

# Land use and Cropping Pattern in Jaisalmer District

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**Abstract** - Agriculture plays a very important role in the economic development of the country where 70 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 an attempt is made to analysis the changes in land use and cropping pattern of Jaisalmer district. In the last two decades (2000-01 and 2010-11) the scenario of land use and cropping pattern in the district were drastic change because of population growth. In 2000-01 out of the total agriculture area 33.72 percent of agriculture land was under food crops, but in 2010-11 the food crops cultivated area were increase to 36.27 percent and area under non-food crops in 2000-01 is 66.28 percent and it decrease up to 63.73 percent in 2010-11, because agriculture trend change towards the food crops to cash crops. The cropping pattern of the district has changed towards commercialization due to increase in irrigation facilities, transport, communication, market facilities etc. The diversified nature of land use pattern and cropping pattern of the Jaisalmer district has increased the cropping intensity of the land.

**KEYWORDS** :- Agriculture, Land use, Cropping pattern, Crop intensity.

## **Introduction**

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

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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 10 years. 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 jaisalmer district.

## **Objective**

This paper aims to evaluate changing land use, agriculture cropping pattern and crop intensity and to examine land use change in Jaisalmer district during the 2000-01 and 2010-11.

## **Database and methodology**

The secondary data have been collected from socio-economic abstract of Jaisalmer district for 2000-01 and 2010-11 to analyses the land use and cropping pattern. Simple statistical techniques (percentage and average) are used to analyses 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**

Jaisalmer district is situated in the extreme west of Rajasthan and forms the major part of the great Indian desert. Located between 26<sup>0</sup>-29' to 28<sup>0</sup>-02' North latitudes and 69<sup>0</sup>-29' to 72<sup>0</sup>-20' East longitudes. The breath (East-West) of the district is 270 Kms and the length (North-South) is 186 Kms. On the present map, district Jaisalmer is bounded on the north by Bikaner, on the west & south-west by Indian boarder, on the south by Barmer and Jodhpur, and on the east by Jodhpur and Bikaner Districts. The length of international boarder attached to district Jaisalmer is 471 Kms.

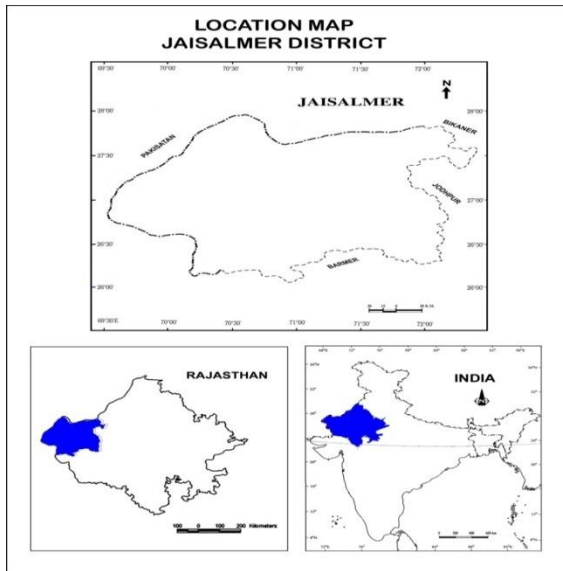


Figure: 1. Location map of study area

### Land utilization pattern

According to 2000-01 the district as a whole had 12.65 percent of its area under cultivation, but scenario was changed in 2010-11, in the study area about 18.90 percent of the area under cultivation. In this decade the agriculture area that is net sown area was increased to 6.26 percent because decrease fallow 4.29 percent to 2.76 percent and total non-cultivable land excluding follow land decrease to 69.87 to 63.85 percent. It has been noticed that the increased in the irrigation leads to increase the area sown more than once i.e. 1.45 percent in 2000-01 to 3.96 in 2010-11. The total area under forest in the study area is 0.61 percent 2000-01 and increased to 1.17 percent 2010-11.

Table -1: Land utilization pattern in Jaisalmer district.( Note :- area in hectares)

Land Utilization pattern	2000-01		2010-11		Percentage (increase/Decrease)
	Area	Percent	Area	Percent	
Total Geographical area	3839154	100	3839154	100	0
Total reported area for the land utilization	3839154	100	3839154	100	0
Forest	23277	0.61	44873	1.17	0.56
Not available for cultivation	112023	2.92	147437	3.84	0.92
1) Area put for Non-agricultural use					
2) Barren & uncultivable land	371077	9.67	363715	9.47	-0.19
Total Non-cultivable land excluding follow land	2682452	69.87	2451331	63.85	-6.02
Fallow land	164850	4.29	106113	2.76	-1.53
Net sown area	485475	12.65	725685	18.90	6.26
Area sown more than once	55646	1.45	151900	3.96	2.51
Gross cropped area	541121	14.09	877585	22.86	8.76

Source : socio-economic abstract of Jaisalmer district,(2000-01 & 2010-11).

### Changing pattern of agricultural land use

In order to study the changes in agricultural land use pattern in Jaisalmer district compared the land use data of 2000-01 and 2010-11(table-1). Forest, area put for non-agriculture use, net sown area, area sown more than once all these showed increasing trend. Some categories showed decreasing trend in Barren & uncultivable land (0.19 percent), total non-cultivable land excluding follow land (6.02 percent), and fallow land (1.53 percent) area are decreased. The total net sown area had increased to (6.26 percent) (2000-01 & 2010-11) in 10 year period.

### Cropping pattern

The major crops in Jaisalmer can be divided into three categories. Food grains (wheat, Bajra, Maize, Jowar, Barley), Cash crops (Cotton, Sugarcane and oilseeds), and horticulture crops such as fruits and vegetables. Total agriculture area of the district about 318303 hectares (36.27 percent) of agriculture area is devoted to food crops and remaining 559282 (63.73 percent) of land is under non-food crops.

### Changes in Cropping pattern

Over a decade increase in net sown area was affected on changing cropping pattern in Jaisalmer district. The proportion of area under food crops, decline 33.72 & 36.27 percent. While the area under non-food decreased from 66.28 & 63.73 percent. However, actual area under food

crops has net decreased by 2.55 percent and non-food crops in the district have increased by 2.55 percent. It indicates that, the growth in area under total food crops could not keep pace with the growth of gross cropped area (+8.76). The total area under cereals decreased 28.13 to 23.82 percent and the total pulses decreased 20.03 to 10.56 percent from 2000-01 & 2010-11.

**Table no. 2 : Cropping pattern in Jaisalmer district.**

	2000-01		2010-11		Percentage difference (increase/decrease)
	Cropped area (in hectares)	Percentage to gross cropped area	Cropped area (in hectares)	Percentage to gross cropped area	
Jowar	1988	0.37	2552	0.29	-0.08
Bajra	138691	25.63	191205	21.79	-3.84
Maize	9	0.00	0	0.00	0.00
Wheat	11448	2.12	15127	1.72	-0.39
Barley	74	0.01	200	0.02	0.01
Total cereals	152210	28.13	209084	23.82	-4.30
Total pulses	11002	2.03	92669	10.56	8.53
Total food grains	163212	30.16	301753	34.38	4.22
Total food crops	182455	33.72	318303	36.27	2.55
Total oilseeds	29759	5.50	106777	12.17	6.67
Sugarcane	0	0.00	1	0.00	0.00
cotton	144	0.03	39	0.00	-0.02
total fruits	2	0.00	82	0.01	0.01
Total vegetables	135	0.02	148	0.02	-0.01
Total Non-food	358666	66.28	559282	63.73	-2.55
	541121	100.00	877585	100.00	

Source : socio-economic abstract of Jaisalmer district,(2000-01 & 2010-11).

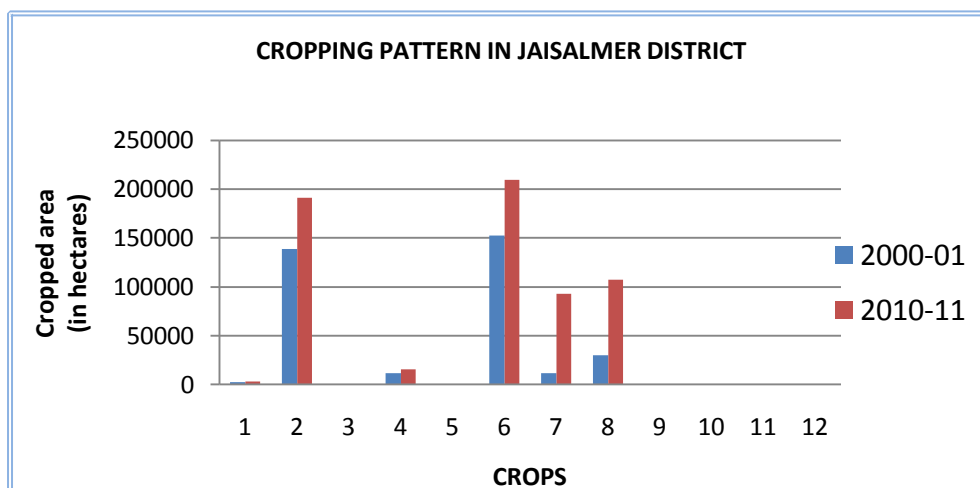


Chart- 1

### **Intensity of Cropping**

Intensity of cropping depends upon water supply climate, soil, favorable 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 increased from 12.65 to 18.90 percent in 2000-01 to 2010-11.

### **Conclusion and Recommendations**

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.

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### **Author Profile**

**Vinod Kumar** received the Master degree in Geography and Professional Qualification (M.Phil.) from the Maharaja Ganga Singh University, Bikaner, (Rajasthan). UGC-NET Geography Qualify in December 2012. He has published about 1 papers in national journals.