

LAND USE AND CROPPING PATTREN IN MEDAK DISTRICT OF TELANGANA STATE

LNarsimlu

*Research Scholar, Department of Economics,
Osmania University, Hyderabad. Telangana State. 500007.*

ABSTRACT

This paper examines about land use and cropping pattern in Medak District of Telangana State. Agriculture plays a very Vitol role in the economic development of the country. Where, 60 percent of the population is directly or indirectly depends on agriculture, geographical studies particularly relevant to agricultural geography. The growth of population leads to change in land use and cropping pattern. This paper is an attempt to analyse the changes in land use and cropping pattern of Medak district in Telangana State. In the lastfifteen years of (2000-01 and 2014-15) the scenario of land use and cropping pattern in the district was drastic change because of population growth.About 55.49 percent of the State's population is dependent on some form or the other, on farm activity for livelihoods. It is imperative to increase the farm incomes and ensuring sustainable growth in Telangana to reduce poverty. The cropping pattern was changed towards commercialization due to increase irrigation facilities, transport, and markets. Etc. The pressure on agricultural land is everincreasing for industrialization, urbanization, housing, infrastructure and others. All these factors are forcing for conversion of agricultural land to non-agricultural uses. The scope for expansion of the area available for cultivation is coming down to that extent, ultimately decrease in net area sown. Paddy is the major food crop and staple food of the State. Other important crops are also grown like Maize, Jowar, Red gram, Green gram, Bengal gram, Groundnut, Soya bean, Mango, Cotton, Chillies, Sugarcane etc., and agriculture has been one of the important sources of income for the State's economy.

Keywords: *-Agriculture, Land use, Cropping pattern, Crop intensity.Major food Crops*

Introduction

Agriculture plays a significant role in the Indian economy and the performance of this sector is vital for inclusive growth of the country. Agriculture not only contributes to the overall growth of the economy but also provides a vital livelihood base, employment and food security to the majority of the country's population. Increasing the agriculture production and raising the productivity of land, etc. have been among the central aims of planning. Due to various development process taken by the government, tremendous changes have taken place in the village economy. Agriculture is no more a way of life but it has been slowly become a commercial profession for agriculturist. India has a diversified cropping pattern with

considerable variation from region to region. The existing cropping pattern of the region may be the result of a number of ecological adjustments. Cropping pattern obtained in any particular agricultural area is generally the outcome of trials and adjustment in respect of farm – enterprise and practices. The Indian farmer is so much used to traditional agriculture that takes a long time to adjust the resources and product to the changing economics environments. More innovations are now available to the Indian agriculture in the form of improved seeds, fertilizers and enhanced irrigation facilities, etc. however, there seems to be time lag in adaptation of improved agricultural practices and new enterprises because a large mass of farmers have yet turn away from past experience and traditions as a guide and look ahead to the use of science and technology. Therefore, existing cropping patterns in many parts of the country might be outdated and need to be rationalized. Cropping pattern indicates the extent to which the usable land under different agricultural activities can be put to use. This largely depends upon the socio –economic influences, which determine the possibilities of the enterprise. Moreover, social and cultural values strongly influence the cropping pattern especially in the countries where agriculture is the way of life. The farming communities have developed their own rights and traditions, which affect the growing of crops. These crops are not always grown where they are best adapted to or they can grow most economical. Ownership of land, which is undergoing many changes, is also a limiting variable in the rational distributions and development of crops.

Agriculture plays a very important role in the economic development of the country where 70% of population is directly or indirectly depends on agriculture for their survival. Land is the important natural resource, which support evolution and development of all types of life on land. Land use especially affected by natural and human factors. So, the uses of land have been increasing as the science and technology increase. The developing countries need improve the exploitation of land resource to achieve the maximum output crop and the productive capacity of the land. Land use and cropping pattern is an important aspect of geographical studies particularly relevant to agricultural geography. Given the fixed amount of land available on the earth and the simultaneous increases in population and the pressure on land has been increasing tremendously that's why the leads to change in land use and cropping pattern during two decades. In this paper an attempt is made to analyses the change in the land use and cropping pattern during last two decades 2000-01 and 2010-11 in Medak district in Telangana state.

Review of Literature

Cropping pattern means the proportion of area under different crop at a point of time, change in this distribution over a period of time and factors affecting this change in distribution (Misra&Puri ; 2011). Cropping pattern is a dynamic concept as it changes in time and space. Cropping pattern in a state keep on changing from time to time with the change in related factors. It is determined mainly by physical, socio-cultural and historic factors. Besides technological factors have also played an important role. For example, HYV Programmes. In 1962-63, the IADP was introduced in the state in two districts i.e. Jammu (In Jammu division) and Anantnag (In Kashmir division).

This programme was encouraging the production of paddy, wheat, and maize. The state of Jammu and Kashmir has higher degree of variation in its cropping pattern, crop combination and crop diversification (Hussain; 2000).

The cropping pattern of the state by and large had a subsistence in nature during the Dogra rule. Cropping pattern was highly biased towards food crops with paddy, maize and wheat. Paddy, maize and wheat accounting for about 73 percent of total gross cropped area in 1938-39. The cropping pattern was reversed with the independence of the state. After independence, the state government take certain initiatives to transform the traditional agriculture into modern one joint with the institutional and technological reforms thereby, liberating the agriculture of the state from the shackles of stagnation. During the sixties, the introduction of high yielding varieties of seeds and fertilizers and provision of assured irrigation gave a boost to the production of agriculture (Singh; 1998).

The impact of the cropping pattern in the state was not uniform due to different topography and agro climatic conditions. There was shift of cropping pattern in favour of commercial crops which may attributed to the development of infrastructure, like roads, bridges and irrigation. Technological innovation also influenced the cropping pattern on the state in many ways. It can be asserted that after the introduction of New Agricultural Strategy (development of Agricultural Land, mechanization, manures and use of HYV seeds), there has been the complementary relationship between the commercialization and cropping pattern of the state. For the sake of higher earnings, the farmers have been switched from cereal crops to non-cereals crops. The provision of pesticides, transport and cold storage to ensure disease free maturation and delivery of fruits in various market played an important role in diversion of cereals and other land to orchard (Misri and Bhat ;1994).

Vinod Kumar: The increase population, the pressure on land to cause diversified nature of land use pattern and cropping pattern of the Jaisalmer district has increased the cropping intensity of the land. The cropping pattern of the district has changed towards commercialization due to increase in irrigation facilities, transport, communication, market facilities etc. In present scenario the study region needs to adaptation of forestation, changing in the cropping pattern, rural communications, development of farmers and labourers. Hence, to promote agriculture development and restore the ecological balance in the district.

Objective

This paper aims to evaluate changing land use, cropping pattern and crop intensity and examine land use change in Medak district in Telangana state.

Data and Methodology

The secondary data have been collected from Department of economics and statistics of Telangana state for 2000-01 and 2014-15 to analyse the land use and cropping pattern. Simple statistical techniques (percentage and average) are used to analyse the changing trend in cropping pattern and crop intensity

$$\text{Crop Intensity} = \frac{\text{Gross Cropped area}}{\text{Net sown area}} \times 100$$

Study Area

Undivided of Medak district in Telangana state is located 20 km north of Hyderabad. Medak was originally known as “Methukudurgam” which subsequently changed into Methukur due to growth of fine and coarse variety of rice in this area. It is one of the ten districts of Telangana Region of Andhra Pradesh with a geographical area of 9,699 km². It forms a part of Deccan Plateau under Godavari basin and lies between North Latitudes 17° 27’ and 18° 18’ and East longitudes 77° 28’ and 79° 10’ falling in topographical sheet nos. 56 F, G, J and K of Survey of India. The district is divided into 46 revenue Mandal’s, with its Headquarters at Sangareddy. The district has a population of 3031877 (as per 2011 census). The population density is 313 persons per sq.km. The forest cover is 91,390 hectares and the net area sown is 4,80,841 ha. Though the Manjira River is a perennial river, a major project Singoor which is dedicated to drinking water supply. There are no major irrigation projects in the District. An area of 9325 ha is being irrigated by surface water sources and an area of 1,45,452 ha is being irrigated by ground water, which indicates that ground water plays a major role when compared to surface water. The various crops raised are rice, jowar, bajra, sugarcane, black gram, red gram, Bengal gram, cotton, and groundnut. Borewell irrigation is increased to 55% whereas canal irrigation is decreased to 25% as well as 117% decrease in tanks irrigation.

Table1: Land utilization pattern in Medak district in Telangana state (Area in hectares)

Land utilization pattern	2000-01		2014-15		Percentage (increase/decrease)
	Area	Percentage	Area	Percentage	
Total Geographical Area	839428	100	970000	100	0
Total reported area for the land utilization	839428	100	970000	100	0
Forest	29422	3.5	91390	9.42	5.92
Land put to non-agricultural uses	73465	8.75	75997	7.83	-0.92
Barren un cultivable land	38119	4.54	52444	5.41	0.87
other follow land	44577	5.31	53254	5.49	0.18

Current fallow land	101791	12.12	172819	17.82	5.70
Net area sown	497300	59.24	472737	48.74	-10.50
Area sown more than once	34986	4.16	79891	8.24	4.08
Total cropped area	52106	6.2	552628	56.97	50.77

Source: Department of Economics and statistics, Govt. of Telangana (2000-01 & 2014-15), researcher calculated based on above data.

Changing pattern of Agriculture land use

In order to study the changes in agricultural land use pattern in Medak district in Telangana State compared the land use data of 2000 – 01 and 2014 – 15 (table 1). Forest area put for non-agriculture use, net sown area, and area sown more than once all these showed in increasing trend. Some categories showed increasing trend in barren & uncultivable land (0.9 per cent), other fallow land (4.45 per cent), and fallow land (3.48 per cent) area are increased. The total net sown area and land put non-agri. uses had decreased to (-10.50 and -0.92 per cent) (2000-01 and 2014-15) in ten years' period.

Land Utilization pattern

According to 2000-2001, the district as a whole had 59.24 per cent of its area and cultivation, but scenario was changed in 2014-2015, in the study area about 48.74 per cent of the area under cultivation. In this decade the agriculture area that is net sown area was decreased to -10.50 per cent because fallow 12.12 per cent to 17.82 per cent and total other fallow land increase to 5.31 per cent to 5.49 per cent. It has been noticed that the increased in the irrigation leads to increase the area sown more than once i.e. 4.16 per cent in 2000 - 01 to 8.24 per cent in 2014-15. The total area under forest in the study area is 3.50 per cent in 2000-01 and increased to 9.42 per cent in 2014 -15.

Cropping pattern

The major crops in Medak district can be divided into three categories total food grains, total crops, total non-food grains and total oil seeds. Total agricultural area of the district about 204444 hectares (36.89 per cent) in 2014-15 of agricultural areas devoted to food crops area and remaining 8676 hectares (1.57 per cent) land is under non-food crops.

Changes in Cropping Pattern

Over a decade increase in net sown area was effected on changing cropping pattern in Medak district in Telangana state. The proportion of area under food crops, decline 37.85 & 36.89 percent. While the area under non-food increased from 1.26 to 1.57 percent. However, actual area under food crops has net decreased by -0.96 percent and non-food crops in the district have increased by 0.31 percent. It indicates that, the growth in area under total non-food

crops could not keep pace with the growth of gross cropped area. The total area under pluses increased to 0.01 to 0.11 percent and total food grains decreased 24.60 to 23.83 percent and total oil seeds increased to 1.20 to 1.48 percent from 2000-01 to 2014 to 15.

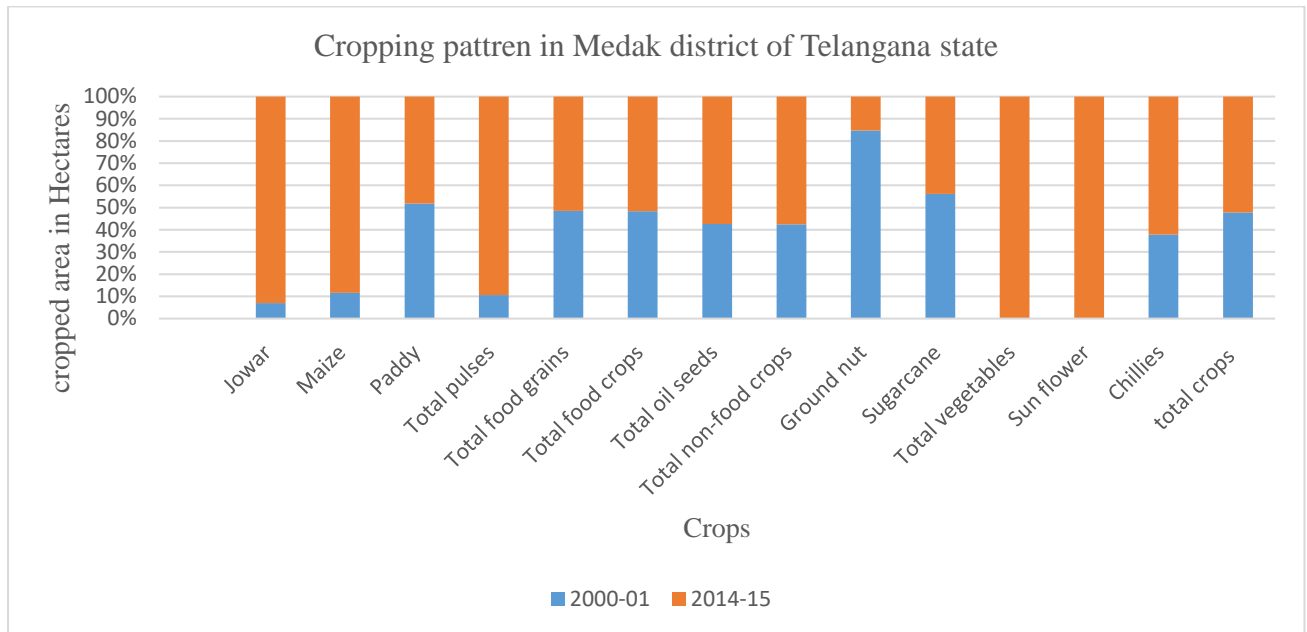
Table 2: Cropping Pattern in Medak district of Telangana state

Crops	2000-01		2014-15		Percentage difference (increase /decrease)
	Cropped Area (in hectares)	Percentage to gross cropped area	Cropped area (in Hectares)	Percentage to gross cropped area	
Jowar	129	0.03	1732	0.31	0.28
Maize	2321	0.46	17683	3.19	2.73
Paddy	119030	23.46	110816	20.00	-3.46
Total pulses	70	0.01	591	0.11	0.10
Total food grains	124779	24.6	132068	23.83	-0.77
Total food crops	192047	37.85	204444	36.89	-0.96
Total oil seeds	6090	1.2	8198	1.48	0.28
Total non-food crops	6394	1.26	8676	1.57	0.31
Ground nut	4296	0.85	773	0.14	-0.71
Sugarcane	50967	10.05	39852	7.19	-2.86
Total vegetables	NA	0	20229	3.65	3.65
Sun flower	NA	0	7144	1.29	1.29
Chillies	1210	0.24	1987	0.36	0.12
	507333	100.00	554193	100.00	

Source: Department of Economics and statistics, Govt. of Telangana (2000-01 &2014-15), Researcher calculated based on above data.

Note: NA: Not available

Chart -1



Note: Not available data sunflower and total vegetables crop during 2000-01.

Intensity of Cropping

The intensity of cropping depends upon water supply, climate, soil, favourable climate, growing population facilities that hinder the cropping intensity, but where the irrigation facilities are more the cropping intensity is high. The net sown area has decreased from 59.24 to 48.74 per cent in 2000-01 to 2014-15 period.

Conclusion

In Indian conditions selective mechanization for utilization of abundant human and animal power sources with supplementary mechanical and electrical power will be beneficial. As irrigation is available to less than 50% cultivable area, improved technology for upland and lowland rice will surely increase rice production and productivity. The increase population, the pressure on land to cause diversified nature of land use pattern and cropping pattern of the Medak District in Telangana State has increased the cropping intensity of the land. The cropping pattern of the district has changed towards commercialisation due to increase in irrigation facilities, transport, communication and market facilities etc. In present scenario of the study region needs to adaptation of forestation, changing in the cropping pattern, rural communications, development of farmers and labourer. Hence, to promote agriculture development and restore the ecological balance in the Medak District in Telangana State.

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