

## Impact of Growth Rate of Population and Literacy on Regional Disparities: An Intra-District Study of Sangli

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### **Abstract**

Regional disparities in development of a district are the outcome of discrepancy in socio-economic conditions which can be assessed applying appropriate methodology. Both these indicators are considered as a dependable indicators of socio-cultural and economic progression. In the context of less developed area, literacy rate is often observed as low wherein population escalates. Therefore, for the formulation of a development plan for a district with regional disparities, it would be necessary to make a critical assessment of present population and literacy trends. The Growth rate of population compared with literacy for widely diverse area is one of the useful methods to observe the disparity within. This working paper will try to analysed the decadal trend of literacy and population using synthetic mapping method to observe regional disparity.

**Key words:** *Growth Rate, Literacy, Population, Synthetic Mapping, Trend*

### **Introduction**

Regional disparities in development of a district are the outcome of discrepancy in socio-economic conditions. Literacy is considered as a dependable indicator of socio-cultural and economic progression. In the context of less developed area, literacy rate is often observed as low. Along with literacy other determinants of development are the growth of population and degree of urbanisation. Therefore, for the formulation of a development plan for a district with regional disparities, it would be necessary to make a critical assessment of present population and literacy trends. The Growth rate of population compared with literacy for widely diverse area is one of the useful methods to observe the disparity within.

### **Research question:**

What is the impact of growth rate of population and literacy on disparity in intra-region development?

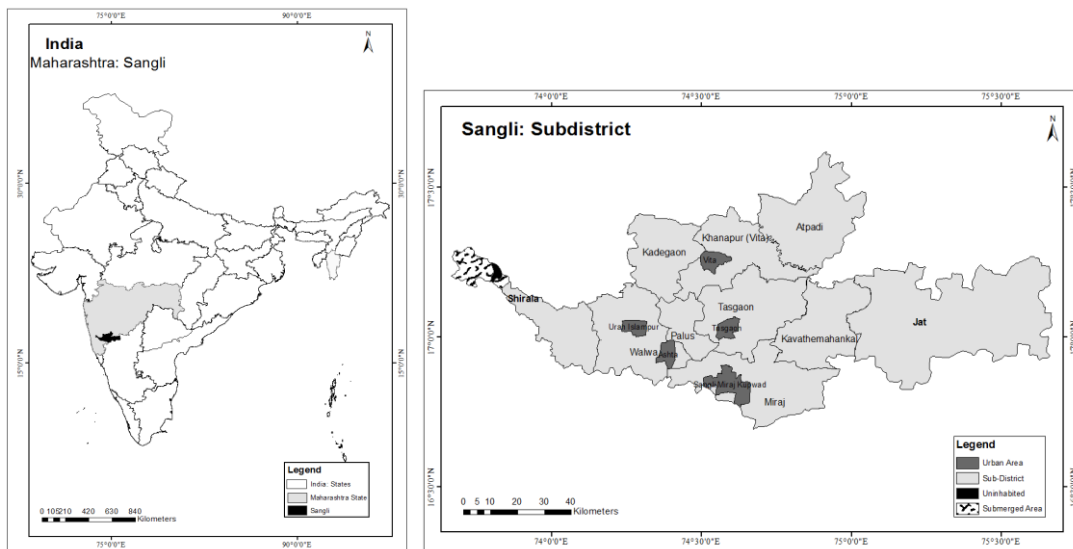
## Literature review

The literature review for the study area produces the factual information of indicators like physical and social development. In the book ‘*Maharashtra-A Study in Physical and Regional Setting and Resource Development*’ by Dr. B. Arunachalam gives more clear vision about the physical and regional setting of not only sangli district but also provide us the overview of Maharashtra. *Environmental and Urbanization*’ By International Institute for Environment & Development, International Institute for Environment and Development Human Settlements Programme gives us more information about the development pattern of the sangli district specially slums and also give brief knowledge of development of women and children in the district. ‘*Sangli District Geography Introduction*’ by LLC books gives as brief history of geography of the district. It also provides information of villages of the district with their geographical significance. In *Geography of population* written by R C Chandana explain the significance of literacy and population. ‘*Geographic Information Systems: Socioeconomic Applications*’ by David Martin gives us the techniques for the management of quantitative as well as qualitative database and data output. It also gives more recent references of the various applications of GIS for socio-economic scenario.

## Introduction to Study area

Sangli district is one of the south-western districts of Maharashtra, which lies between 16° 45' and 17° 33' north latitude and 73° 42' and 75° 40' east longitude. It is surrounded by Satara and Solapur districts to the north, Karnataka State to the east and south, Kolhapur district to the south west and it also has a small boundary with Ratnagiri district in the west.

The district has an area of 8,572.00 sq.kms. and a population of 2,583,524 persons as per Census 2001. While the area of the district accounts for 2.8 percent of the total area of the State, the districts population constitutes 2.7 percent of the total population of the State. The density of population is 301 persons per sq. km. Among the 35 districts of the State, the district ranks 17th in terms of area, 15th in terms of population and 10th in terms of density.



**Map no. 01**  
Study area

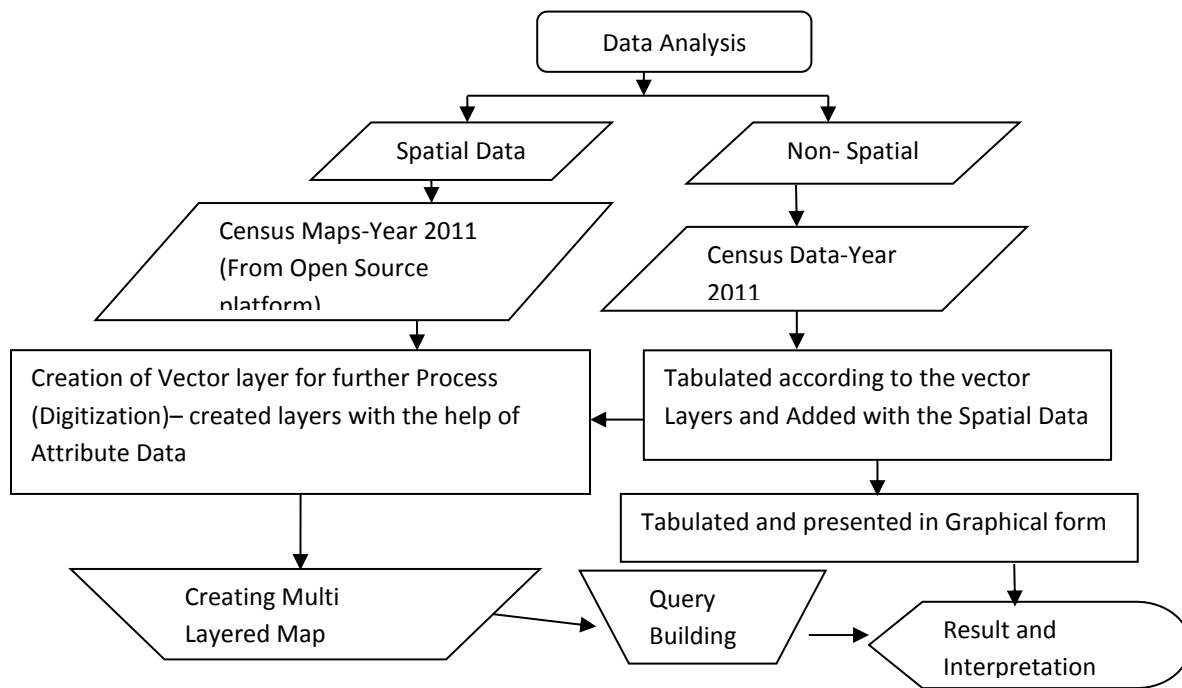
The headquarters of the district is at Sangli, a city with a population of 436,781. The district is well connected by road as well as by rail from the other parts of state as well as the country.

### Data

The data used for this working paper is district census handbook published by census India in 1991, 2001, 2011. The District Census Handbook (DCHB) is one of the important publications in the context of planning and development at grass-root level. The publication, which is brought out for each district, contains several demographic and socio-economic characteristics village wise and town-wise of the district along with the status of availability of civic amenities, infrastructural facilities etc.

### Methodology and Data Analysis

To show the comparison in between the literacy and population growth along with Non- spatial data the spatial data was analysed. This data was later on used for creation of spatial data in form of synthetic map. The methodology can be explained with Chart. No. 01.



**Chart no .01**

#### Methodology flow

There are various methods to calculate the Growth rate of population. For the selected study area the total Population of year 1991 was deducted from total Population the year 2001 and then the received value is divided by the total Population of year 1991. The received value was multiply by 100 for deriving the percentage.

With the above method of growth rate of population is used for these sub-districts.

Where: PR = Percent Rate

$V_{Present}$  = Present Value

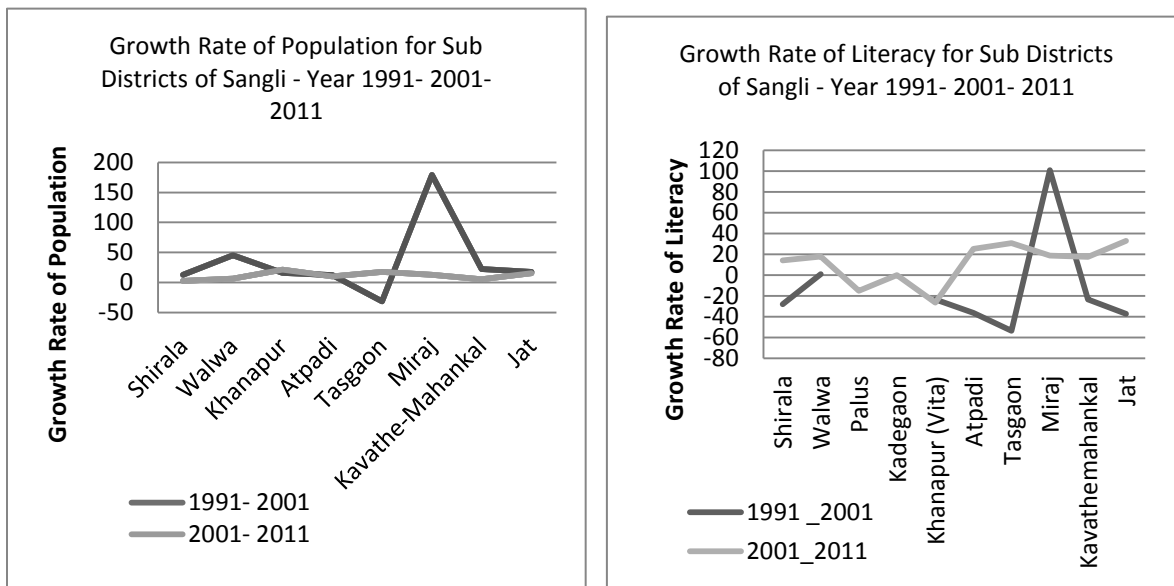
$V_{Past}$  = Past Value

Similarly for population literacy data for year 1991, 2001 and 2011 was calculated for growth rate of literacy.

**Table no. 01**  
**Population- Past and Present**

Sub- District	1991	2001	2011	V Present 2001- V Past 1991	/ V Past 1991	*100 (PR) 1991- 2001	V Present 2011- V Past 2001	/ V Past 2001	*100 (PR) 2001- 2011
Shirala	140351	158298	162911	17947	0.12787	12.7872	4613	0.02914	2.91412
Walwa	293380	427377	456002	133997	0.45674	45.6735	28625	0.06698	6.69783
Khanapur	221999	258231	313233	36232	0.16321	16.3208	55002	0.213	21.2995
Atpadi	111557	125263	138455	13706	0.12286	12.2861	13192	0.10531	10.5314
Tasgaon	310318	213205	251401	-97113	-0.3129	-31.295	38196	0.17915	17.9152
Miraj	270888	756048	854581	485160	1.791	179.1	98533	0.13033	13.0326
Kavathemahankal	117901	144596	152327	26695	0.22642	22.6419	7731	0.05347	5.34662
Jat	240647	283950	328324	43303	0.17994	17.9944	44374	0.15627	15.6274

The same method was used for the village level data for year 1991, 2001 and 2011. For better understating of the growth rate of population and literacy, combination of both the indicators for year 1991, 2001 and 2011 are shown in the following maps.



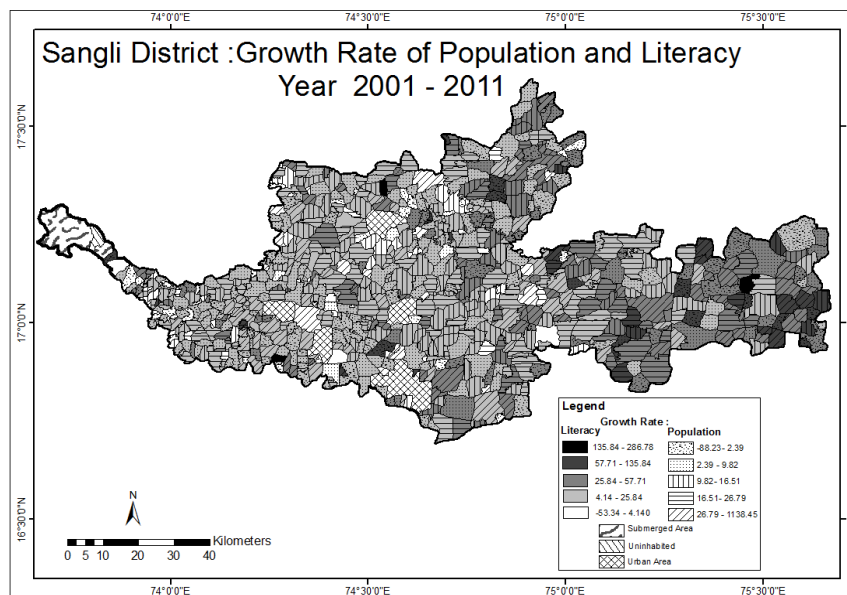
**Chart No. 01**

Growth rate of population and literacy

## Result and Conclusion

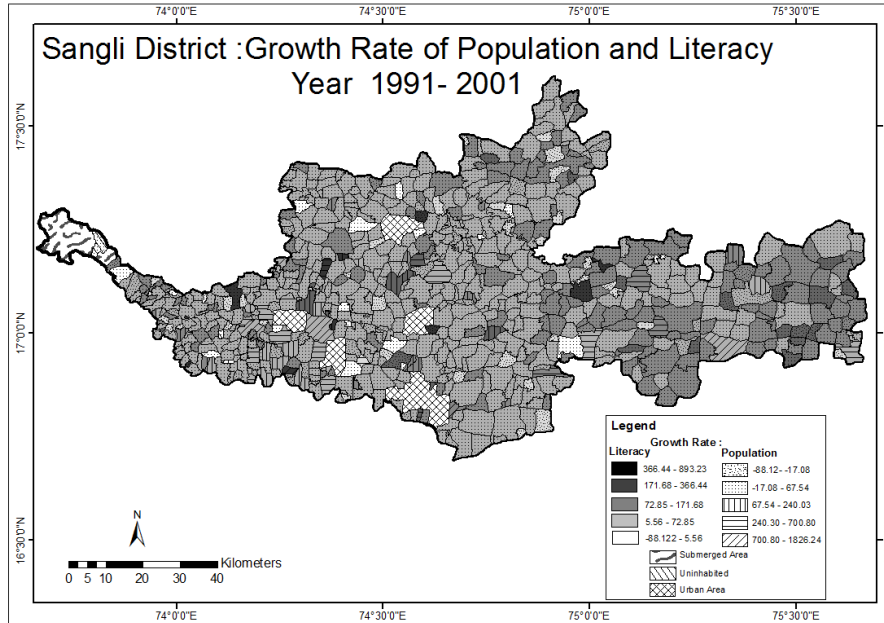
For the year 1991 to 2001 we observed that literacy rate is concentrated in south west part of district. The sub district of Jat, Kavathemahankal and Atpadi shows overall less development along with Shirala. We observed that small new areas in Jat and Atpadi showing improvement in literacy due to economic development. All the urban areas in all Sub districts shows enormous literacy rate. We also observed that growth rate of population is concentrating in the western part of specially around urban areas like Uran Islampur , Vita , Sangli Miraj Kupwad and near Jat and Kawathemahankal. The reason for this growth can be elucidated as agglomeration around urban areas especially near to irrigation regions where industrialization happened rapidly due to Political factors. There is also a growth around North Eastern Part of the district. Although this part is drought prone area it is close to border of Solapur district which shows agricultural progress especially for Grape crop, thus showing rapid growth of population.

For the year 2001 to 2011 we observed that growth rate of population is concentrating in the eastern part of district. Near Jat and Kawathemahankal Sub-district small urban pockets are developed. Here we can observe the pull factor from the surrounding rural area towards small town or functional regions. During the year 2001 and 2011 literacy shows immense improvement in the district.



**Map no. 02**

Growth rate of population and literacy 2001-2011



**Map no. 03**

**Growth rate of population and literacy 1991-2001**

In conclusion it can be scrutinized as development in a district can be varies with special as well as temporal factor. Where, during the 1991 and 2001 due to irrigation projects and sugarcane cultivation there is rapid growth of population along with literacy can be seen in Western part of district, during 2001 and 2011 however the trend of population and literacy growth is transferred to eastern part of a district due to improved cultivation, Industrial development, energy plants and irrigation projects developed.

**References**

- Arora R. C. (1976) Development of Agriculture and Allied Sector, S. Chand and Co., New Delhi
- Arunachalam B. [1967] Maharashtra-A Study in Physical and Regional Setting and Resource Development, A R Seth Publication, Bombay
- Census of India (2001) District Census Hand Book, Sangli, Bombay.
- Chauhan K.K.S, (1973), Small farmers, problems and possibilities of development: a study in Sangli District of Maharashtra State, Centre for Management in Agriculture, Indian Institute of Management.
- LLC books, (2010), Sangli District Geography Introduction, General Books LLC.
- Pal Saroj K. (2005) Lexicon on geography of development, concept publishing, Delhi.
- Jayasri Ray Chaudhuri (2001) An Introduction to regional Planning: with Spatial reference to India, Orient Longman Ltd, Kolkata.

## Internet References

- <http://agricoop.nic.in/Agriculture%20Contingency%20Plan/Maharastra/MH9-SANGLI%2031.03.2011.pdf>
- <http://books.google.co.in/>
- <http://censusindia.gov.in/>
- <http://en.wikipedia.org/wiki/Sangli>
- <http://sangli.nic.in/english/>
- <http://smkc.gov.in/>