CORRELATION BETWEEN LITERACY AND SEX RATIO IN ANDHRA PRADESH: A GEOGRAPHICAL PERSPECTIVE
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Abstract

Literacy and sex ratio is an important element of cultural and biological composition of population. Generally literacy is defined as the ability to read and write. There is a close relation between literacy and economic status of the region. Sex ratio is defined as the number of females per thousand males. It depends on rate of birth, death and migration. The sex ratio is found less due to negligence of girl child, early marriage, preference for boy child etc. Sex ratio in our country since long period had remained unfavorable to females. The main objectives of the present paper are to study the correlation between the literacy and sex ratio in Andhra Pradesh and find out correlation between them. The present work is based on secondary sources of data and collected from census of India 2011. The two variables i.e. literacy and sex ratio of Andhra Pradesh has been taken into consideration for the study. The data is processed and calculated correlation between literacy and sex ratio by using Spearman’s rank correlation method. As per census Andhra Pradesh has 68.0 per cent literacy rate and 946 females per thousand males. It is important to note that more critical sex ratio condition are observed in Y.S.R. Kadapa, Anantapur and Chittoor district. However, the analysis shows that there is a positive correlation (r value is 0.2307) between literacy and sex ratio in India.

Key words: Sex ratio, Literacy rate, correlation and district wise.

I. Introduction

Literacy involves in cultural composition and sex ratio is discussed under biological composition (Ghosh, 1985, p. 88). Among the various elements of population composition literacy and sex composition has a great importance in population study (Chandna, 2002 p. 270). Education is not only important need of life and the key factor in the development. The pattern of literacy varies from one to another country. It is affected by occupation, government policy, socio-economy status and cultural life. It is found that there is a close relation between diversification of economy and literacy. The countries which are highly industrialized have high literacy rate than in the agricultural countries. The status of women and level of literacy is positively correlated. Sex ratio is defined as the number of females per thousand males. It affects on labour supply, age of marriage, population growth, status of women etc. It is an important attribute of demography and is influenced by birth, death and migration. The separate data for male and females are important for various types of planning and for the analysis of other demographic characteristics. Generally, in all countries the male mortality rate is higher than female mortality rate at all ages. Data is found less due to negligence of girl child, early marriage, preference for boy child etc. However, it is biological fact that more males are born than female and primary and secondary sex ratios are in favour of males (Ghosh, Pp. 98, 99). According to Clark, (1960) the existing sex ratio in any area is determined by three basic factors. These are sex ratio at the time of birth, differences in the mortality rates of the two sexes, at different ages and differences in the migratory ethos of the two sexes. In our country since long period it had always remained unfavorable to females.
Objectives

The main objectives of the present paper are:
1. To study the variation and inequality in literacy and sex ratio in study area during 2011.
2. To find out correlation between literacy and sex ratio in Andhra Pradesh.

II. Database and Methodology

The present data has been collected form varies like secondary sources of data. The required data are collected from census of India 2011. The two variables i.e. literacy and sex ratio of Andhra Pradesh have been taken for the study. Arc GIS 10.3.1 software used for preparing the map. The data is processed and calculated correlation between literacy and sex ratio by using Spearman's rank co-relation method. The following formula has been used:

\[ r = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} \]

Where \( d \) is the difference between ranks of two variables, \( n \) is the total number of observations.

Study area

Andhra Pradesh is one of the 29states of India, situated on the southeastern coast of the country. The state is the eight largest state in India covering an area of 1,60,205 sq.km. As per 2011 census of India, the state is tenth largest by population with 4,93,86,799 inhabitants. On 2 June 2014, the north-western portion of the state was bifurcated to form a new state of Telangana. In accordance with the Andhra Pradesh Re-organization Act-21014. The state has a coastline of 974 km (605 miles). Andhra Pradesh lies between 12°41' and 22° N latitude and 77° and 84°40'E longitude. It borders Telangana in the north-west, Chhattisgarh in the north, Odisha in the north-east, Karnataka in the west, Tamil Nadu in the south and the water body of Bay of Bengal in the east. There are two regions in the state namely Coastal Andhra and Rayalaseema. These two regions comprise 13 districts, with 9 in Coastal Andhra and 4 in Rayalaseema fig.1.

Geographically, Andhra Pradesh is bestowed with two mighty river systems of Krishnaand Godavari. Its varied topography ranging from the hills of Eastern Ghats and Nallamallasto the shores of Bay of Bengal supports varied ecotypes, rich diversity of flora and fauna. The plains to the east of Eastern Ghats form the Eastern coastal plains. The coastal plains are for the most part of delta regions formed by the Godavari, Krishana and Pennarrivers.

Fig-1
Literacy Variation in Andhra Pradesh, 2011

As per 2001, a person aged seven and above, who can both read and write with understanding in any language is treated as literate (Year Book, 2010 p. 6). The census of 2011 reveals that there has been an increase in literacy in the State. The literacy rate in the state is 68.0 per cent, 75.5 per cent for males and 60.4 per cent for females. About 8 per cent literacy has been increased during a decade. According to census 2011, among the Vizianagaram district has lowest literacy rate (59.5). It has also lowest position in terms of male literacy (69.20 per cent). The lowest female literacy (50.20 per cent) is observed in Vizinagaram district. There are seven states (excluding Vizianagaram) which have below state average (75.5 per cent) literacy rate. The districts are namely Kurnool (61.1), Srikakulam (62.3), Prakasam (63.5), Anantapur (64.3) and Visakhapatnam (67.7).

Table-1: Correlation between Literacy and Sex ratio in Andhra Pradesh

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the district</th>
<th>Literacy</th>
<th>Sex ratio</th>
<th>R₁</th>
<th>R₂</th>
<th>d(R₁-R₂)</th>
<th>d²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Srikoakulam</td>
<td>62.3</td>
<td>953</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Vizianagaram</td>
<td>59.5</td>
<td>955</td>
<td>13</td>
<td>4</td>
<td>9</td>
<td>81</td>
</tr>
<tr>
<td>3</td>
<td>Visakhapatnam</td>
<td>67.7</td>
<td>961</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>East Godavari</td>
<td>71.3</td>
<td>969</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>West Godavari</td>
<td>74.3</td>
<td>970</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Krishna</td>
<td>74.4</td>
<td>953</td>
<td>1</td>
<td>5</td>
<td>-4</td>
<td>16</td>
</tr>
<tr>
<td>7</td>
<td>Guntur</td>
<td>68.0</td>
<td>948</td>
<td>6</td>
<td>7</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Prakasam</td>
<td>63.5</td>
<td>932</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>S.P.S Nellore</td>
<td>69.1</td>
<td>945</td>
<td>5</td>
<td>8</td>
<td>-3</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Y.S.R Kadapa</td>
<td>67.9</td>
<td>919</td>
<td>7</td>
<td>13</td>
<td>-6</td>
<td>36</td>
</tr>
<tr>
<td>11</td>
<td>Kurnool</td>
<td>61.1</td>
<td>937</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>Anantapur</td>
<td>64.3</td>
<td>927</td>
<td>9</td>
<td>12</td>
<td>-3</td>
<td>9</td>
</tr>
<tr>
<td>13</td>
<td>Chittoor</td>
<td>72.4</td>
<td>931</td>
<td>3</td>
<td>11</td>
<td>-8</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Andhra Pradesh</td>
<td>68.0</td>
<td>946</td>
<td></td>
<td></td>
<td></td>
<td>280</td>
</tr>
</tbody>
</table>

Source: Registrar General and Census Commissioner, Computed from Census of India, 2011.
The sex ratio is found less due to carelessness about girl child, early marriage, preference for boy child etc. As per census 2011, literacy rate in India is 68.0 per cent (60.47 as per 2001), 75.5 per for males and 60.4 per cent for females. There are physical and social barriers to develop educational facilities. The Krishnadistrict has not only highest total literacy rate (74.4%) and female (69.6%) literacy. High male literacy rate (81.2%) is observed in Chittoor district. More than 70 per cent literacy rate is recorded in with Krishna, West Godavari, Chittoor and East Godavaridistricts. Krishna is advanced district in terms of education. High status of woman is also an important factor for growing a high literacy in female in the district fig.2.

Variation in Sex Ratio in Andhra Pradesh

The sex ratio in Andhra Pradesh has remained unfavourable to females. There are different causes of declining in sex ratio. The less birth of girl may be possible due to negligence of girl baby, high maternity mortality rate where medical facilities are not sufficient arid well, sex selective test etc. The socio-economic condition within the country is playing an important role to give more importance to male birth.

The Sex ratio of the human population is one of the basic demographic characteristics, which is extremely vital for any meaningful demographic analysis. The state has the tradition of bringing out disaggregated information by sex on various aspects of population. The first and foremost is the simple count of males and females. The sex ratio largely reflects the underlying socio-economic and cultural patterns of a society in different ways. Sex ratio defined here as the number of females per 1000 males in the population 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. It is mainly the outcome of the interplay of sex differentials in mortality, sex selective migration, sex ratio at birth and at times the sex differential in population enumeration.
The sex ratio in the state is 946 per cent of the year 2011. The minimum and maximum sex ratio in 2011 is 919 and 970 respectively. During 2011 the variation in sex ratio in Andhra Pradesh state is found to be high in Y.S.R. Kadapa district. Anantapur, Chittoor, Prakasam and Kurnool districts recorded low sex ratio. A similar condition is noticed for West Godavari, East Godavari, Visakapatnam, Vizianagaram and Krishna districts as they have high sex ratio in the year 2011. Spearman's Rank order method is used for finding the correlation between two variables i.e. literacy and sex ratio. It is observed that there is a positive co-relationship (0.2307) between literacy and sex ratio in the state fig. 3.

### III. Conclusion

Literacy and sex ratio is regarded as an important aspect of population study. Education is essential for personal and national development. It is found that there is positive relationship between-literacy and economic status of the country. Literacy rate depends on occupation, government policy and socio-economic status. Sex ratio is defined as the number of females per thousand males. It depends on birth, death rate and migration.

It has Vizianagaram district has lowest literacy rate (59.5)state. It has also the lowest position in terms of male literacy (77.6 per cent). The lowest female literacy (50.2 per cent) is observed in Vizianagaram. The Krishna district has only high total literacy rate (74.4%) where female (69.6%), literacy rate is also high. High male literacy rate (81.2%) is observed in Anantapur district. The Krishna and West Godavariis highly economic developed district of the state with high literacy rate. As per census 2011 about fifty per cent districts away from state average (946 female per 1000 males) sex ratio. Chittoor is recorded lowest sex (931) ratio in the state. West Godavari district is first ranking in state in terms of sex ratio and its sex ratio remained favourable (more female than male) to female during 1901 to 2011. Rayalaseema districtsis lowest in state average. It is backeward of the economic condition. The coastal Andhra is above state average except Prakasam and S.P.S Nellore districts. It is found that in Andhra Pradesh here is positive correlation (0.2307) between literacy and sex ratio.
Bibliography