



Agricultural Productivity in Tribal Area of Nashik District in Maharashtra

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1.0 Abstract:

Agricultural productivity is the product of agriculture in any country is very important and is calculated as the ratio of its inputs. ... Therefore, agricultural productivity is usually calculated as the market value of the final product. This productivity can be compared to a variety of inputs, such as labor or land. Agricultural productivity depends on several factors. These include the availability and quality of agricultural inputs such as land, water, seeds and fertilizers, access to agricultural credit and crop insurance, assurance of remunerative prices for agricultural produce, and storage and marketing infrastructure, among others. This report provides an overview of the state of agriculture in India. It discusses factors related to the production and post-harvest activities in agriculture. Therefore agricultural productivity is a function of the interplay of physical and cultural variables and it expresses itself through per hectare productivity and the total production. The agricultural development and growth in agricultural productivity is significantly variable widely across the tribal areas of Nashik district.

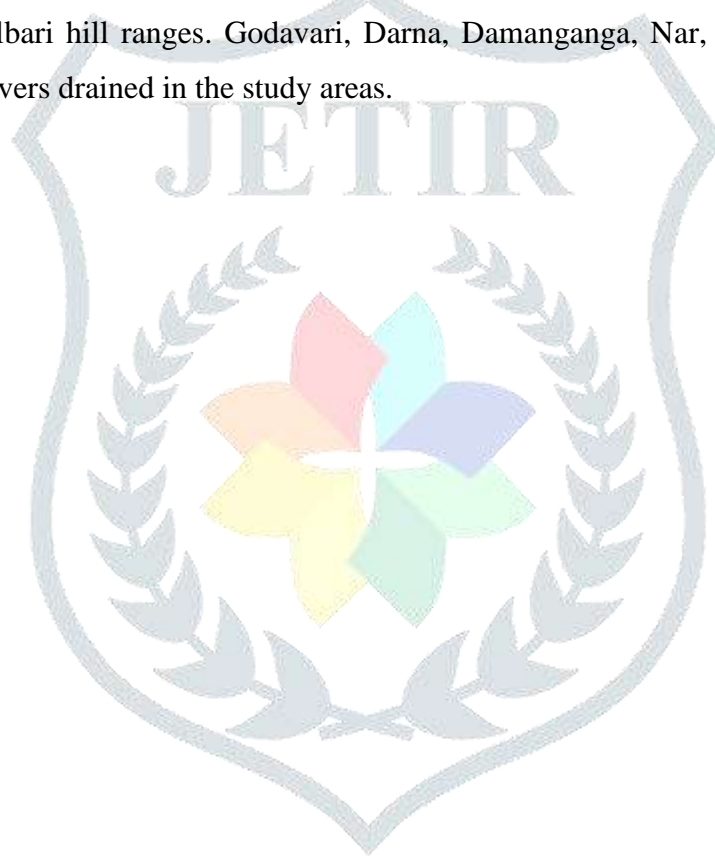
Keywords: Agriculture Productivity, Tribal area, Agriculture Techniques.

1.1 Introduction:

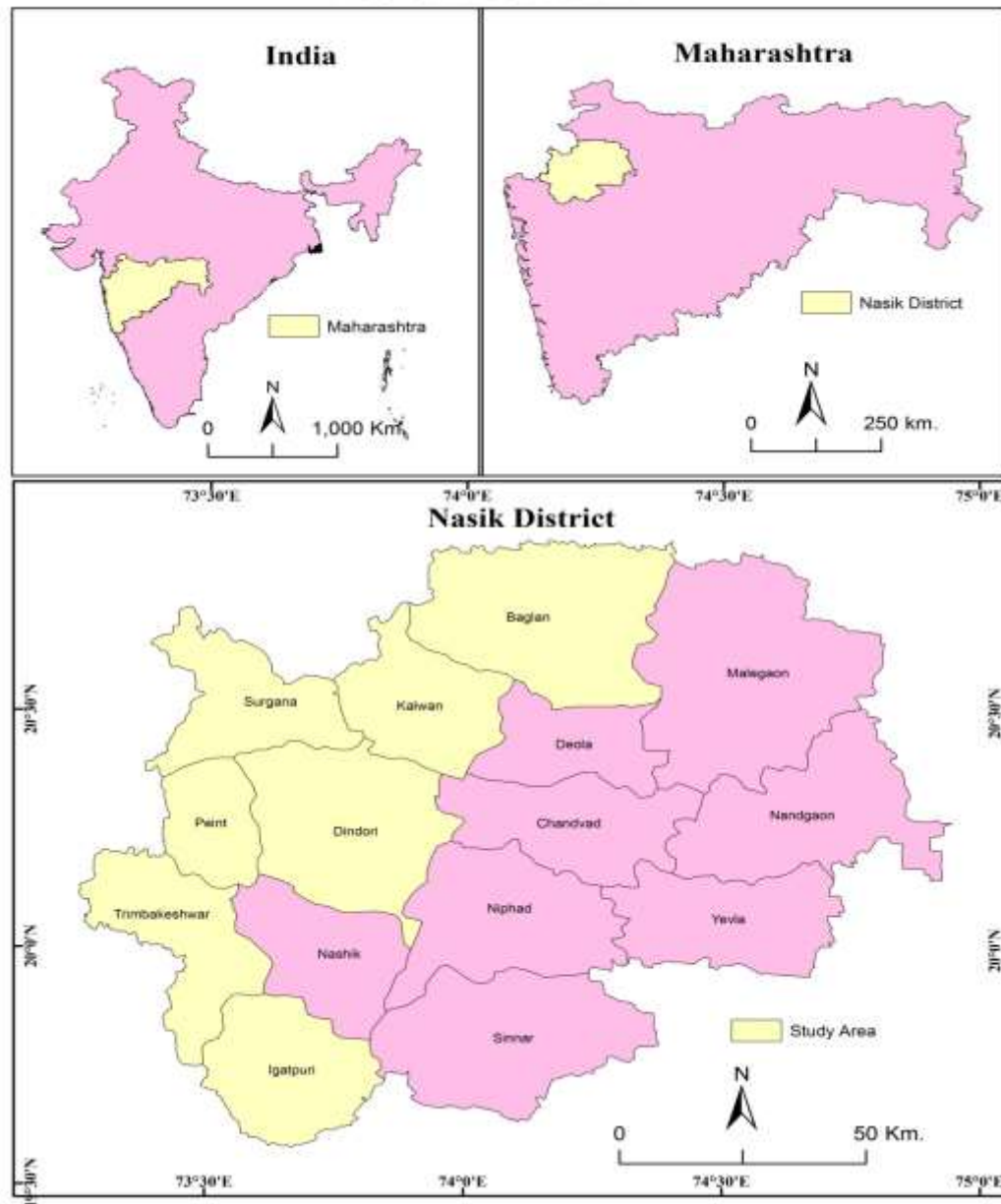
The present study deals with the agricultural development in tribal areas of Nashik district of Maharashtra. Agriculture is the main occupation of tribal population and the only source of their income. Recently new methods of agricultural techniques as well as various state government schemes being adopted but it is still variations in different tribal areas of the district. Agricultural Productivity is a multidimensional concept, which includes technological advancement, effective management of available resource and organization for agricultural production.

1.2 Study Area:

The present paper deals with the agricultural productivity and intensity in tribal areas of Nashik district of Maharashtra. The tribal area of the Nashik district extend between $19^{\circ}34'$ to $21^{\circ} 23'$ North Latitude and $73^{\circ}14'$ to $74^{\circ}24'$ East Longitude with an area of 6807 Square kilometer. In 2011 census the population of the study area was 1616096 persons.(26.46 percent of the total population of the district) of which 823153 or 50.93 percent were male and 792943 or 49.07 percent were female. The sex ratio of the study area is 963. The area has only 38.00 percent urban population and remaining 62 percent people live in rural areas The climate of the study area is generally dryness throughout the year except during the south –west monsoon season Normal annual rainfall varies from 500 to 3400 mm. The study area forms varied physiography topography parts of western ghat and Deccan Plateau. The study region consists of satmala, selbari and Dolbari hill ranges. Godavari, Darna, Damanganga, Nar, Par, Girna, Kadva, and Vaitarna are the major rivers drained in the study areas.



LOCATION MAP



1.3 Objective:

The main objective of this study is to determine the imbalance in agricultural productivity in Tribal Area of Nashik District Maharashtra.

1.4 Database and Methodology:

In the present study agricultural productivity is calculated by Kendal's ranking co-efficient of each crop in tribal tehsils are taken into consideration. The yield of these crops was then converted into their ranks and these ranks were added and the summation divided by the numbers of crops. Level of intensity of cropping with the help of Bhatia's method.

$$\text{Intensity of cropping} = \frac{\text{Gross cropped area}}{\text{Net sown area}} \times 100$$

The present study is based on primary as well as secondary data which are obtained from field work and District Statistical Handbook of Nashik district. The tribal area are taken as a unit of analysis. The level of development influenced by various aspects such as physical, socio-economic, technological and organizational factors. In order to describe the spatial pattern of agricultural development in tribal composite Z scores and principal component analysis method used for level of development. The Z score is obtained by the following formula using 14 variables Z score is calculated for the analysis.

$$Z = \frac{X - X^-}{SD}$$

1.6 Pattern of agricultural productivity:

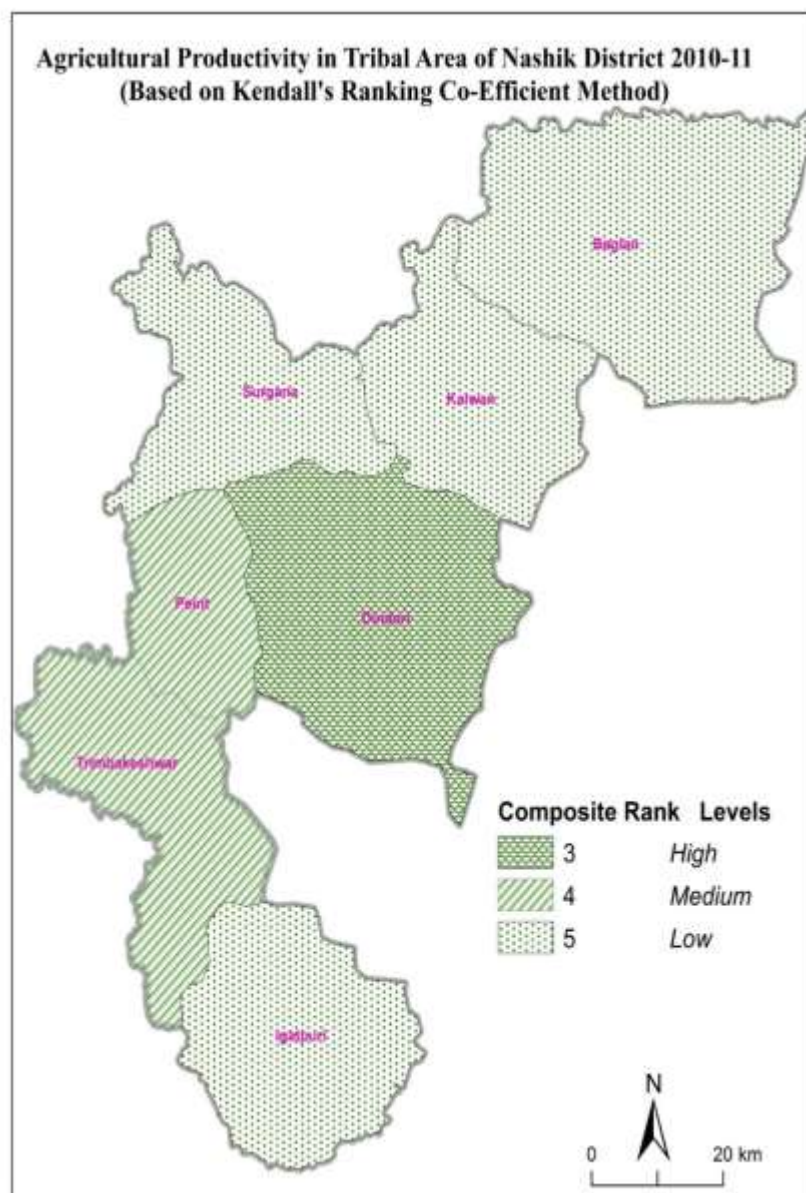


Table No 1.1 Productivity of selected crops in tribal areas of Nashik District (2010-11)

Tehsils	Crops yield Kendall's ranking Coefficient methods													
	RICE		NACHANI		MAIZE		PULSES		OILSEEDS		SUGARCANE		SUMMATION OF RANKS	RANKING COEFFICEINT
	Kg/he	Rank	Kg/he	Rank	Kg/he	Rank	Kg/he	Rank	Kg/he	Rank	Kg/he	Rank		
Peint	7500	03	4300	04	20	07	6581	02	3925	02	218	04	22	3.7
Dindori	3200	05	6000	02	3370	03	4775	04	6345	01	742	02	17	2.8
Surgana	7300	04	8500	01	35	06	5500	03	1750	06	10	07	27	4.6
Kalvan	3100	06	788	07	10102	02	3334	05	3619	03	475	06	29	4.9
Baglan	1800	07	1730	06	21430	01	3140	06	937	07	18180	01	28	4.7
Igatpuri	11200	01	2703	05	93	05	2284	07	2787	04	198	03	25	4.2
Trimbak	8500	02	5500	03	260	04	7300	01	1960	05	187	05	20	3.3

Source: Data calculated from Socio-economic Abstract Nashik district 2020-21

The study of intensity of cropping reflects the above physical and socio-economic condition influencing agriculture and helps in a particular area in planning. An attempt is made in the study area to identify the level of intensity of cropping with the help of Bhatia's method.

$$\text{Intensity of cropping} = \frac{\text{Gross cropped area}}{\text{Net sown area}} \times 100$$

1. High Agricultural Development area:-

Dindori and Baglan these two tehsils areas of high agricultural development in the study area, most of the people of these two tehsils are tribal and non-tribal social group. The net sown area accounts for 49.13 and 53.84 percent of the total area of Dindori and Baglan respectively in 2010-11. The degree of double and multiple cropping in the net sown area is also higher, the indices of cropping intensity being 111.8 and 107. Fruits and Vegetables are cultivated in these two developed tehsils; the production of fruits and vegetables is the highest due to irrigation, soil fertility and attitude of farmers. The farmers of these two tehsils are more skillful they use HYV seeds, fertilizers, pesticides and insecticide and other modern agricultural inputs, hence the increase the production of crops in agricultural lands. In these two tehsils farmers use tractor, spray machine, iron plough and other implements are highest.

2. Medium Agricultural Development area

Kalvan is only one medium development tribal tehsil of the district. The net sown area of Kalvan tehsil is 108.1 percent of the total geographical area in 1991. It is increased to 114 percent in 2001. But 2010-11 it is decreased to 104 percent. The intensity of cropping is medium. In this tribal tehsil high diversification of crops in western part and concentration of one or two major crops in eastern plain part, positive factors in Kalvan tehsil are irrigation and fertile soils in Girna basin dominating sugarcane cultivation shows least diversification of crops.

3. Low Agricultural Development Area

Peint, Surgana, Igatpuri these three tribal tehsils are identified as the areas of low agricultural development in the district. The percentage of net sown area above 100 of the total geographical area in 2010-11, the intensity of cropping is low. The farmers in these areas are traditionally growing food grains at the subsistence level. Large areas in barren land, small size of land holding indicate the negative effects of relief.

1.7 Conclusion

The Present study reveals that the spatial distribution of variables and agricultural development is not uniform in tribal areas of Nashik district as well as socio-economic and physical factors are responsible for disparity in agricultural productivity. The levels of agricultural development is found higher in Dindori and

Baglan tehsils only. The farmers of these two tehsils are more skillful they use HYV Seeds, fertilizer, pesticides, and other modern agricultural inputs. Rest of the tehsils low level of development because of geographical location, lack of Infrastructure development and low use of modern technological inputs. From the foregoing results it is clear that cropping intensity has increased with the use of modern agricultural inputs. It is also reflected for the forty years of period's i.e.1981 to 2020-21.

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