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A GEOGRAPHICAL STUDY OF CENTRALITY OF AGRO-SERVICE CENTRES IN SATARA DISTRICT

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ABSTRACT:

Agro service centres play a significant role to shift traditional methods of agriculture into the advanced technology to the farmers and are providing the services and inputs for crops which are useful to increase the agricultural productivity. Satara District is one of the economically, culturally and historically prosperous districts in the state of Maharashtra. The longitudinal and latitudinal extent of Satara district is 73^0 33' to 74^0 54' east and 17^0 5' to 18^0 11' north respectively. According to census 2011 district includes 1719 villages. The study region has 3,003,741 population The present research is based on both primary and secondary type of data. The centrality of agro service centres has been calculated with the help of location quotient of Davis (1967). The analysis ravels that the places having high centrality are located in the central part of the district in Krishna and Koyna river basin where highest area is found under agriculture.

INTRODUCTION:

India is the agrarian country. Agriculture is the main occupation of major population of India. Agriculture is the backbone of Indian economy, in which seventy percent people of the population engaged in the agricultural activity and allied work to it. Agro Service Centres are an innovative idea and interesting experiment which holds the great promises to increase agricultural production through more use of fertilizer and wise use of other agricultural inputs.

The Agro Service Centres located in the region performing a function to make remarkable change in agriculture. It provides not only various inputs but also better services to farmers. Farmers can achieve success in agriculture which would help to improve the national economy of the country.

Centrality is a measure of importance of a place in terms of its functional capacity to serve the needs of people in the surrounding area. This is expressed qualitatively, such as low and high centrality, as well as quantitatively by centrality scores which are derived by converting the functional base of a place into scores on the basis of frequency and importance of functions, that are found in the place. The centrality, however, depends only upon the central functions. These functions have a certain range beyond the limits of the surrounding region.

STUDY REGION:

Satara District is one of the economically, culturally and historically prosperous districts in the state of Maharashtra. It lies on the southern part of the state on Deccan plateau. Major portion of Satara district is in Krishna river basin and remaining in the Bhima river basin. The longitudinal and latitudinal extent of Satara district is 73^0 33' to 74^0 54' east and 17^0 5' to 18^0 11' north respectively. It is comprised by 11 tahsils like Satara, Koregaon, Wai, Khandala, Medha (Jawali), Phaltan, Man (Dahiwadi), Khatav (Vaduj), Mahabaleshwar, Karad and Patan. The length of study region in east to west direction is about 144 km. and in north to south direction is about 120 km.

According to 2011 census, the Satara district includes 1719 villages. The study region has 3,003,741 population and out of total population 1,510,842 males and 1,492,899 females. In the Satara district 2433373 populations is lived in rural area whereas 570378 populations is lived in urban area.

OBJECTIVE:

1) To measure the centrality of Agro Service Centres in the Satara District.

DATABASE:

The present study is based on the data collected from primary and secondary sources. Primary data was collected through intensive field work and Secondary data was collected from district census handbook, Socio-economic

abstract of Satara district, Gazetteers of Satara district, various reports published by Government and website of agriculture department.

METHODOLOGY:

In the present study centrality of agro service centres has calculated by using location quotient of Davis (1967). Davis (1967) has used this method for South Wales. In this method a score for any single unit of function is calculated by following formula:

$$C = \frac{t}{T} X\ 100$$

Where, **'C'** is centrality index
't' is centrality value of agro service centre
'T' is the total centrality of all agro service centres in the region.

With the help of this method centrality scores for all the functions have been calculated. The sum of individual centrality scores of all functions at any urban place gives composite locational index.

The spatial distribution of centrality scores calculated by this method is given in Table 1.2 and shown in Fig. 1.1.

CENTRALITY OF AGRO-SERVICE CENTRES:

Centrality is a measure of importance of a place in terms of its functional capacity to serve the needs of people in the surrounding area. This definition clearly indicates that centrality index given services providing area of particular element. Centrality of Agro-Service centres helps to know concentration index of agro-service centres. For this analysis important central functions and services are considered which are basically provided by the agro-service centres for determining centrality. The selected functions and services are given in table no. 1.

Table No. 1: A List of Central Functions and Services Selected For Determining Centrality

Sr. No.	Central Function / Services
1	Agricultural Credit Society
2	Fertilizers Distribution Facility
3	Pesticides Distribution Facility
4	Seeds Distribution Facility
5	Hired Implement Facility
6	Repairs Facility
7	Agricultural Implements
8	Extension Services
9	Veterinary Dispensaries
10	Banking Facility
11	Marketing Facility

There are many functions and services provided by the agro-service centres such as Agricultural Credit Society, Fertilizers Distribution Facility, Pesticides Distribution Facility, Seeds Distribution Facility, Hired Implement Facility, Repairs Facility, Agricultural Implements, Extension Services, Veterinary Dispensaries, Banking Facility and Marketing Facility.

The numbers of agro-service centres providing such facilities in each tahsils are considered for calculating location quotation of agro-service centres for that particular tahsil.

The composite scores of centrality obtained by Davis (1967) method clearly indicates the high difference between the lower and higher values. For analysis all the centrality scores have been put under square root and sizable values have been obtained and mapped according to their rank.

Table No. 2: Centrality Index of Agro Service Centres in Satara District

Sr. No.	Tehsil	No. of A.S.C.	L.Q.
1	Mahabaleshwar	82	1.27
2	Wai	158	0.88
3	Khandala	192	1.23
4	Phaltan	487	1.41
5	Man	284	0.65
6	Khatav	309	0.78
7	Koregaon	310	1.12
8	Satara	375	1.42
9	Jaoli	109	0.43
10	Patan	218	0.53
11	Karad	562	1.85
District Avg.			**1.03**

Source: Compiled by Researcher

Table no. 2 revels that the tahsil wise centrality index of agro-service centres in Satara district. The district average centrality value is 1.03. The Karad tahsil has highest number of agro-service centres as well as highest centrality index and Jaoli tahsil has lowest centrality index in the Satara district.

The highest centrality value is obtained for Karad tehsil (1.85) and its centrality is very high in the study region. Karad tehsil is followed by Satara tehsil (1.42), Phaltan tehsil (1.41), Mahabaleshwar tehsil (1.27), Khandala tehsil (1.23) and Koregaon (1.12) which has high centrality in the Satara district. Wai (0.88) and Khatav (0.78) tehsils has moderate centrality while Man (0.65), Patan (0.53) and Jaoli (0.43) tehsils has low centrality.

Table No. 3: Centrality Scores of Agro Service Centres Calculated By Davis Method

Sr. No.	Centrality Groups	Name of Tehsil with Centrality Score	Centrality
1	Above 1.5	Karad (1.85)	Very High
2	1 to 1.5	Satara (1.42), Phaltan (1.41), Mahabaleshwar (1.27), Khandala (1.23), Koregaon (1.12)	High
3	0.75 to 1	Wai (0.88), Khatav (0.78)	Moderate
4	Below 0.75	Man (0.65), Patan (0.53), Jaoli (0.43)	Low

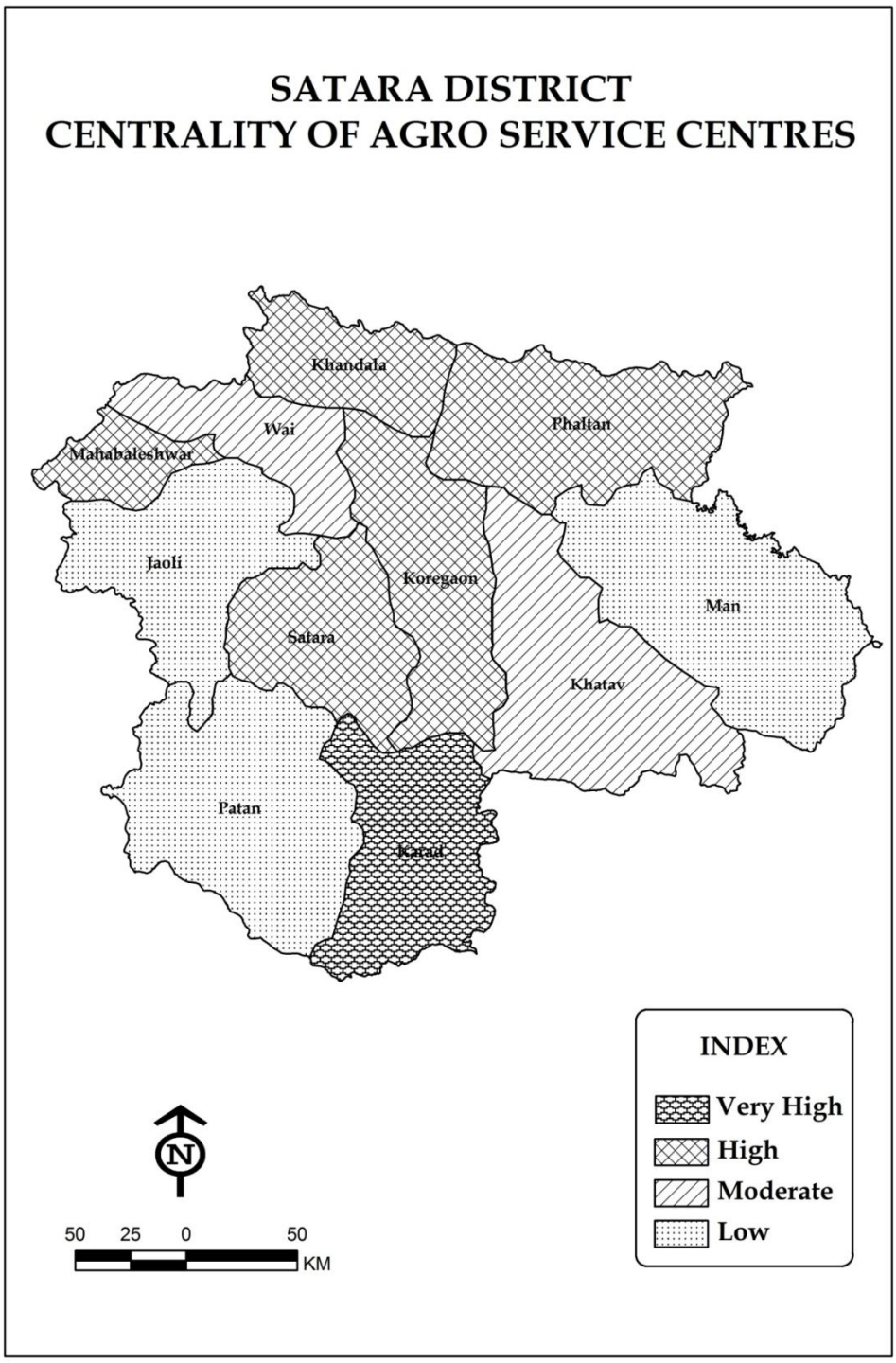
Source: Compiled by Researcher

The table no.3 shows classification of tahsils on the basis of centrality value of agro-service centres. As per the table Karad tahsil has very high centrality whereas Satara, Phaltan, Mahabaleshwar, Khandala and Koregaon tahsils has high centrality in the agro-service centres. Wai and Khatav tahsil has moderate centrality and Man, Patan and Jaoli tahsils has low centrality of agro-service centres.

It is observed that the places having high centrality are located in the central part of the district in Krishna and Koyna river basin where highest area is found under agriculture. The moderate and low centrality is observed in the hilly tehsils as well as rain shadow region of the district. In hilly region due to undulating surface agricultural land is very limited and in rain shadow region has very minimum rainfall as well as seasonal rivers therefore irrigation facilities are limited which directly affected on the agricultural activities in the region which result least number of agro service centres in these both region of the Satara district.

The analysis reveals that Agro service centres located in urban areas have high centrality which provides more services to the peasants. On the contrary

the agro service centres located in rural areas are more in number having low centrality. They provide only minimum facilities to the farmers.



CONCLUSION:

The Location quotation of agro service centres is calculated to assess the centrality of agro service centres in the Satara district.

The highest centrality value is obtained by Karad tehsil and its centrality is very high in the study region. Satara, Phaltan, Mahabaleshwar, Khandala and Koregaon tahsils has high centrality in the Satara district whereas Wai and Khatav tehsils has moderate centrality while Man, Patan and Jaoli tehsils has low centrality agro services centres.

It is observed that the places having high centrality are located in the central part of the district in Krishna and Koyna river basin where highest area is found under agriculture. The moderate and low centrality is observed in the hilly tehsils as well as rain shadow region of the district. In hilly region due to undulating surface agricultural land is very limited and in rain shadow region has very minimum rainfall as well as seasonal rivers therefore irrigation facilities are limited.

The high concentration of Agro Service Centres is in plain and deep black soil belt and lower concentration in shallow and medium laterite soil belt in the study area. The analysis also reveals that Agro service centres located in urban areas have high centrality whereas rural areas having low centrality.

REFERENCES:

1. Gharpure V. T., (1989), "Spatial Organization and Hierarchical ordering of Agro Service Centres in Panchaganga basin of Kolhapur district": Indian Journal of regional science, Vol.23 No.2 pp. 23.
2. Ingle K.D.(1995), "A role of Agro Service Centres in agriculture development" in Bhusaval taluka. A Geographical Analysis unpublished M.Phil. Dissertation, submitted to North Maharashtra, University, Jalgaon.
3. Kumbhar K.S.(1991), "Spatial Analysis of Agro Service Centres in Dule District" Unpublished M.phil. Dissertation, University of Pune.
4. Cole ,J. P. and King, A. M, (1968) , " Quantitative Geography", John Hilley and Sons, London.
5. District Census Hand book of Satara District – 2011.
6. Talekar, Pravin & Chavan T.V. (2018), Landuse and Landuse Efficiency in Satara District: a Geographical Analysis, Aayushi International Interdisciplinary Research Journal.