Socio-economic Characteristics of Farmers Practicing Rainfed Farming in the Jammu Region

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ABSTRACT

The present study was carried out in the Kandi belt of the Jammu region. It was concluded that the average age of farmers and the family size in the study area were 41.40 years and 5.37. The minimum youngest member was found to be of 25 years, and of the maximum was of 90 years of age. As far as the land area was concerned, the minimum area was 0.25 acres and the maximum that of 15.00 acres, respectively. Average years of schooling were 8.95 (years of formal schooling), and the average land area was 2.72 acres. Therefore, the majority of the farmers belonged to small and marginal farmers. Farmers were engaged in the private job along with agricultural activities in majority. PM-KISAN scheme showed sufficient penetration among the farmers. 58.75 percent of the farmers were living under a *pucca* house and used LPG as the source of cooking. In the case of the fuel/source used for cooking, a maximum of the farmers were utilizing the LPG. With regard to the toilet facility, maximum employed the flush toilet, and still, a majority of them were used to defecate openly. 82.08 percent of the farmers were dependent upon the government hospital for medical services, and 55.83 percent of the farmers in the study sent their children to government schools. Majority (88.33 percent) of the farmers did not belong to any organization, and about 9 percent of the respondents belonged to one organisations.

 HIGHLIGHTS

 ◉ Most of the farmers were of younger age who involved in other occupations along with that of the agricultural operations.
 ◉ Majority of the farmers were residing in the pucca houses and used LPG as the fuel of cooking.
 ◉ Government schemes like PM-KISAN scheme has found out to be beneficial for the farmers in the rainfed regions.

Keywords: Family size, Kandi, PM-KISAN

Rainfed farming is the type of farming practice whereby the farmers are entirely dependent upon the rainfall for their water requirement and needs. India ranks first both in terms of extent as well as the value of production among the countries that practice rainfed farming (NRAA, 2006). This terms out to be an obvious situation if we take into consideration the possession of arable land in India, in which India stands first with the total arable land in possession to an extent of 156.46 million hectares, respectively (MoFPI, 2016). Jammu

and Kashmir stand as the sixth major state amongst the states and union territories, with a total area comprising 222236 square km (Digest of statistics, 2018-19). In this vast area, a major share of the area, as much as 69 percent of the area in the Jammu region, comprises the rainfed region (Digest of statistics, 2016-17). Thus, more than half of the land area is under rainfed farming. Therefore, rainfed farming is the livelihood for the majority of the population in the Jammu region.

Channal (1995) conducted a study on the cooperative sugar factory in the Belgaum district of Karnataka with respect to the shareholders and non-shareholders, respectively. The study revealed that more than fifty percent of the shareholders and non-shareholders were found to be in the age group of 35-50 years. In addition, 20 percent and 24 percent of the shareholders and non-shareholders were found in the age group of more than 50 years of age. A study of the SCs beneficiaries in the forest sector in the state of Madhya Pradesh (Maurya, 2001) was carried out, and it was discovered that 36 percent of the SCs beneficiaries were landless laborers. Further, 67 percent of the rural developed beneficiary households owned land, the size of which mainly was small and marginal. Similarly, a study conducted in Nigeria (Idrisa *et al.*) for the analysis of awareness and adaptation to climate change among farmers in the Sahel Savannah agro-ecological zone found that 48.89 percent of the respondents were of more than 45 years of age. Further, 78.23 percent of the respondents had an education level below the secondary school level. 79.12 percent of the respondents were small-scale farm holders. As far as the extension contact in the study were concerned, 67.56 percent of them had fewer than 7 extension contacts during the 2010 farming season. It was also found that the farmers had some knowledge about climate change and its effects. In yet another study conducted in Tamil Nadu, Boopathy *et al.* (2019), in their on swine farming in the rainfed areas, found that the percentage of the illiterate population was 13.30, whereas 40.00 was the percent of the landless population. In addition, 68.88 percent were from the middle age group, and 6.64 percent were revealed to be females. 78 percent of the farmers had an experience of fewer than 5 years. As far as the possession of the house

was concerned, 68.89 percent of the farms had thatched type of housing, and only about 4.44 percent of the farms were under concrete proof. The study concluded that swine farming was the major livelihood activity of the farmers in the rainfed areas.

In continuance with the previous study, the present study was conducted to study the socio-economic profile of the farmers in the rainfed area.

Research Methodology

The present investigation was carried out in the rainfed region, which is locally known as the *Kandi* belt. The study was conducted in the four districts of the Jammu region, with the possession of maximum area (under each district). These four districts were Rajouri, Jammu, Udhampur, and Kathua. Out of these four districts, two blocks were selected from each district. Subsequently, two villages were selected from each block, thereby making a total of sixteen villages. At the final stage, fifteen respondents were selected randomly from each village, making the total sample size 240 respondents, respectively. For data collection, a well-structured schedule was prepared, and the data were collected on these schedules by personally interviewing the respondents/farmers. As far as the statistical analysis was concerned, simple statistical tools like mean, standard deviation, and standard error were employed.

RESULTS AND DISCUSSION

Table 1 represents the descriptive statistics of the socio-economic profile of the quantitative variables of the respondents under study. The table delineates the fact that the average age of the farmers was about 41 years, with the youngest being the age of 25 years and the eldest of that of 90 years. About five members of the average family size were found, with the most minor being of just three members and the largest being that of 9 members, respectively. It is worthwhile to mention here that the family size was nuclear in the case of Jammu and Kathua districts. In contrast, it was more of a joint family type in case of far-flung areas like that of *Chambitrar* (a village in Budhal block) and *Katti* and *Latyar* (villages in Panchrai block). As the economic variable of land was concerned,

the majority of the farmers were of marginal type. Some farmers were found with a land area of 15.00 acres respectively, more specifically in the Nagrota block of the Jammu district. With regard to the education level of the farmers, most of them, on average, had an education of up to 9th standard. It becomes pertinent to mention here that, not many illiterates were found. Many of the farmers visited the school in the first five years and left thereafter for some or other reasons.

Table 1: Descriptive statistics of sampled farmers

Variable	Unit	Mean	Standard Error	Range
Age	Years	41.40 (± 12.52)	0.81	25-90
Family Size	Numbers	5.37 (± 1.39)	0.08	3-9
Land Area	Acres	2.72 (± 2.03)	0.13	0.25-15.00
Education	Years in formal schooling	8.95 (±4.2)	0.47	3-15

Figures in parentheses show standard deviation.

142 (59.17 percent) respondents belonged to the joint family system, and the rest, that is 98 (40.83 percent) of the farmers, belonged to that of the nuclear family, respectively, as shown in Table 2.

Table 2: Family Type of sampled households

Family Type	District				Overall
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	(n=240)
Joint	32 (53.33)	31 (51.67)	37 (61.67)	42 (70)	142 (59.17)
Nuclear	28 (46.67)	29 (48.33)	23 (38.33)	18 (30)	98 (40.83)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**

Figures in parentheses shows percentage to the total.

With respect to the family size of the respondents, the majority of the joint family system, i.e., about 70 percent (42) of the respondents, were found in the Rajouri district. On the other hand, the least, i.e., 51.67 percent (31) was found in the case of the Kathua district. 37 percent and 32 percent were found in the case Udhampur and Jammu districts. As far as the nuclear family is concerned, the

highest percentage i.e., 48.33 percent (29) was found in the case of Kathua. Similarly, the percentage is 46.67, 38.33, and 30 in the cases of Jammu, Udhampur, and Rajouri. Overall, the sample collected revealed the highest percentage (59.17) of the joint family system in existence in the rainfed areas of the Jammu region.

The occupational status of the farmers has been presented in Table 3. The table reflects that in the Jammu region, 38.33 percent of the respondents were engaged in agriculture as well as business occupations. About 38.33 percent of farmers in the Kathua district were engaged in agriculture andprivate jobs like *Kirana shops*. The percentage was about 36.67 percent in the agriculture & private jobs in the case of the Udhampur district. Contrary to the rest of the districts, Rajouri reflects a unique occupational status of the farmers; thereby, the majority of the farmers, i.e., about 36.67 percent of the farmers were found engaged in agriculture only. On the other extreme, the least percentages i.e., 11.67 percent and 15 percent of the farmers, were engaged in agriculture & govt. job and agriculture only in the case of Jammu and Kathua districts. Whereas, about 3 percent each were involved in agriculture & govt. Job in the case of Udhampur and Rajouri districts.

Table 3: Occupational status of farmers

Particulars	District				Overall
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	(n=240)
Agriculture only	8 (13.33)	9 (15.00)	20 (33.33)	22 (36.67)	59 (24.58)
Agriculture & private job	22 (36.67)	23 (38.33)	22 (36.67)	20 (33.33)	87 (36.25)
Agriculture & govt. job *	7 (11.67)	11 (18.33)	2 (3.33)	2 (3.33)	22 (9.17)
Agriculture & business	23 (38.33)	17 (28.33)	16 (26.67)	16 (26.67)	72 (30.00)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	240 (100.00)

Includes ex-service men; Figures in parentheses shows percentage to the total.

The caste status of the farmers in the study area has been presented in Table 4. The caste status revealed that none of the farmers were from the OBC caste. Majority

Table 4: Caste status of farmers

Caste Status	District				Overall
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	(n=240)
General	52 (86.67)	47 (78.33)	38 (63.33)	32 (53.33)	169 (70.42)
OBC	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0.00 (0.00)
SC	8 (13.33)	10 (16.67)	14 (23.33)	0 (0.00)	32 (13.33)
ST	0 (0.00)	3 (5.00)	8 (13.33)	28 (46.67)	39 (16.25)
Total	60 (100.00)	60 (100.00)	60 (100.00)	60 (100.00)	240 (100.00)

Figures in parentheses shows percentage to the total.

Table 5: Farmers' households availing the government schemes

Scheme	District				Overall
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	(n=240)
Ration Card	60 (100.00)	59 (98.33)	60 (100.00)	52 (86.67)	231 (96.25)
Soil Health Card	8 (13.33)	6 (10.00)	5 (8.33)	3 (5.00)	22 (9.17)
Kisan Credit Card	38 (63.33)	34 (56.67)	24 (40.00)	22 (36.67)	118 (49.17)
Prime Minister Kisan Samman Nidhi	32 (53.33)	33 (55.00)	30 (50.00)	28 (46.67)	123 (51.25)

Figures in parentheses show percentage to the total.

of the farmers were from the general caste in all the four districts. It was found that 86.67 percent, 78.33 percent, 63.33 percent, and 53.33 percent of the respondents belonged to the general caste. The majority (23.33 percent) of the people who belonged to SC found out in the Udhampur district. 16.67 percent and 13.33 percent of the SC persons were found in Kathua and Jammu district. Whereas none belonging to the category of SC were found in the state of Rajouri. As far as the persons who belonged to the ST community were concerned, none was found in the case of the Jammu district. Whereas, majority i.e., 46.67 per cent, was found in the case of the Rajouri district, and the least i.e., about 5 per cent was revealed in the case of the Kathua district.

Since the inception of multifarious govt. schemes, farmers were observed utilizing the same. The impact of the four different schemes has been presented in Table 5. The penetration of the ration card was found to be high. Cent percent of the respondents had found utilizing a Ration Card in Jammu and Udhampur district, and 98.33 percent of the farmers had ration card in Kathua district. The ration card penetration was found out to be

least in the Rajouri district, where only 86.67 percent of the farmers observed utilizing this scheme. In the case of the Soil Health Card scheme, the situation is rather abysmal. The number of farmers utilizing the schemwas found in the range of 8 to 3. The maximum, i.e., 8 (13.33 percent) were found in the Jammu district, and the least, i.e., 3 (5.00 percent) were found in the Rajouri district. Whereas, in Kathua and Udhampur districts, 10.00 percent and 8.33 percent of the farmers were being benefitted by the scheme of soil health cards. The case of Kisan Credit Card scheme showed promising results. 63.33 percent of the farmers in the Jammu region were engaged in utilizing the scheme. This percentage declined to 56.67 percent and 40.00 percent in the case of the Kathua and Udhampur districts. The least adoption of this scheme i.e., 36.67 percent was found in case of Rajouri district. The implementation of Prime minister Kisan Samman Nidhi scheme in the studied area was found out to be significant. More than half percent of the farmers in three districts were found utilizing the scheme. 55.00 percent, 53.33 percent, and 50.00 percent of the farmers in Kathua, Jammu, and Udhampur were observed being benefitted from this scheme. The least

penetration was found in the case of Rajouri district, where 46.67 percent of the farmers were found availing of the scheme. If we look at the overall situation, the penetration of the Ration card was found to be the highest i.e., 96.25 percent, followed by Prime Minister Kisan Samman Nidhi, with a percentage penetration of 51.25 percent. Next is the Kisan Credit Card scheme, with a percentage penetration of 49.17 percent. The least number of respondents, i.e., 9.17 percent was found in the case of the Soil Health Card scheme.

It becomes crucial to mention here that the farmers in the plain areas like that of Jammu block were found holding the APL (above poverty line) ration card. In contrast, the farmers in the mountainous regions like that of *Battal*and *Bryalta* (in Udhampur district), we're holding BPL (below poverty line) ration cards. The penetration of PMKISAN scheme was also found to be high on account of the government initiatives, particularly in this scheme. The penetration of other schemes found out to be meagre.

The information regarding the possession of the social amenities for the sampled farmers' households has been presented in Table 6. It was clear that the majority of

the respondents, i.e., 49 respondents (81.67 percent), owned *pucca* houses in the Kathua district. While the least, i.e., 21 respondents, were found in the case of the Rajouri district. Semi-*pucca* houses mainly were owned by the respondents from the Jammu district. Semi-pucca houses were the temporary establishments wherein the roof was constructed from the tin and wood wood-like materials in most cases. *Kuccha* houses were houses without any solid foundation and had used clay to construct up their structure. 39 respondents owned *Kuccha* houses in the Rajouri district, whereas the most minor proportion of the respondents (13.33 percent) were found in the case of the Jammu district. Overall, 141 respondents (58.75 percent) owned *pucca* houses in the sample. About the fuel/source used for cooking, 80 percent of the respondents were using LPG as the source of fuel, and the least, i.e., 41.67 percent, were found in the case of Rajouri. The usage of kerosene as fuel was found to the least only one respondent of Kathua was using kerosene as a fuel. Further, 35 respondents (58.33 percent) were using wood as fuel in the Rajouri district. The least usage of wood was found in the case of Kathua, where only 18.33 percent of the people were using wood as the source of fuel. If we now consider

Table 6: Possession of social amenities for sampled farmers' households under study

Particulars	District				Overall (n=240)
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	
Type of house owned					
Pucca	40 (66.67)	49 (81.67)	31 (51.67)	21 (35.00)	141 (58.75)
Semi-*Pucca*	12 (20.00)	2 (3.33)	1 (1.67)	0 (0.00)	15 (6.25)
Kuccha	8 (13.33)	9 (15)	28 (46.67)	39 (65.00)	84 (35.00)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**
Fuel/Source used for cooking					
LPG	41 (68.33)	48 (80.00)	32 (53.33)	25 (41.67)	146 (60.83)
Kerosene	0 (0.00)	1 (1.67)	0 (0.00)	0 (0.00)	1 (0.42)
Wood	19 (31.67)	11 (18.33)	28 (46.67)	35 (58.33)	93 (38.75))
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**
Toilet facility used					
Flush toilet	51 (85.00)	40 (66.67)	41 (68.33)	10 (16.67)	142 (59.17)
Open Defecation	9 (15.00)	20 (33.33)	19 (31.67)	50 (83.33)	98 (40.83)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**

Figures in parentheses show percentage to the total.

Table 7: Social structure of sampled farmers under study

Particulars	District				Overall (n=240)
	Jammu (n=60)	Kathua (n=60)	Udhampur (n=60)	Rajouri (n=60)	
Medical Facility Used					
Government hospital	47 (78.33)	50 (83.33)	48 (80.00)	52 (86.67)	197 (82.08)
Private hospital	13 (21.67)	10 (16.67)	12 (20.00)	6 (10.00)	41 (17.08)
Village doctor	0 (0.00)	0 (0.00)	0 (0.00)	2 (3.33)	2 (0.83)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**
Source of education of children of farmers					
Government school	37 (61.67)	36 (60.00)	35 (58.33)	26 (43.33)	134 (55.83)
Private school	23 (38.33)	24 (40.00)	25 (41.67)	34 (56.67)	106 (44.17)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**
Social participation of farmers					
Member of one organization	7 (11.67)	6 (10.00)	5 (8.33)	4 (6.67)	22 (9.17)
Member of more than one organization	2 (3.33)	2 (3.33)	1 (1.67)	1 (1.67)	6 (2.50)
Non- membership	51 (86.67)	52 (86.67)	54 (90.00)	55 (91.67)	212 (88.33)
Total	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**60 (100.00)**	**240 (100.00)**

Figures in parentheses show percentage to the total.

the type of toilet facility used by the respondents, the Jammu district has shown a greater inclination towards the flush toilet. 51 respondents (85 percent) were using the flush toilet in the district. The least penetration of the flush toilet was found in the

Case of the Rajouri district, where only 16.67 percent of the respondents use the flush toilet. On the other hand, in the same Rajouri district, a large chunk of the respondents (83.33 percent) still defecated openly. The least was found in the case of the Jammu district, where only 9 respondents were defecated openly. The case of open defecation was found to be similar to the case of the Kathua and Udhampur districts.

Table 7 represents the social structure of sampled farmers under study. Majority of the respondents, i.e., 197 (82.08) were availing of the facility of the government hospital, whereas only 2 respondents (0.83 percent) were using the facility of the village doctor. If we consider the inter-district comparison about the facility of the government hospital, 52 respondents (86.67 percent) were using this facility, while the least had been in the favor of

the Jammu district, where only 47 respondents were falling in this category. Udhampur district had shown the maximum inclination towards the private hospital, where 12 respondents have shown inclination towards the private hospital. Further, the majority of the farmers (55.83 percent) send their children to government school. Jammu district dominated the scene here, where 61.67 percent of the respondents sent their children to school; on the other hand, the least was found in the case of the Rajouri district (43.33 percent). The table further reveals that the majority (88.33 percent) of the farmers were not associated with any organization. 9.17 percent and 2.50 percent of the farmers were engaged with one and two organizations. Mostly, they found they engaged with *panchayat* & SHGs organizations.

CONCLUSION

The mean age of the sampled farmers was found to be 41.40, with the younger age of 25 years of age and the eldest that at 90 years of age. The mean size of family area was 5.37, comprising both the nuclear as well as

joint families. The average land area was found to be 2.72 acres and the mean level of education in terms of years in formal schooling worked out to be 8.95. The joint family system was found to be prevalent (59.17 percent), and most of the farmers (36.25) were also engaged in some private jobs along with agriculture. If we consider the farmers engaged in agriculture only, 24.58 percent of the farmers were involved in agriculture only. As far as the caste status of the farmers were concerned, the majority of the farmers (169) have belonged to the general caste, and only 32 farmers (13.33 per cent) farmers belonged to the scheduled caste. It is worthwhile to mention here that not even a single farmer belonged to the other backward classes was found in the study.

Further, 231 (96.25 percent) farmers were availing of the benefits of ration card. The least penetration was found in the case of soil health card. PM-KISAN scheme was found to be used by about half (51.25 percent) of the farmers. In addition, the penetration of this scheme was found almost parallel in all the districts. The cash amount of ₹ 6000 per year was found to be of easing the life of the farmers to some extent. If we now consider the living standard of the farmers under study, the majority (58.75 percent) of the farmers were living under *pucca* houses, and 84 farmers (35 percent) were found living under *Kuccha* houses. As far as the fuel/source used for cooking was concerned, the majority (60.83 percent) of the farmers were using LPG cylinder cooking gas. 38.75 percent were using wood, and only one respondent/farmer was observed to be using kerosene as the fuel. It becomes worthwhile to mention here that some of the farmers were using LPG as a supplementary source for cooking when their wood resources were exhausted. Most of the farmers (59.17 percent) were availing of the benefit of the flush toilet. Still, 40.83 percent of the farmers were engaged in open defecation, wherein the majority (83.33 percent) fell under the Rajouri district.

A majority (82.08 percent) of the farmers used to go to a government hospital for medical services, followed by a private hospital (17.08 percent). Still, two farmers from the Rajouri district were found using the facility of village doctors i.e., *hakims*. As far as the source of education for children of farmers was concerned, most of them (55.83 percent) preferred government schools and the rest private schools and academies. 88.33 percent of the farmers did not belong to any organizations.

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