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Growth Trends in Crops Other than Food Grains in Karnataka –A Case Study

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Abstract

There are two main crop seasons in Karnataka viz., Kharif or the season of summer crops, and the Rabi or the season of winter crops. Therefore, sowing in Karnataka, in the Kharif season begins generally on the onset of southwest monsoon in mid-June, while the Rabi season starts at the beginning of cold weather season, i.e., at the end of October or early November, when the monsoon has receded. The main food crops grown in Kharif season are: Rice, Ragi, Jowar, Bajra, Maize, Pigeon-pea, Green gram, Black gram, Groundnut, and Sugarcane. These crops require high temperature and plentiful supply of water. The food crops of Rabi season are: wheat, Lentils, Barley, Bengal gram, Peas, Tur, Cotton and Patatoes. These crops require cool weather and moderate supply of water.

Key words: Cropping pattern, growth, area, production, yield, food crops.

Introduction:

Before analysing the cropping pattern and growth levels in respect of area, production and yield of selected food crops in Karnataka, it would be worthwhile to preface this study with some basic ideas about crops, their sowing and harvesting seasons. The harvesting period of Kharif crops starts at the end of monsoon, i.e., September to October (may continue till November in some cases), and the Rabi crops are generally harvested from March to April (may continue till May in some cases). There are two crops which occupy the field almost the whole year. These are Sugarcane and Pigeon-Pea. Sugarcane is sown after considerable preparation of the land in the month of April or May and harvesting begins in January. Pigeon-Pea is sown in the month of July and is harvested in February or March.

I) Groundnut:

The trends in area under groundnut are comparatively positive in one-fourth (i.e., six) districts of the total districts, and the remaining three-fourth (fourteen) districts indicate a downward trend (Fig.1). High trends in area are recorded in the districts of Bellary, Hasan and Belgaum where they exceed more than 4 percent per annum. A group of two districts namely, Chikamgalur and Dharwad (including Gadag and Haveri) indicate the values of growth ranging between 2 and 4 percent per annum. In the remaining one district the upward trend is less than 1 percent per annum.

The downward trend is more pronounced in the districts of Mandya (-17.36 percent), Bangalore Rural (-17.71 percent) and Kodagu (-24.88 percent). The remaining eleven districts indicate the values of negative trend ranging from -0.60 percent in Raichur (including Koppal) to -10.96 percent a year in Tumkur.

As regards the production trends of groundnut, it is seen from Fig 5.32., that districts, which followed an upward trend in respect of area are the districts showing a downward trend in production. There are altogether seven districts where the direction of trend is upward and the values range from 3.61 percent in Hasan to 57.61 percent in Kolar. A negative trend is recorded by a set of thirteen districts namely, Kodagu, Mandya, Shimoga, Raichur (including Koppal), Gulbarga, Bijapur (including Bagalkot), Tumkur, Bangalore Rural, Dharwad (including Gadag and Haveri), Belgaum, Bellary and Uttar Kannada, and the trend varies from -2.08 percent in Belgaum to -17.99 percent a year in Kodagu. Among the districts showing an upward trend the districts of Kolar, Bangalore Urban, Bidar and Chikamagalur show trend values exceeding 6 percent per annum. Remaining two districts i.e., Mysore (including Chamarajnagar) (4.14 percent) and Dakshina Kannada (including Udupi) 3.63 percent per annum, trend values are less than 5 percent annum.

The trends in yield per hectare of the groundnut in the state are generally in the negative direction. Only six districts namely, Kolar, Mandya, Dakshina Kannada (including Udupi) Chikamagalur, Bangalore Rural and Uttar Kannada indicate a upward trend, and the values of trend vary from 0.72 percent in Uttar Kannada to Kolar 189.00 a year in Kolar district. The district of Bijapur (including Bagalkot) shows a downward trend of -15.93 percent a year. Fig 5.32 shows that in all the remaining districts, seven districts show a downward trend of more than -5.00 percent per annum, and in five districts the trend varies from -2 to -5 percent per annum. However, in the other two districts of the state the trend is less than -2 percent per annum.

There is enough room for making substantial improvement in the yield standards of the crop. The main strategy will be to improve drainage condition in high rainfall areas and better utilization of rainfall facilities everywhere.

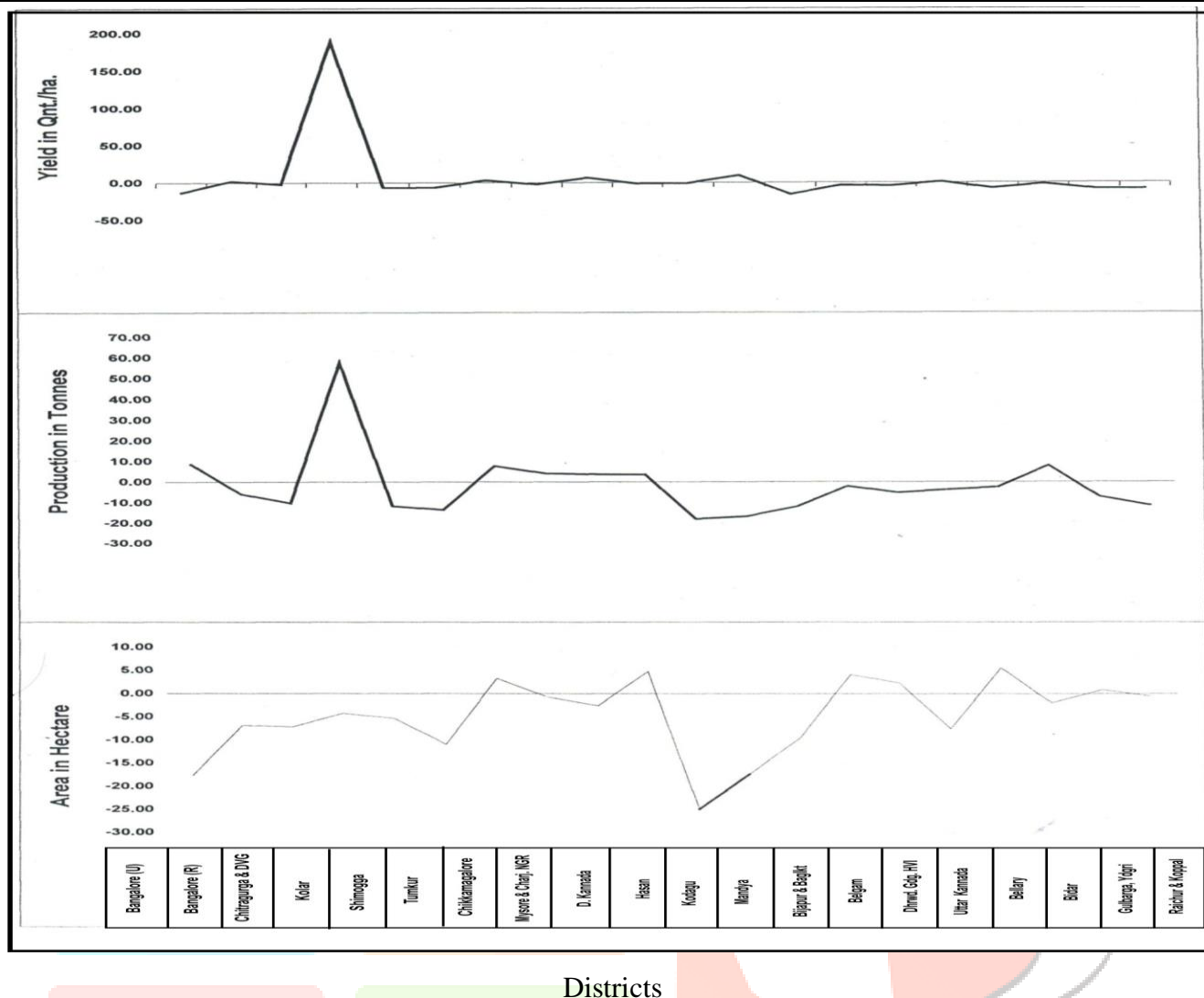


Fig. 1 Groundnut – Trend diagram (linear regression) 1993-94 to 2007-08

II) Sugarcane

Fig.2 shows that most of the districts in the state show equally an upward trend in area under Sugarcane cultivation. This is clearly seen in the districts of Bangalore urban (90.88 percent), Kodagu (37.39 percent), mandya (12.47 percent), Bidar (5.33 percent), Chitradurga including Davangere (4.81 percent), and Belgaum (4.04 percent) Bijapur including Bagalkot (3.82 percent), Gulbarga (2.89 percent) and least upward trend production in Bellary district (0.60 percent) per annum. The declining trend in area is more pronounced in the district of Raichur including Koppal (-38.76 percent), Dakshina Kannada (including Udupi) (-12.68 percent), Tumkur (-11.28 percent) and Chikamagalur (-7.61 percent). There are four districts namely, Shimoga, Kolar, Hasan and Uttar Kannada districts show trend values from 2 to 7 percent and remaining three districts namely, Dharwad (including Gadag and Haveri), Bangalore Rural and Mysore (including Chamrajnagar) indicate values less than 2 percent a year.

As regards trends in production, there appears a close correlation between production and trends in acreage. The upward trend is maintained in the districts of Bangalore Urban, Kodagu, Mandya and Chitradurga (including Davangere). In the other five districts the trend is rather of low order. There are altogether nine districts which show an upward trend, and remaining eleven districts exhibit a downward

trend. The declining trend in production is more pronounced in the district of Bangalore Rural (-25.77 percent), Uttar Kannada (-10.07 Percent), Tumkur (-9.69 percent), Kolar (-9.08 percent) and Chikamagalur (-5.78 percent), [here are three districts where the trend values vary between -2 and -5 percent per annum and there are three districts namely, Bidar, Dharwad (including Gadag and Haveri) and Shimoga where the downward trend is less than -2 percent per annum.

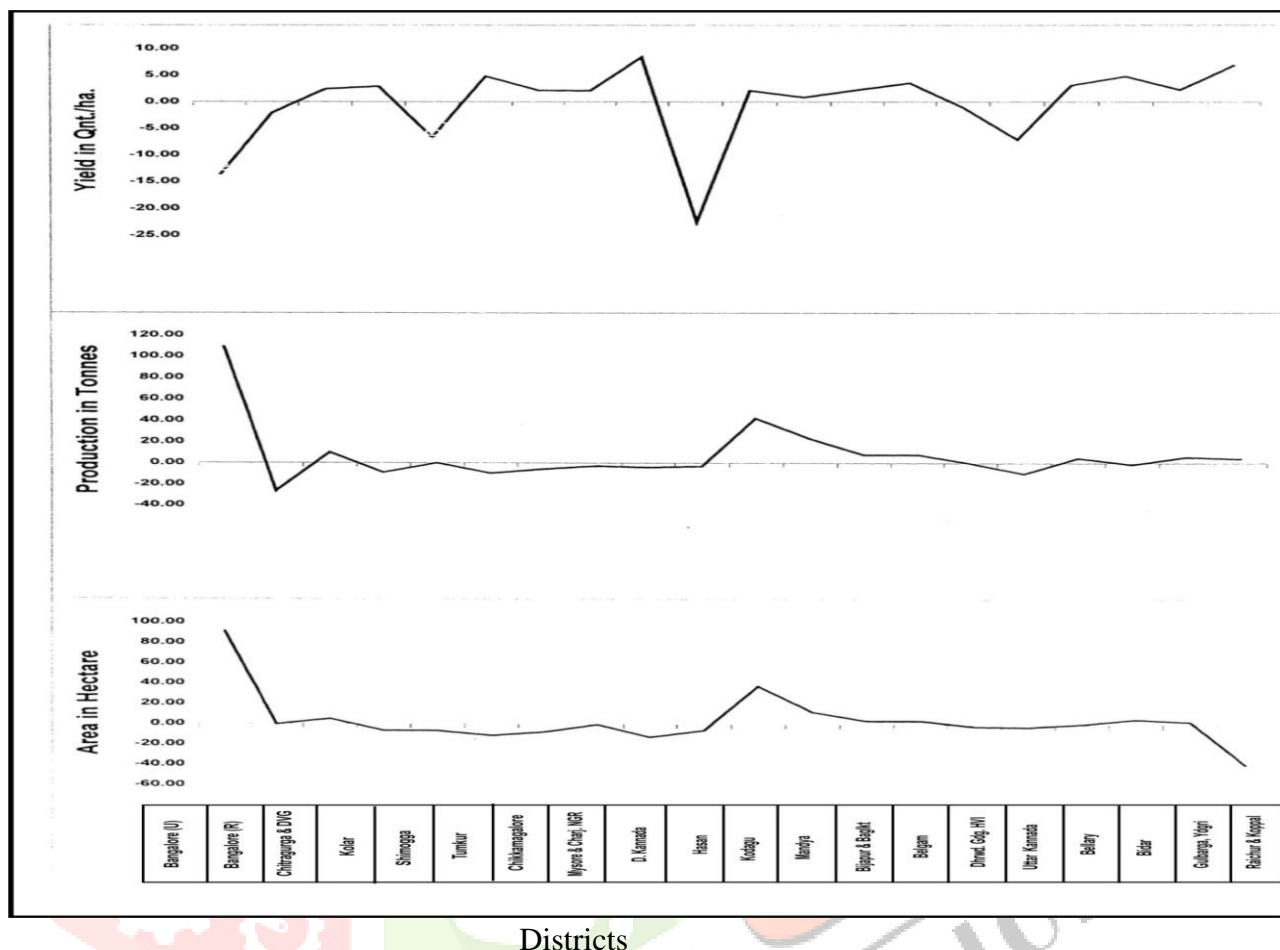


Fig.2 Sugarcane – Trend diagram (linear regression) 1993-94 to 2007-08

The trends in yield per hectare are rather more interesting. About three-fourth of the total districts show an upwrd trend. The upward trends in yield per hectare are again maintained by the districts of Dakshina Kannada (including Udupi), Raichur (including Koppal), Tumkur, Bidar and Belgaum, during the five year under consideration. In another group of six districts namely, Chitradurga (including Davangere), Kolar, Chikamagalur, Mysore (including Chamarajnagar), Kodagu, Bijapur (including Bagalkot) and Gulbarga Sugarcane registered a growth between 1 to 3 percent a year in yield, remaining one district i.e., Mandya indicates the value less than 1 percent a year. The district of Kolar, Tumkur, Chikamgalur, Mysore (including Chamarajnagar), Dakshina Kannada (including Udupi) and Raichur (including Koppal) where the area under Sugarcane does not show any upward trend, but the yield per hectare shows an upward trend. There are some cases, where there is a declining trend in the yield per hectare although they have upward trends in area and production. The same position is indicated by the district of Bangalore Urban. The declining trend in area is more pronounced in the districts of Hasan (-22.60 percent), Bangalore Urban (-13.80 percent), Uttar Kannada (-7.17 percent), Shimoga (-5.72 percent) Bangalore Rural (-2.12 percent) and remaining one district i.e.,

Belgaum has -1.08 percent per annum. However, the redeeming feature is that the crop in Karnataka remains on the field for 9 or 10 months. As against this the crop in the peninsular stretches over a period of ranging from 12 to 18 months.

There is also a conflict between the factory owner and the farmers. The farmers try to produce the maximum tonnage of cane per unit area because the government prescribes minimum price for Sugarcane on the basis of weight, while the Melter desires to have maximum Sugar per tonne of cane. So the emphasis should be on the production of such varieties which give the highest percentage of recovery.

III) Cotton

The trends in area under Cotton are comparatively positive in eight of the total districts, and the next nine districts indicate a downward trend (Fig.3). Remaining three districts had not produced cotton crop. High trends in area are recovered in the district of Uttar Kannada, Mysore (including Chamarajnagar) Bijapur (including Bagalkot), Chikamagalur, Gulbarga and Kodagu where they exceed more than 4 percent per annum, and district of Tumkur shows the upward trend which is less than 4 percent per annum. The downward trend is much pronounced in the districts of Dharwad (including Gadag and Haveri) -2.04 percent, Bidar (-2.27 percent), Belgaum (-5.12 percent), Mandya (-5.50 percent), Bellary (-7.92 percent), Chitradurga (including Gadag and Haveri) -7.99 percent and Shimoga (-8.93 percent). The remaining two districts indicate the values of negative trend less than -2 percent per annum.

As regards the production trends of Cotton, it is seen from Fig.3 that though most of the districts show high level of Cotton, production, but they have maintained positive trends. The districts which followed an upward trend in respect of area, are the districts which show an upward trend in production. There are altogether nine districts where the direction of trend is upward and the values range from 1.87 percent in Bijapur (including Bagalkot) to 197 in Mandya. A negative trend is recorded by a set of eight districts namely, Belgaum, Raichur (including Koppal), Kolar, Shimoga, Bidar, Dharwad (including Gadag, Haveri), Bellary, Chitradurga (including Davanagere), and the trend varies from -0.03 percent in Belgaum to -11.52 percent a year in Chitradurga (including Davangere). Among the districts showing upward trend, the districts of Hasan, Chikamagalur, Kodagu, Mysore (including Chamarajnagar), Gulbarga and Mandya show trend values exceeding 6 percent per annum. The trend values in one district of Uttar Kannada varies from 4 to 6 percent per annum. In another remaining group of two districts namely, Bijapur (including Bagalkot) and Tumkur Cotton registered a growth between 1 to 2 percent a year in produce. Last three districts had not produced Cotton.

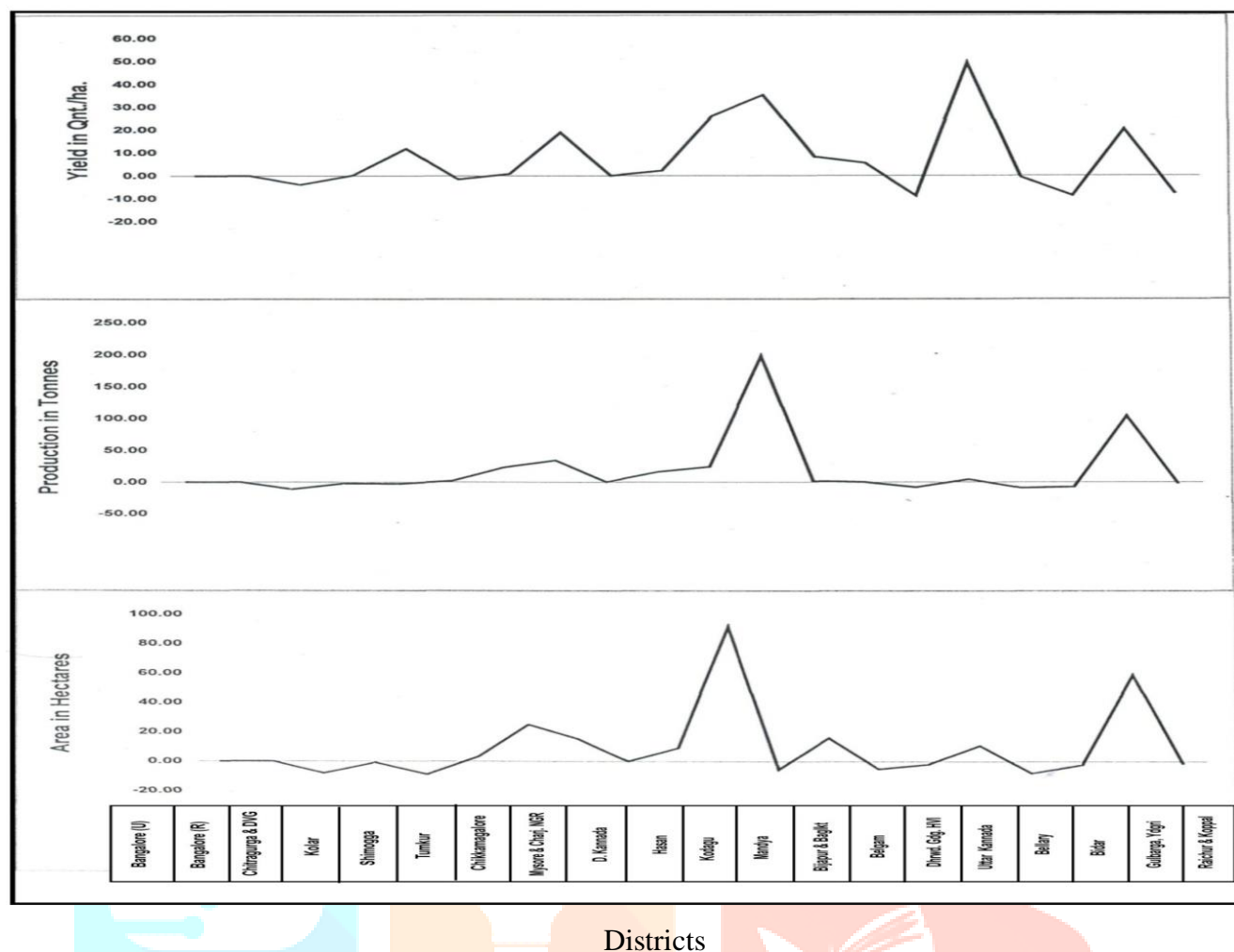


Fig.3 Cotton – Trend diagram (linear regression) 1993-94 to 2007-08

The trends in yield per hectare of Cotton in the state are generally in the positive direction. Only six districts namely Bellary, Tumkur, Chitradurga (including Davangere), Raichur (including Koppal), Bidar, Dharwad (including Gadag and Haveri) indicate a downward trend and the values of trend vary from -0.69' percent in Bellary to -8.89 percent a year in Dharwad (including Gadag and Haveri) district. The district of Uttar Kannada shows an upward trend 49.15 percent a year. Fig 5.34 shows that the following districts viz., Mandya, Kodagu, Gulbarga, Mysore (including Chamarajngar), Shimoga, Bijapur (including Bagalkot) and Belgaum show an upward trend of more than 5 percent per annum, and in Hassan, Chikamgalur and Kolar the trend is less than 3 percent per annum. the low yield per unit area is mainly due to non-availability of disease-free seed of the most suitable varieties adopted to different agro-climatic conditions, the high incidence of pests and diseases to which the crop is subjected and the use of sub-optimal inputs. Efforts have to be made to remove the obstacles.

Conclusion:

From the above, The harvesting period of Kharif crops starts at the end of monsoon, it is clear that regional variation is existing in Karnataka in respect of agricultural development. Regional imbalance in agricultural productivity caused the undevelopment of agriculture in Karnataka state. Regional imbalances in agricultural productivity are due to special variations in the availability of important agricultural inputs. Provision of agricultural input along with the development of basic infrastructure will help to develop agriculture. Further diverting of human labour pressure from agriculture sectors to some non –agricultural

sector will increase the productivity of agricultural sector and contributes positively towards the agricultural development in the state.

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