



THE STUDY OF SPATIO-TEMPORAL CHANGES IN SEX RATIO OF SOLAPUR DISTRICT (1991-2011)

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Abstract:-

The present study examines the spatio-temporal changes in the sex ratio of Solapur district, Maharashtra, between 1991 and 2011. Sex ratio, defined as the number of females per thousand males, is an important demographic indicator reflecting social, economic, and cultural characteristics of a population. Based on secondary data from Census reports and socio-economic abstracts, the study analyses the trends across 11 tahsils of Solapur. The results reveal a general decline in the district's sex ratio from 934 in 1991 to 932 in 2011, with significant variations at the tahsil level. While North Solapur, South Solapur, and Sangola experienced positive shifts, other tahsils such as Mangalwedha, Pandharpur, and Karmala showed declining trends. These disparities highlight the need to address socio-cultural factors influencing gender imbalance and to strengthen policies promoting female survival and well-being.

Keywords:- Sex ratio, Solapur district, spatio-temporal changes

Introduction

Sex ratio is one of the basic demographic characteristics that is vital for meaningful demographic analysis. The balance between the sexes is an important aspect of population structure; In India, the sex ratio is generally expressed in terms of the number of females per thousand males in the population (Chandana R.C., 2011). Knowledge of the sex ratio helps in understanding employment and consumption patterns, social needs, and perhaps the psychological characteristics of a community (Trewartha, G.T. 1953). Further data on sex ratio helps in various types of planning and in the analysis of other demographic indicators such as fertility, mortality, migration, and economic structure.

Knowledge of the sex ratio is essential for understanding the employment and consumption patterns and the social needs of a community. Prior to the advent of reading and writing skills, society could be classified as being in the pre-literate cultural stage. Literacy is essential for eradicating poverty and mental isolation, cultivating peaceful and friendly international relations, and permitting the free play of demographic processes (Chandana, 1980).

According to the 2001 census, the population of Solapur district was, 3849543 of which 1989623 were male and 1859920 were female. The sex ratio was 935 per thousand males. Hence an attempt is made here to examine the "The study of spatio-temporal changes in sex ratio of Solapur district

Study Region:

For the present investigation Solapur District was selected as the study region. Geographically, the Solapur district is located between 17°10' North to 18°32' North latitude and 74°42' East to 76°15' East longitude. It covers an area of 14,895 sq. km. The district is situated on the southeastern fringes of the state of Maharashtra, and is bounded to the north by the Ahmednagar and Osmanabad districts, to the east by the Osmanabad and Gulbarga districts of the state of Karnataka, to the south by the Sangli and Bijapur districts, and to the west by the Pune and Satara districts.

The shape of the district resembles that of a flying eagle. The proportion of the area of Solapur district compared to Maharashtra is about five (5%). It is administratively subdivided into 11 types. The soils in the district can be classified into three main types. These are black, coarse grey, and reddish soils. Agro-climatically, the entire district is under a rain shadow area. Rainfall is uncertain and scarce. The average rainfall for the district was 545.4 mm.

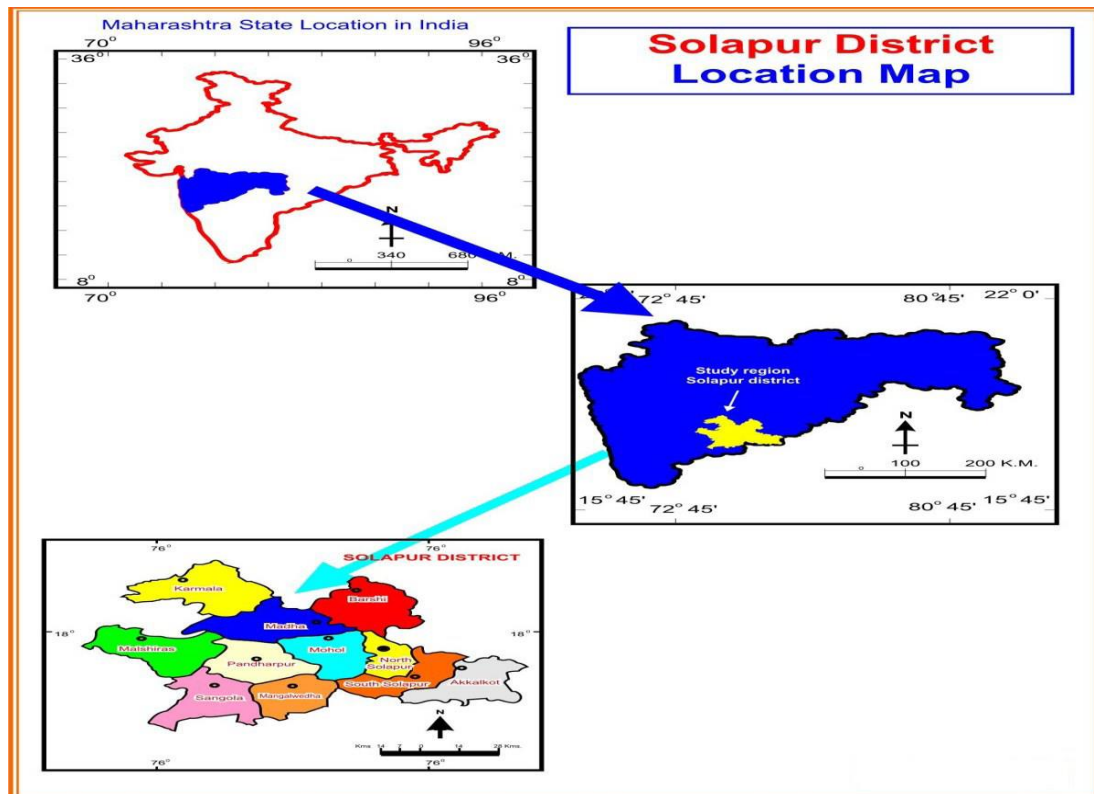


Fig. No. 01

Objective:

The main objectives of this paper are as following,

- 1) To study the spatio-temporal changes in sex ratio in the study region
- 2) To study the factor responsible for changes in sex ratio in Solapur District.

Data Base and Methodology: -

The study was conducted in the Solapur district in Maharashtra state. For this study, only secondary information was collected from different sources. Data will be collected mainly based on the Census of India, District Census handbook, and District Gazetteer from 1991 to 2011. Information will also be collected from books, published reports, journals, and published and unpublished reports. For temporal changes in the sex ratio, the period from 1991 to 2011 was selected.

The collected data were processed, edited, and analyzed by applying different quantitative statistical methods, cartographic techniques, maps and diagrams, computer techniques and methods, and computer techniques that will be used to prepare maps and diagrams.

Result and Discussion: -

The sex composition of the human population is a fundamental demographic characteristic essential for meaningful demographic analysis. The sex ratio represents the proportion of the female-to-male population. It was expressed as the number of females per 1000 males. Under ideal conditions, the sex ratio should be 1000, but variations do occur for a number of reasons. A balanced sex ratio indicates a progressive society. The sex ratio varies among states in different parts of India. According to the 2011 census, Kerala state has the highest sex ratio of 1084. The sex ratio for Maharashtra in 2011 was 925, and the state ranked 22nd in India.

Table 01 reveals the trends in the sex ratio for the Solapur district. It shows decadal variations in the sex ratio for the investigated period in the study regions. It shows the maximum number of columns in the downward direction. However, only a few columns moved upwards. This means that there were more negative fluctuations than positive fluctuations in the sex ratio for the investigated period in the study regions.

Table 01
The Spatio-Temporal changes in sex ratio of Solapur District (1991 – 2011)

Sr. No	Tahsil	Sex Ratio		
		1991	2011	Changes
1	Karmala	933	910	-23
2	Madha	925	908	-17
3	Barshi	942	921	-21
4	North Solapur	941	966	25
5	Mohol	927	914	-13
6	Pandharpur	944	914	-30
7	Malshiras	924	923	-01
8	Sangola	927	932	05
9	Mangalwedha	915	899	-16
10	South Solapur	929	941	12
11	Akkalkot	948	944	-4
12	District	934	932	-02

(Source: Compiled by researcher on the basis of Socio-economic Abstract of Solapur District 1991 and 2011)

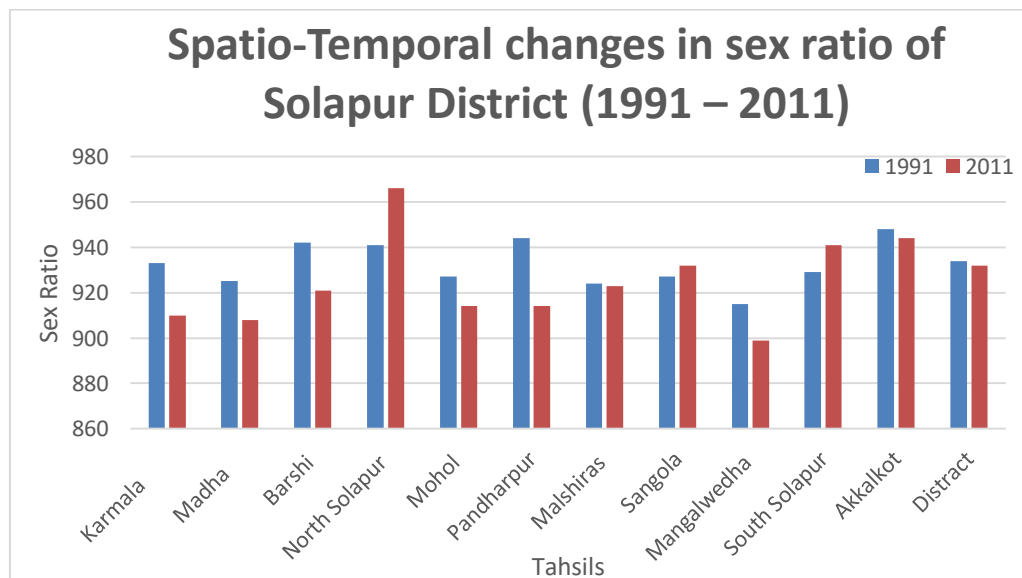


Fig. No. 02

The table no 01 and fig. No. 02 reveals the sex ratio for the years 1991 and 2011 in Solapur District. The district as a whole showed 934 females per thousand males in 1991, and 932 females per thousand males in 2011. The tahsil Akkalkot, Pandharpur, North Solapur, and Barshi tahsils had sex ratios greater than the average of the study region, whereas the tahsil Mangalwedha, Malshiras, South Solapur, Karmala, Madha, Sangola, and Mohol recorded sex ratios less than the average sex ratio of the district.

There are seven tahsils: Karmala, Madha, Barshi, Mohol, Pandharpur, Malshiras, and Mangalwedha, which represented a much lower sex ratio than the district as a whole, while the remaining three tahsils, North Solapur, South Solapur, and Akkalkot, recorded higher sex ratios than the region as a whole. Sangola had the same sex ratio as the district. The North Solapur tahsil had the highest sex ratio of 966 females per thousand males in the region under study, whereas it had the lowest sex ratio of 899 females per thousand males for Mangalwedha tahsil during the investigation period. The sex ratio in urban areas was higher than that in rural areas in Solapur district. (Fig. No. 1)

The changing pattern of the sex ratio in the study region during the investigation period is presented in table no. 01 and fig. No. 02. Three tahsils experienced positive changes in sex ratio in the study region: North Solapur, S. Solapur, and Sangola. Negative changes were found in Mangalwedha, Barshi, Madha, Mohol, Akkalkot, Karmala, Malshiras, and Pandharpur tahsil during the study period.

Conclusion

The study of the Solapur district's sex ratio over two decades (1991–2011) indicates that despite minor improvements in a few tahsils, the overall trend reflects stagnation and decline. The persistence of a

low female-to-male ratio highlights underlying issues such as gender bias, female mortality, and sociocultural practices. Addressing this imbalance requires the strict implementation of government policies, awareness programs, and the active involvement of NGOs to reduce discrimination against girls. Efforts must focus on enhancing healthcare facilities for women, improving literacy, and promoting socioeconomic opportunities for females to ensure a balanced and equitable population structure in the future.

The Empirical results suggest that it is necessary to focus on this problem, and policies and programmers have to be strongly implemented to increase the percentage of females in the population, to reduce female mortality, and to save the Baby Girl for keeping further balance in the sex composition.

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