CROP COMBINATION REGIONS IN CHAMARAJANAGARA DISTRICT, KARNATAKA STATE

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ABSTRACT:
The crops are generally grown in combination and it is rarely that Ta particular crop occupies a position of total isolation other crops in a given areas unit at given set of time. The Agricultural Regionalization is a very important fact to the farmers help in taking decision for crop cultivation and this may be done with the help of different methods like Cropping Pattern, Crop Combination, Crop Concentration, Patterns of Crop Rotation etc. An attempt is made here
to study the crop combination regions of Chamarajanagara district. The present study is based secondary data, collected from Chamarajanagara district at Glance for the year 2007-08 and 2014-15 and the Method has been adopted to calculate the value belongs to Wever's Method. Eleven major crops have been considered for crop combination. The major crops of the area are paddy, ragi, sugarcane, maize, pulsus, oil seeds, vegetables, jower, fruits and cotton.

KEYWORDS :

Cotton. Cropping Pattern, Paddy, Ragi, Sugarcane, Maize, Pulsus, Oil Seeds, Vegetables, Jower, Fruits,

INTRODUCTION

The spatial differentiation of varying crop combinations is of central importance in any attempt at agricultural regionalization. The combination of different crops, their spatial association and their sequence in time in specific crop rotation systems are not only a result of ecological conditions but reflect varying economic conditions, such as farm economy, farm management and interregional exchange, as well.

The study of crop combination regions constitutes an important aspect of agricultural geography. Crop combination provides a good basis for agricultural regionalization for a comprehensive and better understanding of the agricultural mosaic of an agro-climatic region, the study of crop combination is of greater significance. In recent years, the concept of crop combination has enjoyed the attention of geographers and agricultural land use planners. Such type of study represents real situation of cropping pattern in the region.

STUDY AREA

Chamarajanagara is the southern-most district in the state of Karnataka. It was carved out of the original larger Mysore District in the year 1998. Chamarajanagara district is consisting of 4 taluks Chamarajanagara, Gundlupet, Kollegala and Yelandur

with 16 hoblis. Kollegala is the largest taluk with an area of 2786Sq.kms, while Yelanduru is the smallest with an area of about 266 Sq.kms.

The study area forms a distinct land unit, besides being a cultural unity lying between 76°.24' and 77°.43' east longitudes and 11°.32' and 12°.16' north latitudes. It is bordered by Mysore and Mandya district of Karnataka state in the North, Nilgiris and Coimbatore districts of Tamilnadu state in the South-East, Waynad district of Kerala state in South-West. It has Geographical area of 5101 Sq. Kms. Chamarajanagara district lies in the southernmost part of Karnataka state.

The two dominant soil types of the district are red-loam- sandy loam and black cotton soil. There are no perennial rivers flowing in the district. However, there are important seasonal rivers such as the Gundluhole, Suvarnavathi, Chikkahole, Callar, Moyar and Udutorehole. The Cauvery and the Suvarnavathi are the two important and major rivers which flow through the district through the northwestern parts eastward.

AIMS AND OBJECTIVES

1. To analyses the existing Crop combination.
2. To examine the changes of Crop combination in the period 2007-08 and 2014-15.

DATA BASE AND METHODOLOGY

The present study is based on the secondary data, for the period 2007-08 and 2014-15. Eleven crops are selected for the study. Data has been derived from Chamarajanagara district at glance. The crop data has been computed with the help of weaver's technique of crop combination. The theoretical curve for the standard measurement was employed as follows.

Monoculture = 100 percent of the total harvested crop land in one crop.
2- Crop combination = 50 percent in each of two crops
3- Crop combination = 33.33 percent in each of three crops
4- Crop combination = 25 percent in each of four crops
5- Crop combination = 20 percent in each of five crops
10- Crop combination = 10 percent in each of ten crops.

For the determination of the minimum deviation the standard deviation method is used by the following formula.

$$\sqrt{D = \frac{\Sigma d^2}{n}}$$

Where D: is the difference between the crop percentage in a given area (areal unit) and appropriate percentage in the theoretical curve. Here n=the number of crops in a given combination.

RESULTS AND DISCUSSION

The considerable changes in Chamarajanagara district's crop combination is experienced during the study period. The following figures illustrate the crop combination regions of the district of Chamarajanagara during the years of 2007-08 and 2014-15. Eleven crops combination have made by using the weavers' technique and below one percent of area under crop to total crops area has been omitted in this combination analysis.

Monoculture

During the two periods of 2007-08 to 2014-15 there are no taluks having monoculture crop combination;

Table: 1 Crop Combination in Chamarajanagara district.

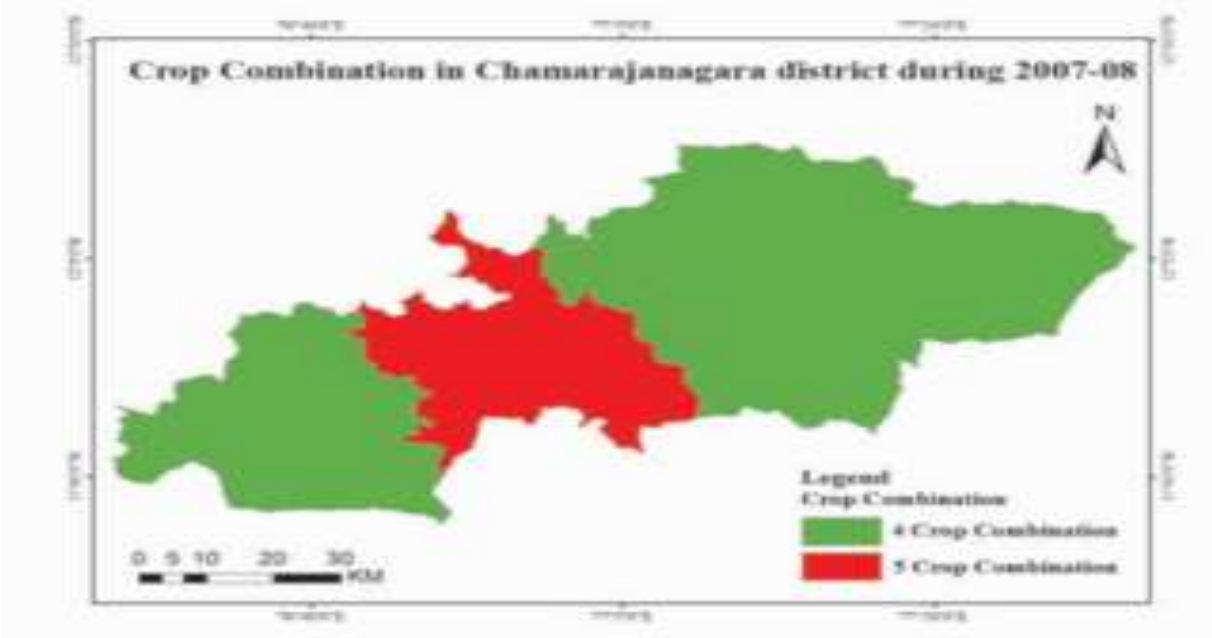
J.C. WEAVERS MINIMUM DEVIATION METHOD			
Taluk	**2007-08**	**2014-15**	**Change in No. Crops**
Chamarajanagara	5 Crops - PU+R+J+OS+F	5 Crops - PU+M+J+OS+F	**Nil**
Gundlupete	4 Crops -OS+PU+J+V	5 Crops - OS+PU+C+J+V	**+1**
Kollegala	4 Crops -M+P+R+PU	4 Crops -M+R+P+PU	**Nil**
Yalanduru	4 Crops -P+SC+PU+M	3 Crops -P+SC+M	**-1**

P = Paddy, R = Ragi, SC = Sugarcane M = Maize, PU = Pulsus, OS = Oil Seeds, V = Vegetables, J = Jower, F = Fruits, C = Cotton.

Two crop combinations

During the two periods of 2007-08 to 2014-15 there are no taluks having two crop combinations.

Map-1 crop combination in Chamarajanagara district during 2007-08



Three crop combination

During 2007-08, no taluks in Chamarajanagara district have two crops combination (Map.1). Yalanduru taluk having two crop combination of paddy, maize and sugar cane during 2014-15 (Map2)

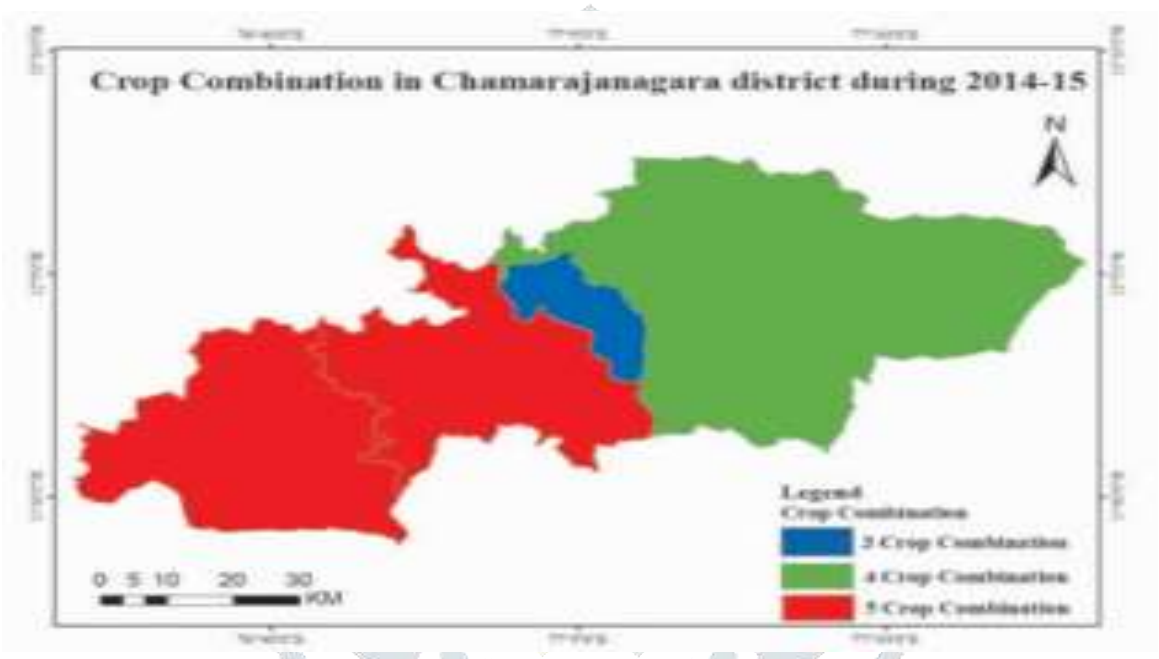
Four crop combination

During 2007-08, namely Gundlupete, Yalanduru and Kollegala is following four crop combination of paddy, ragi, maize, pulsus, sugar cane, oil seeds, jower and vegetables (Map.1). Kollegala taluk have four crop combination of paddy, ragi, maize and pulses during 2014-15 (Map.2).

Five crop combination

Five crops namely ragi, maize, pulsus, oil seeds, jower, fruits, cotton and vegetables enter into five crop combinations in Chamarajanagara taluk during both the decade. Gundlupete taluk have five crop combination during 2014-15 (Map. 1&2).

Map-2 crop combination in Chamarajanagara district during 2014-15



CONCLUSION

The cropping pattern of this District is complex in which one crop associate with other crop. Whole district is characterized by multi crop combinations. Gundlupete taluk has 4 crops combination (pulsus, oil seeds, jower and vegetables) viz (Table-1) but in 2014-15 implementation of tube well irrigation has lead to an addition of a +1 crop (cotton). There is no proper irrigation facilities have made Yalanduru taluk decrease of 4 crop combinations to 3 crop combinations. The development in irrigation facility, land development, increases in soil productivity, development of skills of farmers will change the existing cropping pattern in future.

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