

Correlation between Literacy Rate and Sex Ratio in Haryana: A Geographical Analysis

Mohan Lal*

Student, Department of Geography, Rohtak

Abstract – This paper is an attempt to analysis the correlation between literacy and sex ratio in Haryana. Literacy is one of the most important indicators of development at any region. Literacy and sex ratio is generally recognized as a major indicator of social development. As like, certain minimum level of literacy seems to be essential for a society to look out the line of poverty. Literacy affected by migration and sex ratio. The level of literacy and sex ratio is essential for the measuring the standard of living for women in society. The pace of declining sex ratio is an indicator of the neglect of girl children, sex selective abortions and traditional attributes of the society. Thus, the analysis of literacy and sex ratio is huge significant. This work found that there is positive negative correlation ($r = -0.52$) between literacy and sex ratio in Haryana.

Key Words: Literacy Rate, Sex Ratio, Rural, Urban, Correlation

-----X-----

INTRODUCTION

Literacy refers to the ability to read for knowledge, write coherently and think critically about the written word. "The ability of both read and writes a simple message with understanding in any language a sufficient basis for classifying a person as literate (Population commission of United States)". According to census of India "a person aged more than 6 years and who can both read and write with understanding in any language has taken as a literate (Census of India, 1981)". The census of India defines the literacy rate as a proportion of literates to total population in age group 7 years and above (Census of India, 1991).

Literacy is essential for eradicating poverty and mental isolation for cultivating peaceful and friendly international relations and promoting the free play of demographic processes (Chandana, 2008). Sex ratio is the ratio of males to females in a population. It is measured by number of females per thousand males in India. In Russia, sex ratio is measured as number of males per thousand females. Sex ratio is an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point of time (Mazumdar, 2013).

It has much to do with the interplay of sex differential in mortality, sex selective migration, sex ratio at birth and at time the sex differential in abortion and in population enumeration (Mazumdar, 2013). It is also influence marital status, manpower, the gross national product, planning regarding educational and

medical services; housing etc. as well as socio cultural factors together influences the overall demographic composition of population.

STUDY AREA

Haryana state is selected as a study area for research work. It is located between the $27^{\circ} 39'$ to $30^{\circ} 55' 05''$ North Latitudes and $74^{\circ} 27' 08''$ to $77^{\circ} 36' 05''$ East Longitudes. Geographically it is one of the smallest states of India spread over 44212 km^2 area and accounts 1.37 per cent of country's total area. According to 2011 census, Haryana has 25,351,462 populations. Haryana state shares a common capital Chandigarh, which is a union territory also. At present in 2011, state have 4 division, 21 districts, 57 sub divisions, 74 tehsils, 44 sub-tehsils and 119 blocks. The Haryana state has 154 towns and 6841 villages. Figure 1.1 shows the location of the Haryana state in India and administrative division of Haryana in 2011.



Fig. 1.1 Location map of Study of Area

OBJECTIVES

To fulfil the aim of this research, research intended to select some objectives as under are:

- To examine the spatial pattern of literacy rate in Haryana.
- To examine the spatial pattern of sex ratio in Haryana.
- To study the correlation between spatial pattern of literacy and sex ratio.

DATABASE AND METHODOLOGY

This paper is based on the secondary sources of data. To fulfil the objectives data regarding literacy and sex ratio of Haryana is obtained from census of India, and Statistical abstract of Haryana. The collected data are tabulated and calculated to analyze the spatial pattern of literacy rate and sex ratio in Haryana. Arc GIS 10.2 software has been used as cartographic tool for preparing the thematic map to show the spatial pattern of sex ratio and literacy in Haryana.

The districts of Haryana are clubbed into five categories very high, high, moderate, low, very low on the basis of simple statistical method. The Spearman's rank order method is used for analysis the correlation between literacy and sex ratio. Spearman's Rank co-relation method such formula has been used:

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where $d_i^2 = R_1 - R_2$ is the difference between ranks of two variables, and n is the total number of observations

RESULT ANALYSIS & DISCUSSION

Spatial Pattern of Sex Ratio

Haryana as a whole has 877 number of females per thousand of males population in 2011. Although, the district level sex ratio varies from district to district ranges from 877 to 906. Total 21 districts of Haryana are categorized into five groups as under:

Very High Sex Ratio (895 – 906)

The districts which have the sex ratio above 895 are included into high category. High sex ratio was scored in the districts of Mewat (906), Fatehabad (903), Rewari (898) and Sirsa (896).

High Sex Ratio (885 – 894)

The districts which have the sex ratio ranges (885 – 894) are included into high category. High sex ratio was scored in the districts of Mahendragarh (894), Kurukshetra (889), and Karnal (886).

Moderate Sex Ratio (872 – 884)

The districts which have the sex ratio ranges (872 – 884) are included into moderate category. Moderate sex ratio was scored in the districts of Bhawani (884), Ambala (882), Kaithal (880), and Yamunanagar (877) (See fig. 1.3).

Low Sex Ratio (862 – 871)

The districts which have the sex ratio ranges (862 – 871) are included into low category. Low sex ratio was scored in the districts of Faridabad (871), Jind (870), Rohtak (868), and Hisar (871).

Very Low Sex Ratio (853 – 861)

The districts which have the sex ratio ranges (853 – 861) are included into low category. Low sex ratio

was scored in the districts of Gurgaon (853), Jhajjar (853), Panipat (861) and Sonipat (853).

The following are the reasons for low sex ratio in Haryana

- Neglect girl child
- High maternal mortality
- Sex selective
- Female Infanticide
- Immigration

Spatial pattern of literacy rate

In Haryana, average literacy rate is 76.64 per cent in 2011. But, figure 1.2 shows that as we analyse the districts level literacy differs from district to district.

- ◆ **Very high literacy rate** - High literacy was scored in the districts of Gurgaon (84.44 per cent), Panchkula (83.44 per cent), Faridabad (83.04 per cent), Ambala (82.83 per cent), and Rewari (82.23 per cent). Due to high density of educational institutions, high urbanization, development of transport and communication and so on (fig. 1.2).
- ◆ **High literacy rate** - The districts of Haryana, which have literacy rate between 77.47 to 80.83 per cent, are included in this category. Figure 1.2 shows that high literacy was scored in the districts of Sonipat (80.83 per cent), Jhajjar (80.83 per cent), Rohtak (80.37 per cent) and Yamunanagar (78.93 per cent) and mahendragarh (78.87 per cent).
- ◆ **Moderate literacy rate** - Moderate literacy was scored in the districts of Panipat (77.46 per cent), Bhiwani (76.74 per cent), Kurukshetra (76.70 per cent), and Karnal (76.44 per cent).
- ◆ **Low literacy rate** - Figure 1.2 reveals that low literacy was scored in the districts of Kaithal (70.56 per cent), Sirsa (70.56 per cent), Hisar (73.24 per cent), Jind (72.73 per cent), Palwal (70.32) and Fatehabad (69.13).
- ◆ **Very low literacy rate** - Mewat (56.14 per cent) is only one district of Haryana, which has very low literacy rate; because of muslim dominant society and low development of educational institutions by government and NGOs (fig. 1.2).

The spearman's rank difference method has been used for the calculation of correlation between

literacy and sex ratio in Haryana. It is observed that there is high negative correlation i.e. $r = -0.37$ between the literacy and sex ratio in Haryana.

Table 1.1: District wise distribution of sex ratio and Literacy and their ranking in Haryana, 2011

Districts	Literacy Rate (R ₁)	Sex Ratio (R ₂)	Rank (R ₁)	Rank (R ₂)	D= (R ₁ - R ₂)	D ²
Ambala	82.89	884	4	8	-4	16
Bhiwani	76.74	884	12	9	3	9
Faridabad	83.04	871	3	13.5	-10.5	110.25
Fatehabad	69.13	903	20	2	18	324
Gurgaon	84.44	853	1	20.5	-19.5	380.25
Hisar	73.24	871	15	13.5	1.5	2.25
Jhajjar	80.83	861	6.5	18.5	-12	144
Jind	72.73	870	16	15.5	0.5	0.25
Kaithal	70.56	880	17	10	7	49
Karnal	76.44	886	14	7	7	49
Kurukshetra	76.7	889	13	6	7	49
Mahendragarh	78.87	894	10	5	5	25
Mewat	56.14	906	21	1	20	400
Palwal	70.32	879	19	11	8	64
Panchkula	83.44	870	2	15.5	-13.5	182.25
Panipat	77.46	861	11	18.5	-7.5	56.25
Rewari	82.23	898	5	3	2	4
Rohtak	80.37	868	8	17	-9	81
Sirsa	70.35	896	18	4	14	196
Sonipat	80.83	853	6.5	20.5	-14	196
Yamunanagar	78.93	877	9	12	-3	9

Source: Compiled by author based on census of India, 2011

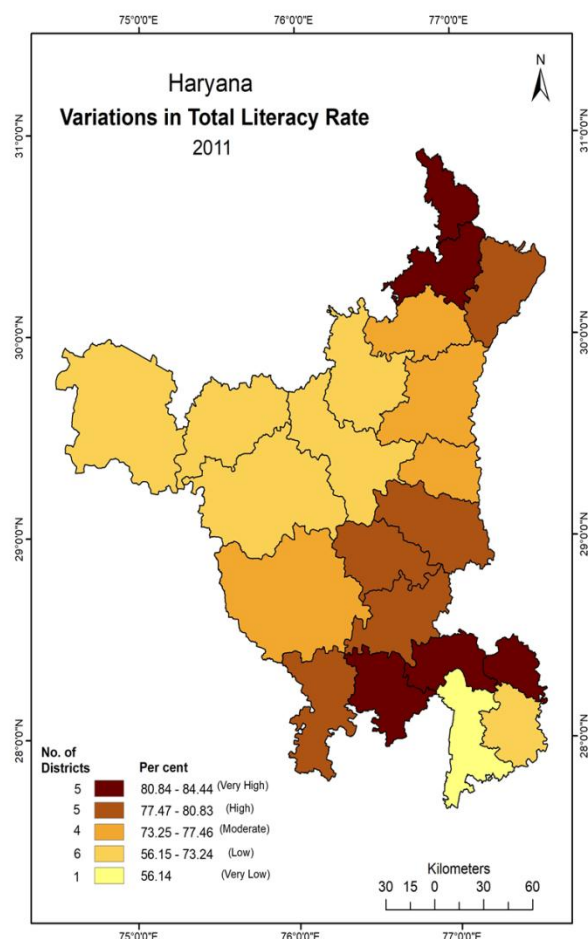


Figure 1.2

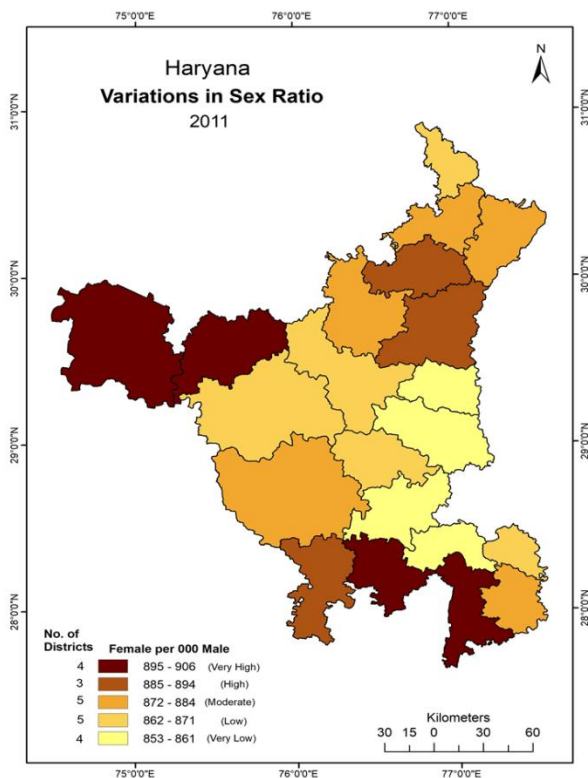


Figure 1.3

CONCLUSION

The researcher found that a wide disparities in the literacy and sex ratio in Haryana in 2011. The highest literacy was found in Gurgaon district (84.44 per cent) and lowest literacy was in Mewat (56.14 per cent). The highest sex ratio is found in Mewat district (906) and lowest is in Gurgaon (853) and Panipat (853). But the correlation between literacy and sex ratio has been established high negative i.e. $r = -0.52$. It means which districts have high literacy rate represents low sex ratio.

REFERENCES

- Aktar, Nasim (2013): Correlation between literacy and sex ratio in west Bengal: A geographical analysis, *Review of Research*, Vol-2, Issue-4
- Sandeep, Anil, and Singh, Manjit (2015): Geographical variation in child sex ratio trends overtime in Haryana, *International Journal of Advanced Research and Technical Research*, Vol-1, Issue-5
- Chandana R.C. (2008): Geography of population: concepts, determinants and patterns, *Kalyani Publishers*, New Delhi.
- Majumdar P. K. (2013): Indian demography: changing demographic scenario in India, *Rawat Publications*, Jaipur.

Suguna, M. (2011). Education and women empowerment in India, *International Journal of Multidisciplinary Research*, Vol. , Issue-8.

Sule, B.M. and Barkade, A.J. (2012). Correlation between literacy and sex ratio in Solapur district of Maharashtra: A Geographical analysis, *Social Growth*, Vol-1, Issue-4

Jadhav, Santosh, Ratnaparbha (2014). Spatio – temporal changes in literacy and sex ratio : a case study of Shirur tahsil of Pune district , MS, *Review of Research*, Vol-4, Issue-2

[http:// www. censusindia.gov.in](http://www.censusindia.gov.in)

Corresponding Author

Mohan Lal*

Student, Department of Geography, Rohtak

kaushikmohan3048@gmail.com