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Mapping Socio-Economic Inequalities in the Rural Satara District: A Geographical Perspective

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Abstract:

"The development of country lies in the development of villages" (M. Gandhi). Socio-economic development is a multidimensional process that enhances the quality of life by improving access to education, healthcare, employment, infrastructure, and social equity. In the context of India's diverse regional landscape, understanding development at the micro level such as districts and tahsils is essential for balanced growth and effective policy-making.

The Satara District, located in the western part of Maharashtra, presents a unique blend of physiographic diversity, cultural heritage, and economic contrasts. While certain tahsils like Karad, Phaltan and Satara exhibit relatively high levels of development due to better infrastructure, agricultural productivity, and educational institutions, others such as Mahabaleshwar, Jawali, Patan, Man and Khandala lag behind due to adverse topography, drought-prone conditions and limited access to basic amenities.

The present study aims to analyze the rural ***areal imbalances*** *in socio-economic development across Satara's eleven tahsils, using a development index approach. By evaluating three sectors having 24 indicators, the research seeks to identify rural development gaps and propose strategies for inclusive regional planning. Understanding these intra-district variations is not only critical for equitable resource distribution but also for fostering sustainable development that aligns with both local needs and broader national goals.*

Keywords: Rural, Socio-economic, indicators, Imbalance, Development, Strategies, Composite index, areal goals etc.

Introduction:

The history of the Earth and its nations is often revealed through patterns of development, which is a continuous and ongoing process. However, it is clearly observed that development is not evenly distributed across the surface of the Earth or within its various spatial units. This unevenness occurs due to differences in the geographical environment. Regional imbalance refers to the uneven distribution of resources, development and opportunities across different geographical areas within a country or region. From a geographical standpoint, this phenomenon is shaped by a complex interplay of natural

endowments, historical factors, infrastructure, policy decisions, and socio-economic dynamics.

The rural development generally refers to the process of improving the quality of life and the economic wellbeing of people lives in relatively isolated and sparsely populated areas" (Satya Sundaram,2009).The term development is rich and multifaceted—it's not just about economic growth, but about improving the overall quality of life for individuals and societies. The word 'development' usually implies of 'growth' and change' especially for the betterment of the area. The disparities are result of unequal distributions of natural endowments and uneven distributions of benefits of economic change, it's happen at micro level to macro level (Patil, 2007). The present work tries to understanding levels of inequalities in Satara district through a geographical lens, allows policymakers to identify the **spatial patterns of inequality** and design targeted interventions such as infrastructure development, decentralization of industries, and equitable resource allocation to promote balanced regional growth.

Study Area:

The Satara district is situated in the western part of Maharashtra state. It consists of 11 tehsils, covering 1,719 villages as per the 2011 census. The total area of the district is 10,480 km². Satara district extends from 17°05′ to 18°11′ North latitude and from 73°33′ to 74°54′ East longitude. The study area has undulating topography particularly western part occupied by Western Ghats and its offshoots entered eastward but it is part of Deccan trap. The major river systems are Krishna, Koyana and Yerala. The considered area experiences a monsoonal type of climate, characterized by summer, rainy, and winter seasons. According to the projected population (2023) based on India's census data, Satara district has a 2,462,600 total rural population. The district has a 175 rural population density inhabitants per km².

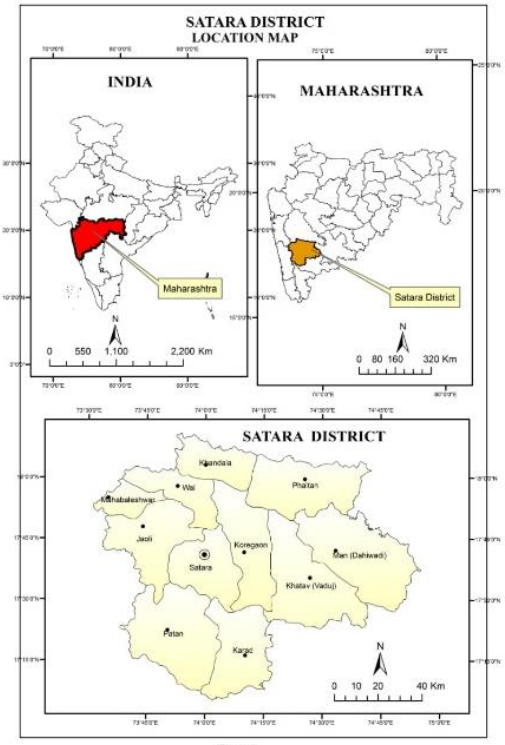


Fig. 1.1

Objective:

The major objective of the present study is to map socio-economic inequalities in the rural Satara district.

Data Base:

The data regarding the 24 indicators are collected from secondary sources particularly agriculture dept.,

irrigation dept., animal husbandry dept., health dept. Z. P. office of Satara district., RTO office, PWD departments of Satara district. Beside this Socio-economic Review (2023 & 2024) and Census of India, Satara District 2001 and 2011 were applied for generating data of considered indicators. Along with various journals, reference books, thesis etc. used for data collections.

Methodology:

The collected data of population was processed to obtain projected population for 2023. The available data are processed by statistical, quantitative and mathematical techniques and inferences are arrived. Analysed data is supported by maps, graphs and diagrams which are helpful to proper discussion of considered objective. Following is the major technique applied to the levels of development and imbalance of development in the study area.

The levels of development have calculated with the help of Taxonomy recommended in 1968 by UNESCO as a tool of ranking classifying and comparing countries by the level of development. With the help of this method, the development at micro level is calculated. The method of Taxonomy (Singh, 1984) is as fallows-

The indicator values may be standardized by the following formula-

$$Z_{ij} = \frac{X_{ij} - \overline{X_{ij}}}{S_j}$$

Where as,

$$X_{ij} = \frac{\sum X_{ij}}{R}$$

$$S_j = \sqrt{\frac{\sum (X_{ij} - \bar{x}_{ij})^2}{R}}$$

Xij is the value of jth indicator for ith region.

The best or highest standardized (Zij) value is identified from set of indicators sector and from this devotions of the value for each such region are taken for all indicators in the following manner.

The pattern of development is calculated by the following formula-

$$Cio = \sqrt{\sum_{k=1}^{m} ((Zik - Zok)^2)}$$

Where,

Cio=Pattern of Development

Zik= Standardized Value

Zok=is the best or highest standardised value

The measure of development coefficient (Di) is given by

$$Di = \frac{Cio}{Co}$$

Where,

$$Co = \bar{c}_{ij} + 2Sio$$

$$\bar{c}_{ij} = \frac{\sum_{i=1}^{R} Cio}{R}$$

$$Sio = \sqrt{\frac{\sum (cio - \bar{c}_{ij})^2}{R}}$$

The measure of development is always non-negative. It lies between 0 to 1. The closer the value of development coefficient to 0 (zero) the more

development and closer 1 (one) the less developed region.

Discussion:

The present work almost concerned to the Development Index and these are computed tehsil-wise separately and also computed sector wise for agriculture, economic and social sectors of the study area. The calculated development index values are grouped into three categories: high level inequalities in development, medium level inequalities in development and low level inequalities in development. The study of categories clearly shows that levels of inequalities in development differ from tahsil to tahsil. The present work based on the sector-wise indicators considers:

A) Agriculture Sector:

i) Net Sown Area (Xi_1)
ii) Gross Cropped Area (Xi_2)
iii) Irrigated area (Xi_3)
iv) Area under cash crop (Xi_4)
v) Use of chemical fertilizer per hector (Xi_5)
vi) No. of electric pumps per 100 hector (Xi_6)
vii) Crop Intensity (Xi_7)
viii) Agriculture workforce to total workers (Xi_8)
ix) No. of tractors per 100 hectors (Xi_9)
x) Use of HYV per hector (Xi_{10})

B) Economic Sector:

i) Milk producing Animals (Cow and buffalo) per 1000 people (Xi_{11})
ii) Average per animal per day milk production (Xi_{12})
iii) Agricultural Co-operative institutes (Xi_{13})
iv) No. of credit societies (Xi_{14})
v) No. of banks (Xi_{15})
vi) Road length per 10 km^2 (Xi_{16})
vii) Ele. Consumption (Kilowat per Hour) (Xi_{17})
viii) No. of vehicles (Xi_{18})
ix) No. of families above BPL (Below Poverty Line) (Xi_{19})

C) Social Sector:

i) Literacy rate (iX_{20})
ii) Sex ratio (Xi_{21})
iii) No. of educational institute (primary, secondary, higher secondary and colleges) (Xi_{22})
iv) No. of primary health centers (Xi_{23})
v) Proportion of working population to rural population (Xi_{24})

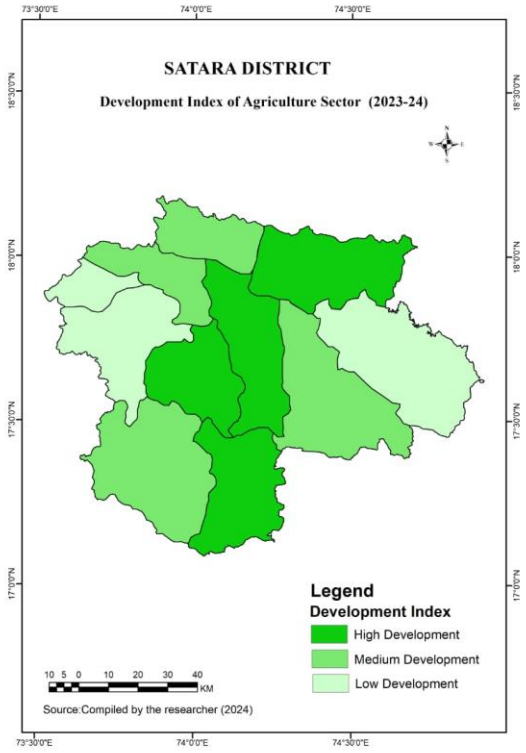
A) Agriculture Sector:

In the present research work under agriculture sector 10 indicators has been considered for knowing the levels of inequality development in rural Satara district. An entire Satara district has uneven agricultural development due to human and natural constraint; western part of study area has Western Ghats with high rainfall and low temperature. But eastern part is usually famous for rain shadow area. In such typical condition irrigation facilities play pivotal role in development. No doubt, fertile land, availability of water throughout the year favours agriculture particularly rural Satara district.

Table No. 1: Development Index of Agriculture Sector of Satara District (2023-24)

Sr. No.	Tahsil	Agriculture Sector	Levels	Tahsil
1	Mahableshwar	0.86	Above 0.70 (Low Development)	Mahableshwar Jawali, and Man
2	Wai	0.69		
3	Khandala	0.68		
4	Phaltan	0.47		
5	Man	0.73	0.60 to 0.70 (Medium Development)	Wai, Khandala, Patan and Khatav
6	Khatav	0.62		
7	Koregaon	0.49		
8	Satara	0.56		
9	Jawali	0.79	Below 0.60 (High Development)	Satara, Koregaon, Phaltan & Karad
10	Patan	0.65		
11	Karad	0.38		

Source: Compiled by the researcher (2024)



According to table no. 1 and fig. 2, it is observed that agricultural practices major occupation of rural population of the study area and along with development index shows disparity in agricultural development. The Di score more than 0.70 indicates from 3 tehsils namely Mahableshwar 0.86), Jawali (0.79) and Man (0.73). The category second having level of inequality development is 0.60 to 0.70 and agricultural development moderately observed in Wai (0.69), Khandala (0.69), Patan (0.65) and Khatav(0.62) tahsils. High level of inequality development indicate through Satara (0.56), Koregaon (0.49), Phaltan (0.47) and Karad tehsil which is (0.38).

Low level inequality development in agriculture sector shows constraints such as hilly topography, forest, less land under NSW and GCA, less irrigation, water scarcity in summer season, less area under cash crops, minimum use of modern techniques in agriculture etc. The high level of agricultural development from Satara, Koregaon, Phatan and Karad tehsils shows fertile land, availability of water (rich irrigation system), ideal topography, availability of market due to accessibility and connectivity to market centres and along with concrete platform of co-operative institutions.

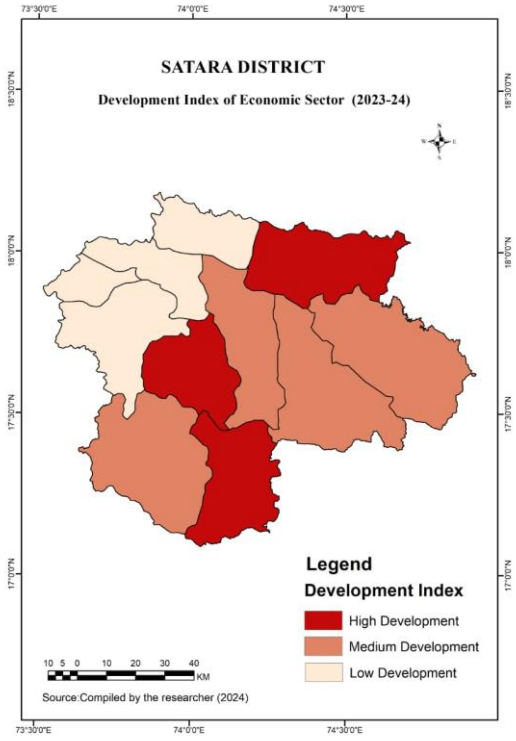
B) Economic Sector:

Human factor plays major role in economic sector because it is deeply concerned to finance. It provides concrete base to agriculture. This sector has 9 indicators for analysis of levels of inequality in socio-economic development. Socio-economic condition of rural Satara district is deeply rooted with agriculture and its allied activities. Investment in agriculture and its allied activity proportionally returns, considering this fact disparity in development sturdily observed in Satara district. The table no. 1.2 and fig. no. 1.3 indicates inequality in development of the study area.

Table No. 2: Development Index of Economic Sector of Satara District (2023-24)

Sr. No.	Tahsil	Agriculture Sector	Levels	Tahsil
1	Mahableshwar	0.96	Above 0.90 (Low Development)	Mahabaleshwar, Jawali, Wai and Khandala
2	Wai	0.93		
3	Khandala	0.91		
4	Phaltan	0.76		
5	Man	0.89	0.80 to 0.90 (Medium Development)	Man, Khatav, Patan and Koregaon
6	Khatav	0.86		
7	Koregaon	0.81		
8	Satara	0.74		
9	Jawali	0.94	Below 0.80 (High Development)	Phaltan, Satara and Karad
10	Patan	0.82		
11	Karad	0.72		

Source: Compiled by the researcher (2024)



Economic condition of any region is an important factor for over all development. Therefore, economic indicators are primly considered for analysis of levels of development in study area. The economic progress of any area is reflected through the present infrastructural facilities (Jadhav, 2014). The development of area is possible only by planned investment. Keeping in mind such thought, the Satara district is divided into 3 categories of levels of inequality in development. The high development ranges less than 0.80 Development index. It is observed in Phaltan, Satara and Karad tahsils respectively 0.76, 0.74 and 0.72 DI. Above 0.90 DI score has low level

category of development and it reveals from Mahabaleshwar (0.96), Jawali (0.94), Wai (0.93) and Khandala (0.91). All these tahsils have rigid natural environment, due to that there are very less chances for economic development as compared to other tahsils of study area. The reaming all tahsils are in moderate category of levels of development. The development index 0.89, 0.86, 0.82, and (0.81) respectively are in Man, Khatav, Patan and Koregaon.

C) Social Sector:

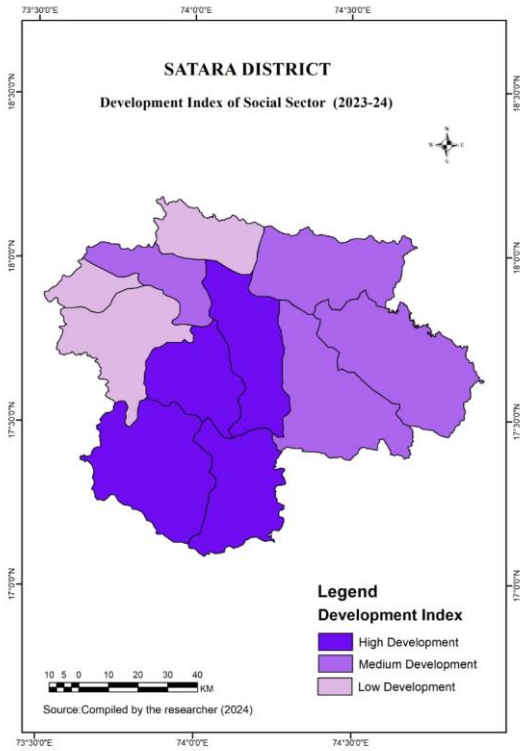
Society of any region is an important tool in regional development. This sector determines other development of area. In other words it is human resource, its nature, structure as well as demographic characteristics pull or push economic development of an area. In present study, 5 indicators have been considered for identifying the levels of development. The Satara district is divided into 3 groups of rural social levels of development.

Table No.3: Development Index of Social Sector of Satara District (2023-24)

Sr. No.	Tahsil	Agriculture Sector	Levels	Tahsil
1	Mahableshwar	0.89	Above 0.80 (Low Development)	Mahabaleshwar Jawali and Khandala,
2	Wai	0.79		
3	Khandala	0.82		
4	Phaltan	0.77		
5	Man	0.76	0.70 to 0.80 (Medium Development)	Man, Wai, Phaltan and Khatav
6	Khatav	0.72		
7	Koregaon	0.69		
8	Satara	0.58		
9	Jawali	0.87	Below 0.70 (High Development)	Koregaon, Patan, Satara, and Karad
10	Patan	0.65		
11	Karad	0.46		

Source: Compiled by the researcher (2024)

The table no. 3 and fig. 4 show the high level of rural development from this sector observed in Karad (0.46), Satara (0.58), Patan (0.65) and Koregaon (0.69). Out of these two tehsils, namely Karad and Satara headquarters are well known for educational and medical hubs.



Diffusion of facilities and services percolate in rural areas of these tahsils. In Patan tehsil sex ratio is high and Koregaon tehsil rural area is well connected with Satara city. Therefore, these tahsils indicate high level of social development in study area. Socially low level of development is observed from 3 tahsils namely Mahabaleshwar, Jawali, and Khandala. The medium social development is observed in Man (0.76), Wai (0.79), Phaltan (0.77) and Khatav (0.72).

Conclusion:

The above analysis highlights the levels of inequality in development observed in the study area. The agricultural sector shows high development in the south-central part, moderate development in the central and north-central portions, and low development in the western and eastern tahsils. It is evident that factors such as topography, climate, irrigation, agricultural land, and the area under cash crops significantly influence agricultural development. Disparities in the economic and social sectors closely mirror those seen in agriculture. Only Patan tehsil demonstrates notable social development, primarily due to better health facilities and a favorable sex ratio. Although agricultural development in Patan tehsil is low, dairy farming has contributed to its transition toward medium-level economic development. The Urmodi and Jihe Kathapur lift irrigation schemes have brought slight positive changes to rural development in Khatav and Man tahsils. It can be concluded that irrigation and foundation of co-operative institutions are dominant aspects playing a key role in the development of rural Satara district. It is clearly observed that a large portion of the working population has migrated to other areas, particularly from the less developed tahsils of rural Satara.

It is suggested that primary attention should be given to irrigation facilities, particularly in the central and eastern tahsils. In addition, the western part has greater potential for tourism development and agricultural practices suited to the landscape. Providing educational and health services will certainly contribute to overall development. Major steps should be taken to control migration through industrial decentralization.

References:

1. Ajagekar, B. A. and Masal N. S., (2011): "Regional disparities in the levels of Agricultural Development in Kolhapur District of South Maharashtra" Indian Streams Research Journal, Vol. 1, Issue 2, Pp.139-144
2. District Census Handbook of Satara 2001, 2011.
3. Jadhav B. S., (2014): 'Integrated Rural Development and Plannng', Shubham Publication, Kanpur. P.
4. Masal N. S., (2012): "Regional Imbalances in Rural Development in Kolhapur District of South Maharashtra: A Geographical Analysis" Ph. D. thesis of Shivaji University, Kolhapur.
5. Patil A. S., (2007) :'Regional Disparities in Levels of Development in Maharashtra', unpublished Ph.D. thesis submitted Shivaji University, Kolhapur.p.458
6. Rathod S. B., (2016): "Regional Disparities in Levels of Agricultural Resource Development in Satara District", Research front journal. Vol. IV, Issue I
7. Road Transport Offfice, Satara
8. Sundaram I. Satya (2009): "Rural Development", Himalaya Publishing House, New Delhi.
9. Shafiqullah (2013): "Impact of Regional Disparities on Agricultural Development in Uttar Pradesh- A Geographical Analysis", Global Journal of Geography, Geo-Sciences, Environmental Disaster Management Vol. 13, Issue 5.
10. Socio-economic abstract of Satara district- 2023,2024
11. Vasant Desai (2005): "Rural Development in India", Himalaya Publishing House, New Delhi.
12. Zilla Parishad,Satara