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CROPPING PATTERN AND AGRICULTURAL LAND USE IN MANDYA DISTRICT



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ABSTRACT

The present study is an attempt to analyze the agricultural land use and cropping pattern in Mandya district. This study is based on secondary data collected from Mandya district at a glance. Agricultural production influenced by physical, socio-cultural, economic technological and organizational factor. Endeavour is made to study crop combination region in Mandya district for the year 2014-2015. With the help of weaver's (1954) technique calculated crop combination. Physiography, rainfall, soil, temperature and drainage influences on agricultural land use pattern in this district. Six crops have been considered for crop combination analysis.

These Cereals (Paddy, Jowar, Bajra, Maize, Ragi), Oil Seeds (Ground Nut, Sun Flower, Castor, Sesamum, Niger Seed), Commercial Crops (Sugar Cane), Fruit crops (Banana, Mango, Lemon, Pine Apple, Guava, Sapota, Poma-Granate, Papaya), Vegetable Crops (Potato, Tomato, Brinja, Beans, Cluster Beans, Onion, Green Chillies) are major crops by computing pattern and using Weaver's minimum deviation crop combination in Mandya district has identified two crop combination.

KEYWORDS : cropping pattern, agricultural, land use.

INTRODUCTION:

Land-use is an important aspect of studies in agriculture geography. Agricultural land use is the basic structural unit of natural resources. The history of Agriculture in Mandya reveals that famine is of common occurrence from ages due to inadequate and ill distributed rains. It forms the basis for all biological, human eco activities. Land is an important input in agricultural sector but the yield of agricultural crops mainly depend upon fertility of land for raising different crops, cropping pattern is the

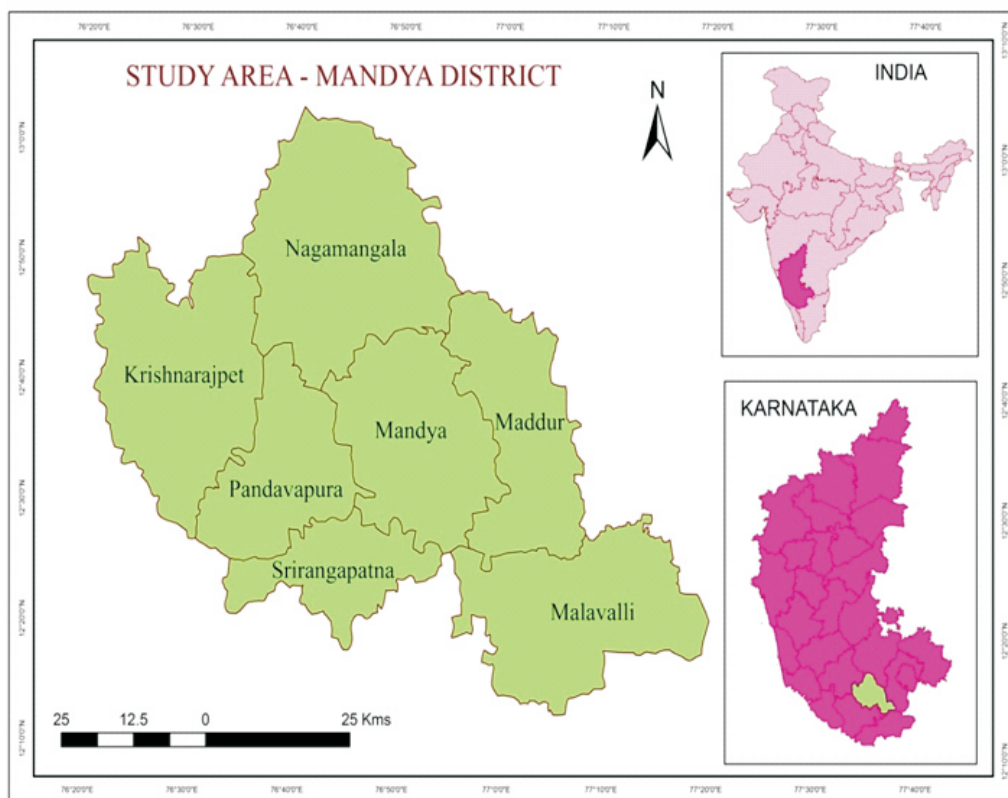
CROPPING PATTERN AND AGRICULTURAL LAND USE IN MANDYA DISTRICT

central element of agricultural land use. Cropping means the proportion of area under various crops at a point of time. The present study, aims to analyse cropping pattern and agricultural land use with the help of tables.

STUDY AREA

Mandya district lies between 76° 19' and 77° 20' East Longitude and 12° 13' and 13° 04' North Latitude. The district receives an average annual rainfall of 700 mm. The climate of the district comprises of moderate summers (Max 35°C) and moderate winters (Min 20°C). Mandya district comprises of 7 taluks. The total geographical area of the district is 4, 98,244 Ha, out of which 2,53,067 (50.79%) Ha forms the sown area. More than half of the total land area in the district is put to agricultural use.

Total irrigated area is 1,16,901 Ha out of which around 88,000 (75.27%) ha is being irrigated by K.R.Sagar and around 16,000 Ha by Hemavathi reservoir. The rest of the land is irrigated by other sources like tanks, wells and bore wells. With a total population of 18,05,769, around 5 lakh people are employed in the Agriculture Sector. Mandya District is an agriculturally predominant district in Karnataka state. The farmers in the region adopt improved farm mechanization due to which transformation is taken place in cropping pattern, composition of crops, better grown yield level, ultimately leading to better economic conditions of the people.



OBJECTIVES

- To assess the crop ranking and crop combination region in Mandya district.

DATA BASE AND METHODOLOGY

The Present study is based on secondary data. To analyze the cropping pattern and agricultural

land use in the study area the simple statistical methods were used to find the result and changes on data abstracted from Mandya district at glance. Simple statistical method has used to compute the least sum of squared deviation and variance and lowest standard deviation and coefficient of variation analysis (weaver) for cropping in the present study.

RESULTS AND DISCUSSION

CROP DISTRIBUTION

Distribution of irrigated land among different crops is shown in table 1. Cereals, pulses, oilseeds, commercial crops, fruits crops and vegetable crops are important crops.

Table 1 Mandya District : Crops Grown during 2014-15

S.N	Crops Group	Name of Crops
1	Cereals	Paddy, Jowar, Bajra, Maize, Ragi
2	Pulses	Tur, Horse Gram, Black Gram, Green Gram, Avare Cowpea, Bengal Gram
3	Oil Seeds	Ground Nut, Sun Flower, Castor, Sesamum, Niger Seed
4	Commercial Crops	Sugar Cane
5	Fruits Crops	Banana, Mango, Lemon, Pine Apple, Guava, Sapota, Poma-Granate, Papaya
6	Vegetable Crops	Potato, Tomato, Brinja, Beans, Cluster Beans, Onion, Green Chilles

Source: Mandya District at a Glance - 2014-15

CROP RANKING

It is observed in table 2 that, cereals crops are the leading crops as is grown irrigated land. The next important crops are pulses crops and commercial crops, another vegetable crops, oil seeds crops and fruits crops grown by the study region. The crops are indicating in percentage of factors in annual information cropping data as following.

Table 2 Mandya District : Cropping Pattern during 2014-15

S.N	Crops Group	Area in Hectares	Percent
1	Cereals	132608	57.2
2	Pulses	39237	16.9
3	Oil Seeds	6148	2.7
4	Commercial Crops	37124	16.0
5	Fruits Crops	4633	2.0
6	Vegetable Crops	11906	5.1

Source: Mandya District at a Glance - 2014-15

CROP COMBINATION ANALYSIS

Recently the crop combination, analysis geographical studies has gained momentum and it is increasing day by day. Combination studies are fruitful in many ways firstly; they provide an adequate

understanding of individual crop geography. Secondly, combination is in itself an integrative reality that demand definition and distribution analysis and crop combination regions' are essential for the construction of still more complex structure of different agricultural region. According to this method for present study in weaver's crop combination (Minimum Deviation Method) and calculating lowest standard deviation and Co-efficient of variation formula was selected for this study and analysis from 2014-15.

Minimum Positive Deviation Weaver's Method:

Crop combination is calculated by applying Weaver's method. In 1954 J.C. Weaver has applied least standard deviation technique for computing crop combination of a region. In these district two crop combinations is found having combination of cereals and pulses crop groups. Cereals crop group is dominant crop are paddy, jowar, bajra, maize and ragi. Pulses crop group is dominant crop grown are tur, horse gram, black gram, green gram, avare, cowpea and bengal gram.

CONCLUSION

The present study reveals that among ranking of crops, cereals crops occupy the first rank. Weaver's technique has identified two crop combinations in the study area. The cropping pattern is affected by the attitude of farmers, crop production and demand for market crop and has led to two crop combination namely, cereals and pulses crops. These crop combination are found in large scale of landlord farmers.

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