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## LEVELS OF AGRICULTURAL DEVELOPMENT IN SATARA DISTRICT: GEOGRAPHICAL PERSPECTIVE



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**Abstract:** Agriculture occupies most important place in Indian economy. It is of a crucial importance in order to delineate Agriculturally developed and under developed areas within the region. In fact Agricultural change can not be understood separately from general process of development. However, Agro-technical determinants like irrigation, Mechanization, High Yielding Varieties of Seed and Chemical Fertilizers form a development farm a developed kind of agricultural land scope and provide a farm of parameter to measure the level of agricultural development a region. In the present paper, an attempt has been made to assess the levels of agricultural development of Satara.

**Keywords:** mechanization, development, high yielding varieties of seed, chemical fertilizer.

### INTRODUCTION:

The developing and populous country like India always needs to increase agricultural production with the help of modern technology. There are different technologies used with varied intensities in India by which farmers try to enhance farm production. A level of Agricultural development refers here to modern farm machinery used for different farm operations. Among the agro-input, improved Farm machinery has made here to understand the levels of Agriculture. Attempt has been made here to understand the levels of Agricultural development in the study area.

In the present paper an attempt has been made to bring out the levels of agricultural development in Satara district at tahsil level. The study is based on primary and secondary data for the year 2011. The spatial variation in the levels of agriculture are influenced by physio-socio economic environment of the district.

### THE REGION

Satara district is in western part of Maharashtra state. Its location lies between 17° 5' and 18° 11' north latitude and 73° 33' and 74° 54' east longitudes. Occupying an area of 10492 sq.kms. Administratively, it consists of eleven tahsil (fig -1) and the region presents diversified physiographic with hilly region dominated by leeward slopes of Western Ghats in west and alternate valleys and ridges culminating gradually in to plateau in the east. The soils vary from laterite patches in the west through deep medium block alluvia's of the river in the center and poor gray soil in the east. The monsoon climate dominates the region with variation in heat and cold. The region receives rainfall from south-west monsoon averaging between 5000mm to 200mm. The eastern part which fairly fall in the

rain shadow belt, experiences frequent drought conditions.

### OBJECTIVES:

The main objective of the present research is to study the spatial variations in the levels of Agricultural Development in Satara.

### DATA BASE:

The present is based on the secondary data. The Secondary data obtained from the records of Zilla Parishad and various records of Agricultural Department of Maharashtra State.

### METHODOLOGY:

The development of a region may be assessed in several ways. One of the approaches is to assess the annual rate of growth of nation income in relation to growth rates of other economies. The development of various input out technical coefficients is another approach. Further; an approach can be to examine the growth pattern of certain physical indicators which can be thought of as sensitive enough to reflect the growth and developing of the economy of these various approaches, for a developing economy where agriculture out weights other occupation, the selected indicators approach appears to be of special relevance. This approach has been used by Dutt and Sen gupta (1969) for assessing the agricultural development of West Bengal. Sharma (1973) has also used this method for agricultural regionalization of India.

In order to find out the levels of development in the study region selected indices were measured for each Tahsil. The following variables are considered for determining the levels of development.

1. Percentage of net irrigated area to net sown area.
2. Percentage of cultivated area to total geographical area.
3. Farm workers per 100 hectares of cultivated area.
4. Number of tractors available per 100 hectares of cultivated area.
5. Number of electrical pumps available per 100 hectares of cultivated area.
6. Number of oil- pumps per 100 hectares of cultivated area.
7. Fertilizers consumption per 100 hectares of cultivated area
8. Energy consumption per 100 hectares of cultivated area
9. Credit facilities available per 100 hectares of cultivated area.
10. Percentage of Literate among rural population.

The method adopted to determine the levels of development involves two stages: first, the determination of levels of each Tahsil in terms of discrete variable and second the integration of values obtained to give a complete index of development taking all indices into account (Table-1). The coefficient of development (of each Tahsil in terms of a single variable) is expected as follows:

$$CD_{vi} = PV/MPV \times 100 \quad \dots(1)$$

Where,

CD<sub>vi</sub> = The co-efficient of development of variable 'i'

Pv = Value of the variable 'i'

MPV = Mean value of variable 'i' in the whole region

In order to develop a composite index which reflects the composite effects of indicators enumerated above, the following equation is applied:

$$CD = \frac{CD_{vi_1} + CD_{vi_2} + CD_{vi_3} + \dots + CD_{vi_4}}{N} \quad (II)$$

Where,

CD = Composite index of development

N = Number of variables

The composite index values of each Tahsil where further arranged in descending order and classes were considered as high, moderate and low levels of development.

#### **Regional Disparities in the Levels of Development :**

The composite index values classified with the help of standard deviation Method, depicted in Fig. 2 exhibit three different zones described as under:

#### **High Level of Development**

Three tahsils namely Karad, Phaltan and Mahabaleshwar in the central part of the river valley tracts of Krishna and Nira record high level of development. This zone covers about 33.40 percent of the cultivated area and 56.64 percent of the total irrigated land in the region. It enjoys relatively more favorable environmental conditions. Pedagogically too, the tract is endowed with a fertile alluvial

soil cover. Besides, these tahsils enjoy favorable position in irrigation facilities, application of technical implements, agricultural credit facilities, application of chemical fertilizers and power input.

#### **Moderate Level of Development:**

The north western and eastern parts of the region covering five tahsils and about 70.91 percent of the total cultivated area are moderately developed. Nearly 25.99 percent of the irrigated area is concentrated in this zone, the source of irrigation being mostly seasonal in nature. These tahsils have moderate to low intensity of irrigation and obviously commensurate ratio of other inputs in agriculture. Comparatively, these tahsils are also poor in farm machinery, application of chemical fertilizers and agricultural credit facilities. These tahsils may attain high level of development in near future if vigorous efforts are made to develop irrigation facilities.

#### **Levels of Development in Satara District 2000-2001**

Sr.No.	Tahsils	All Indices	Index	Level of Development
1.	Satara	1087.81	108.73	Moderate
2.	Wai	1058.81	105.78	Moderate
3.	Khandala	725.99	72.59	Low
4.	Koregaon	916.13	91.61	Moderate
5.	Phaltan	1211.63	121.163	High
6.	Man	805.49	80.54	Moderate
7.	Khatav	1090.31	109.03	Moderate
8.	Karad	1354.45	135.44	High
9.	Patan	712.5	71.25	Low
10.	Jaoli	468.18	46.81	Low
11.	Mahabaleshwar	1267.23	126.72	High

Source: Compiled by the Authors

#### **Low level of Level Development:**

Three hilly tahsils of the west have poor level of development. They cover 65.55 per cent of the area and only 18.67 per cent of the irrigated land of the region. The rugged topography, heavy soil erosion, poor irrigation facilities and inaccessibility together have retarded the development of this zone. Moreover, this zone is relatively poor as far as the use of the chemical fertilizer, power input and numbers of farm workers are concerned.

#### **CONCLUSION**

Irrigation and farm mechanization the basic input of agriculture, has played a vital role in forming different zones of levels of development, as other variables too have contributed their due share only after assured water supply has been made available. As a result distinct zone of development have emerged in the region. The tahsils having high levels of development are situated in the central part of the region comprising Karad and Phaltan tahsils. They enjoy almost all favorable conditions but Mahabaleshwar tahsil present an exceptional picture which is mainly due to the fact that there is Horticulture cultivation and use modern techniques in the tahsil. Moderate level of development is observed in the tahsils of the eastern scarcity affected region and western hilly region. The surface configuration, heavy erosion, lack of irrigation facilities and adverse agro-climatic

conditions appear to be responsible for the level of development in the tahsils of Jaoli, Khandala and patan.

However, emphasis must be given to the index of agricultural development with relevant socio-economic and physical variables. It needs to be investigated in detail in order to understand the causes of imbalance in the development of agriculture.

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