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GRT SPATIO - TEMPORAL ANALYSIS OF SEX-RATIO IN BHUDARGAD TEHSIL : A GEOGRAPHICAL STUDY



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Abstract:'Population Geography' is the recently developed branch of Human Geography.Sex-Ratio is one of the basic demographic characteristics of human population. Bhudargad is one of the tehsil of Kolhapur district which is situated in rural and hilly region. The total population of Bhudargad tahsil is 144910 as per the 2001 census. Unevenly distribution of Human sex-Ratio is found in Bhudargad tahsil.

The present study analyze the Spatio- temporal variations of sex ratio in Bhudargad tahsil, for present study the decadal analysis is done from secondary data sources. In 1961 the sex ratio for tahsil was 1008 females per 1000 males. And in 2001 it is 995.The study prevails that large out migration of males from study area is dominant.

Key words:Sex ratio, Fertility, Mortality, Migration, Sex composition.

INTRODUCTION:

'Population geography' is recently developed branch of Human Geography. It concerns to the study of human population over the globe. Fertility, Mortality and Migration are the three basic components of population composition. Sex composition, age composition and economic composition hold a prime role for population geographer. For the analysis of fertility, mortality, migration, marital status and economic characteristics separate data of male-female is important. The balance of sexes affects the social and economic relationship within a community.

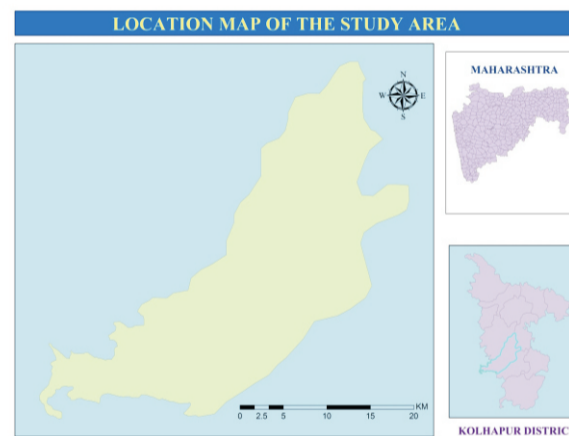
Sex composition is an index of economy prevailing in an area and is a useful tool for regional analysis (Franklin, 1956).Sex ratio is fundamental to geographic study of an area because it is not only an important feature of the landscape but it also influence other demographic elements (Trewartha, 1953) thus, the purpose of this paper is to undertake a detailed survey of sex ratio over a period of four decades (1961-2001)

THE STUDY AREA

Bhudargad tahsil located in south-western part of Kolhapur district. It lies between 16° 4' to 16° 26' North latitude and from 73°50' to 74°16' East longitude.It has an area of 644.4Km². The population of tahsil is 144910(2001) and the density of population is 225 Km²the tahsil is surrounded on the south by Ajara tahsil, on the north by Radhanagari, on the east by Kagal tahsil and on the west by Sindhudurge district.

The Vedganga river is the principal river of this region.68% total geographical area of the tahsil is hilly in nature lies at an altitude of 800 MSL the tahsil has 105 villages (2001) with four revenue circles viz.Koor, Gargoti,

Karadwadi and Kadgaon. The town Gargoti is the only place for various administrative and education activities. Absence of urban population, low industrial development and poor agriculture development affects the livelihood of young male population. The young male population migrated to other areas for seeking an employment.



OBJECTIVES

The present study is based on the following objectives.

- 1) To study the geographical factors affecting the distribution of general sex ratio.
- 2) To analyze the Spatio-temporal change in sex ratio.

DATABASE AND METHODOLOGY

The present study is based on secondary data. The data have been collected from the published census reports of

Maharashtra government, district census handbook of Kolhapur district (1961-2001), census abstracts of Maharashtra (1961-2001) for the understanding of regional variation in sex ratio revenue circle is selected as a basic unit of study. For Spatio-temporal analysis of general sex ratio the period of 40 years i.e. (1961-2001) is selected. The sex ratio has been cartographically represented at revenue circle level on the basis of selected scale. For the analysis of overall changes since 1961-2001, the arithmetic growth rate has been calculated taking 1961 as base year for the period of 1961-2001.

SPATIO-TEMPORAL PATTERN OF GENERAL SEX RATIO

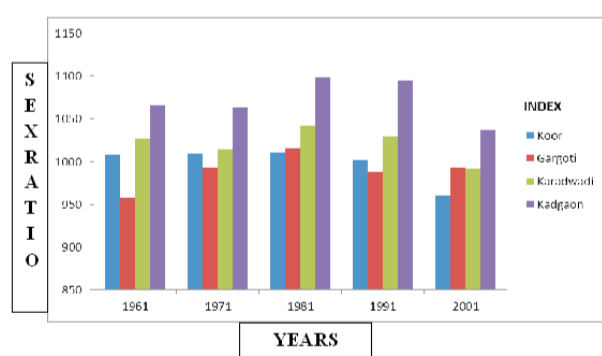
According to the census of 1961-2001, the study area experienced great variations in the distribution of sex ratio. Within the tahsil sex ratio differs from circle to circle. Classifying general sex ratio into the three categories does the analysis of Spatio-temporal patterns of the distribution of sex ratio, in the census year 1991 four revenue circles came into existence.i.e.Koor, Gargoti, Karadwadi and Kadgaon

**Table. - 1
GENERAL SEX RATIO OF BHUDARGAD TAHSIL
(1961-2001)**

SR.NO.	CIRCLE NAME	SEX RATIO (females per thousand males)					AVERAGE SEX RATIO
		YEARS					
		1961	1971	1981	1991	2001	
1	KOOR	1008	1009	1010	1002	960	997
2	GARGOTI	957	993	1015	988	993	989
3	KARADWADI	1027	1014	1042	1029	992	1020
4	KADGAON	1066	1063	1099	1095	1037	1072
TAHSIL SEX RATIO		1008	1017	1038	1024	995	1016

Source: District census handbook Kolhapur District (1961 - 2001)
Census abstracts of Maharashtra (1961-2001)

**GENERAL SEX RATIO OF BHUDARGAD TAHSIL
(1961-2001)**



AREA OF LOWEST SEX COMPOSITION (950-1000 females per thousand males)

The Gargoti circles comes under lowest sex composition ranging between 957 (1961) to 993 (2001). It is observed that, large scale immigration from outside region

for getting education, employment, trade and commerce reduces the sex composition of Gargoti circle. The Gargoti circle has 25 villages which are developed one. High irrigation development seems to be the main factor responsible for the development of industries, infrastructure facilities, trade, communication and transportation. In fact, sex ratio is increased due to the rural - rural migration of males. As the economic development took place (industrial, commercial development, increase economic diversities). The rural populations migrate there in for seeking better facilities and opportunities of their economic progress, development and employment. The town Gargoti plays an important role in education and the only hub for various educational and administrative functions for tahsil. There is slight change observed in sex ratio in the census year 1981 (1015) which is an occasional phenomenon.

AREA OF MODERATE SEX COMPOSITION (1000-1050 females per thousand males)

It is observed from above table that, during 1961-2001, the sex ratio of Koor and Karadwadi circles comes under moderate composition. The Koor circle located in eastern part of the tahsil, the male selective in migration in this circle has been fairly small. Very few people have been out migrated outside the region. In both the circles, agriculture resources have provided relatively substantial employment as cultivators-laborers etc. The region is characterized by good drinking water supply and absence of urban population in 2001, the sex ratio of this circle dropped to 960 (2001).

The Karadwadi circle exhibits moderate sex composition ranging between 1027 (1961) to 992 (2001). The average sex ratio of this circle is 1020. In 2001, the sex ratio dropped under 1000. Karadwadi circle has 27 villages. Absence of urban population, variation in agriculture development is the root causes of moderate sex composition in this circle. Male selective out migration to Mumbai-Pune industrial areas are dominant in this circle which directly affects the patterns of sex composition.

AREAS OF HIGHEST SEX COMPOSITION (Above 1050 females per thousand males)

The sex ratio relatively high in Kadgaon circle.it is located in western side of hilly region. It has 42 small villages. The area is under poor agriculture development, absence of urban population and poor economic base. Hence, huge male populations have been migrated outside the region for seeking the employment. This is the major cause behind the highest sex ratio recorded in the Kadgaon circle.

The highest sex ratio 1099 (1981) is recorded from this circle. Which is highest one in the period of 40 years (1961-2001) But, in the census year 2001, a slight change has been observed in sex ratio.it was dropped from 1095(1991) to 1037 (2001). The average sex ratio of the circle is 1072 (1961-2001) which is highest of all time.

OVERALL CHANGES SINCE 1961-2001

For the analysis of decadal change the decadal arithmetic growth rate has been calculated. For measuring the growth in sex ratio following formula have been used.

Decadal growth rate = $S2 - S1 / S1 * 100$

Where,

S1, is the sex ratio of initial period of time

S2, is the sex ratio of later period of time

For this, growth rate is measured by keeping 1961 as base year during 1961-2001.

Table-2
SEX RATIO OF BHUDARGAD TAHSIL (1961-2001)

DECADAL ARITHMETIC GROWTH RATE IN %						
SR.NO.	CIRCLE NAME	YEARS				DESCRIPTION
		1961-71	1971-81	1981-91	1991-01	
1	KOOR	+0.09	+0.10	-0.79	-4.19	Decreasing
2	GARGOTI	+3.76	+2.21	-2.66	+0.50	Fluctuating
3	KARADWADI	-1.26	+2.76	-1.24	-3.59	Decreasing
4	KADGAON	-0.28	+3.38	-0.36	-5.29	Decreasing

Note: + positive growth - Negative growth

Source: Compiled by author

For comprehensive study of growth in sex ratio a distinctive division can easily be recognized i.e.1) Positive growth (1961-81). 2) Negative growth (1981-2001).

1) POSITIVE GROWTH (1961-81)

In our discussion the decade 1961-81 is included in this positive growth phase. All the four circles of Bhudargad tahsil show positive growth in sex ratio. The circle Koor has improved its sex ratio by adding + 0.10% increase in the decade of 1971-81 as compared to previous decade (1961-71). The circle Gargoti exhibits some decreasing trend of sex ratio in the decade of 1971-81 with +2.21 % as compared to 1961-71(+3.76%).

The Karadwadi and Kadgaon circles, both, noticed positive growth in the decade of 1971-81. Karadwadi with +2.76 % and Kadgaon with +3.38 % as compared to the decade of 1961-71. However, it is observed that in the decade of 1971-81 all the four circles showing positive rate of growing sex ratio.

2) NEGATIVE GROWTH (1981-2001)

As shown in the above table, the rapid decline in sex ratio is observed during this period of time. Rapid declining trend of sex ratio is found in three circles, namely Koor, Karadwadi and Kadgaon. Since 1981, as the economic development took place rural male population arrested to their homeland. This is the principal cause of declining sex ratio in the period of 1981-2001. the circle Koor, Karadwadi and Kadgaon showing negative growth in sex ratio. Exception to this the circle Gargoti which is improving sex ratio by + 0.50 % than that of previous decade 1981-91(-2.66%).

The rapid decline in sex ratio is observed in Kadgaon circle with -5.29 % in the decade of 1991-2001.

CONCLUSION

1. Absence of urban population, low industrial and poor agricultural development affects the livelihood of young male population in the study area. The young male

population is migrated to other areas for seeking employment.

2. All four circles are exhibiting Spatio-temporal variations in the distribution of sex ratio.

3. The aforesaid analysis reveals that general sex ratio is high in Kadgaon circle.

4. Low degree of male out migration is observed in Koor and Karadwadi circles.

5. Gargoti circle is showing low sex ratio due to the selective immigration of male population.

6. Pattern of sex ratio is influenced by selective migration of male population.

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