Impact of Literacy on Female Child Ratio in Maharashtra State-A Geographical Analysis

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Abstract

According to Triwartha, 'Geography is fundamentally anthropocentric in nature. Number, density and quality of population provide essential background to all geographical study. He said population is a pivotal element in geography and around population all geographical attributes are revolved. Population geography may be defined as the analysis and geographical interpretation of spatial variation of the structure and value of demographic phenomena. These phenomena consists the size and changes of population and varies population aspects or processes like fertility mortality and mobility.

The population commission of United Nation definesliteracy as, 'the ability of the people to read and write a simple message in any language with some understanding. Literacy plays a very crucial role in social and economic development of the region. Decreasing female child ratio is a crucial problem in our society now a day. Therefore attempt is made here to examine the impact of literacy on female child discrimination in Maharashtra. The paper is mainly based on secondary data.

To examine the impact of literacy on female child fertility the Pearson's Coefficient of Correlation technique has been utilized. The functional form of linear relationship has been measured by using regression equation Y on X ie. Y= a+bx. The rate of change in dependent variable has been estimated with the help of b coefficient, which is the line of best fit. The t test is used with the view to understand the confidence level. On the basis of these technique the conclusion has been drown. This study reveals that there is high negative correlation between percentage of literacy and female child discrimination in Maharashtra state.

Key Words: Population literacy, Child Fertility, Female Discrimination.


Introduction:

Population Geography is systematic branch of Human Geography. It emphasis upon the regional differentiation of an area in term of its population. It concerned with temporal and spatial analysis of population attributes. According to Triwartha, 'Geography is fundamentally anthropocentric in nature. Number, density and quality of population provide essential background to all geographical study. He said population is a pivotal element in geography

and around population all geographical attributes are revolved. Population geography may be defined as the analysis and geographical interpretation of spatial variation of the structure and value of demographic phenomena. These phenomena consists the size and changes of population and varies population aspects or processes like fertility mortality and mobility.

Literacy is an important aspect in the processes of social development. It is not only effect on population attributes but also impact on the whole structure of our society. The population commission of United Nation define a literacy as, 'the ability of the people to read and write a simple message in any language with some understanding. Literacy play crucial role in social and economic development of the region. Decreasing female child ratio is a burning problem in our society now a day,and it create number of social problem. The UN report clear that high girl child mortality is explained by socio-cultural values. It clearly indicates sustained discrimination. Such negated of discrimination is the result of different socio-cultural and economic factors. Therefore attempt is made here to examine the impact of literacy on female child ratio in Maharashtra state.

Study Region:

The Mahrashtra lies in Southern part of India. which is a one of the advance States in the country. Absolute location of State is 17^0 57' 8'' North Latitude and 75^0 16' 00'' East longitudes. The adjoining States are Gujarath and Madyapradesh to it's North, Chhattishgad to its East, AndraPradesh , Karnataka and Goa to it's south, Arebian sea to itsWeast. The State is divided into 35 district for admistrativepurpose. The geographical area of State is 118816 square meter, and it ranks fifth in the country. Out of total geographical area 92 per cent is under cultivation. The population of state is 11.60 lakh. Agriculture is the main occupation in Maharashtra state. The State has wet and warm climate in western part, hot and dry climate in remaining part with an average annual rainfall ranging from 400 to 6000 mm.

LOCATION MAP OF MAHARASHTRA STATE
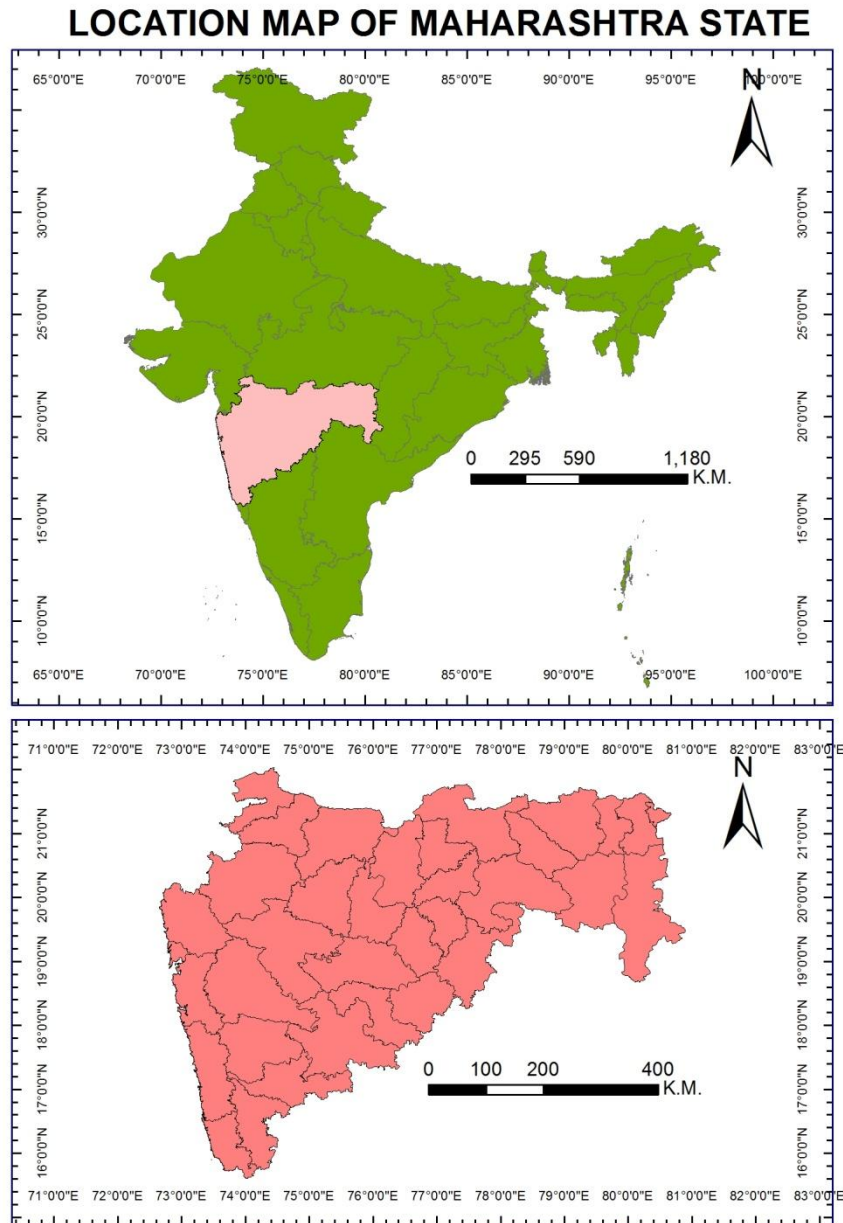
Objectives:

The main objectives of this paper are as following.

1) To analyze the impact of literacy on child female ratio in Maharashtra state

2) To estimate the rate of change in child female ratio in relation to literacy.

Data collection and Methodology:

In order to meet above objectives the relevant information and data regarding literacy and female child birth (age in-between 1-5) collected from secondary source. The data related to literacy and female child ratio is collected from census of Maharashtra 2011.

Collected rough data are processed. To examine the impact of literacy on female child fertility the Pearson's Coefficient of Correlation technique has been utilized. The functional

form of linear relationship has been measured by using regression equation Y on X ie. Y= a+bx. The rate of change in dependent variable has been estimated with the help of 'b' coefficient, which is the line of best fit. The 't' test is used with the view to understand the confidence level. On the basis of these technique the conclusion has been drown.

Percentage of Literacy in Maharashtra State:

The table 1.1 indicates that, state as a whole has 73.43 percent literacy in 2011. But the spatial distribution of literacy is varies from district to district ranging in between 54.19 percent to 81.11 percent. High literacy i.e. > 72.91 percent is found in the district of Akole, Bhandara, Gondiya, Nagpur, Wardha, Chindigarh, Thane, Mumbai, Raigarh, Pune, Satara, Ratnagiri, Sindhudurg, Kolhapur and Sangli district. It is moderate ranging from 63.94 to 72.91 percent observed in Dhule, Jalgaon, Buldhana, Washim, Amarawati, Yawatmal, Nanded, Hingoli, Parbhani, Aurangabad, Nasik, Nagar, Latur, Osmanabad and Solapur district. While it is low i.e. <63.94 percent is recorded in the district of Nandurbar, Gadchiroli, Jalna and Bid district.

Female Child Ratio in Maharashtra State:

The table 1.1 also reveals that, state as hole has 883 female child fertility, but it is varies from district to district. The female child fertility is high i.e. >905 is found in the district of Nandurbar, Amaravati, Nagpur, Bhandara, Gondiya, Gadhchiroli, Chandrapur, Yavatmal, Thane, Raighar, Ratnagiri and Sindhudurg district. It is moderate in Dhule, Akole, Washim, Wardha, Nanded, Hingoli, Parbhani, Nasik, Mumbai, Pune, Latur, Solapur, Satara and Sangali district i.e. 853 to 905 per thousand male child. While it is low i.e. <853 in the district of Jalana, Aurangabad, Ahmadnagar, Bid, Osmanabad and Kolhapur.

Table No. 1.1

*Percentage of Literacy and female Child Ratio in Maharashtra State in 2011:

1	District	% Literacy	FCR	Sr No	District	% Literacy	FCR
2	Nandurbar	54.19	932	19	Jalna	63.03	847
3	Dhule	65.09	876	20	Aurangabad	69.16	848
4	Jalgaon	70.03	829	21	Nashik	70.29	882
5	Buldana	71.80	842	22	Thane	76.38	918
6	Akola	77.63	900	23	Mumbai	81.11	874
7	Washim	71.64	859	24	Raigarh	74.64	924
8	Amravati	79.07	927	25	Pune	77.32	873
9	Wardha	78.84	916	26	Ahmadnagar	70.73	839
10	Nagpur	80.25	926	27	Bid	63.75	801
11	Bhandara	76.41	939	28	Latur	69.13	872
12	Gondiya	76.62	944	29	Osmanabad	67.16	853
13	Gadchiroli	62.97	956	30	Solapur	68.36	872
14	Chandrapur	73.05	945	31	Satara	75.57	881
15	Yavatmal	71.38	915	32	Ratnagiri	74.79	940
16	Nanded	66.75	897	33	Sindhudurg	79.54	910
17	Hingoli	65.65	868	34	Kolhapur	74.45	845
18	Parbhani	64.90	866	35	Sangli	73.98	862
					Maharashtra	73.43	883

(Source: census of Maharashtra 2011.)

In the context of objective following findings have come to light.

1) The light positive relationship between the percentage of (X) and female child ratio (Y) has been observed in the State. The coefficient of correlation in this regard is at r = + 0 .2671. It indicates that there is a light positive relationship between the variables 'X' and 'Y'. The degree of linear association between these two variables obtained by using the coefficient of determination (r^2) is found to be at 0.0714, which reveals that the independent variable (X) i.e, the percentage of literacy are explaining 7.14 per cent of the total variations in dependent variable (Y) i.e. the female child ratio in the State. It is a not very good explanation because 7.14 per cent of the variations in (Y) female child ratio to be influenced by the variable (X) i.e. percentage of literacy and about 92.86 per cent of the variation is left to be influenced by other variables.

2) The functional form of linear relationship of Y on X found to be at Y = 764.6 + 1.71x. The line of best fit is shown in the Figure-1. The regression coefficient indicates that increase of

one per cent in female literacy causes for an increase of 1.71female child ratio of districts of Maharashtra State.

Figure No:1
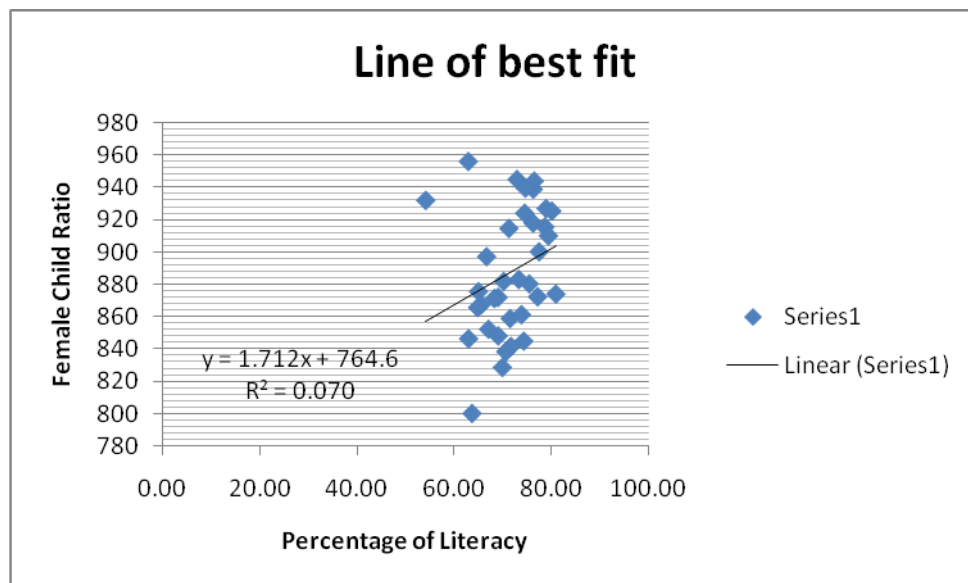
3) In order to understand the degree of fit of regression equation and the accuracy level of predicted values (y) for the district ofMaharashtra States the standard error (SE) of estimate is being done with the equation SE (Y) = SY $\sqrt{1-r2}$, where SE (Y) is the standard deviation of residuals (Y-y); and 'SY' is the standard deviation of 'Y'.

The confidence interval of the predicted values are worked out at Y = Y ± SE (Y) (The SE (Y) for the present exercise is 36.00 and SY is the 38.85). Thus it is assumed that if the values of 'Y' (Y-y) lie within the range of Zero to ± SE, the prediction could be expected to be accurate. In other words, the role of independent variables in explaining the change in dependent variable can be accepted as correct.

In this context it has been observed that the predicted values (given in table- 2) of 21 districts out of 35 districts in the present study lie within the range of ± SE, 13 and within ± SE to ± 2 SE and 01 above± 2 SE. Now the obvious inference is that the 60 per cent of the total number of observation (n is 35) the regression is a good indicator meaning thereby that the variations of child sex ratio is the function of the variations of percentage of female literacy. In the case of other States with residuals between > ± SE to ± 2 SE the situation is different because here the regression is a poor indicator. It clearly indicates that these are the districts whom the influence of variables other than the independent one. The variations of child sex ratio of district in the latter case may be due to the variation in social tradition variation in Sex determination.

Table -2 Residuals from regression of child sex ratio.

District	Y	y	Y-y	District	Y	Y	Y-y
Nandurbar	932	857	75	Aurangabad	848	883	-35
Dhule	876	876	0	Nashik	882	885	-3
Jalgaon	829	884	-55	Thane	918	895	23
Buldana	842	888	-46	Mumbai	874	903	-29
Akola	900	897	3	Raigarh	924	892	32
Washim	859	887	-28	Pune	873	897	-24
Amravati	927	900	27	Ahmadnagar	839	886	-47
Wardha	916	900	16	Bid	801	874	-73
Nagpur	926	902	24	Latur	872	883	-11
Bhandara	939	895	44	Osmanabad	853	880	-27
Gondiya	944	896	48	Solapur	872	882	-10
Gadchiroli	956	872	84	Satara	881	894	-13
Chandrapur	945	890	55	Ratnagiri	940	893	47
Yavatmal	915	887	28	Sindhudurg	910	901	10
Nanded	897	879	19	Kolhapur	845	892	-47
Hingoli	868	877	-9	Sangli	862	891	-30
Parbhani	866	876	-10	**Maharashtra**	883		
Jalna	847	873	-26				

Source: Compiled by Researcher

In this context it has been observed that the predicted values (given in table- 2) of 22 districts out of 35 districts in the present study lie within the range of ± SE, 10district lie within ± SE to ± 2 SE and 03 district lies above± 2 SE. Now the obvious inference is that the 62.85 per cent of the total number of observation (n is 35) the regression is a good indicator meaning thereby that the variations of child female ratio is the function of the variations of percentage of literacy. In the case of other district of States with residuals between > ± SE to ± 2 SE the situation is different because here the regression is a poor indicator. It clearly indicates that these are the districts whom the influence of variables other than the independent one. The variations of female child ratio of district in the latter case may be due to the variation in social tradition poor economic conditions and out migration of male population.

Conclusions:

The present study reveals that there is light positive correlation between percentage of literacy and female child ratio in the Maharashtra State. The percentage of literacy is not found to be more effective than the other variables considering female child ratio. It is found that

increase of one per cent of literacy causes for an increase of 1.71 child female ratio of districts in Maharashtra.

The female child ratio is high in Nandurbar, Amaravati, Bid, Gadchiroli and Yavatmal due to tribal area male population is migrated to other district due to work. On the other hand it is high in Nagpur, Thane, Raighar, Ratnagiri and Sindhudurg due to agriculture development leads better economic condition resulted high literacy.

Therefore it is to be stated that the increase in percentage of literacy is helpful to increase in female child ratio. Public awareness should made regarding female child, which is use full to maintain the structure and health of society.

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