Research Article

LEVELS OF AGRCULTURAL PRODUCTIVITY IN SOLAPUR DISTRICT (MAHARASHTRA)

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Abstract:

Present research paper an intend to analyse the agricultural Productivity pattern or levels in Solapur District during the year 2010-2011. This study is based on secondary data collected from secondary records. Agriculture production is influenced by physical, climatological, socio-economic, and technological and organization factors, and farmer's attitude etc. An Endeavour is made here to study why the agricultural productivity varies in different tahsil. Study is based on view point of productivity of Solapur District for year 2010-2011. The data regarding area under different crops has been computed with the help of Kendall's ranking co-efficient technique of agricultural productivity. Solapur district occupies south-Eastern part of Maharashtra state. It occupies an area of 14,895 sq.km. And supports 32.32 lack of population in 2001 censes.

Administratively the district is divided in to eleven tahsils. Physiography, temperature, rainfall,soil and drainage influence on agricultural productivity in this district. Some part of this district is located in drought prone area of Maharashtra. Rainfall varies between 20 to 60 centimeter.Ten crops have been considered for calculating the agricultural productivity. Among these, jawar, wheat, bajara, sugarcane, gram, maize, safflower, cotton, etc. are the major crops. By computing agricultural productivity, ranks according to their how much area under different crops in Solapur district have identified ten crops. Present study gives an idea of real situation of agricultural productivity and helps to minimize the regional inequalities. in Solapur District and also helps to planners, agricultural scientists and research scholars.

KEY WORDS:

Agriculture, productivity, crop ranking, Technology, planning.

INTRODUCTION:

Agricultural productivity is becoming increasingly important issue as the world population continues to grow. India, one of the world's most populous countries, has taken steps in the past decades to increase its land productivity.

Agriculture still forms the backbone of Indian economy, in spite concerned efforts towards industrialization in last three decades. Agriculture contributes a high share of net domestic product by sectors in India. Farmers are growing numerous of crops in the field rather than single crop. Agriculture production is influenced by physical, climatological, socio-economic, and technological and organization factors, farmer's attitude etc. An Endeavour is made here to study why the agricultural productivity various in different tahsil. Study is based view point of productivity of Solapur District for year 2007-2008. The data regarding area under different crops has been computed with the help of Kendall's ranking co-efficient technique of agricultural productivity.

Study Area

The present study deals with the geographical perspectives of the agricultural prodctivity of

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Solapur district.The Solapur district is bounded by 17º05' North latitudes to 18º 32' North latitudes and 74º 42'East of 76º 15' East longitudes. The total geographical area of Solapur district is 14895 Sq.K.m. divided into eleven tahsils. The Population is 32.4 lakhs in eleven tahsils of District. (Censes 2001). It is bounded from the North by Osmanabad district and Ahmednagar district, on the North-East by Satara district and at the South & East it has common boundary of Karanataka state. Temperature is high in summer season.Rainfall varies from East to West between range of 200 to 600millimeters. The rivers like Bhima, Sina, Man, Nira Bhogawati and many other smaller tributaries drain in the district. The soil of the district is mainly of Deccan Trap Volcanic origin.Study ara is shown following map (Fig. 1)
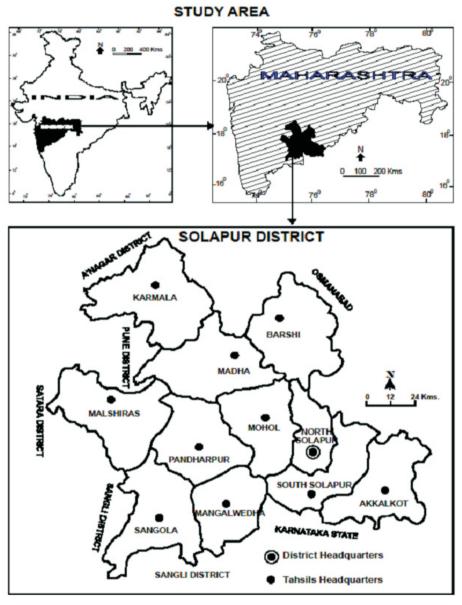

Fig.No.1

Objectives

The major objectives of this paper are to assess the levels of agricultural productivity in Solapur district.

DATA BASE METHODOLOGY

Present study mostly relies on the secondary data collected through Agriculture Department and District statistical Department of Solapur and District socio-economic abstract of Solapur District. For the present investigation, District is selected as in general and tahsils in particular. Statistical method has used to Kendall's ranking co-efficient method in present study of Changes in rural area of agricultural productivity in Solapur District. In order to assess, pattern of agricultural productivity the following formula has been adopted.

It means total number of rank in a given county divided by total number of crops in that region

Concept of Agricultural Productivity

Agricultural productivity is measured as the ratio of agricultural outputs to agricultural inputs. While individual products are usually measured by weight, their varying densities make measuring overall agricultural output difficult. Therefore, output is usually measured as the market value of final output, which excludes intermediate products such as corn feed used in the meat industry. This output value may be compared to many different types of inputs such as labour and land (yield). These are called partial measures of productivity. Agricultural productivity may also be measured by what is termed total factor productivity (TFP). This method of calculating agricultural productivity compares an index of agricultural inputs to an index of outputs. This measure of agricultural productivity was established to remedy the shortcomings of the partial measures of productivity; notably that it is often hard to identify the factors cause them to change. Changes in TFP are usually attributed to technological improvements.

1. Sources of agricultural productivity
2. Importance of agricultural productivity
3 Agricultural productivity and sustainable development
4 Solapur district Agriculture productivity
5 Productive farms

Sources of Agricultural Productivity
Some sources of agricultural productivity are as given below -
Mechanization
High yield varieties, which were the basis of the Green revolution
Fertilizers: Primary plant nutrients: nitrogen, phosphorus and potassium and secondary nutrients such as sulfur, zinc, copper, manganese, calcium, magnesium and molybdenum on deficient soil
Liming of acid soils to raise pH and to provide calcium and magnesium
Irrigation
Herbicides
Pesticides
Increased plant density
Animal feed made more digestible by processing
Keeping animals indoors in cold weather

Importance of Agricultural Productivity
The productivity of a region's farms is important for many reasons. Aside from providing more food, increasing the productivity of farms affects the region's prospects for growth and competitiveness on the agricultural market, income distribution and savings, and labour migration. An increase in a region's agricultural productivity implies a more efficient distribution of scarce resources. As farmers adopt new techniques and differences in productivity arise, the more productive farmers benefit from an increase in their welfare while farmers who are not productive enough will exit the market to seek success elsewhere.

As a region's farms become more productive, its comparative advantage in agricultural products increases, which means that it can produce these products at a lower opportunity cost than can other regions. Therefore, the region becomes more competitive on the world market, which means that it can attract more consumers since they are able to buy more of the products offered for the same amount of money.

Increases in agricultural productivity lead also to agricultural growth and can help to alleviate poverty in poor and developing countries, where agriculture often employs the greatest portion of the population. As farms become more productive, the wages earned by those who work in agriculture

increase. At the same time, food prices decrease and food supplies become more stable. Laborers' therefore have more money to spend on food as well as other products. This also leads to agricultural growth. People see that there is a greater opportunity earn their living by farming and are attracted to agriculture either as owners of farms themselves or as laborers.

However, it is not only the people employed in agriculture who benefit from increases in agricultural productivity. Those employed in other sectors also enjoy lower food prices and a more stable food supply. Their wages may also increase.

The method adopted to determine the agricultural productivity of solapur district, first the calculate the determination of ranking of crop production of each tahsil. In term of discreet variables and second, the integration of values obtained to give a rank co-efficient of agricultural productivity. The co-efficient of agricultural productivity of a tahsil in terms of a single variable is calculated by the following equation by using Kendall's ranking co-efficient method.

Ranking of crop production

Table No 2
10 important crops in solapur district.year-2010-2011

Sr.no	Tahsil	Wheat	Rice	Jawar	Bajara	Maize	Tur	G.nut	Saffalow	S.cane	Gram
1	N.Solapur	9	9	6	6	9	4	10	9	9	11
2	S.Solapur	7	10	3	5	8	8	11	4	3	10
3	Barshi	4	7	5	7	11	1	4	11	6	6
4	Akkalkot	8	8	8	4	5	5	9	2	7	5
5	Mohol	3	4	1	8	6	7	5	10	5	3
6	Mangalwedha	11	3	9	11	7	11	6	1	1	8
7	Padharpur	2	1	4	10	2	6	2	3	11	1
8	Sangola	5	6	2	3	1	9	7	8	2	9
9	Malshiras	1	2	11	9	3	10	1	5	10	2
10	Karmala	6	5	10	1	10	3	3	6	4	4
11	Madha	10	11	7	2	4	2	8	7	8	7

Table No 3
Tahsil wise Total rank, Ranking coefficient, and Rank of solapur district

Sr.no	Tahsil	Total Rank	Rank co-efficient	Rank No
1	N.Solapur	82	8.2	9
2	S.Solapur	69	6.9	8
3	Barshi	62	6.2	5
4	Akkalkot	61	6.1	4
5	Mohol	52	5.2	2
6	Mangalwedha	68	6.8	7
7	Pandharpur	42	4.2	1
8	Sangola	52	5.2	2
9	Malshiras	54	5.4	3
10	Karmala	52	5.2	2
11	Madha	66	6.6	6

Pattern of Agricultural Productivity in Solapur District:
The pattern of agricultural productivity in solapur district has been delined with the help of Kendall's ranking coefficient method. The ranking coefficient value of very high, high,medium,low, very low productivity have been given in following table while the resultant pattern of productivity have been plotted in following table.

Solapur District - Agricultural Production Index
(Kendall's Method)

Very High Productivity	Below- 50
High Productivity	50 - 60
Moderate Productivity	60 -70
Low Productivity	Above -70

1. Very High Agricultural Productivity

It may be observed from above table that the very high agricultural productivity is found in pandharpur tahsil. It is interesting to note here that major area of the cultivated in this tract is irrigated either by cannel or tubewell.This region are highly receptive to new agricultural innovations.

2. High Agricultural Productivity

High agrcultural productivity found in Mohol, Sangola, Mangalwedha and Karmala thasil concerning study region. These four tahsils have lowest ranking coefficient index that means highest agricultural productivity is observed said tahsil. Because of irrigation facilities the commercial farming is developed in these tahsils.

3. Moderate Agricultural Productivity

The moderate level of agricultural productivity has been observed in the tahsils like, South Solapur, Akkalkot, Barshi,Mangalwedha and Madha. In these tahsils the of agricultural productivity index from 60 to 70.

4. LOW Agricultural Prodfuctivity

Remaining one tahsils viz. North Solapur is included in this category. The agricultural index above 70. North Solapur tahsil is only one because, this is district headquarter. Hence a few land area available for agricultural practices.

Diversity in agricultural production is one key to productivity, as it enables risk management and preserves potentials for adaptation and change. Monoculture is an example of such a non diverse production system. In a monoculture system a farmer may produce only crops, but no livestock, or only livestock and no crop. But§ this situation is not found in study area.

One thing is notable here coercing to study area the benefits of raising livestock, among others, are that it provides multiple goods, such as food,. It also has an important value in term of social relationships .In case of famine, when crops are not sufficient to ensure food safety, livestock can be used as food. Livestock may also provide 6 manure, which can be used to fertilize cultivated soils, which increases soil productivity.

On the other hand, in an agricultural system of study region are based on raising livestock, food has to be bought to other farmers, and wastes produced cannot be easily disposed of. 'Production has many functions, and diversity is the foundation of such production'. To ignore the complex functions provided by a farm is thought by many to turn agricultural production into a commodity.

Why Different Agricultural Productivity Lies Among The Solapur District?

Following are the few significant causes responsible for the changing agricultural productivity in rural land-

1. A lack of current research information can have a huge impact on the yields, especially in rural areas and lower-productivity lands.
2. Lack of fuel
3. Lack of raw materials for agricultural purposes
4. Lack of machines to produce.
5.Illegalseeds
6. Illegal chemical spreading

CONCLUSION

Farmers in solapur district are using much less fertilizer per unit cropped area, fertilizer consumption is low, resulting in poor productivity. Transfer/adoption of improved production technology in uneven rainfall, eco-system has not picked up its desired momentum.

The complex ecological situation of rainfall eco-system consisting of upland, shallow low land, semi-deep water and deep water conditions is one of prime reasons for low productivity. In socio-economic, organizational and technological constraints resulting in low productivity.

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