 726 per Sq. Km. The headquarter of the district is Nawada and it has 14 development blocks and 1075 villages.

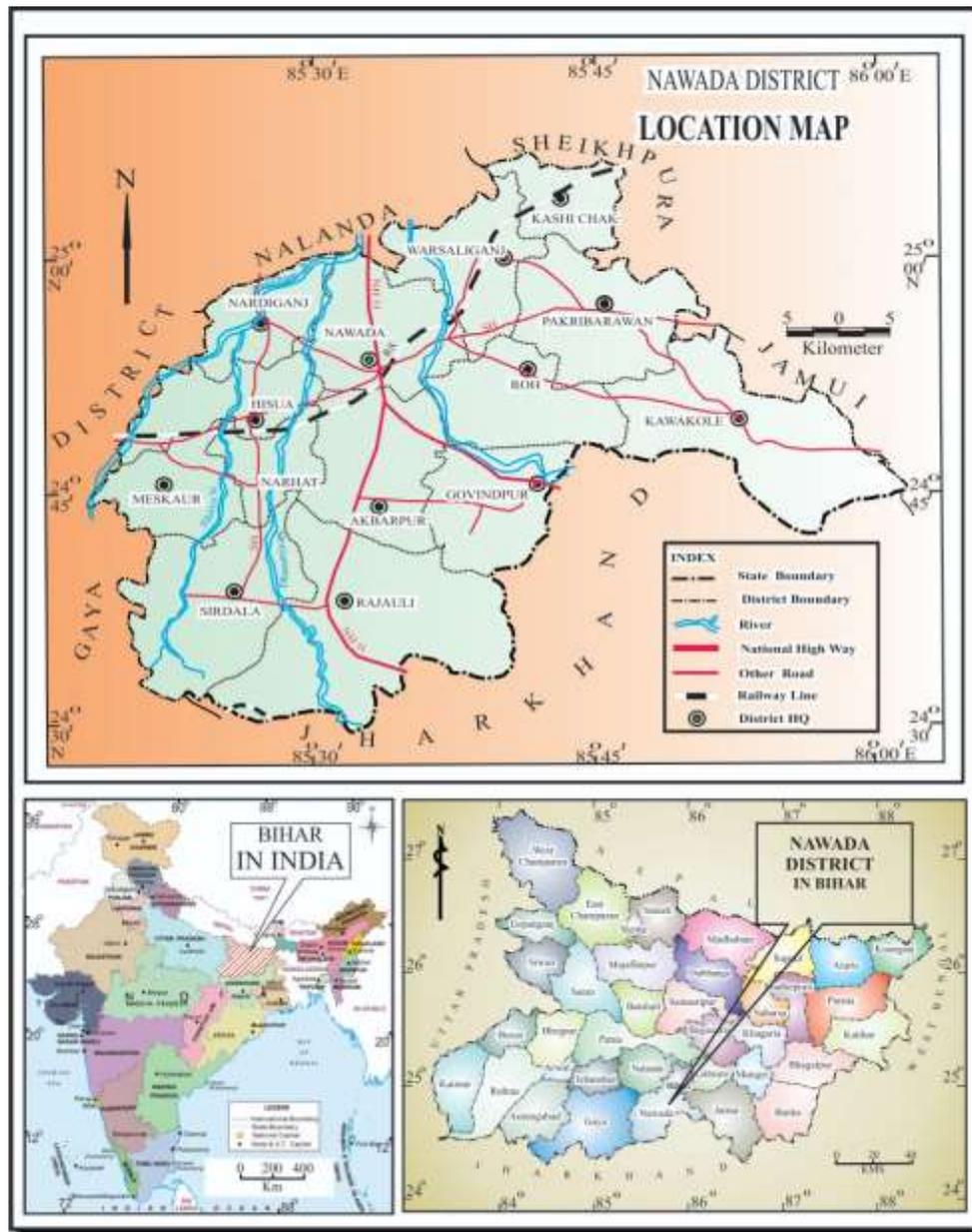


Fig. 1.1

SOURCE OF DATA AND METHODOLOGY:

The source material of this research paper is based on primary and secondary sources. The Major sources of data are primary data which is collected through the scheduled questionnaire in door to door survey. Primary data is collected into purposively selected five CD Blocks with a sample household of 4497 respondents to portray the impact of literacy on occupational structure.

The major secondary sources are District Census Handbook (Nawada district, 2011), District Gazetteers (Nawada district), Topographical maps (Survey of India), District Planning Series Maps (NATMO), Google Earth Imageries, Govt. of Bihar and various government departmental documents, books, journals, conference papers; official websites etc.

The data has been analyzed both in *qualitatively* and *quantitatively*. Various socio-economic and cultural parameters correlates to analyze critically with suitable statistical techniques (Pearsonian co-efficient of correlation, z score, goodness of fit, etc.). The above quantitative analysis has been pictured to solve with the help of various software like SPSS, MapInfo, ArcGIS, and Google Earth Pro.

CORRELATION BETWEEN LITERACY AND OCCUPATIONAL STRUCTURE OF NAWADA DISTRICT:

In the present study literacy has been considered as independent variable (X) and the worker has been taken as dependent variable (Y). In order to show the relationship of these two variables Pearsonian co-efficient of correlation has been calculated with the help of Table 1 and Fig. 2.

TABLE – 1

Correlation between literacy rate and total workers in Nawada district (2011)

Sl. No	Name of the Block	Literacy (%) X	Total Workers (2011) % Y	X ²	Y ²	XY
1.	Nardiganj	5.16	6.27	26.63	39.31	32.35
2.	Nawada	16.39	12.94	268.63	167.44	212.09
3.	Warisaliganj	8.63	8.67	74.48	75.17	74.82
4.	Kashi Chak	3.47	3.35	12.04	11.22	11.62
5.	Pakribarawan	7.40	8.65	54.76	74.82	64.01
6.	Kawakol	5.01	6.17	25.10	38.07	30.91
7.	Roh	7.22	7.25	52.13	52.56	52.35

8.	Gobindpur	4.16	4.13	17.31	17.06	17.18
9.	Akbarpur	10.93	11.15	119.46	124.32	121.87
10.	Hisua	6.70	5.91	44.89	34.93	39.60
11.	Narhat	5.29	5.22	27.98	27.25	27.61
12.	Meskaur	4.20	3.79	17.64	14.36	15.92
13.	Sirdala	7.98	8.73	63.68	76.21	69.67
14.	Rajauli	7.43	7.7	55.20	59.29	57.21
	Nawada district	99.97	99.93	859.93	812.01	827.21

Source: computed by the author.

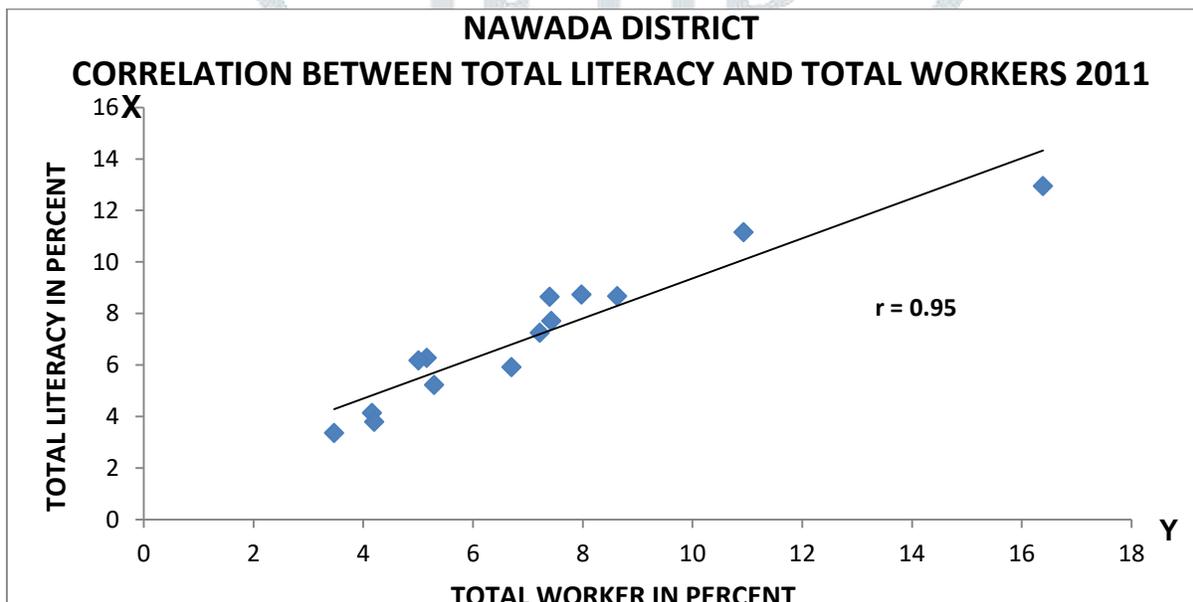


Fig. 2

Based on the above table the product moment correlation co-efficient has been calculated as follows :

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Where

r = Pearsonian Correlation Coefficient.

X = Percentage of literacy as independent variable,

Y = Percentage of total workers Dependent variable, and

N = Number of Units.

$$\begin{aligned}
 r &= \frac{14 \times 827.21 - (99.97 \times 99.93)}{\sqrt{\{14 \times 859.93 - (99.97)^2\} \{14 \times 812.01 - (99.93)^2\}}} \\
 &= \frac{11580.94 - 9990}{\sqrt{\{12039.02 - 9994\} \{11368.14 - 9986\}}} \\
 &= \frac{1590.94}{\sqrt{2045.02 \times 1382.14}} = \frac{1590.94}{1681.22} \\
 &= \frac{1590.94}{\sqrt{282650394}} \\
 &= 0.95 (r)
 \end{aligned}$$

The r value shows that the relationship between literacy and total workers is positive and moderate.

The r regression of Y upon X has been calculated by this method of least squares according to the formula as under:

Where, Y is the dependent variable and X is the independent variable. The value of b and a can be calculated with the help of following formula:

$$\begin{aligned}
 b &= \frac{N \sum XY - (\sum X)(\sum Y)}{\sum X^2 - (\sum X)^2} \\
 &= \frac{1590.94}{859.93 - 9994} \\
 &= \frac{1590.94}{-9134.0} \\
 &= -0.17
 \end{aligned}$$

$$\begin{aligned}
 \text{and } a &= Y - X b \\
 &= 4.99 + 4.98 (-0.17) \\
 &= 5.84
 \end{aligned}$$

Where, X and Y parameters are the same as mentioned earlier. In the present case, the value of $Y = a + bx$ has been estimated as $Y = 5.84 + 0.17x$

The student 't' test has been calculated with the help of formula :

$$\begin{aligned}
 t &= \sqrt{\frac{r^2 (n-2)}{1-r^2}} \\
 &= \sqrt{\frac{(.95)^2 \times (14-2)}{1-(.95)^2}} \\
 &= \sqrt{\frac{0.903 \times 12}{1-0.903}} \\
 &= \sqrt{\frac{10.836}{0.097}} \\
 &= \sqrt{111.649} \\
 &= 10.57
 \end{aligned}$$

As the calculated value of t (10.57) is greater than tabulated value of 't' (1.7056) at 14 degree of freedom and 0.05 level of significance, therefore, alternative hypothesis is accepted and null hypothesis is rejected for this study. At the alternative hypothesis is accepted and null is rejected, therefore, this research will proceed ahead having no trouble because the correlation between percentage of literacy and percent of total workers is high (0.95) in the district of Nawada.

CORRELATION BETWEEN LITERACY AND OCCUPATIONAL STRUCTURE OF SOME SELECTED VILLAGES:

Total Literate and Total Workers

Total literacy and total workers of sample villages of Nawada district has been shown in following figure. Here total literacy is the independent variable and total workers are dependent variables. Here in Pearson Product Moment $r = 0.903$, and in linear correlation $y = 1.2171x - 61.385$ and $R^2 = 0.8149$ are identified which means the more positive correlation are present there. If the literacy increases the working participation will also increase. So, the effective policies and regulation should be implemented to increase literacy level.

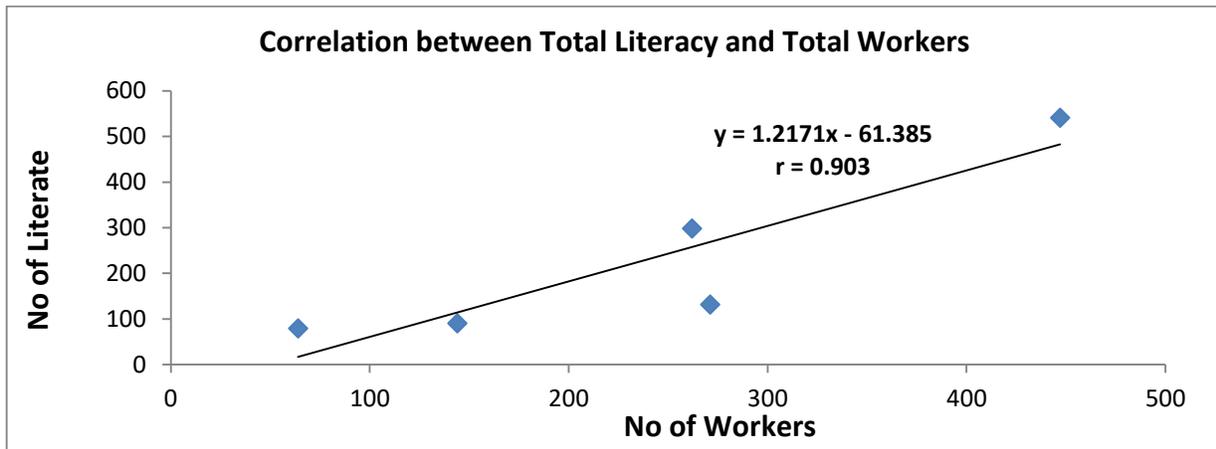


Fig. 3

Total Male Literate and Total Male Workers

Total male literacy and total male workers are shown in following figure. Here it is calculated that $r = 0.967$ in Pearson method and linear correlation is calculated as $y = 1.1561x - 28.14$ and $R^2 = 0.935$. It means that the very high positive correlation is present there. Here, total male literacy is calculated as independent variable and total male workers are dependent variable. It is also concluded that the males population is more effective on occupational structure. Literacy positively influences the work participation in the sample villages which is found in district level also.

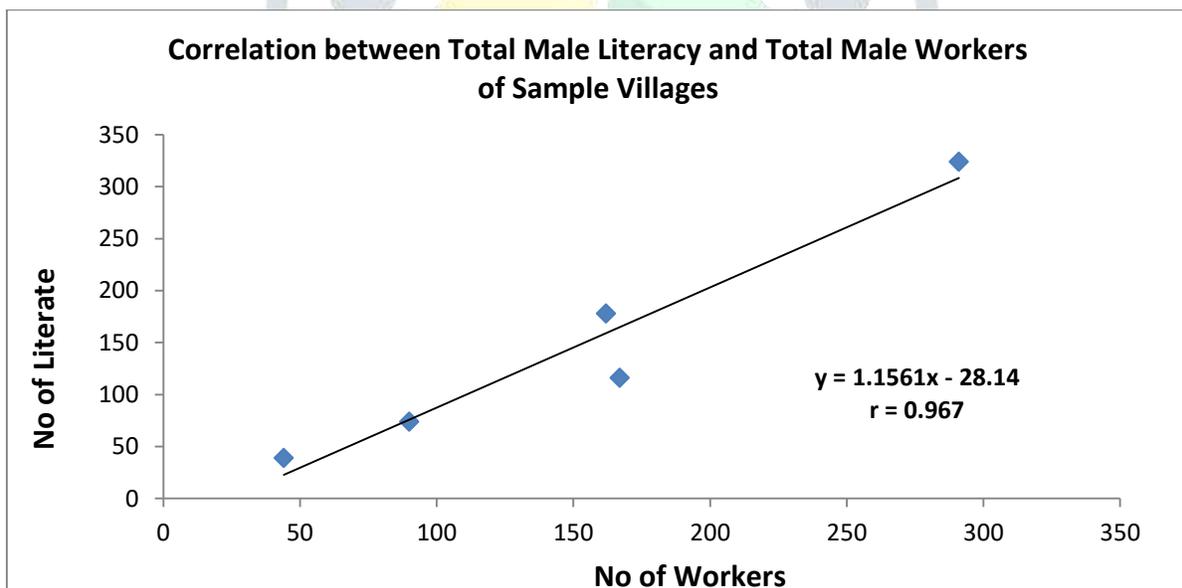


Fig. 4

Total Female Literate and Total Female Workers

Pearson Product moment value between total female literacy and total female workers are $r = 0.756$ and linear correlation regression value $y = 1.2653x - 28.231$ and $R^2 = 0.5709$. It is estimated that the female literacy highly influences the work participation rate of the sample villages. Very high positive correlations are present between literacy and workers among female. So the literacy of female should increase to participate as workers by which the economic as well as over all development could occur.

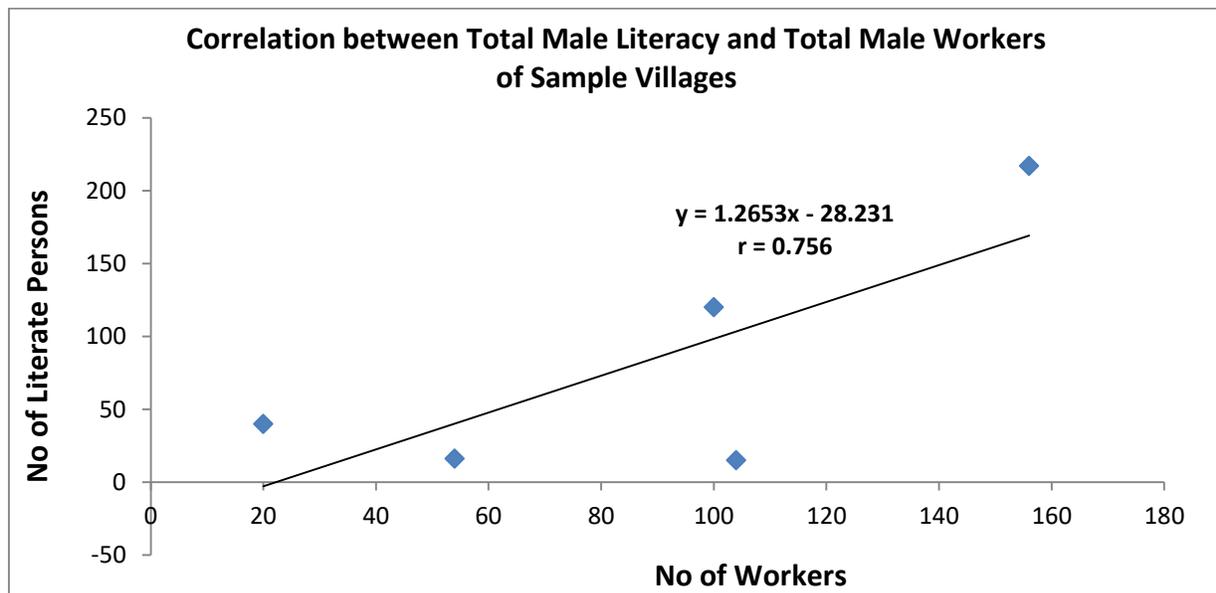


Fig. 5

Illiterate and Total Non Workers

Correlation between illiteracy and non workers of the sample villages indicates the positive correlation. In statistics Pearson Product moment value $r = 0.953$ defines the high correlation between them and also linear correlation value $y = 0.7926x + 77.209$ and $R^2 = 0.9085$ indicates very high positive relation between them. Here, illiterate is counted as independent variable and non workers counted as dependent variable. It is also identified that the sample villages are higher number of illiterate people and also higher number of non working population. So, generally the dependency ratio of the sample villages is also high which indicates the negative growth of economic development and to develop the area it should decrease the number of illiteracy with decrease in the number of non working population as well as decrease of dependency ratio.

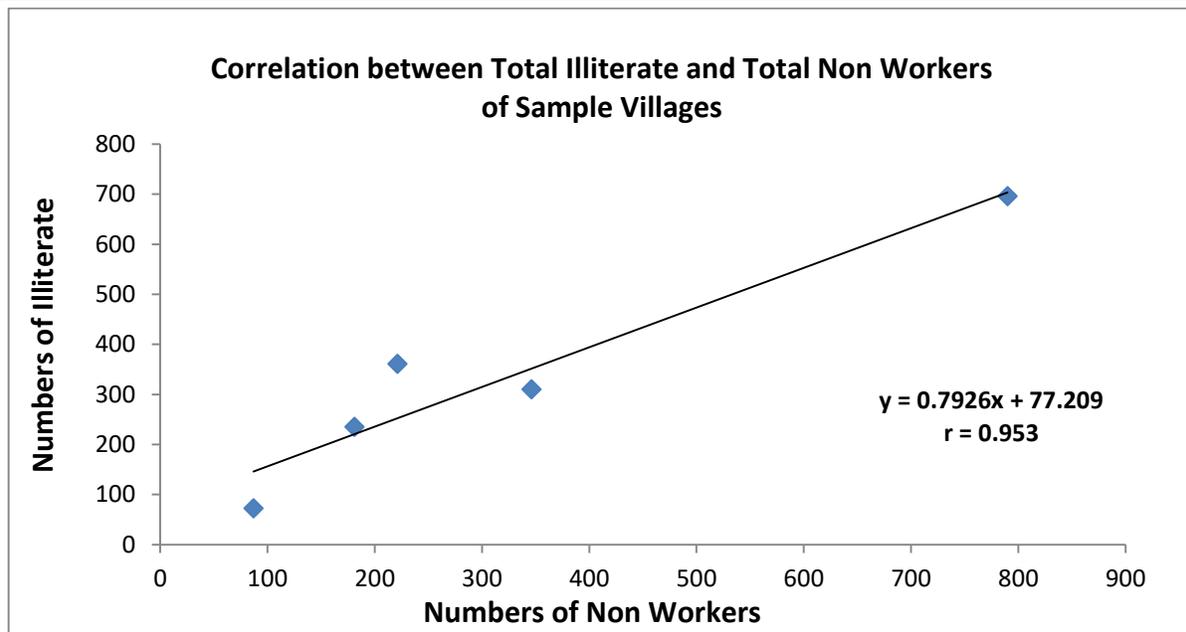
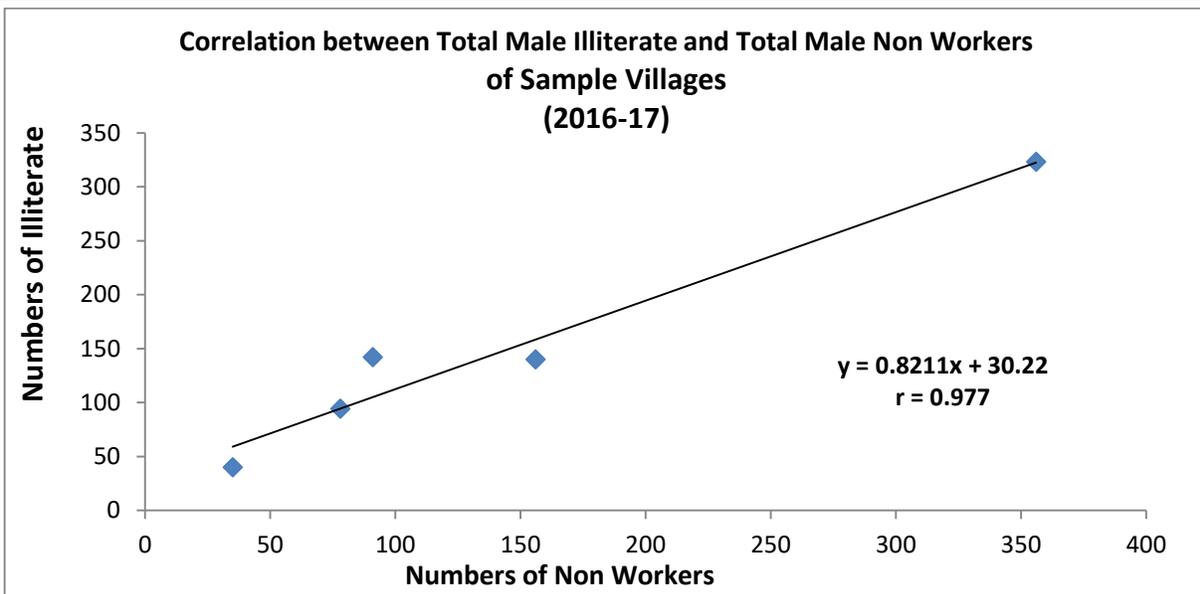


Fig. 6

Male Illiterate and Male Non Workers

Correlations between male illiterate and male non workers are shown in the following figure. Here Pearson Product Moment value is $r = 0.977$ and linear correlation value $y = 0.8211x + 30.22$ and $R^2 = 0.9543$ which indicates the high positive correlation between illiteracy and non workers among male people. Here illiteracy is calculated as independent variable and non workers are calculated as dependent variable. Number of illiteracy is high that indicates the high number of non working population which means the negative growth of development. So, it is needed to decrease the illiteracy level. The vaster number of non workers will automatically decrease.

**Fig. 7**

Female Total Illiterate and Female Total Non Workers

Female illiteracy and non workers are also correlated positively. In our present study, $r = 0.989$ indicates the very high positive correlation. It means if illiteracy is high then number of non workers will automatically increase which bears the negative role of economic development or any kind of development. Linear correlation value $y = 0.7412x + 11.455$ and $R^2 = 0.9776$ seems the positive correlation between them. As a result the sample villages are very undeveloped because here number of illiteracy is very high and also number of non working population is very high. To develop the area, there must be introduced a bucket of plans or policies to decrease the illiteracy level.

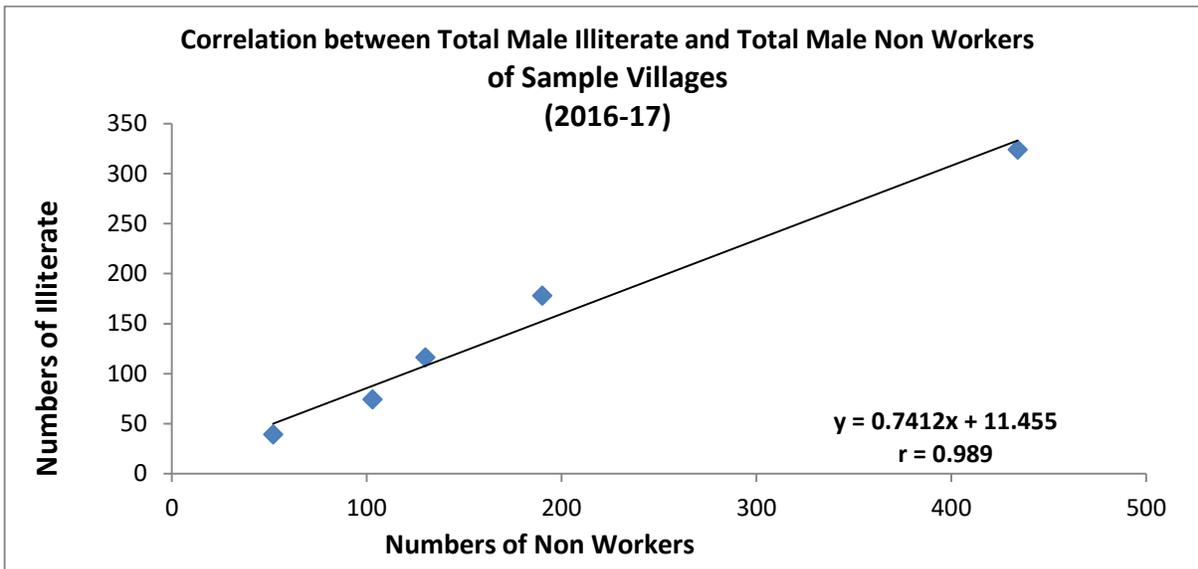


Fig. 8

Total Literate and Non Workers

Correlations between total literate and total non workers of sample villages are shown in the following figure. In this point Pearson Product Moment value $r = 0.981$ indicates the very high positive correlation between them. Linear correlation regression value $y = 1.5495x - 33.367$ and $R^2 = 0.962$ indicates also positive relation. It means that total high literate bears the high number of non working people which indicates the absence of working facilities of the sample villages. No job opportunities are there. So job opportunities should be created to undergo the main stream of development as well as high participation of non working to working population.

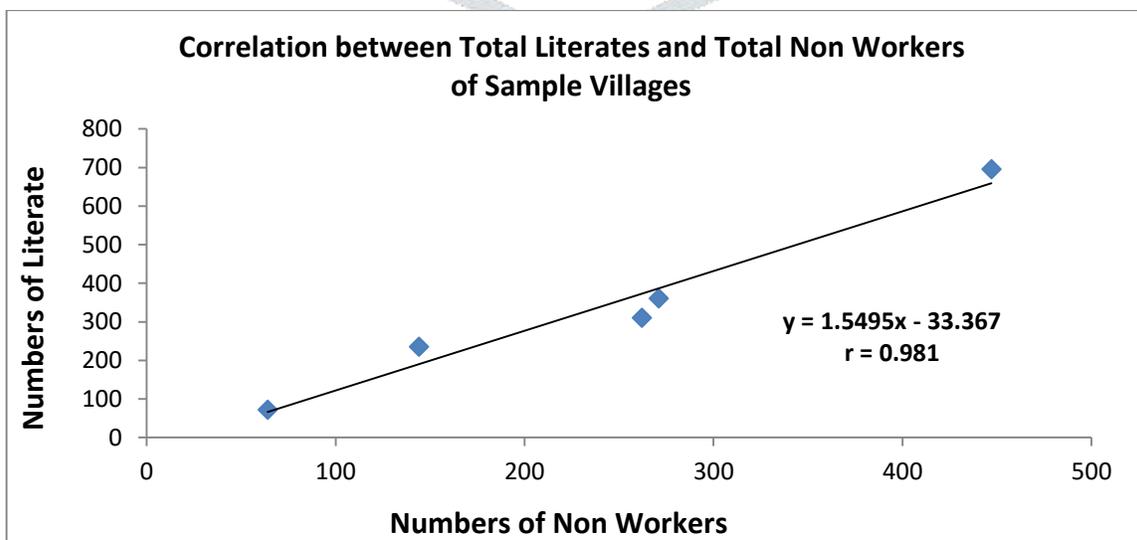


Fig. 9

Total Male Literate and Total Non Workers

Total literate and total non workers among male shows the positive correlation. It means number of literate persons are suffering in absence of working facilities among the sample villages. Here, male literacy is counted as independent variable and total male non workers are counted as dependent variable. Pearson Product Moment value $r = 0.982$ indicates very high positive correlation. On the other hand, linear correlation regression value $y = 1.1143x - 20.244$ and $R^2 = 0.9633$ bears the very high positive correlation. Thus job creation is the main basis to develop the sample villages.

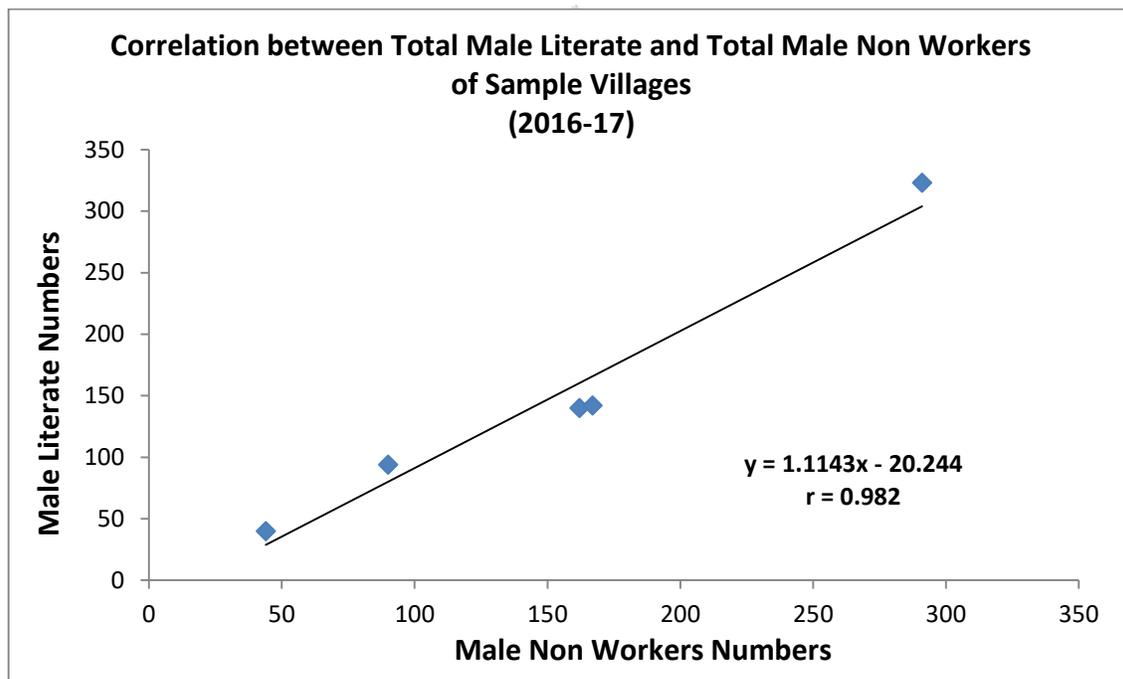


Fig. 10

Total Female Literate and Total Female Non Workers

Literacy and non workers among female correlates positive. It means that in the sample villages no job or any type of working facilities. Here female literacy is counted as independent variable and non worker is counted as dependent variable. Pearson Product Moment of correlation regression value $r = 0.933$ indicates very high level of correlation between them and linear regression value $y = 2.0129x - 28.522$ and $R^2 = 0.8708$ also indicates positive correlation. Though some working facilities are present there but it is not sufficient to the literate persons.

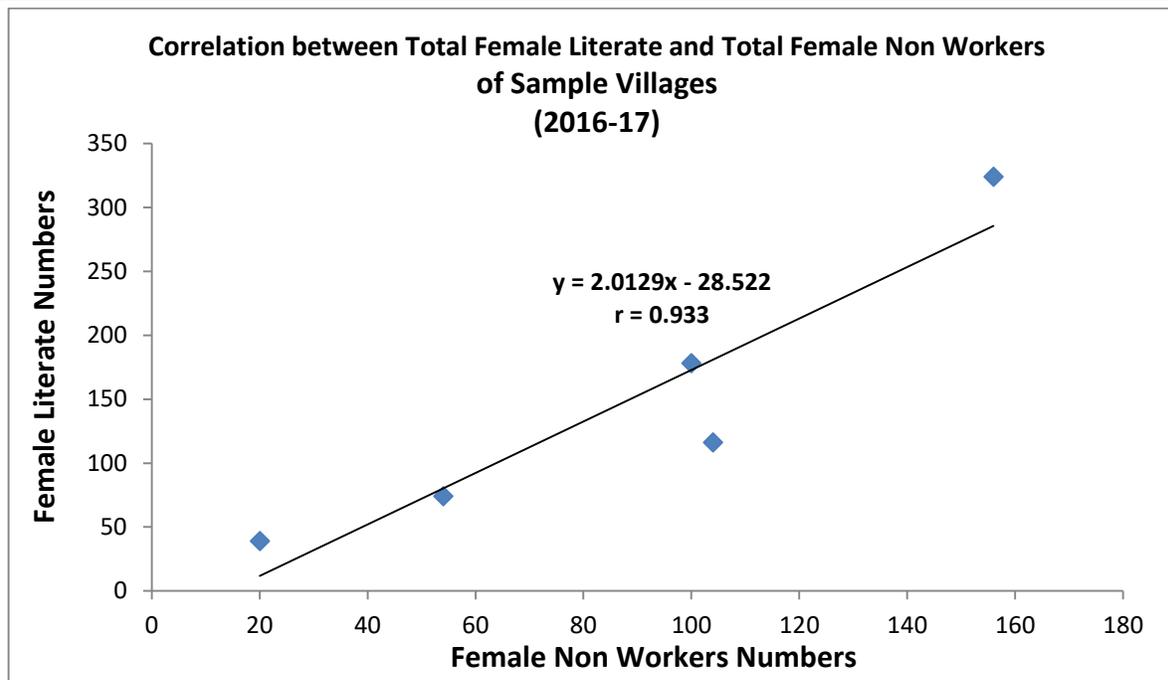


Fig. 11

CONCLUSION:

Diverse physiographic divisions create the diverse demographic as well as diverse socio cultural environment. Nawada district is also one of them. In the present chapter, micro level study of some selected villages from different physiographic and socio cultural studies indicates diverse features. Literacy in sample villages is very low as compared to Nawada district as well as Bihar and India. Male literacy is quite higher than female. In all sample villages literacy among female is remarkable low. Occupational structures of these villages are comparatively below the district and national average. Particularly female work participation rate is remarkably low. Correlation between literacy and work participation indicates high. It means that high literacy creates high number of working participation and high illiteracy indicates high number of non working participation. So to overcome these problems Govt. should implement a bouquet of policies to remove these problems and in order to bring them into mainstream.

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