

## Land holding and cropping pattern of Rabi Jowar growers in Marathwada Region

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### ABSTRACT

Size of land holding and selection of suitable cropping pattern are the two key factors which are responsible for the living standard and socio economic condition of the peasants not only in Marathwada region but also in the whole country. This study examines the land holding and cropping pattern of *rabi* jowar growers in Marathwada region of Maharashtra state. In Analytical techniques, tabular analysis which includes mean, percentage, frequency and ratio were used. It is revealed from the study that on an average total land holding for the sample as a whole was 03.71 ha. while with respect to small, medium and large farmers the size of land holding was 01.49, 03.32 and 06.32 ha. respectively. In general average size of land holding for irrigated and unirrigated as a whole was 01.52 and 02.18 ha. and general average size of uncultivated land was 00.18 ha. The net cultivated land was 03.50 ha. For small farmers, it was 01.44 ha., for medium, it was 03.01 ha and 06.13 ha. for large farmers. In case of cropping pattern on an average proportionate area under *rabi* jowar crop was 22.26 per cent. At overall level cropping intensity of *rabi* jowar farm was 147.00 per cent.

**Key words** Land holding, Cropping pattern, *Rabi* Jowar, Marathwada region.

### INTRODUCTION

The poverty of the people is basically the poverty of the farmers, who constitute over 70% of the population of India. One of the main reasons responsible for the poverty of Indian farmers is very small land holdings on which they are operating and hence they are called as small and marginal farmers who alone form 75% of the farmers in India. On the contrary, selection of proper cropping pattern is also a very important key factor of reasonable farm income and living standard. The advantage of Jowar is that it can be grown in both Kharif and *Rabi* season. Also it can handle and grow on a wide range of soil types starting from fertile to less nutrient soils but an effective output largely depends on soil moisture, resistance and porosity. Moreover, Electrophoretic protein profiles could be efficiently used for distinguishing superior Jowar varieties (Bhushan and Zia, 2011). Basavraj *et al.*, (1986) in his study has clearly opined that inputs used in sorghum production on small and large farms were mainly human labour, bullock labour, seed and fertilizers. Of these inputs, the most limiting were seed and bullock labour. On the other hand, some inputs

were underutilized, indicating the possibility of increasing productivity and total output. On the issue of productivity, it was found that returns per unit input were higher on large farms. Patil and Kunal (1988) presented the findings on a study of the structure of costs and return of Jowar (Sorghum) production in the Bijapur district of Karnataka. The study revealed that the cost of production, producer price and marketing cost were examined for 1981-82 in *Rabi* season. The medium and large scale farmers appeared to be incurring higher costs per quintal of Jowar than the small holders. Although the small holders appeared to be receiving a slightly higher producer price than the medium and large operators. Dayakar *et al.*, (2005) studied economics of sorghum cultivation in paddy fallows of Guntur district of Andhra Pradesh. It was revealed that the returns from grain yield of *Rabi* sorghum was Rs.15226 per hectare with an average grain yield of 34.57 quintals per hectare. The net returns at paid-out cost (Cost A) from paddy was Rs. 23885.3 per hectare and that of sorghum was Rs. 12444 per hectare. The net returns at cost A of Rs. 12444 per hectare from sorghum cultivation is rationally high.

On the contrary Asmatoddin *et al.*, (2009) studied socio-economic status and cropping pattern of medium farm owner in Marathwada region.

It was observed that average family size was 06.00 persons in which male was 35.43 per cent followed by female 33.90 and children 30.67 per cent. In case of age 7.00 per cent farmers belonged to young group that is up to 30 years. The share of middle age group (31 to 50 years) was 52.00 per cent. In regards to educational status, most of the medium farmers were educated up to high school i.e. 47 per cent. Problems are manifold and to solve them and to improve the conditions fairly good investment is required. Based on all these an attempt has been made to access the land holding and cropping pattern of *rabi* jowar growers in Marathwada region of Maharashtra.

## **MATERIALS AND METHODS**

Methodology is of vital importance in the any economic study. It includes salient features of study area, sampling design, methods of data collection, analytical tools used and term and concept involved in study. In order to fulfill the objective of the present study, primary data were collected from various sources. Multistage sampling design was adopted for selection of the district, tehsil, village and respondent farmers.

At first stage, the Parbhani and Beed districts were purposely selected because these two districts are traditionally known for *rabi* jowar cultivation and they are having predominant area under *rabi* jowar in the Marathwada region. At second stage, one tehsil from each district was selected on the basis of highest area under *rabi* jowar. At third stage, from each selected tehsil a list of revenue villages was prepared in consultation with revenue department and then six villages were selected, randomly. At the fourth stage, a list of *rabi* jowar growers was prepared in consultation with Talathi (Patwari) of each selected village, from a list, ten *rabi* jowar growers were selected randomly.

Thus, 120 *rabi* jowar growers were selected for the present study. The selected sample then post classified into three groups i.e. Small (Area under *rabi* jowar is upto 02 ha.) Medium (Area under *rabi* jowar is between 02 to 04 ha.) and large (Area under *rabi* jowar is above 04 ha.) farmer. Number of respondents in small size group were 30, medium size group 50 and large size group 40.

Thus, effective total sample size was 120. Parbhani and Beed market were purposely selected because these two markets were the major market of Parbhani and Beed district, respectively. From the selected market, different middlemen were selected randomly for the study of marketing *rabi* jowar. Ten middlemen were selected for the present study. Parbhani and Beed market were purposely selected because these two markets were the major market of Parbhani and Beed district, respectively. From the selected market, different middlemen were selected randomly for the study of marketing *rabi* jowar. Ten middlemen were selected for the present study. The sample farmers were interviewed personally and the objectives of the study were explained to them to ensure the co-operation. The information was collected from them in a specially designed schedule by personal interview method. Data pertained for the year 2009-10. Further, data was analyzed with respect to objective of the study for meaningful conclusion.

The analytical techniques like frequency, percentage, ratio method, tabular analysis method, functional analysis method were used to analyze the data in the present study.

## **RESULTS AND DISCUSSION**

### **Land holding and cropping pattern of *rabi* jowar growers in Marathwada region**

Data presented in Table 1.0 revealed that on an average total land holding for the sample as a whole was 03.71 ha. while in respect to small, medium and large farmers the size of land holding was 01.49, 03.32 and 06.32 ha. respectively. Irrigated land holding for small, medium and large farmer was 01.00, 01.69 and 01.88 ha. and unirrigated land holding was 00.49, 01.63 and 04.44 ha. respectively, In general average size of land holding for irrigated and unirrigated as a whole was 01.52 and 02.18 ha. and general average size of uncultivated land was 00.18 ha. The net cultivated land was 03.50 ha. for small farmer it was 01.44 ha., for medium, it was 03.01 ha and 06.13 ha. for large farmers.

In regard to cropping pattern, gross cropped area was 08.51 ha. on large farm and 04.65 and 02.39 ha. on medium and small farm respectively. In general, gross cropped area was 05.13 hectare in the study area.

It was observed that the proportionate share of Cotton crop was the highest irrespective of the farm size. The share of Cotton was ranged from 23.85 per cent to 28.44 per cent. It was inferred that the farmer in all categories were given more importance to Cotton, because it is a cash crop in their cropping pattern. In case of *rabi* season, it was observed that the proportionate share of *rabi* jowar crop was the highest as 26.78 per cent on

small farm followed by 22.15 and 17.86 per cent on medium and large farm. On an average, proportionate area under *rabi* jowar crop was 22.26 per cent. The other important crops in the cropping systems were Green gram, followed by Black gram, Soybean, Pigeon pea, wheat etc. *Rabi* jowar crop was predominant cereal crop in *rabi* season so as to fulfill the need of grain as well as fodder to the livestock.

**Table 1.0 Land holding and cropping pattern of *rabi* jowar growers in Marathwada region**

	Particulars	<i>Rabi</i> jowar growers			
		Small	Medium	Large	Overall
<b>A]</b>	<b>Land holding</b>				
i)	Total land holding	01.49 (100)	03.32 (100)	06.32 (100)	03.71 (100)
ii)	Irrigated land holding	01.00 (67.11)	01.69 (50.90)	01.88 (27.74)	01.52 (49.25)
iii)	Unirrigated land holding	00.49 (32.89)	1.63 (49.10)	04.44 (70.26)	2.18 (50.75)
iv)	Uncultivated land	00.05 (03.36)	00.31 (09.34)	00.19 (03.00)	00.18 (04.51)
<b>B]</b>	<b>Cropping pattern</b>				
	<b><i>kharif</i> season</b>				
i)	Cotton	00.57 (23.85)	01.17 (25.16)	02.42 (28.44)	01.38 (26.90)
ii)	Green gram	00.29 (12.13)	00.58 (12.47)	01.2 (14.10)	00.69 (13.44)
iii)	Black gram	00.14 (05.86)	00.28 (06.02)	00.38 (04.47)	00.26 (05.06)
iv)	jowar	00.08 (03.35)	00.04 (00.86)	00.18 (02.12)	00.10 (01.93)
v)	Pigeon pea	00.01 (00.42)	00.26 (05.59)	00.64 (07.52)	00.30 (05.84)
vi)	Soybean	00.10 (04.18)	00.27 (05.80)	00.99 (11.63)	00.45 (08.77)
vii)	Pearl millet	00.13 (05.44)	00.27 (05.80)	00.16 (01.88)	00.18 (03.50)
viii)	Vegetable	00.12 (05.02)	00.14 (03.01)	00.16 (01.88)	00.14 (02.72)
	<b><i>rabi</i> season</b>				
i)	jowar	00.64 (26.78)	01.03 (22.15)	01.52 (17.86)	01.06 (20.66)

ii)	Wheat	00.02 (00.84)	00.32 (06.88)	00.52 (06.11)	00.28 (05.45)
iii)	Chick pea	00.13 (5.44)	00.15 (3.22)	00.14 (1.64)	00.14 (02.72)
iv)	Safflower	00.06 (2.51)	00.03 (0.64)	00.00 (0.00)	00.03 (00.58)
v)	Others	00.00 (00.00)	00.016 (00.34)	00.08 (00.94)	00.026 (00.50)
	<b>Summer season`</b>				
i)	Ground nut	00.02 (00.84)	00.03 (00.64)	00.08 (00.94)	00.04 (00.77)
ii)	Vegetables	00.08 (03.34)	00.07 (01.50)	00.04 (00.47)	00.06 (01.16)
<b>C)</b>	<b>Net cropped area (ha)</b>	01.44	03.01	06.13	03.50
<b>D]</b>	<b>Gross cropped area (ha)</b>	02.39 (100)	04.65 (100)	08.51 (100)	05.13 (100)
<b>E]</b>	<b>Cropping intensity (%)</b>	165.00	154.00	139.00	147.00

(Figures in parentheses indicate percentage to total)

In summer season, Summer-Groundnut and Vegetables were only two important crops taken by the farmers; this may be because of scarcity of water in summer season. Maximum area of summer crops was observed on small farms, it was mainly because of availability of irrigation water.

In regard to cropping intensity, it was observed that, the highest cropping intensity was 165.00 per cent on small farm followed by 154.00 and 139.00 per cent on medium and large farm, respectively. In general, cropping intensity was found to be 147.00 per cent in the study area. It was revealed from the results that, cropping intensity has some relation with area under irrigation. Cropping pattern was mainly dominated by *kharif* crops followed by *rabi* crops. Negligible area was under summer crops. Cotton base cropping system was dominated in *kharif* season,

where as cereal base cropping system specially *rabi* jowar is the characteristics of *rabi* season.

#### Conclusion

It is concluded that on an average total land holding for the sample as a whole was 03.71 ha. While with respect to small, medium and large farmers the size of holding was 01.49, 03.32 and 06.32 ha. respectively. In general average size of land holding for irrigated and unirrigated as a whole was 01.52 and 02.18 ha. and general average size of uncultivated land was 00.18 ha. The net cultivated land was 03.50 ha. for small farmer it was 01.44 ha., for medium, it was 03.01 ha and 06.13 ha. for large farmers.

In case of cropping pattern cotton and *rabi* jowar has dominated the cropping pattern. On an average proportionate area under cotton and *rabi* jowar crop was 26.90 and 20.66 per cent respectively. At overall level cropping intensity of *rabi* jowar farm was 147.00 per cent.

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