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A demographical characteristics analysis of rice producers in Satna District of Madhya Pradesh in India

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Abstract

The study conducted "A Demographical Characteristics Analysis of Rice Producers in Satna District of Madhya Pradesh in India". The field level primary data were collected from randomly selected 240 rice growers of 9 villages of Satna district for the agricultural year 2021-22. The results from the study might be drawn from the following conclusions. The overall average family size was 4.75. Total, family composition in proportion of male, female and children was 41.00, 36.17 and 22.83 percent. The caste wise composition of sampled households was the maximum households General Caste i.e. 38.75 percent followed by other Backward Caste (27.92 percent). The highest percentage of respondents were form the age group of 18 to 40 years (37.75 percent) followed by the 40 to 60 year age group (23.97 percent). The overall highest occupation was in agriculture 56.44 percent followed by Agricultural worker (25.78 percent), Business (9.33 percent) and Govt. & private service (8.44 percent). The total illiterate was found to be 6.94 percent and the Literacy was found to be 93.06 percent. The overall farm size of sample farms was 1.80 hectares with 0.68, 1.50, 2.71 and 6.99 hectares for marginal, small, medium and large farms, respectively. The area under total cultivated land was observed 1.80 hectares and 100.00 percent.

Keywords: Occupation, irrigated, illiterate, cultivated land

1. Introduction

Rice (*Oryza sativa* L.) is the most important stable food grain in world it an important part of the national economy. India is one of the world's largest producers of white rice and brown rice, accounting for 20% of all world rice production. Rice (paddy) (*Oryza sativa*) also known as "Global Grain" is one of the most ancient crops being cultivated in 117 countries. It is one of the most important staple foods of the majority of World's population (60 percent), occupying first place among cultivated cereals. It is being grown under different agro-climatic conditions. India has the largest area (44 million hectares) under rice crop and ranks second place in production (132 million tonnes) next to China (Fertilizer Statistic - 2004- 05, New Delhi).

2. Materials and Methods

Sampling technique of Satna district of Madhya Pradesh was purposively chosen as the study area because, it has the larger area under rice cultivation in the district. A multistage simple random sampling technique (SRS) was adopted to select the villages and the respondents, different farmer involved in rice production in Satna district. The details of the sampling techniques at various stages are given as under:

3. Period of study

The collected data (primary and secondary) pertains to the agriculture year 2020-21 for Kharif season.

4. General characteristics of the respondent

4.1 Demographical characteristics of the respondent

The table 1 reveals that 240 numbers of sampled households comprised with marginal, small, medium and large farmers of 105, 85, 30 and 20 numbers, respectively. The overall average family size was 4.75. Total, family composition in proportion of male, female and children was 41.00, 36.17 and 22.83 percent. The caste wise composition of sampled households was noticed that the maximum households are of General Caste i.e. 38.75 percent followed by other Backward Caste (27.92 percent), Scheduled Tribe (18.75 percent) and Scheduled Tribe (14.58 percent) (Fig- 1). The highest percentage of respondents were form the age group of 18 to 40 years (37.75 percent) followed by the 40 to 60 year age group (23.97 percent),up to 18 year (22.83 percent) and above to 60 years (15.45 percent) (Fig 2).

4.2 Respondents distribution according to occupation and education level

The table 2 reveals that the overall highest occupation was

found to be in agriculture and it was 56.44 percent followed by Agricultural worker (25.78 percent), Business (9.33 percent) and Govt. & private service (8.44 percent) (Fig. 3.). The table 2 also state that, education is measured by the number of years a respondent has spent in formal school. It can be seen in the table that 31.43 percent of respondents have completed high school, followed by 29.23 percent of sampled responded have education till middle school, 11.44 percent for graduate and 11.44 percent for primary school, the total illiterate was found to be 6.94 percent and the Literacy was found to be 93.06 percent (Table 2 & Fig- 4).
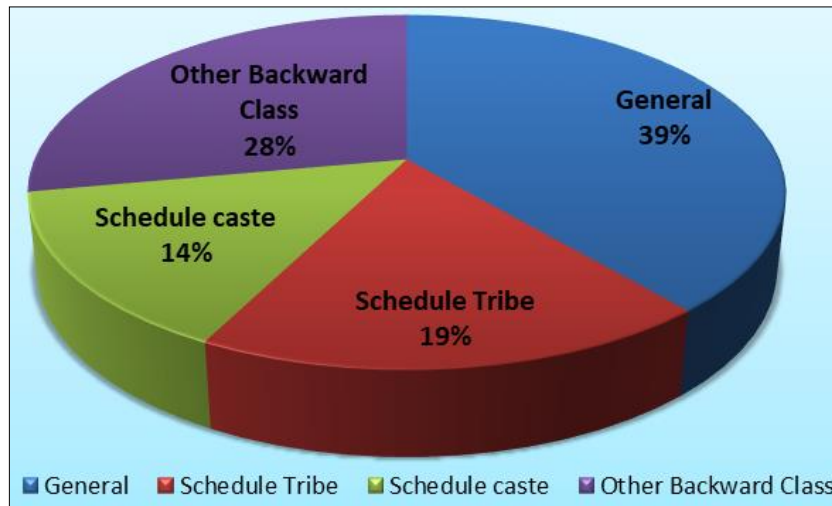

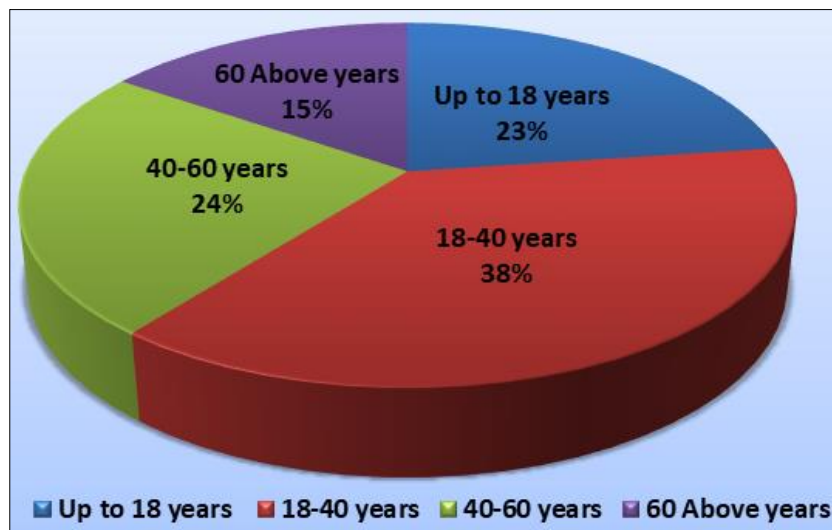**Fig 1:** Overall social groups of sample households

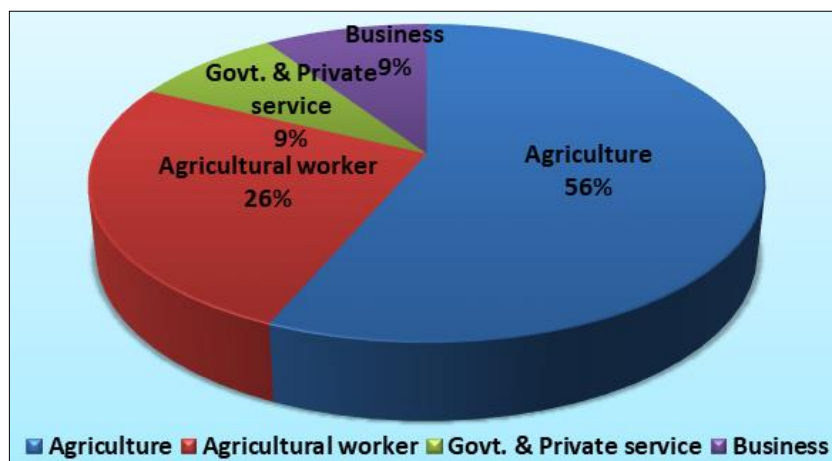**Fig 2:** Overall age groups of sample households

Fig 3: Overall occupation of sample households.

Table 1: Demographical characteristics of the respondent

(N=240)

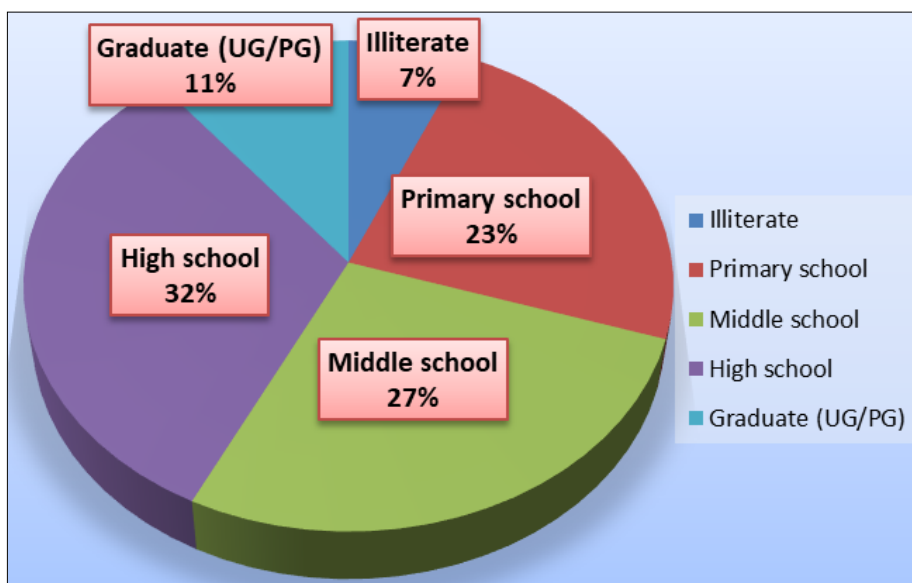| Sl. No.	Particulars	Size of group				
		Marginal	Small	Medium	large	Overall
1.	**Total no. of farmers**	**105**	**85**	**30**	**20**	**240**
	Average family size	5.01	4.64	4.57	4.10	4.75
2.	Social group					
	General	45	27	12	9	93
		(42.86)	(31.76)	(40.00)	(45.00)	(38.75)
	Schedule Tribe	19	17	6	3	45
		(18.10)	(20.00)	(20.00)	(15.00)	(18.75)
	Schedule caste	12	16	5	2	35
		(11.43)	(18.82)	(16.67)	(10.00)	(14.58)
	Other Backward Class	29	25	7	6	67
		(27.62)	(29.41)	(23.33)	(30.00)	(27.92)
	Total	105.00	85.00	30.00	20.00	240.00
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
3.	Family member					
	Male	215	151	65	36	467
		(40.87)	(38.32)	(47.45)	(43.90)	(41.00)
	Female	196	136	51	29	412
		(37.26)	(34.52)	(37.23)	(35.37)	(36.17)
	Children	115	107	21	17	260
		(21.86)	(27.16)	(15.33)	(20.73)	(22.83)
	Total	526	394	137	82	1139
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
4.	Age group					
	Up to 18 years	115	107	21	17	260
		(21.86)	(27.16)	(15.33)	(20.73)	(22.83)
	18-40 years	196	127	67	40	430
		(37.26)	(32.23)	(48.91)	(48.78)	(37.75)
	40-60 years	130	95	31	17	273
		(24.71)	(24.11)	(22.63)	(20.73)	(23.97)
	60 Above years	85	65	18	8	176
		(16.16)	(16.50)	(13.14)	(9.76)	(15.45)
	Total	526	394	137	82	1139
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Fig 4: Overall educational status of sample households

Table 2: Occupation and Educational status of sample households

Sl. No	Particular	Marginal (105)	Small (85)	Medium (30)	Large (20)	Overall (240)
A.	**Occupation**					
	Agriculture	120	96	22	16	254
		(56.34)	(66.67)	(37.29)	(47.06)	(56.44)
	Agricultural worker	80	25	11	0	116
		(37.56)	(17.36)	(18.64)	(0.00)	(25.78)
	Govt. & private service	7	12	13	6	38
		(3.29)	(8.33)	(22.03)	(17.65)	(8.44)
	Business	6	11	13	12	42
		(2.82)	(7.64)	(22.03)	(35.29)	(9.33)
	Working members	213	144	59	34	450
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
B.	**Educational status**					
1.	Illiterate	55	13	9	2	79
		(10.46)	(3.30)	(6.57)	(2.44)	(6.94)
2.	Primary school	151	90	15	5	261
		(32.06)	(24.93)	(11.72)	(6.25)	(25.10)
3.	Middle school	160	105	23	16	304
		(33.97)	(29.09)	(17.97)	(20.00)	(29.23)
4.	High school	125	128	57	46	356
		(26.54)	(35.46)	(44.53)	(57.50)	(34.23)
5.	Graduate (UG/PG)	35	38	33	13	119
		(7.43)	(10.53)	(25.78)	(16.25)	(11.44)
	Total literate	471	361	128	80	1060
	Literacy %	(89.54)	(91.62)	(93.43)	(97.56)	(93.06)

Note: Figures indicate proportion of sum in parentheses

4.3 Operated area at sample farms

The operated area is estimated by owned area plus leased in and subtracted the leased out area of sample farms and the same is presented in table 4. It reveals that the overall farm size of sample farms was 1.80 hectares with 0.68, 1.50, 2.71 and 6.99 hectares for marginal, small, medium and large farms, respectively. The area under total cultivated land was observed 1.80 hectares and 100.00 percent. The area under irrigation was observed 98.15 percent and remaining area (1.85 percent) was observed un-irrigated in the district (Table 3 and Fig.5).
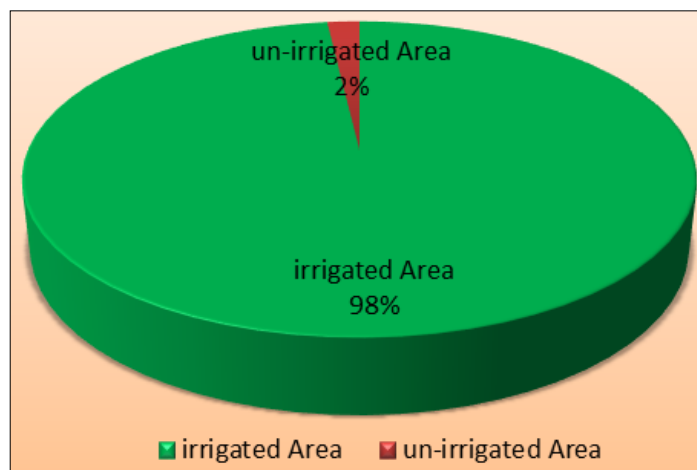

Fig 5: Overall irrigated and un-irrigated area of sample household

Table 3: Land use pattern of sample farmers

Sl. No	Particular	Marginal (105)	Small (85)	Medium (30)	Large (20)	Overall (240)
1.	Total owned land	0.68	1.50	2.71	6.99	1.80
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
2.	Total cultivated Land	0.68	1.50	2.71	6.99	1.80
		(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
3.	Total irrigated Area	0.67	1.47	2.67	6.79	1.77
		(98.53)	(98.00)	(98.52)	(97.14)	(98.15)
4.	Total un irrigated Area	0.01	0.03	0.04	0.20	0.03
		(1.47)	(2.00)	(1.48)	(2.86)	(1.85)
Note: Figures indicate proportion of sum in parentheses						

4.4 Source wise irrigation

Source wise irrigated area is presented in table 4 and fig. 6, it revealed that overall irrigated area was 1.77 ha per farm. The major source of irrigation in study area was tube well 51.73 percent followed by cannel 20.94 percent, tank 10.92 percent, well 10.76 percent and pond 5.65 percent, respectively.
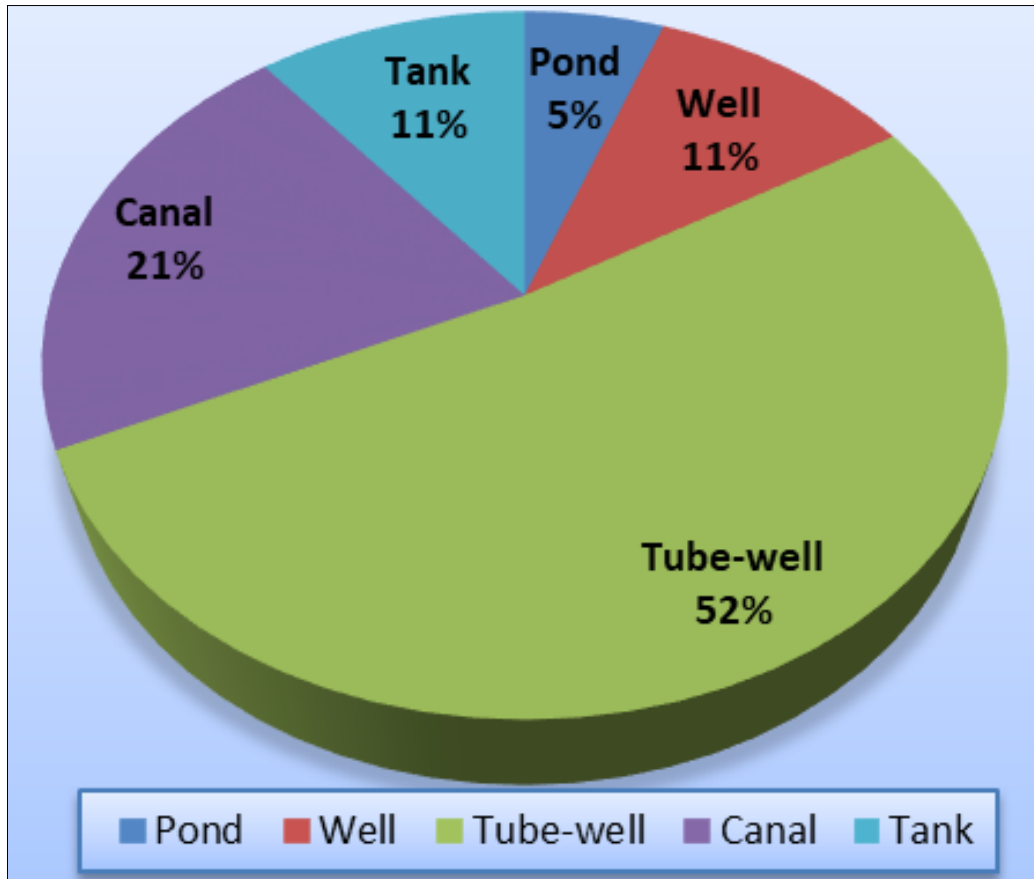

Fig 6: Overall different sources of irrigation of sample households

Table 4: Irrigated area by different sources

(ha/farm)

Sl. No	Particular	Marginal (105)	Small (85)	Medium (30)	Large (20)	Overall (240)
	Irrigated area	**0.67**	**1.47**	**2.67**	**6.79**	**1.77**
		(100.00)	**(100.00)**	**(100.00)**	**(100.00)**	**(100.00)**
1.	Pond	0.04	0.10	0.12	0.45	0.10
		(5.97)	(6.80)	(4.49)	(6.63)	(5.65)
2.	Well	0.07	0.26	0.12	1.12	0.19
		(10.45)	(17.69)	(4.49)	(16.49)	(10.76)
3.	Tube-well	0.29	0.68	1.51	3.69	0.91
		(43.28)	(46.26)	(56.55)	(54.34)	(51.73)
4.	Canal	0.15	0.23	0.67	1.17	0.37
		(22.39)	(15.65)	(25.09)	(17.23)	(20.94)
5.	Tank	0.12	0.20	0.25	0.36	0.19
		(17.91)	(13.61)	(9.36)	(5.30)	(10.92)
Note: Figures indicate proportion of sum in parentheses						

5. Suggestions for farmers and future works

- Planting materials should be selected carefully so as to maintain proper plant population in later stages.
- Proper cultivation practices should be followed in accordance with the latest techniques.
- Small scale processing units for producing processed products from papaya will ultimately help the producers for making money and this will also reduce the problem of unemployment for youth in villages and also will encourage women empowerment.

- Easy and efficient finance service from different financing agencies is very important to promote area and production of papaya is study area.
- Efficient use of input and resources so as to gain maximum output with minimum cost.
- Farmers should be met with facilities of fund for using as input, this will prove beneficial for risk reduction of crop failure or poor yield.

6. Conclusion

Rice (*Oryza sativa* L.) holds paramount importance as a staple food grain globally and plays a crucial role in various economies, including India, a significant producer of both white and brown rice. With its cultivation spanning across 117 countries, rice stands as a vital staple food for the majority of the world's population. This study focused on the agricultural dynamics of rice production in Satna district, Madhya Pradesh, during the 2020-21 Kharif season. Through comprehensive sampling techniques and demographic analysis, it was observed that rice farming engages farmers across different scales, with a notable impact on various aspects of livelihoods, education, and occupational diversity among the respondents.

7. References

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