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Research Article

CROP CONCENTRATION IN NIZAMABAD REVENUE DIVISION IN NIZAMABAD DISTRICT

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ABSTRACT

Crop concentration is the best way to explain which area is well suitable for particular type of crop growth and increase their production. It gives accurate and brief information about area come under particular crop in large quantity and because of that, it helps to increase the land under that particular crop for farmers. Present investigation reveals that the geographical analysis of crop concentration in Nizamabad Revenue Division. The year 2000-02 and 2010-12 have consider for the study. The entire study constructed on the secondary data. Mandals have selected as an aerial unit and 10 crops have been selected for the present investigation. The Bhatia's location quotient method have used for the calculation of crop concentration and data has been represented by Choropleth maps. The high concentration is observed in Northern part of Nizamabad Revenue Division in both the years. The low land holding capacity, benefit of weekly market centres, unemployment ratio are the basic reasons affected on the concentration of Crops.

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INTRODUCTION

Agriculture and its activities are basic needs of all human beings in India and as well as in the world. The country like India, where population is very large and most of the peoples are depending on agriculture, Nizamabad division of Nizamabad is one of them. For the fulfilment of their basic needs proper planning must be required. The Nizamabad district having variety in natural and cultural landscape. This is dominated by agricultural activities such as Northern and Southern Mandals are especially growing the food crops due to topography, climate, pedology and hydrological conditions. It includes crop combination, crop diversification and crop concentration. Crop concentration means the dissimilarities in the density of any crop in an area at that point of time. In the ideal agro climatic conditions it has the tendency to have the high concentration of particular crops. When the geographical conditions become less conductive the crop density declines. For example, the high concentration of wheat is observed in the regions like U.P and Punjab due to the use of HYV seeds, high irrigation facilities, Literacy among the farmers and low wages of employment (Singh & Dhillon, 1984). Delineation of crop concentration region helps to make sure about the areas, where the particular crop grows well even with the help of minimum inputs. For the present study crop concentration in Nizamabad Division have been

considered. These are Rice, Jowar, Bajra, Maize, Pulses, Sugarcane, Turmeric, Cotton and other crops.

Study Area

Nizamabad division lies between 18.40°N to 19.00°N latitudes and 77.520654°E to 78.50°E longitudes. Geographically it is extended over an area of 9539.726378km² and administratively the district is divided into 3 major Administrative Divisions and further into 36 Mandals. The selected Division of the District are shown in Figure No. 1.1 and the Administrative Sub-Divisions (mandals) of the individual selected Divisions (Nizamabad) are shown in Figure No. 1.2 and 1.3 respectively. The principal rivers flowing in the District are the Godavari on the northern boundary and Manjira, the chief tributary of the Godavari. There are fourteen mandals in Nizamabad division. The average temperature of the district lies between 28°C to 40°C. It helps for growth of variety of food and non-food crops.

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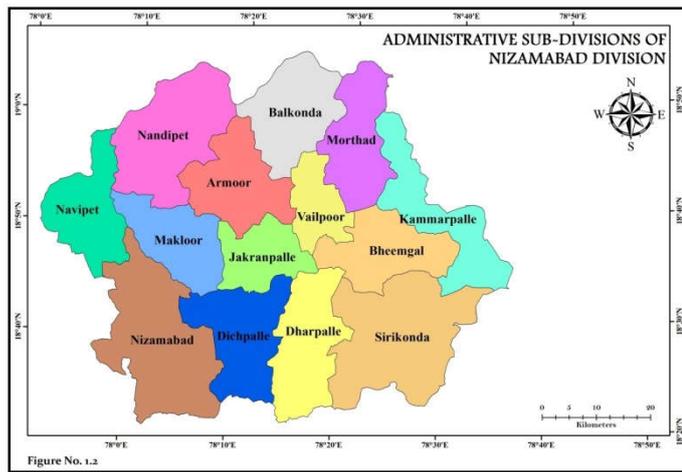
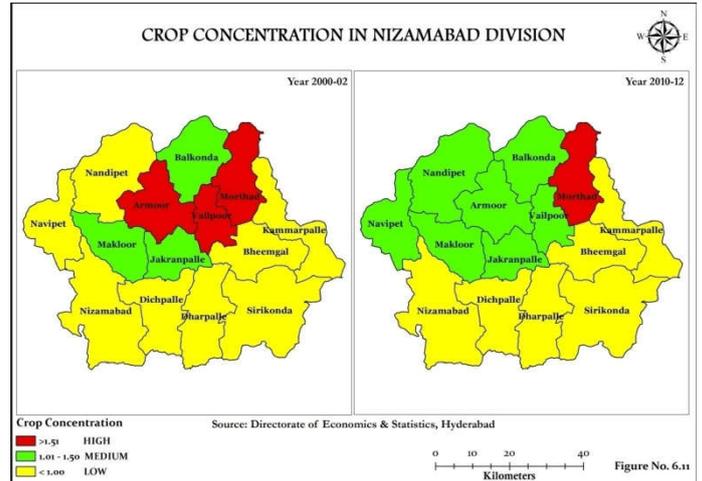


Figure No 1 Administrative Sub-Divisions of Nizamabad Division:



Base Year: 2000-02

Objectives

To analyse the concentration of crops in the division.

METHODOLOGY

For the present study secondary data have been applied which is published in Agricultural Statistical Abstract of Nizamabad division during 2000-02 and 2010-12. Mandals have selected as an aerial unit. Crops have been considered for the present investigation. Bhatia’s Location Quotient Method has been used for the calculation of Crop concentration. Whereas, calculated data depicted by Choropleth maps.

$$\text{CropConcentration} = \frac{\frac{\text{TotalCroppedAreaintheMandal}}{\text{GeographicalAreaintheMandal}}}{\frac{\text{TotalCroppedAreaintheDivision}}{\text{GeographicalAreaintheDivision}}}$$

The entire study area is divided into three crop concentration regions;

1. Low Crop Concentration
2. Moderate Crop Concentration
3. High Crop Concentration

Table No 1 Mandal wise Crop Concentration in Nizamabad Division

| S.no | Mandal | 2000-02 | 2010-12 | Change |
|------|-------------|---------|---------|--------|
| 1 | NIZAMABAD | 0.715 | 0.595 | -0.12 |
| 2 | NAVIPET | 0.91 | 1.1 | 0.19 |
| 3 | MAKLOOR | 1.25 | 1.045 | -0.21 |
| 4 | NANDIPET | 0.89 | 1.225 | 0.33 |
| 5 | ARMOOR | 1.715 | 1.49 | -0.22 |
| 6 | BALKONDA | 1.43 | 1.5 | 0.07 |
| 7 | JAKRANPALLY | 1.355 | 1.445 | 0.09 |
| 8 | DHARPALLY | 0.62 | 0.505 | -0.12 |
| 9 | DICPALLY | 0.505 | 0.72 | 0.22 |
| 10 | SIRKONDA | 0.65 | 0.69 | 0.04 |
| 11 | VAILPOOR | 1.84 | 1.45 | -0.39 |
| 12 | BEEMGAL | 0.875 | 0.925 | 0.05 |
| 13 | MORTHAD | 1.61 | 1.56 | -0.05 |
| 14 | KAMMARPALLY | 0.755 | 0.69 | -0.06 |

DISCUSSION

For the present study we have make three major categories of crop concentration of Nizamabad Division i.e. High, Moderate and Low with index value >1.51, 1.01 to 1.51 and 0.10 to 0.10 respectively.

1. High Concentration: There are three mandals which are part of this group such as vailpoor (1.84%), Armoor (1.715%), Morthad (1.61%).
2. Moderate Concentration: In this category Balkonda (1.43%), Makloor (1.25%) and Jakranpally (1.35%) mandals are come under with index value 1.01 to 1.51 percent respectively.
3. Low Concentration: There are eight Mandals including in this group such Dichpally (0.50%), Dharpally (0.62%), Nizamabad (0.71%), Nandipet(0.89%), Navipet(0.91%), Sirkonda(0.65%), Bheemgal(0.87%) and Kammarpally(0.75%) as has lowest crop concentration due to most of land dedicated to long time land holding crops like Sugarcane and Maize (Fig.1.A).

Reference Year: 2010-12

1. High Concentration: Morthad (1.56%), has high crop concentration but Armoor and Vailpoor which is in Moderate group, high in last decade come under this category.
2. Moderate Concentration: The Balkonda (1.5%) Nandipet (1.22%), Jakranpally (1.44%) vailpoor (1.45%), Armoor (1.49%), Navipet (1.1%), and Makloor (1.04%) mandals are including in this group. Land under crops in these Mandals decreases due to low land holding capacity, benefit of weekly market centers, low production cost and easy work.
3. Low Concentration: The Bheemgal (0.92%), Nizamabad (0.59%), Dichpally (0.72%), Dharpally (0.50%), Sirkonda (0.69%) and Kammarpally (0.69%) this group.

From above discussion we will come to know that, the Eastern and Southern part of the district including Morthad, Vailpoor, Balkonda, had high crop concentration due to illiteracy ratio, Low land holding capacity, uneven topography and nearest weekly market centres. While Western part of the division including Makloor, Nandipet and Nizamabad, has moderate to lowest Crop concentration because of large land holding, used advance technologies to practice other crops such as cash crops and other nonfood crops.

Change of Concentration

Each and every mandal has different crop concentration because of factors affecting on that particular Sugarcane and

Turmeric and Maize crops are growth. According to table No.1 the study area done on the fourteen mandals but only six mandals had positive change from the last ten years. So farmers choose the growing crops where less investment and period involved for their entire growth etc. Nandipet+0.33 and Dichpally+0.22 due to use of HYV seeds and nearest weekly market. While remaining all the mandals of the division goes under negative change.

CONCLUSION

Only six mandals have positive change in the year of 2000-02 and 2010-12. Remaining all the mandals are having negative change or decrease the land under crops in that particular mandals. This is because of various factors affect on their entire growth of crops. Such as Climate, Topography, Socio-Economical, Hydrological, and Technological factors.

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