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## A study on socio-economic practices of inbred and hybrid rice producers of different size groups farms in Udham Singh Nagar District of Uttarakhand

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### Abstract

The study conducted in Udham Singh Nagar district of Uttarakhand was based on data collected from 60 farmers for the agricultural year, 2012-13. The study at examining socio economic status faced by farmers in hybrid rice production in study area. The Socio-economic status (SES) is a combined measurement of economic and social position of an entity compared to others in society. Farm-level data analyzed by using suitable and appropriate tools and technique. Analysis revealed that based on the average operational holding was 1.23, 2.77 and 7.26 has at small, medium and large farms respectively while average area under rice was 2.417 ha particularly area under inbred variety was 1.19 ha and under hybrid 1.22 ha per farm. The majority of the sample respondents 46.67 percent had an operational land holding of less than 2 ha, 28.33 percent had 2-4 ha and 25.00 percent had more than 4 ha. The average annual income of household level, majority of the farmers 48.34 percent had an annual income more than Rs. 2.00 lakhs. About 42 percent of small farmers, 35 percent of medium farmers and 13 percent of large farmers had an annual income between Rs. 1.00 -2.00 lakhs. The policy of the study show that medium and large farmers were literate than the small farmers and level of education dominated in government's quality seed production project, There is a need to follow a strong extension programme in the area regarding improved cultivation practices of hybrid rice

**Keywords:** socio economic, inbred, hybrid

### Introduction

Agriculture throughout the world is still single most important human activity. it is main or the only source of livelihood for over 50.00 percent of population and contributes roughly the same proportion to the national income <sup>[1]</sup>. The Socio-economic status (SES) is measurement of economic and social position of an individual or a group in the society. It has found role in determining one's accessibility to the common resources, livelihood pattern, household food & nutritional security etc. They are usually practicing modern ways of cultivation which adds very little to the input. In a plain farmers who is doing diversified agriculture practices for secures his family food and nutritionally. There are some socio-economic factors, having influences hybrid rice production practices are to be followed, which might have significant impact on crop yield and productivity. Farm size, farmers education level, technical knowledge of the farmers, training and farming experience etc. may have positive relationship with crop yield. The factors like farmers low income, lack of personal and interpersonal communication skill, less exposure to media etc. might have negative relationship with crop yield and productivity. Different socio-economic factors like education level, farming experience, farm size, annual income etc. play a significant role in the adoption process of modern agricultural technologies among the farmers. The farmers who have higher socio-economic status could easily adopt the modern technologies or could take any risk of the new technologies for scaling up their agricultural production. Moreover, the success of modern agriculture is dependent on the farmers knowledge and experience along with available inputs <sup>[2]</sup>.

### Materials and Methods

The present study was conducted Udham Singh Nagar district of Uttarakhand and it was based on primary as well as secondary data. A three stage sampling technique was used for selection of the farmers. Out of seven blocks of the district two blocks and from each block four villagers were selected randomly. The farmers were categorized into three group on the basis of land holding i.e Small (<2 ha), Medium (2-4 ha) and Large (>4 ha) and probability proportion to size method was used to select farmer Therefore, a sample of 60 hybrid rice growers was obtained which were 28, 17 and 15 on small, medium and large sized farms respectively.

Nine variables viz. category, the socio-economic status of selected rice growers was assessed in terms of parameters like Family composition and average family size, Education-wise distribution, Age-wise distribution, Income-wise distribution, Size and distribution of operational land holdings, Occupation-wise distribution, Distribution of livestock, Investment on farm Machinery and fixed assets on sample farms, Cropping pattern of sample farm of the rice growers which constituted the socio-economic profile of a farmer were selected randomly to assess the SES of rice growers [3].

A pre-tested structured interview schedule was prepared. Data was collected by Personal interview method.

Simple statistical tools like frequency, percentage, mean were used for analysis and interpretation of data. The respondents were divided into small, Medium and large categories on the basis of mean of the total Score.

## Result

### Socio-economic profile of the respondents

Distribution of sample households according to the size of family is presented in the table 1. The average family size of small, medium and large farmers was 2.84, 3.20 and 3.07, respectively. And table shows that the small, medium and large farmers were 45.94, 28.94 and 25.09 percentage. It is evident from the table that out of the total selected farmers, 33.33 percent farmers formal up to class 5, 40 percent farmer attained the school education whereas 26.67 percent farmers attained College (class 10 & above) and it is shows in the table the average number of farmers formal up to class 5, School (class 6 - 10) and College (class 10 & above) were 6.66, 8.00 and 5.33 respectively [4].

The age of farmer has a great important part on his ability to take part in economic activities especially in farming and get more benefit from the enterprise. Age-wise distribution of sample farmers is shown in table. It is evident from the table that on overall average basis 48.33 percent of rice growing farmers were in the age group of 31–50, around 28.33 percent of farmers were in the age group of below 30 years and only 23.34 percent farmers were in the age group of above 50 years. It can be inferred that rice growing farmers of the study area were in middle age group.

The distribution of the respondent-farmers according to their annual income is given in table. It can be seen from the table that at average level, majority of the farmers 48.34 percent had an annual income more than Rs.2 lakhs. The result reveals that medium and large farmers were more financially viable than the small farmers.

The operational land holdings of sample rice growers were collected from revenue records. The average size of operational holding was found to be 1.23, 2.77 and 7.26 ha at small, medium and large farms respectively. Table 1 presents the distribution of farmers according to the land holding size. Majority of the sampled respondents were found belonging to small and medium category. From the table it can be seen that majority of the sample respondents 46.66 percent had an operational land holding of less than 2 ha, 28.33 percent had

2-4 ha and 25.00 percent had more than 4 ha.

Table 1 shows the number of farmers who were growing rice as their main occupation or as a subsidiary one. It is evident from the table 1 that about 83.00 percent of the overall farmers took rice cultivation as their main occupation. All the large farmers preferred to adopt rice cultivation as their main occupation. Majority of the small 75.00 percent and medium 80.00 percent farmers were also undertaking rice cultivation as their main occupation. These findings are indicative of the fact that growing rice was the main occupation of the sample farmers of the study area.

Livestock comprising cow, buffalo and poultry bird. The distribution of livestock according to aggregate level on sample farms is given in table. It is evident from the table that on an average majority of the farmers (>54 percent) having poultry production as supportive income activity. However, 59.46 percent of the small farmers, 49.03 percent of the medium farmers and around 54.16 percent of the large farmers domesticating poultry birds on their farms. Whereas, approximately 32.00 percent population of buffalo distributed on large farms, 25.96 percent population of cow distributed on medium farmers and 14.16 percent on large farmers.

Table shows that the average investment on fixed assets on sample farm was Rs. 4, 16, 463.33 of more than half that was 75.63 percent investment was on tractor only due to its high purchasing price. While small farmer invest 69.86 percent, medium farmer 77.59 percent and large farmer 77.57 percent on purchase of tractor to total investment of fixed cost. Table 1 also revealed that on an average investment on cattle shed and farm storage contributed 4.09 percent and 10.57 percent in total investment, respectively. Whereas, investment on trolley and small implements were 9.34 and 0.34 percent, respectively to the total investment on sample farm.

### Cropping pattern of sample farms

The proportions of different crops grown by farmer in a year on his farm determine the level of input use, production, pattern of income and importance of crops on farm. However, it is obvious from the table 2 that rice occupied 76.10 percent area to total cropped area on the sample farm. The share of small farmer accounted for 73.26 percent, medium farmer 71.83 percent and large farmer 80.23 percent on sample farms in kharif season. Next crop after rice were maize and sorghum which were registered 11.70 percent and 8.71 percent area in corresponding season respectively. Other crops on the sample farms were sugarcane 1.54 percent and urd 1.92 percent in kharif season. Cultivation of rice seems an important crop of area with highest acreage and productivity was 59.10 q per ha. Therefore, rice could consider as major economic activity of household in kharif season. In Rabi season maximum area was occupied by wheat 77.53 percent followed by mustard 9.50 percent, pea 9.20 percent and potato 3.70 percent. Therefore, area of study pre-dominated by rice-wheat cropping system and cultivation of these crops are the major activity of farm households. These are in agreement with findings [5].

**Table 1:** Distribution of the respondents according to their socio-economic characteristics

Character	Unit	Categories	Percentage	Mean
Family composition and average family size	numbers	small	45.94	2.84
		medium	28.95	3.20
		large	25.09	3.07
Education	year of schooling in numbers	formal up to class 5	33.33	6.66
		School(class 6 - 10)	40.00	8.00
		College(class 10 &above)	26.67	5.33
Age-wise distribution	numbers	<30 year	28.33	5.66
		31-50 year	48.33	9.66
		>50 year	23.34	4.66
Income-wise distribution	numbers	< 100000 lakh	20.00	4.00
		100000- 200000 lakh	31.66	6.33
		> 200000 lakh	48.34	9.66
operational land holding size	ha	Small(<2ha)	46.33	1.23
		Medium(2-4ha)	28.33	2.77
		Large(>4ha)	25.00	7.26
Occupation-wise distribution	numbers	Main	83.34	16.33
		Subsidiary	16.33	3.33
Distribution of livestock	numbers	Cow	17.18	18.33
		Buffalo	28.75	30.66
		poultry	54.06	57.66
Investment on Farm Machinery and Equipments	Rs.	Cattle shed	4.09	17066.67
		Farm building storage	10.57	44033.33
		Tractor	75.63	315000.00
		Trolley	9.34	38922.00
		Small Implements	0.34	1441.33

**Table 2:** Cropping pattern of sample farms

Crop	Category of farms						Average (area ha)	Average productivity (q/ha)
	Small (area ha)	Productivity (q/ha)	Medium (area ha)	Productivity (q/ha)	Large (area ha)	Productivity (q/ha)		
<i>Kharif</i>								
Rice	25.22(73.26)	55.56	33.90(71.83)	58.32	85.90 (80.23)	63.42	48.34 (76.10)	59.10
Maize	3.97 (11.51)	13.25	5.79 (12.26)	14.66	12.60 (11.90)	15.28	7.45 (11.72)	14.39
sorghum	3.51 (10.18)	11.50	4.80 (10.17)	12.25	8.31 (7.80)	12.70	5.54 (8.71)	12.15
Sugarcane	0.95 (2.7)	7.25	1.50 (3.10)	8.50	0.50 (0.00045)	8.00	0.98 (1.54)	7.91
Urd	0.82 (5.29)	6.20	1.20 (2.50)	6.50	1.65 (0.015)	7.00	1.22(1.92)	6.50
Total	34.47 (100.00)	93.76	47.19 (100.00)	100.23	108.96 (100.00)	106.4	63.54 (100.00)	100.13
<i>Rabi</i>								
Wheat	22.75 (65.99)	35.00	36.50 (77.34)	38.00	88.50 (81.22)	40.00	49.25 (77.53)	37.67
Pea	3.25 (9.42)	12.75	5.50 (11.65)	14.59	8.80 (8.07)	16.25	5.85 (9.2)	14.50
Mustard	4.50 (13.05)	10.50	3.75 (7.94)	11.75	10.00 (9.17)	12.88	6.08 (9.5)	11.71
Potato	3.97 (11.51)	180.50	1.44 (3.05)	190.00	1.66 (1.52)	210.50	2.35 (3.6)	193.60
Total	34.47 (100.00)	238.75	47.19 (100.00)	254.25	108.96 (100.00)	279.63	63.54 (100.00)	257.54

\*-Figures in parentheses indicate percentage to the respective values.

### Conclusion

The results of the study shows that medium and large farmers were literate than the small farmers and level of education dominated in government's quality seed production project, There is a need to follow a strong extension programme in the area regarding improved cultivation practices of hybrid rice. Moreover, age-wise distribution of family members and it can be inferred that rice growing farmers of the study area were in middle age group. It is shows that on overall average basis 48.33 percent of rice growing farmers were in the age group of 31–50. Hence, future rice production activities may encourage on involving younger to middle aged educated beneficiary in hybrid rice production activities and the income of sample farmers and it shows that medium and large farmers were more financially viable than the small farmers. The Cropping pattern of sample farm, it is shows that rice occupied 76.10 percent area to total cropped area on the

sample farm. The share of small farmer accounted for 73.26 percent, medium farmer 71.83 percent and large farmer 80.23 percent on sample farms in kharif season. Thus this is calls for all around development of farm sector, especially in small size farm sector to increase the income from farm sector in view of the growing population and unemployment.

\*Application of research: The policy of the study show that medium and large farmers were literate than the small farmers and level of education dominated in government's quality seed production project, There is a need to follow a strong extension programme in the area regarding improved cultivation practices of hybrid rice.

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