



Research Article

## Study of land use pattern and cropping pattern of marginal farmers of Marathwada region of Maharashtra

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**SUMMARY :** Agriculture has a place of pride in Indian economy and is one of the main source of national income. About 65 per cent population is directly and indirectly engaged in farming. India with land area of 2.4 per cent of the world supports a population 16 per cent. Farming is a business with high fixed costs, uncertain yields and price conditions. It also varies from farm to farm, season to season, region to region and from year to year. The land holding pattern is made up of relatively large number of small units which differ in cropping pattern, type of livestock. A farm with less than 1 hectare land holding is known as marginal farm. Farm management covers aspect of farm business which has a bearing on the economic efficiency of the farm. Thus, the type of enterprises to be combined, the kind of crops and varieties to be grown, the dosage of fertilizers to be applied, the implements to be used, the way the farm functions are to be performed, all these fall within the subject of the farm management. Production efficiency is an important criterion in determining the innovative behavior of the people of rural community. It is expected that a farmer with high production efficiency get more yield which build up his economic background. In villages of India land is most important asset of a farmer, which indicates his economic standing in the society. Multistage sampling design was used for selection of zone, tehsils, village and farms in Marathwada region of Maharashtra. In all 100 samples farmers were selected from 50 villages, 30 tehsils and 8 districts. Tabular analysis consisting of mean, percentage and ratios were used. It was used to calculate costs and returns of different crops and live stocks on the farm. It was also used in land use pattern, cropping pattern and socio-economic characteristics of the farmer. Average holding size of marginal farm was 0.75 hectare in which proportionate irrigated area was 28.00 per cent. Large numbers of crops were grown on marginal farm in which proportionate area of cereals and pulses was 29.63 per cent followed by cash crops (25.92 per cent), horticultural crops (10.19 %) and oilseeds (4.63 %). Wheat, soybean and cotton were major crops grown on marginal farm. Wheat was most profitable crop followed by rainfed cotton and soybean.

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### BACKGROUND AND OBJECTIVES

Agriculture has a place of pride in Indian economy and is one of the main source of national income. About 65 per cent of our population is directly and indirectly engaged in farming. India with land area of 2.4 per cent of the world, supports a population 16 per cent. Farming is a business with high fixed costs, uncertain yields and price conditions. It also varies from farm to farm, season to season, region to region and from year to year. The land holding pattern is made up of relatively large

number of small units which differ in cropping pattern, type of livestock. A farm with less than 1 hectare land holding is known as marginal farm. Farm management covers aspect of farm business which have a bearing on the economic efficiency of the farm. Thus, the type of enterprises to be combined, the kind of crops and varieties to be grown, the dosage of fertilizers to be applied, the implements to be used, the way the farm functions are to be performed, all these fall within the subject of the farm management. Production efficiency is an important criterion in determining the

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innovative behaviour of the people of rural community. It is expected that a farmer with high production efficiency get more yield which build up his economic background. In villages of India land is most important asset of a farmer, which indicates his economic standing in the society.

In order to increase per unit returns from such agriculture, it is necessary to study the profitability, marginal productivity and economic efficiency.

## RESOURCES AND METHODS

### Sampling design :

Multistage sampling design was used for selection of zone, tehsils, village and farms in Marathwada region of Maharashtra. In all 100 samples farmers were selected from 50 villages, 30 tehsils and 8 districts.

### Analysis of data :

Required collected data were analyzed by employing statistical tools like mean, percentage, ratios, budgeting techniques, frequency and log linear multiple regression analysis, in present study.

Tabular analysis consisting of mean, percentage and ratios were used. It was used to calculate costs and returns of different crops and live stocks on the farm. It was also used in land use pattern, cropping pattern and socio-economic characteristics of the farmer.

## OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

### Land use pattern :

Study of land utilization patterns is of great importance. Since land is the main limiting factor in agricultural production. Land use pattern indicates how efficiently the land use resources available to the farmers were utilized. The land utilization pattern also indicates the area available for the cultivation, gross cropped area and cropping intensity.

Land use pattern of farm studied and is presented in Table 1, it indicated that total land holding of farm was 0.75 ha. The net cultivated land of farm was 0.71 ha which was 94.66 per cent of total land holding. The rain fed area was 0.50 ha and irrigated area was 0.21 ha which contributed

**Table 1: Land use pattern of marginal farm**

Particulars	Area (ha.)	Percentage
1. Total land holding	0.75	100.00
2. Uncultivated land	0.04	5.34
3. Net cultivated land	0.71	94.66
Irrigated area	0.21	28.00
Rainfed area	0.50	66.66

66.66 per cent 28.00 per cent, respectively to the total land holding. The uncultivated land of farm was 0.04 ha *i.e.* 5.34 per cent of total land holding. These results are in conformity to the results found by Pawar *et al.* (2000).

### Cropping pattern and livestock pattern :

Cropping pattern and livestock pattern of the region are most important factor in deciding the economic status of the region. Study of cropping pattern reveals an allocation of land under different crops. Mostly farmers plan their cropping pattern by considering their needs of farm, consumption etc. Information regarding cropping pattern and livestock pattern are presented in Table 2. It revealed that the major crops grown were soybean 0.15 ha, rainfed cotton 0.14 ha, sugarcane 0.11 ha, rainfed *Rabi* jowar and wheat 0.10 ha, which contributed 13.89, 12.95, 10.19 and 9.25 per cent, respectively. Among the cereals, major area was covered by two crops *i.e.* rainfed *Rabi* jowar and wheat with the area 0.10 ha, which had contributed 9.25 per cent of gross cropped

**Table 2: Cropping pattern of marginal farm**

Sr. No.	Particulars	Area (ha)/ No. of animals	Percentage
<b>CROPS</b>			
1.	<i>Kharif</i> jowar	0.03	2.78
2.	Rainfed <i>Rabi</i> jowar	0.10	9.25
3.	Irrigated <i>Rabi</i> jowar	0.01	0.93
4.	Bajra	0.05	4.62
5.	Wheat	0.10	9.26
6.	Paddy	0.01	0.93
7.	Maize	0.02	1.85
<b>Total cereals</b>		<b>0.32</b>	<b>29.63</b>
8.	Soybean	0.15	13.89
9.	Tur	0.04	3.71
10.	Greengram	0.06	5.55
11.	Blackgram	0.02	1.85
12.	Rainfed gram	0.04	3.71
13.	Irrigated gram	0.01	0.93
<b>Total pulses</b>		<b>0.32</b>	<b>29.63</b>
14.	Safflower	0.02	1.85
15.	Summer groundnut	0.03	2.78
<b>Total oilseeds</b>		<b>0.05</b>	<b>4.63</b>
16.	Rainfed cotton	0.14	12.95
17.	Irrigated cotton	0.03	2.78
18.	Sugarcane	0.11	10.19
<b>Total cash crops</b>		<b>0.28</b>	<b>25.92</b>
21.	Fruit crops	0.09	8.34
22.	Vegetables	0.02	1.85
<b>Total horticultural crops</b>		<b>0.11</b>	<b>10.19</b>
Gross cropped area		1.08	100.00
Net cropped area		0.71	65.74
Double cropped area		0.37	34.26
Cropping intensity		-	152.11

area, respectively. Among the pulses, soybean crop covered maximum area of 0.15 ha, which was 13.89 per cent of gross cropped area followed by green gram 0.06 ha, *i.e.* 5.55 per cent of gross cropped area.

Among oilseeds, summer groundnut and safflower covered area of 0.03 and 0.02 ha, and contributed 2.78 and 1.85 per cent of gross cropped area, respectively. The most important cash crops grown in the region were cotton and sugarcane. Cotton crop is grown under two conditions *i.e.* rainfed cotton and irrigated cotton. Area under irrigated cotton and rainfed cotton was 0.03 ha and 0.14 ha which contributed 2.78 and 12.96 per cent of gross cropped area, respectively. Area covered by sugarcane was 0.11 ha *i.e.* 10.19 per cent of gross cropped area. In the region, area grown under horticultural crops was not more. Area under fruit crops *i.e.* sweet orange, banana and mango was 0.09 ha which was 8.34 per cent of gross cropped area. The area under vegetables was 0.02 ha *i.e.* 1.85 per cent of gross cropped area. The net cultivated area was 0.71 ha *i.e.* 65.74 per cent of gross cropped area and area under double cropped was 0.37 ha contributed 34.26 per cent of gross cropped area. Cropping intensity of farm was 152.11 per cent. These results are in observed that cropping intensity of small farm was 152.20 per cent in Uttar Pradesh.

#### Conclusion :

Average holding size of marginal farm was 0.75 hectare in which proportionate irrigated area was 28.00 per cent. Large numbers of crops were grown on marginal farm in which proportionate area of cereals and pulses was 29.63 per cent followed by cash crops (25.92 %), horticultural crops (10.19

%) and oilseeds (4.63 %). Wheat, soybean and cotton were major crops grown on marginal farm. Wheat was most profitable crop followed by rainfed cotton and soybean.

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