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Socio-economic profile of farmers on rice production technology in Rajnandgaon district of Chhattisgarh

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Abstract
The present study was conducted in the Rajnandgaon district of Chhattisgarh state during the year 2015-16. The results of this study depicted the majority (50.69%) of the respondents belonged to the middle age, 33 per cent were high school and higher secondary examination passed. The indicated that 67.36 per cent of the respondents were having the medium size of family (5 to 8 members) and participation in Co-operative societies shows that, 88.19 per cent respondents participated as a member. That all of the respondents (100%) were involved in agriculture as occupation, that 65.97 per cent respondents had high farming experience (above 20 years). Overall annual family income received by the respondent shows that majority of the families of respondents (52.08%) were received less than Rs 100000 per year. Mostly 86.11 per cent respondents were having contacts with Rural Agriculture Extension Officers (RAEOs). They indicate that majority of the respondents (57.64%) had a medium level of risk orientation and the total families of respondents, about 34 per cent were having the medium size of land (2.1 to 4 ha), that most of them (95.14%) respondents were having Vertisols (kanhar) based on multiple respondents. The study also revealed that variables namely age, education, family size, risk orientation were found positive and seven variable social participation, farming experience, occupation, landholding, source of information, extension contact, soil types positive and significant correlated of rice production technology.

Keywords: Rice production technology, crop, respondents, distribution, rice

Introduction
Rice (Oryza sativa), is the main staple food and a major source of livelihood for more than people in South Asia. It is a dominant crop in all parts of South Asia. It is the predominant dietary energy source for 17 countries in Asia and the Pacific, 9 countries in North and South America and 8 countries in Africa. It is nutritional which provides instant energy as its most important component is a carbohydrate (starch).In India rice is grown under widely varying conditions of altitude and climate. Rice cultivation in India extends from 8 to35ºN latitudes and rice crop needs a hot and humid climate. It is best suited to regions that have high humidity, prolonged sunshine and an assured supply of water. The state of West Bengal ranks first in area and production of rice, Punjab having the highest productivity in the country. The major rice-growing states are West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Tamil Nadu, Orissa, Bihar & Chhattisgarh.
In Chhattisgarh, rice, the main crop, is grown on about 77% of the net sown area. Only about 20% of the area is under irrigation; the rest depends on rain. The cropping intensity is 119 % with total food grain production of 5 million tonnes. In this region, rice is mainly grown through the biasi method constituting more than 80 per cent of rice cultivation in the area. Other important systems are transplanting, line sowing and lehi system. Agriculture is counted as the chief economic occupation of the Chhattisgarh state. About 80% of the population of the state is rural and the main livelihood of the villagers is agriculture and agriculture-based small industry.

Materials and Methods
The study was conducted in the Rajnandgaon district of Chhattisgarh state during the year 2015-16. The Chhattisgarh state consists of 27 districts out of which Rajnandgaon district was selected randomly. Out of a total of 9 blocks in the only three blocks namely (Dongargarh, Khairagarh, and Rajnandgaon) were selected randomly. Four villages were selected randomly from each selected block to take a total of 12 villages in the sample. Twelve farmers were selected randomly from each selected village. Thus, a total of 144 farmers were considered respondents for the socio-economic profile of farmers.

The data were collected and analyzed by using appropriate statistical methods like mean, S.D., percentage, correlation, and multiple regression analysis, etc.

Results and Discussion

The results of the investigation carried out are presented through showing the socio-economic profile of farmers.

Age: The findings regarding the age of the respondents are presented in (Table 1) The data revealed that majority (50.69%) of the respondents belonged to the middle age group (between 36 to 55 years), 29.17 per cent respondents belonged to old age group (Above 55 years). These findings are similar to finding Kushwaha (2005) who also that majority of the farmer (55.00%) belonged to middle age and 19.17 per cent were old and 25.83 per-cent belonged to young ages.

Education: With regards to education, the data revealed (Table 1) that about 50 per cent of the selected farmers had primary to middle school level of education. About 33 per cent were high school and higher secondary examination passed, Kumar (2010) reported that 28.33 per cent respondents were educated up to primary school level and 25.00 per cent had education up to middle school level.

Family sizes: The data regarding family size (Table 1) indicated that 67.36 per cent of the respondents were having the medium size of family (5 to 8 members), followed by 23.61 percent respondents had small family size (up to 4 members) and only 9.03 per cent of the respondents belonged to the large size of family (above 8 members). These findings are similar as reported by Kumar and Rathod (2013) that most of the respondents (60.67%) were observed in the medium size of the family.

Occupation: Regarding occupation practiced by the respondents, (Table 1) depicts that all of the respondents (100%) were involved in Agriculture as occupation, followed by 93.06 per cent were engaged in Animal husbandry. The involvement of respondents in labor activities was reported by the 43.75 per cent.

Farming experience: Regarding the experience of farming, data shows (Table 1) that 65.97 per cent respondents had high farming experience (above 20 years), 29.17 per cent of them had medium farming experience (11 to 20 years), and 4.86 per cent respondents had low farming experience. Painkra (2014) reported that 44.17 per cent of respondents had medium farming experience (11 to 20 years).

Table 1: Socio-economic status of rice production area in Rajnandgaon district

Category	Frequency*	Percentage
Age		
Young (up to 35 year)	29	20.14
Middle (36-55 Year)	73	50.69
Old (Above 55 year)	42	29.17
Education		
Illiterate	10	6.94
Primary (Up to 5th class)	32	22.22
Middle (6th to 8th class)	40	27.78
H.school /Higher secondary (9thto12thclass)	48	33.33
College level	14	9.72
Size of family		
Small (1 to 4 members)	34	23.61
Medium (5 to 8 members)	97	67.36
Large (Above 8 members)	13	9.03
Occupation		
Agriculture	144	100.00
Animal husbandry	134	93.06
Labour	63	43.75
Service	11	7.64
Business	5	3.47
Others	2	1.39
Farming experience		
Low experience (Up to 10 Years)	7	4.86
Medium experience (11 to 20 Years)	42	29.17
High experience (more than 20 years)	95	65.97
Overall annual income		
Low (Up to Rs.100000)	75	52.08
Medium (Rs.100001 to Rs.200000)	36	25.00
High (Rs.2,00001 to 4,00000)	24	16.67
Very High (Above Rs.4,00000)	9	6.25

Overall annual family income: The data regarding overall annual family income received by the respondents shows that majority of the families of respondents (52.08%) were received less than Rs 100000 per year. About 25 per cent respondents got Rs 1,00001-2,00000 and 16.67 per cent respondents get 2,00001- 4,00000. Dhruw (2014) reported that the majority of the respondents 26.39 per cent respondents had their annual income in the range between Rs. 1,00001 to Rs. 2,00000.

Social participation: The data regarding social participation (Table 2) shows that 9.72 per cent of the respondents participated in Gram Panchayats, and no participation was found as an office-bearer in Gram Panchayats. Participation in

Co-operative societies shows that 88.19 per cent respondents have participated as a member and only 0.69 per cent have participated as Office bearer.

Table 2: Distribution of respondents according to their social participation

Rural organizations	Member		Office bearer	
	f	%	f	%
Gram panchayat	14	9.72	0	0.00
Cooperative society	127	88.19	1	0.69
Youth club	3	2.08	1	0.69
Kishan club	20	13.89	0	0.00
Mahila mandal	25	17.36	1	0.69
Others	0	0.00	0	0.00

F= Frequency % = Percentage

Status of participation shows that out of total respondents, 90.28 per cent were found as a member and 2.08 per cent as an office-bearer of different social organizations.

Table 3: Distribution of respondents according to their overall social participation

Social participation	Frequency	Percentage
No social participation	15	10.42
Participation in one organization	87	60.42
Participation in two organizations	28	19.44
Participation in more than two organizations	14	9.72
Status of participation		
Member of any organization	130	90.28
Office bearer of any organization	3	2.08

Extension contact: The data regarding contact with extension personnel Table 4. showed that 86.11 per cent respondents were having contacts with Rural Agriculture Extension Officers (RAEOs). About 43 per cent respondents were having contacts with krashak mitra, 0.69 per cent of respondents were having contacts with scientists/SMS. Only 2.77 per cent respondents were having contact with Senior Agriculture Development Officers (SADOs).

Further, the table reveals that most (68.05%) of the respondents were contacts with RAEOs, 27.08 per cent of respondents were contacts with krashak mitra and 2.08 per cent of respondents were having contacts with SADOs frequently between 7 to 15 days. Whereas, monthly contacts with various extension personnel show that 13.19 per cent respondents were having contacts with RAEOs, 9.72 per cent with krashak mitra and only 0.69 per cent of respondents with SADOs. About 5 per cent of respondents had contacts with RAEOs and none of the respondents had contacts with SADOs for 3 months duration.

Table 4: Distribution of respondents according to their extension contact

Extension personnel	Never		7- 15 Day		1 Month		3 Month		Overall contact	
	f	%	f	%	f	%	f	%	f	%
RAEO	20	13.88	98	68.05	19	13.19	7	4.86	124	86.11
SADO	140	97.22	3	2.08	1	0.69	0	0	4	2.77
Scientist/SMS	143	99.30	0	0.00	0	0.00	1	0.69	1	0.69
Krashak mitra	82	56.94	39	27.08	14	9.72	9	6.25	62	43.05

F= Frequency % = Percentage

Sources of information: The data regarding the use of information sources for seeking information about cultivation practices of major crops are presented in (Table 5). The findings revealed that, in the study area, the majority of the respondents (97.91%) received information regarding the cultivation practices of major crops from Friends, relatives, and neighbors. The study also revealed that 91.66 per cent of the respondents obtained information from television and 86.11 per cent from RAEOs. About 63 per cent of the respondents obtained the information towards practices of crop husbandry from progressive farmers. About 43 per cent of them obtained information regarding cultivation practices from kisan mitra.

Risk orientation: The data about the risk orientation of respondents are presented in (Table 5). The findings indicate that majority of the respondents (57.64%) had a medium level of risk orientation. Painkar (2014) reported that the majority (86.66%) of respondents had medium level (19 to 23 score) of risk orientation.

Table 5: Socio-economic status of rice production area as per S. information, R. orientation and Handholding

Category	Frequency*	Percentage
Source of Information		
Friends, relatives, and neighbors	141	97.91
Progressive farmers	91	63.19
Sarpanch/panchs	54	37.50
RAEO	124	86.11
SADO	4	2.77
Agriculture scientists/SMS of KVK	1	0.69
Kisan mitra	62	43.06
Radio	47	32.64
Television	132	91.66
Kisan mela	51	35.42
Exhibition	20	13.89
Training	10	6.94
*** The data is based on multiple responses**		
Risk orientation		
Low (up to – 20 scores)	15	10.42
Medium (21 -25 score)	83	57.64
High (More than 29 scores)	46	31.94
Mean=24.14 S.D = 1.17		
Land holding		
Marginal (up to 1 ha)	26	18.06
Small (1.1 to 2 ha)	40	27.78
Medium (2.1 to 4 ha)	49	34.03
Big (> 4.0 ha)	29	20.14

Landholding

The data incorporated in (Table 5) shows that out of the total families of respondents, about 34 per cent were having the medium size of land (2.1 to 4 ha), followed by 27.78 per cent were having a small size of landholding (1.1 to 2 ha). These findings are similar as reported by Itawdiya (2011), a higher percentage (30%) of the respondents had a medium size of landholder.

Conclusion

The study revealed that the majority of respondents were aware of rice production technologies in the study areas. However, the study also shows that selected farmers had primary to middle school level of education, respondents were having the medium size of family (5 to 8 members), and they participated in Gram Panchayats, Co-operative societies. The respondent's hundred percent were involved in agriculture as occupation and then were engaged in animal husbandry as well as high experience (above 20 years). It is contacted with Rural Agriculture Extension Officers (RAEOs) and krashak mitra. The socio-economic profile of farmer's rice production technologies in medium risk orientation of the farmers.

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