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Spatio - Temportal Developments In Fertilizer Consumption Of Satara District

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Abstract: The use of fertilizer has become common phenomenon in contemporary agriculture and has augmented productivity considerably. Chemical fertilizers in particular are one of the important inputs to agriculture. It scale of application has been rightly regarded as the yardstick of agricultural prosperity of the region. Fertilizer is land-saving as well as lab our-saving input and land-saving input and land augmenting character has attracted much attention. Recent experience has shown that in the absence of organic manures, use of fertilizers alone has given ! very profitable returns. In view of difficiency in nutrients in the soils, the supply of fertilizers becomes inevitable particularly in the developing countries like India where agriculture has prominent place in the national economy. Thus fertilizer plays vital role in boosting up agricultural production.

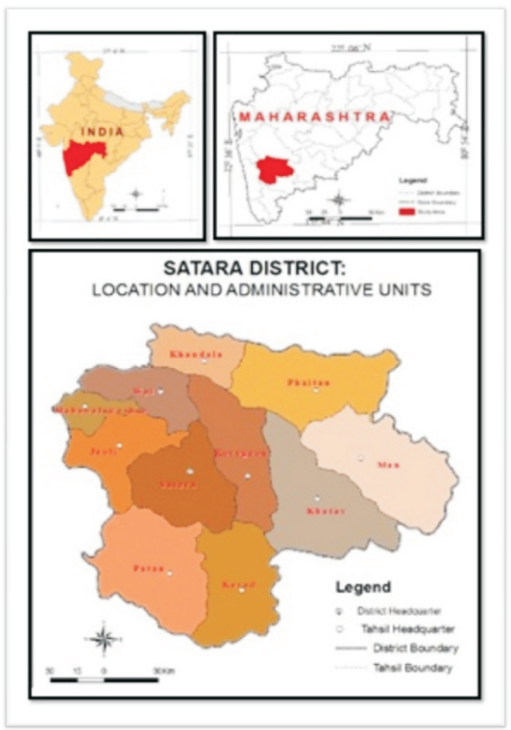
Keyword: Spatio-Temportal , Fertilizer Consumption , considerably , agricultural production.

A.INTRODUCTION:

An attempt has been made in the present paper to examine the spatio-temporal developments in fertilizer consumption in Satara district.

THE REGIONS :

Satara district is the western part of Maharashtra State. It is location lies between 17° 5' to 18° 11' North latitudes and 73° 33' to 74° 54' east longitudes occupying an area of 10,492 sq. kms. Administratively, it consists of eleven tahsils (fig. 1) and the region presents diversified physiographiy with hilly region dominated by leeward slopes of western Ghats in west and alternate valleys and ridges culminating gradually into plateau in the east. The soils vary from literate patches in the west through deep medium block alluvials of the river in the center and poor gray soils 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 200 mm to 5000 mm. The eastern part, which fairly falls in the rain shadow belt experiences frequent drought conditions.



SOURCE OF DATA AND METHODOLOGY :

The data were abstracted for the present analysis from the published records of the Bureau of Economics and statistics Govt. of Maharashtra for the period of 1970-71 to 2009-2010. The same were also collected from the fertilizer distributors in the region. Besides, the information regarding fertilizer applications and its consumption was also collected through interviews with farmers and through the circulation of questionnaire among them at some places selected on the

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basis of random sampling.

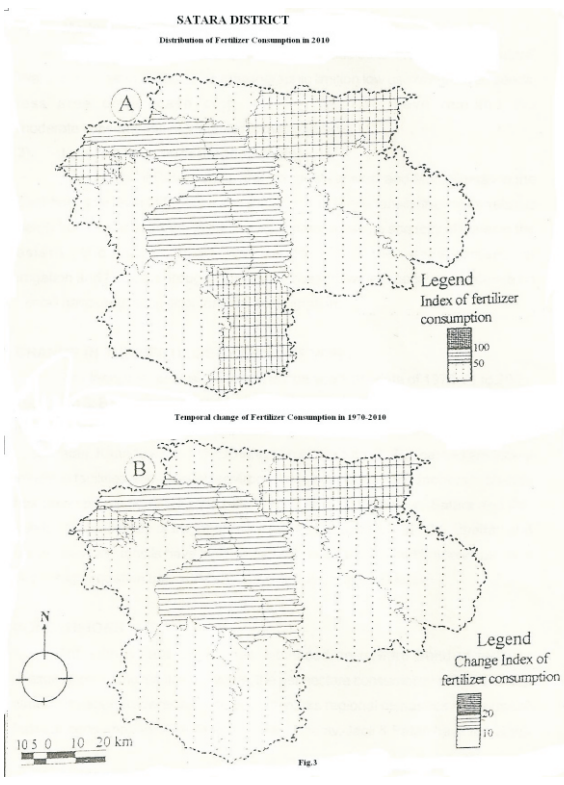
The data thus obtained were analysed with the help of formula, which was derived by M. G. Jadhav and S. D. Shinde in (1979) to calculate index values of fertilizer consumption per unit area at Tahsil level. The formula is as under.

lfe= (Tf/Df)x100

Where
Ife = Index of fertilizer consumptions.
Tf = Fertilizer consumption in the Tahsil.
DF = Fertilizer consumption in the district.

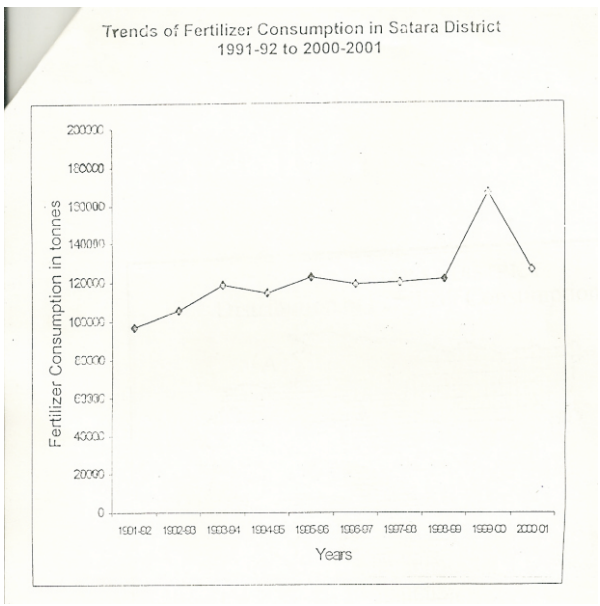
TRENDS OF FERTILIZER CONSUMPTION :

Although the general trend of fertilizer consumption witnesses an upward orientation for the last ten years (1991-92 to 2009-2010) per capita and per hectar consumption is less satisfactory in the context of all India and state levels. The per hectare consumption of fertilizers is a fair representation of the regional resource endowment and infrastructure facilities in agricultural sector of a region. The region has 5.68 kg. per hector of fertilizer consumption where is 7.4 kg. in Maharashtra and 7.9 kg all India average. Obviously, the present of region has low level of fertilizer consumption . The consumption of nitrogenous fertilizer in the district has increased tremndosly from 9710 tonnes in1991-92 to 1211144 tones in 2009-2010 [fig.-2]



SPATIAL PATTERN OF FERTILIZER CONSUMPTION :

Fig. No. 3 A show spatial pattern of fertilizer consumption in Satara District. The Tahsils have been grouped under three regions based on fertilizer consumption.



High fertilizer consumption region :

This region comprises the tahsils of Karad, Phaltan and Mahabaleshwar high consumption fertilizer above 150 index value due to the high intensity of irrigation, deep black and alluvial soils, assured rainfall and dominance of cash crop cultivation i.e. sugarcane, Horticultural cultivation one together responsible for high level of fertilizer consumption.

2) Moderate fertilizer consumption region :

This zone with the consumption of Index value 50 to 100 is includes Satara, Wai and Koregaon tahsils. The physiographic limitation low use of improved seeds less area under cash crop have resulted the moderate consumption of fertilizers in these tahsils.

3) Low fertilizer consumption region :

The tahsils of Patan, Jaoli, and Khandala in west and Man, Khatav in the East have low level of fertilizer consumption. In these tahsils the index value is below 50. The hilly terrain, in the Western part and acute sca rcity of water in the eastern arid areas have set a bar in the development of irrigation and frequent drought conditions, meagre water supply dependence on rainfall have resulted in poor fertilizer consumption.

CHANGE IN THE FERTILIZER CONSUMPTION :

The termporal analysis is based on the years the data of 1970-71 to 2009-2010 fig 3. B show low change i.e. below 10 index value of fertilizer consumption is confined to mainly western and eastern parts of the distinct. Tahasils namely Jaoli, Patan, Khandala and Man, Khatav come in this zone. The causes are lack of irrigation facilities and adverse environmental conditions. The moderate change has taken place along the river belts tahsils namely Koregaon, Satara and Wai due to the availability of irrigation, facilities and use of HYV seeds. Phaltan and Mahabaleshwartahsils have high

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(above 20) Index value of fertilizer consumption, due to high irrigation use HYV seed and change cropping pattern.

CONCLUSIONS:

Although Satara district has witnessed an upward trend of fertilizer consumption during the last ten years, the per hectare consumption is less than the state and national averages. The region marks regional disparities in the use of fertilizer consumption. The Tahsils of Man, Khatav, Jaoli & Patan have remained almost static in respect of per hectare consumption of fertilizer for the last three decade which invite planned efforts to increase consumption level.

The consumption of fertilizer is confide to irrigated & particularly to sugarcane areas. The entire region, however, presents greater scope for the use of fertilizers in view of the extent of irrigated lands. The regions of fertilizer consumption worked out here are generalized ones and are based on the statistical information for certain period of time.

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