



# Agricultural Transformation in Drought Prone Region: A Case Study of Atpadi Tahsil in Sangli District

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## Abstract

India is country, which have an agrarian economy. Agriculture, therefore, became a backbone of India's economy. But since independence, particularly after the first green revolution, agriculture sector in India has enormous change, cropping pattern of many regions of India also changed accordingly. This research paper tries to throw a light on this issue, with the study of agricultural transformation in Sangli district particularly in the drought prone region like Atpadi tahsil. Only secondary source of data has been considered for almost last 50 years (i.e. 1964-65 to 2013-14) for this study. A major transformation is found in the production of cereals in the tahsil. The transformation in cereals is -15.68 per cent, while in the other hand transformation in non-food crops is +14.29 per cent. This transformation has taken place due to the less rainfall as well as lack of irrigation facilities. This agricultural transformation has also impacted on the cropping intensity in this drought prone area.

**Keywords :** Agriculture, Landuse, Transformation, Cropping Pattern, Crop Intensity

## Introduction

Agriculture plays a vital role in India's economy. Over 58 per cent of the rural households depend on agriculture as their principal means of livelihood, while 70 per cent population is directly or indirectly depends upon agriculture for their survival. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP) of India (IBEF, 2016). But since independence, with increasing advance means of agriculture, agriculture transformation takes place. Similarly, with increasing population crop intensity also starts increasing. In context to the drought prone region agricultural changes also take place, with increasing crop intensity, but the impact of drought is also found in these particular regions. Agricultural transformation is the process by which individual farms shift from highly diversified, subsistence-oriented production towards more specialized production oriented towards the market or other systems of exchange (Staatz, 1998). In this particular study, has attempted to study the

agricultural transformation in the drought prone region in Sangli district during almost last fifty years (i.e. 1964-65 to 2013-14).

## Objective

The only objective of this paper is to analyse the agricultural transformation and crop intensity in the drought prone region in Sangli district with the case study of Atpadi tahsil during 1964-65 to 2013-14.

## Database and Methodology

The present paper is entirely based on the secondary data, which is collected from the Socio-Economic Abstract of Sangli district of 1964-65 and 2013-14. The simple techniques like percentage, average are used for analyse the agricultural landuse and cropping pattern. Crop intensity is calculated with the help of following formula –

$$\text{Crop Intensity} = \frac{\text{Gross Cropped Area}}{\text{Net Sown Area}} \times 100$$

## Study Area

The area undertaken for the present paper is Atpadi tahsil in Sangli district, which situated in the eastern part of Sangli district, and experiencing worst drought condition every year. Hence, this tahsil is considered as drought prone region for present study. Atpadi tahsil lies on 17.42 N latitude and 74.93 E longitude and surrounded by Solapur district to the east and south, Satara District to the north and Khanapur tahsil to the west.

## Discussion

The agricultural landuse is depending upon many geographical aspects of the particular region, such as topography, climatic conditions, drainage pattern etc. Besides, some cultural aspects like irrigation, transport, communication, market, etc. are also affect agricultural landuse of that region. Accordingly in the following discussion, agricultural landuse and changes in the cropping pattern in Atpadi tahsil of Sangli district is studied for the 1964-65 to 2013-14.

## Agricultural Landuse Pattern

The agricultural landuse pattern and transformation in landuse from 1964-65 to 2013-14 of Atpadi tahsil as follows –

**Table 1 : Agricultural Transformation in Atpadi Tahsil**

Cropping Pattern	Atpadi Tahsil				
	1964-65		2013-14		Trans-formation
	Area	%	Area	%	
Cereals	51418	70.79	33768	55.11	-15.68
Pulses	8444	11.63	6824	11.14	-0.49
Sugarcane	75	0.10	840	1.37	1.27
Spices	164	0.23	169	0.28	0.05
Fruits & Vegetables	311	0.43	1387	2.26	1.83
Fibres	880	1.21	360	0.59	-0.62
Oilseeds	1076	1.48	518	0.85	-0.63
Drug and Narcotics	12	0.02	0	0.00	-0.02
Other Non Food Crops	10253	14.12	17408	28.41	14.29
Gross Cropped Area	72633	100.00	61274	100.00	

**Source :** Socio-Economic Abstract of Sangli District of Concern Years

In the year 1964-65, most of the cropped area was under the cereal crops (70.79%), after that non-food crops (14.12%) are mostly dominated crops in the cropping pattern of the Atpadi tahsil. Cropped area under pulses was only 11.63 per cent. Remaining crops like sugarcane, various spices, fruits and vegetable, fibre crops, drug and narcotics crops covered only small part of the total cropped area.

In the year 2013-14, the total scenario was almost same as considering the highest area covered by various crops, but some ups and downs were found in the area covered by them. The area covered by cereals is remain highest with 55.11 per cent, followed by area under the non food crops (28.41%). The area covered by pulses is 11.14 per cent, show negligible change as compare to last 50 years. Afterward some ups and downs were found in the area covered by remaining crops as considering the area covered by them.

## Agricultural Transformation

As per the above table (Table 1) it was clearly found that, most of the negative agricultural transformation found in the cereals crop (-15.68%), while on the other hand most positive transformation was found in the non food crops (+14.29%). It means during the investigation period (i.e. 1964-65 to 2013-14) most of the area was shifted from the cereal crops to non-food crops especially fodder crops. Apart from that some positive transformation was found in the crops like sugarcane (+1.27%), spices (0.05%),

fruits and vegetables (+1.83%). While negative transformation found in the crops such as pulses (-0.49%), fibres (-0.62%), oilseeds (-0.63%), drug and narcotics crops (-0.02%).

### Intensity of Cropping

Intensity of cropping of Atpadi tahsil is discussed and analysed in the following discussion.

**Table 2 : Crop Intensity in Atpadi Tahsil (1964-65 to 2013-14)**

Tahsil	1964-65			2013-14		
	Net Sown Area	Gross Cropped Area	Crop Intensity	Net Sown Area	Gross Cropped Area	Crop Intensity
Atpadi	70665	72633	102.78	61274	80899	132.03

**Source :** Socio-Economic Abstract of Sangli District of Concern Years

The overall cropping intensity in the Atpadi tahsil was increased from 102.78 per cent to 132.03 per cent during the investigation period including the area sown more than once.

### Concluding Remark

It is clearly found that the agriculture landuse transform from cereal crops to non-food crops such as fodder crops. It is only due to the less rainfall, and lack of irrigation facilities. The area particularly lies in the drought prone area experiencing a severe drought almost every year. Apart from that lack of transport and communication, lack of modern agricultural means and tools also affected the cropping pattern. There is negligible change in area under sugarcane also associated with the lack of irrigation facilities and lack of rainfall. Crop intensity shows some increase but again the increase in the area of non-food crops such as fodder crops is the main reason behind it. It means, almost last fifty years these drought prone regions experiencing lack of planning and also deprivative by government.

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