



COMPARATIVE STUDY OF LITERACY RATIO AND SEX RATIO IN SANGLI DISTRICT

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INTRODUCTION:

The study of population characters of any area is studied under the Population Geography which is the branch of Human geography. Population Geography relates spatial variations in the distribution, composition, migration, and growth of populations to the terrain. Population geography involves demography in a geographical perspective. It focuses on the characteristics of population distributions that change in a spatial context. This often involves factors such as where populations are found and how the size and composition of these populations is regulated by the demographic processes of fertility, mortality, and migration.

There is variation in the population characters such as population, sex ratio and literacy rate place to place. We are studying this variations and we will analyse the relation between the characters of population of Sangli district and their tehsils in the following report. There are 10 tehsils in Sangli district. We will use qualitative as well as quantitative methodology for our study.

Population, is the number of people in a city or town, region, country or world; population is usually determined by a process called census (a process of collecting, analysing, compiling and publishing data).

POPULATION OF SANGLI DISTRICT:

Sangli district is a district of Maharashtra state in west-central India. Sangli city is the district headquarters. The district is 25.11% urban. Sangli and Miraj are the largest cities. Sangli District is one of the most fertile and highly developed districts in Maharashtra. According to the 2011 census Sangli District has a population of 2,822,143, roughly equal to the nation of Jamaica or the US state of Kansas. This gives it a ranking of 137th in India (out of a total of 640). The district has a population density of 329 inhabitants

per square kilometre. Its population growth rate over the decade 2001–2011 was 9.18%. Sangli has a sex ratio of 964 females for every 1000 males, and a literacy rate of 82.62%. Scheduled Castes and Scheduled Tribes make up 12.5% and 0.6% of the population respectively.

TEHSILSWISE POPULATION IN SANGLI DISTRICT:

Sangli District is composed of 10 tehsils, listed below with their populations at the 2011 Census:

Table 1: Tehsilswise Population in Sangli District (2011)

Sr. No.	Tehsils	Population	Sr. No.	Tehsils	Population
1	Shirala	162,911	6	Atpadi	138,455
2	Walwa	456,002	7	Tasgaon	251,401
3	Palus	164,909	8	Miraj	854,581
4	Kadegaon	143,019	9	Kavathemahankal	152,327
5	Khanapur	170,214	10	Jat	328,324

Source: Census 2011

Table 1 reveals that the initial provisional data released by census India 2011, shows that density of Sangli district for 2011 is 329 people per sq. km. In 2001, Sangli district density was at 301 people per sq. km. Sangli district administers 8,572 square kilometres of areas. Among the 10 Tehsils of the District Miraj Tehsil (854581) is the most populous and Atpadi Tehsil (138455) the least. The tehsils Miraj, Walwa, and Jat having maximum population within district. While Kadegoan, Atpadi, and Kavthemahankal having least population within the district.

SEX RATIO:

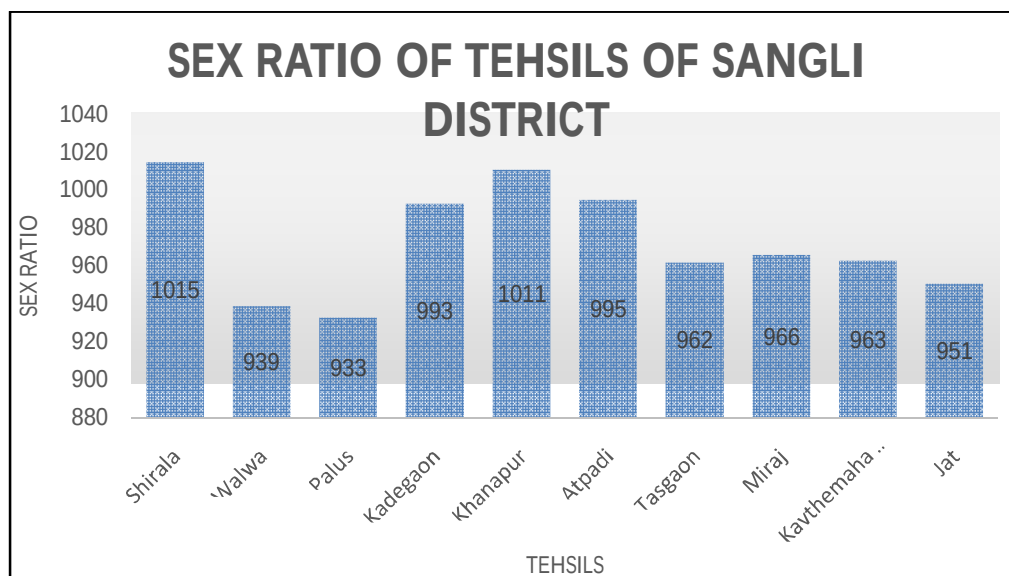
Sex ratio is used to describe the number of females per 1000 of males. Sex ratio is a valuable source for finding the population of women in India and what is the ratio of women to that of men in India. In the Population Census of 2011 it was revealed that the population ratio in Maharashtra 2011 is 929 females per 1000 of male.

SEX RATIO OF SANGLI DISTRICT:

With regards to Sex Ratio in Sangli, it stood at 966 per 1000 male compared to 2001 census figure of 957. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate. In 2011 census, child sex

ratio is 867 girls per 1000 boys compared to figure of 851 girls per 1000 boys of 2001 census data (Fig. 1).

Fig. 1: Tehsilswise Sex Ratio of Sangli district



Within the District sex ratio varies from 1015 in Shirala Tehsil to 933 in Palus Tehsil. The highest sex ratio having Shirala tehsil followed by Khanapur and Atpadi. The least sex ratio in tehsils Palus, Walwa and Jat.

LITERACY RATE:

Literacy rate of the population is defined as the percentage of literates in the age group seven years and above. For different age groups the percentage of literates in that age group gives the literacy rate.

LITERACY RATE OF SANGLI DISTRICT:

Fig. 2 shows graph reveals that the literacy rates for males are generally higher compared to females. Average literacy rate of Sangli in 2011 were 81.48 compared to 76.62 of 2001. If things are looked out at gender wise, male and female literacy were 88.22 and 74.59 respectively. For 2001 census, same figures stood at 86.26 and 66.73 in Sangli District. Total literate in Sangli District were 2,049,467 of which male and female were 1,121,550 and 927,917 respectively. In 2001, Sangli District had 1,717,836 in its district.

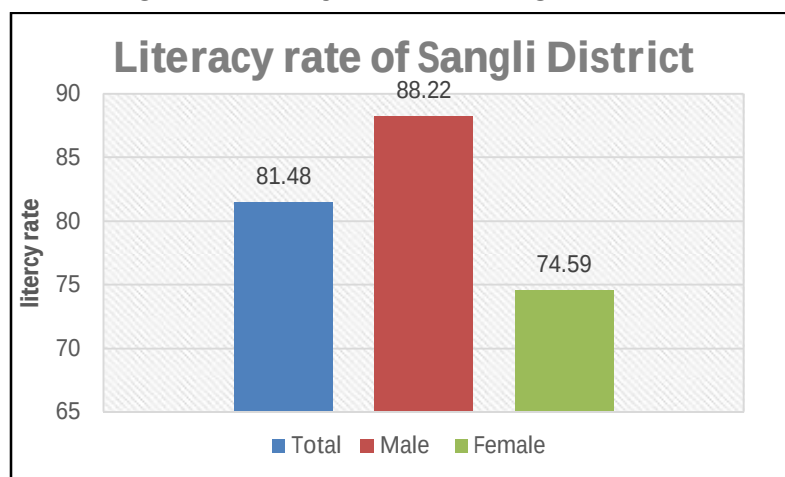
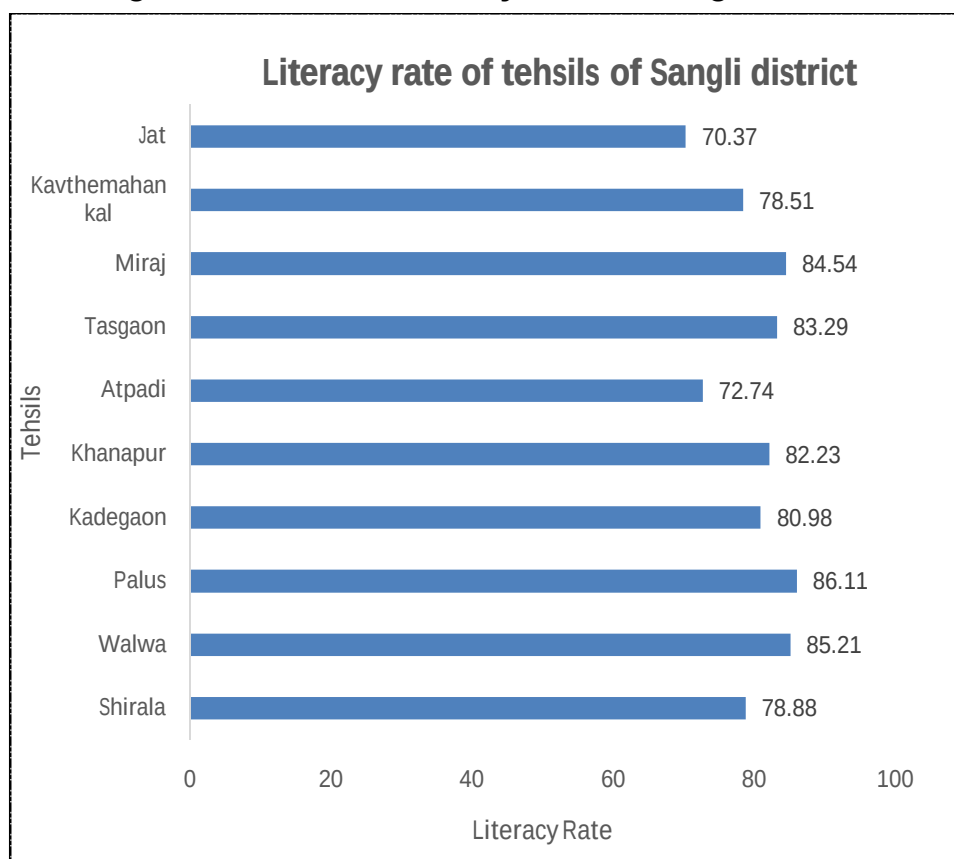
Fig.2: Literacy rate of Sangli district**TEHSILWISE LITERACY RATE OF SANGLI DISTRICT:**

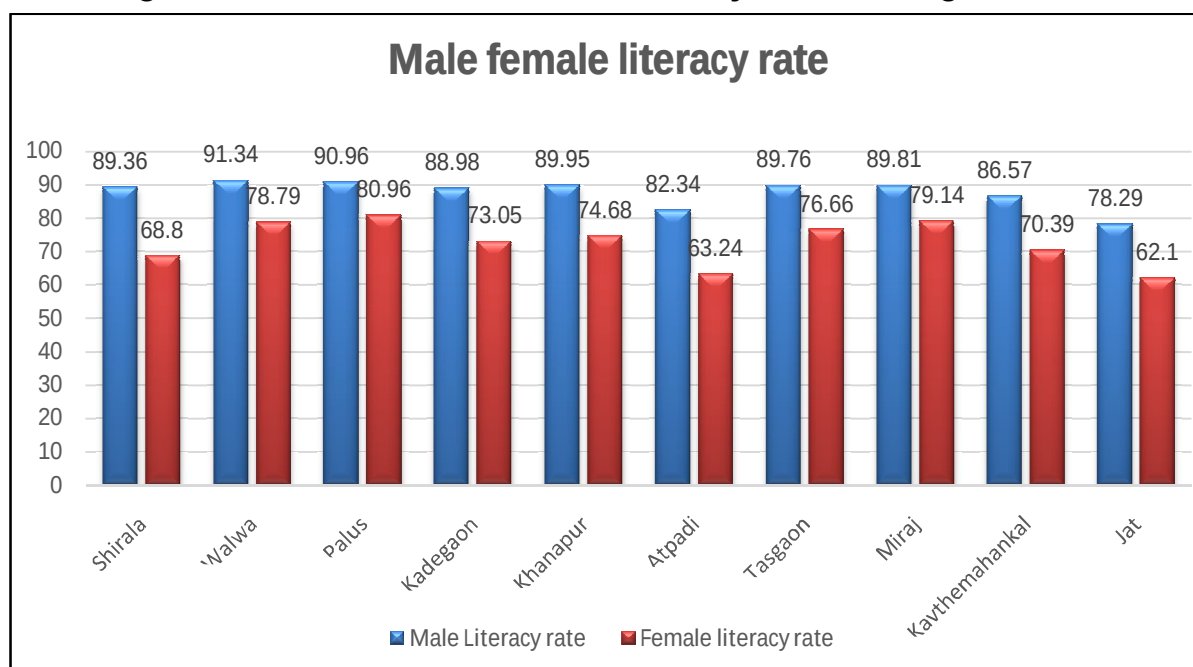
Fig.3 shows that the tehsil wise break up shows that Palus Tehsil has the highest literacy rate of 86.11 percent and Jat Tehsil has the lowest literacy rate of 70.37 percent. Palus, Walwa, and Miraj tehsils having higher literacy rate. While Jat, Atpadi and Shirala tehsils having less literacy rate.

Fig.3: Tehsilwise Literacy rate of Sangli district

TEHSILWISE MALE-FEMALE LITERACY RATE OF SANGLI DISTRICT:

Fig.4 reveals that the male literacy rate is the highest in Walwa Tehsil (91.34 percent) and the lowest in Jat Tehsil (78.29 percent). Female literacy rate is the highest in Palus Tehsil (80.96 percent) and the lowest in Jat Tehsil (62.1 percent). There is a significant difference in literacy rates between males and females in all the Tehsils of the District. The gap in male-female literacy rate is 13.63 percent points. Females are lagging behind males in literacy rate in all the Tehsils, however the gap varies from Tehsil to Tehsil. Palus tehsil having a less gap between male and female literacy rate and the Shirala tehsil having highest gap between male female literacy.

Fig. 4: Tehsilwise male-female Literacy rate of Sangli district

**RELATION BETWEEN MALE LITERACY RATE AND FEMALE LITERACY RATE:**

There is a significant difference in literacy rates between males and females in all the Tehsils of the Sangli District. We will find out is there any relation between the male and female literacy rate of the tehsils of Sangli district.

For analysing this relation we will use the quantitative methodology. We will find out the relation between two variables by Correlation method. The correlation coefficient that indicates the strength of the relationship between two variables can be found using the following formula:

$$\text{Correl}(X, Y) = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

Where:

Correl(X, Y) – the correlation coefficient of the linear relationship between Variables x and y

x – The values of the x-variable in a sample (Male literacy rate)

$\bar{x}$ – the mean of the values of the x-variable

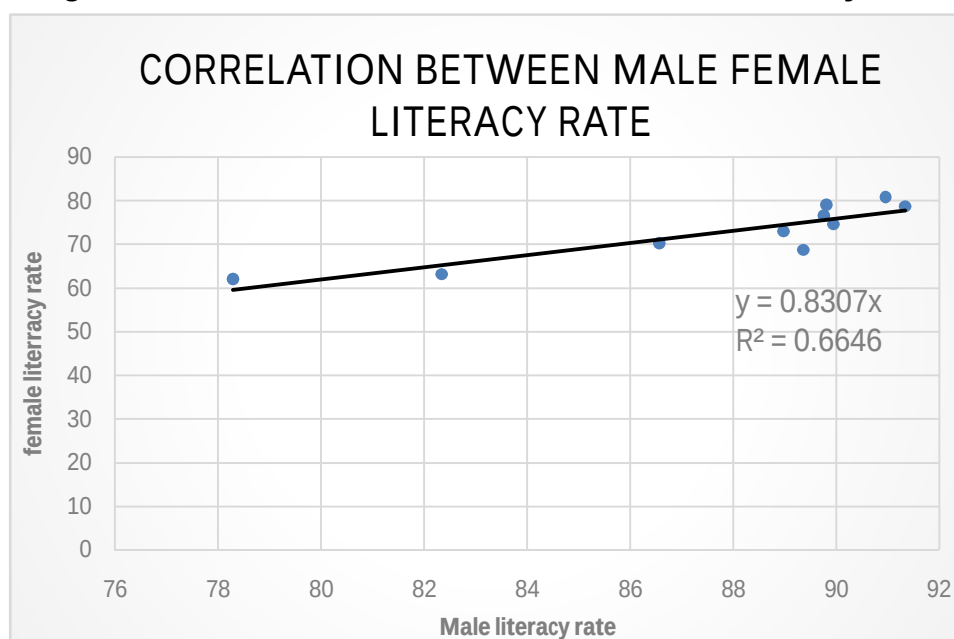
y – The values of the y-variable in a sample (Female literacy rate)

$\bar{y}$ – the mean of the values of the y-variable.

There are three possible results of a correlational study: a positive correlation, a negative correlation, and no correlation. When we calculate the correlation between male literacy rate and female literacy rate by using the variables value as given in fig.4, then the correlation will be 0.889657.

Correlation(x, y) = 0.889657

Fig. 5: Correlation between male & female literacy rate.



Result: As we get the value of correlation between variable **x** (male literacy rate) and **y** (female literacy rate) is 0.889657, therefore the correlation between male & female literacy rate is **direct linear correlation** which is shown in figure 5. That means as the male literacy rate increases, female literacy rate also increases.

RELATION BETWEEN LITERACY RATIO & SEX RATIO:

There is a significant difference in literacy ratio and sex ratio in all the Tehsils of the Sangli district.

As we know sex ratio is the number females per thousands of male therefore we can assume *that literacy ratio is the number of female literates per thousand of male literates.*

$$\text{Literacy Ratio} = \frac{\text{number of female literate}}{\text{number of male literates}} * 1000$$

We will find out is there any relation between the literacy ratio and sex ratio of the tehsils of Sangli district.

Table 2: Tehsilwise Literacy Ratio in Sangli

Tehsils	Male Literates	Female Literates	Ratio	
Shirala	63927	51185	800.6789	801
Walwa	191392	157713	824.0313	824
Palus	69341	58277	840.4407	840
Kadegaon	56644	46939	828.6668	829
Khanapur	67668	57537	850.2837	850
Atpadi	50078	38822	775.2306	775
Tasgaon	102446	85375	833.3659	833
Miraj	346811	298345	860.2524	860
Kavthemahankal	59114	47015	795.3277	795
Jat	114129	86709	759.7456	760

Source: Censes 2011

According to table 2, for analysing this relation we will use the quantitative methodology. We will find out the relation between two variables by Correlation method. The correlation coefficient that indicates the strength of the relationship between two variables can be found using the formula.

Table 3: Literacy ratio and sex ratio in Sangli

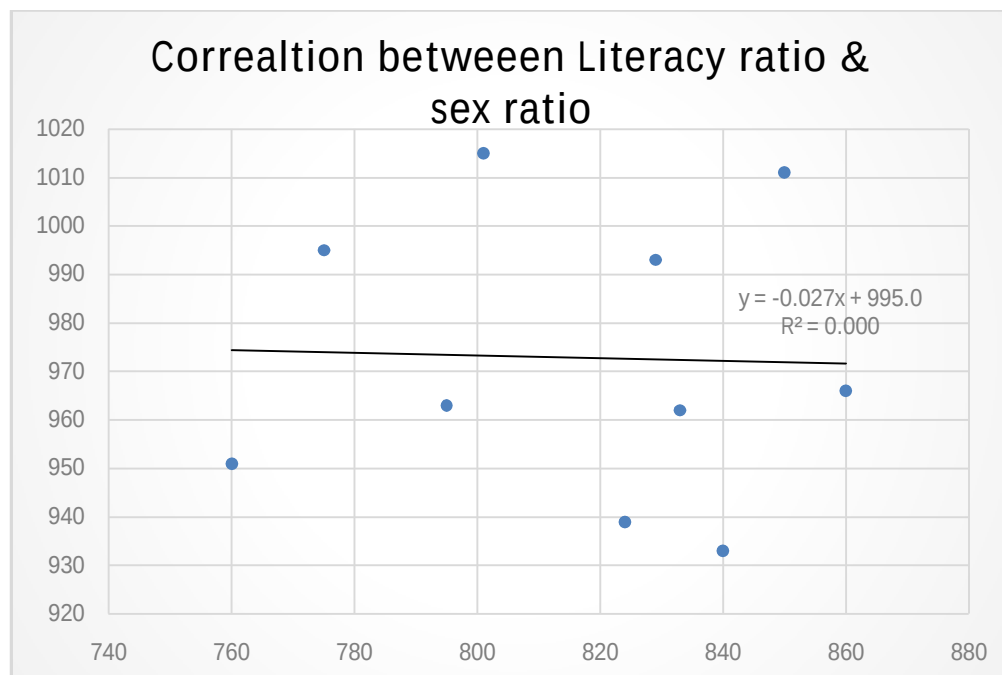
Tehsils	Shirala	Shirala	Palus	Kadegaon	Khanapur	Atpadi	Tasgaon	Miraj	KM	Jat
Literacy Ratio(l)	801	824	840	829	850	775	833	860	795	760
Sex ratio (m)	1015	939	933	993	1011	995	962	966	963	951

Source: Censes 2011

For calculating the correlation the two variables are as follows, l is Literacy Ratio while m is sex ratio. When we calculate the correlation between this two variables l and m given in table 3 by correlation method we will get the value - 0.03075

Correlation (l, m) = -0.03075

Fig. 6: Correlation between literacy ratio & sex ratio



Result: As we get the value of correlation between variable l (literacy ratio) and m (sex ratio) is -0.03075, therefore the correlation between Literacy Ratio and Sex Ratio is **indirect linear correlation** i.e. negative correlation which is shown in fig.6. A negative (inverse) correlation occurs when the correlation coefficient is less than 0. This is an indication that both variables move in the opposite direction.

CONCLUSION:

In the current study report we seen the major characters of the population on the Sangli district and its tehsils. We observed that there is low sex ratio of district and as well as tehsils too. Government should focus on the schemes for girl child, people should aware about the equality and the solutions on infant mortality rate should imply in study area. If we think about the literacy rate the women's are at back step than males. We have to aim that literacy rate of females should be equal to or more than the male literacy rate and according to that we have to make provisions.

The male literacy rate and female literacy rate are in positive correlation as we discussed above that's why we have to look on and make provisions for both the male & female literacy rates.

The relation between number of literate women's per thousand of male literate to number to of women's per thousand of females is negative that means both the variables increases in opposite direction.

By studying the population characters of Sangli district and their tehsils we get to know about the demographic situation on the Sangli district which will helpful in further study or policy making.

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