

Land Use and Cropping Pattern in Barmer District

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ABSTRACT

Agriculture is critical to India's economic development since 70% of the population relies on it directly or indirectly for existence. Land use and cropping patterns are key components of research in agricultural geography. Population expansion and economic trends cause changes in land utilization and cropping patterns. The purpose of this article is to examine the trends in land use and cropping patterns in the Barmer district. The district's land use patterns changed dramatically from 1999-2000 to 2010-11. The cropping trend shifted from traditional food crops to commercial cash crops.

Keywords: Barmer, Land utilization, Cropping pattern. Net sown area

INTRODUCTION

The present study was undertaken to analyse the land use pattern and cropping pattern over time in the Barmer district of Rajasthan state. The study was based on census data of land use and cropping pattern from 1999-2000 to

2010-11 and agriculture statistics data from the Dept. of Agriculture, Govt. of Rajasthan. The Barmer district's economy is mostly based on agriculture, with 73.7 per cent of the district's workers employed as cultivators or agricultural labourers. The climate is dry, with extreme temperatures and erratic rainfall. The soil of the district is mainly deep yellowish-brown sandy soil, and the flora is that of a hot desert region.

Study Area

The district of Barmer is located in Rajasthan's southwest, between 24° 58' and 26° 32' north latitudes and 70° 05' and 72° 52' east longitudes. In terms of area, it is the third largest district in the state, after Jaisalmer and Bikaner. Since 1971, the district's geographical location has remained constant at 28387 square kilometres, compared to the state's overall area of 342239 square kilometres.

The whole length of the district borders is 915 km, with 227.5 km bordering Pakistan. It is bounded on the north by the districts of Jaisalmer and Jodhpur and on the south by the district of Jaisalmer.

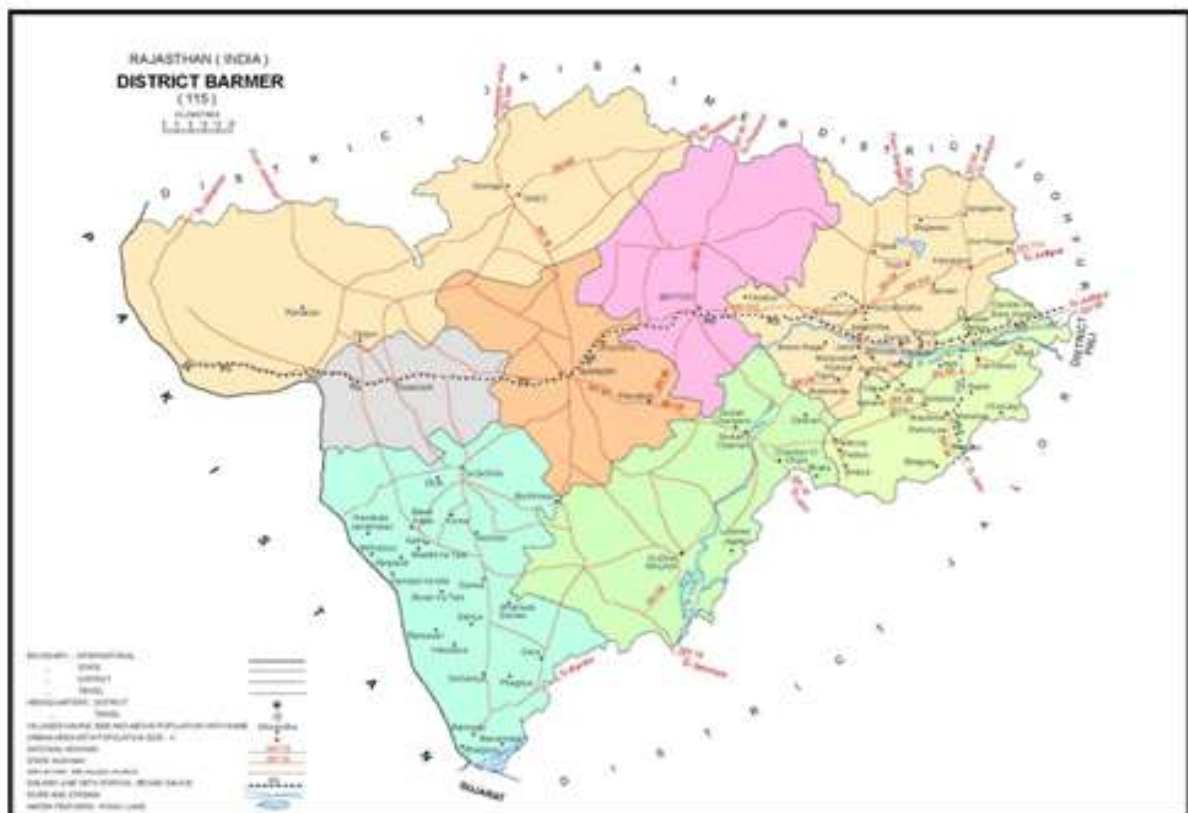


Figure 1 Map of Barmer district

DATABASE AND METHODOLOGY

The secondary data have been collected from the District Census Handbook, Census of India 2001 and 2011 to analyse the land utilization and cropping pattern in the district. Simple statistical techniques (percentage and average) have been used for the analysis of the changing trends.

Land utilization

The use of land is influenced by physical variables such as terrain, soil and climate as well as by human factors such as population density, period of occupation of the area, land tenure and technological advancement of the population. Because of the ongoing interaction of physical and human forces, there are regional and temporal variances in land utilisation. The district's land utilisation is as follows:

Table 1, Land utilization in Barmer district

S. No.	Classification of the land use	% to total area (1999-2000)	% to total area (2010-2011)
1	Forests	0.99	1.13
2	Land put to non-agricultural use	2.58	2.62
3	Barren and uncultivated land	4.60	4.39
4	Other uncultivated land excluding fallow land	16.71	13.50
5	Fallow land	28.83	14.72
6	Net sown area	46.29	63.64

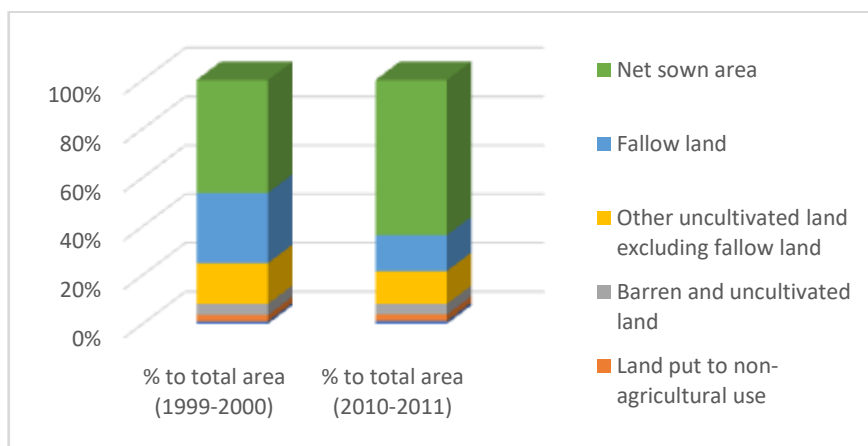


Figure 2 Comparison of land utilization in Barmer district in the year 1999-2000 vs 2010-11

From the above data, we can clearly observe that the net sown area has grown substantially while the area under barren, uncultivated and fallow land has fallen. According to 2010-11, the culturable land in the district was 2587533

hectares, the gross area sown was 1979410 hectares, area sown more than once was 186981 hectares, the net area sown was 1792429 hectares and the gross irrigated area was 254363 hectares.

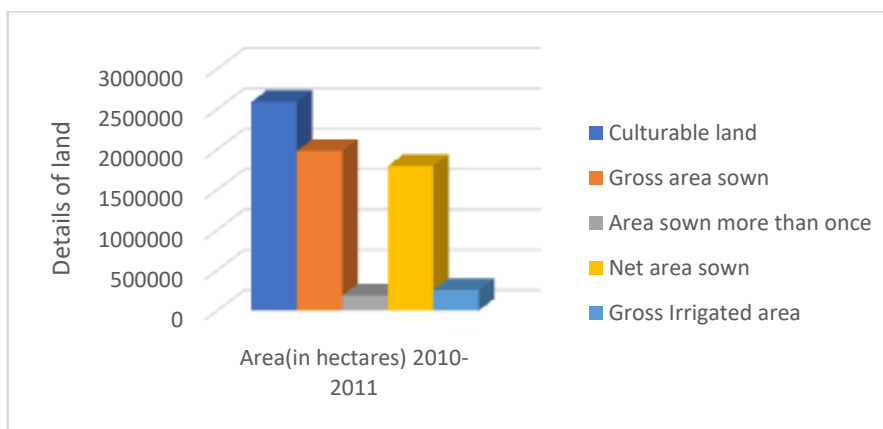


Figure 3. The cultivable land and the area sown in Barmer district in 2010-11
 Source: Basic Statistics Rajasthan 2013 (DES, Govt of Rajasthan)

Crop pattern

The Barmer district is a huge desert tract gradually developing from west to east. In general, the district is a single-farmed region that grows the "Kharif" crop. However, in years of heavy rain, the Luni River overflows its banks, allowing the "Rabi" crop to develop. Wheat is the primary Rabi crop. Gram and barley are also planted in some locations. Kharif crops include bajra, jowar, maize, legumes, and oil seeds. In 1999-2000, out of the total area

under principal crops, 76.26 per cent was under cereals, 20.19 per cent under pulses and 3.55 per cent was under oilseeds and others. In 2010-11, out of the total area under principal crops, 54.37 per cent was under cereals, 18.26 per cent under pulses and 27.37 per cent was under oilseeds and other commercial crops. In 2010-11, the following were the final figures for agricultural production and area under cultivation:

Table 2 Area under cultivation and production of various major crops in 2010-11

Crop	Area Sown (hectares)	Production (tonnes)
(a) Food Grain		
Wheat (Rabi)	16732	24526
Jowar (Kharif)	2752	1927
Bajra (Kharif)	955029	534595
Barley (Rabi)	43	123
(b) Pulses		
Gram (Rabi)	1072	962
Moong (Kharif)	53447	26979
Moth	272869	144886
(c) Oilseeds		
Sesamum	3937	1033
Groundnut	578	1136
Taramira	39428	16132
Castor	29510	23758
R&M	25982	40522
(d) Other Commercial Crops		
Guar	409097	142931
Isabgol	60829	19621

Source: Agriculture Statistics, Department of Agriculture, Govt. of Rajasthan

On examining changes in the cropping pattern in the Barmer district between 1999-2000 and 2010-11, we can observe that the plantation of traditional food crops like cereals and pulses has gone down while the production of other commercial crops has grown significantly.

CONCLUSION AND RECOMMENDATIONS

The rising population and pressure on land have resulted in a more diverse character of land use cropping patterns in the Barmer district. The net sown area has grown substantially and the barren, uncultivated and fallow land area has depleted. At the same time, the plantation of commercial and promising cash crops has grown significantly as compared to traditional less remunerative crops with poor yields. Because of improvements in irrigation, transportation, communication, and market a facility, the district's agricultural pattern has shifted towards commercialization. Most of the area under cultivation is rainfed. Hectares of irrigated double cropland have turned into single crop/wasteland due to

depleting groundwater resources. In future, this hazard will become more harmful. In the current environment, the study region must adjust to afforestation, judicious use and proper management of water resources, cropping pattern modifications, and farmer and labourer development in order to achieve sustainable development goals.

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