Profile Characteristics of Different Categories of Farmers and Farm Women in Rice (*Oryza sativa L.*) Growing Eco-System of Imphal Valley

Loukham Devarani [1] and A. K. Bandhyopadhyay [2]

ABSTRACT

In Maklang Gram Panchayat of Imphal, 76 male and 78 female rice (*Oryza sativa L.*) farmers were enumerated and classified based on their land-owning status as those cultivating own field, share-croppers and landless labourers. Farm-women were found to have higher mean score in risk orientation and knowledge level. Radio, television, newspaper and friends and neighbours were the most frequently used information source. Male and female farmers differ significantly in education, socio-economic status, annual income, economic motivation, risk orientation, attitude towards improved agricultural technology, utilization of personal localite sources, personal cosmopolite sources and utilization of mass media sources. The significant differences were found between the land-owning classes of male farmers in education, socio-economic status, annual income, utilization of personal cosmopolite sources, utilization of mass media sources and knowledge level. Between farm-women, significant differences were observed in socio-economic status, annual income, risk orientation, attitude towards improved agricultural technology, independency in decision making, social participation, utilization of personal localite sources, utilization of personal cosmopolite sources and utilization of mass media.

Key words: Rice farmers, Gender, Land-owning status, Sharecroppers.

INTRODUCTION

Rice (*Oryza sativa L.*) is the main crop of the Manipur, accounting for 98 per cent of foodgrain production in the state and like all rice growing areas of the world, both men and women play active role in rice cultivation one way or the other. However, experiences shows that agricultural, environmental and related policies and programmes do not differentiate between male and female farmers (FAO, 2004a) and are targeted primarily at men. Given women's key role in rice-based livelihood systems, gender differentiated analysis should be integral to generation of new strategies for rice farming households (FAO, 2004b). In the north-eastern states of India, land tenure system is another social constraint, which discourages actual growers to invest on farm improvement. Actual cultivators are generally tenants rather than owners (Pattnayak *et al.,* 2006). Farmer is a general term used for a vast group of people having varied needs, interest, resources and opportunities. There is a need for categorizing the farmers into different aggregates. In the north- eastern states of India, diverse and variable rice-growing ecologies prevail even in a small geographical area of a village, Panchayat or a block level (Singh *et al.,* 2001). This diversity gives rise to the need for data pertinent to local situations (FAO, 2004 a). Given the diversity of the agro-ecological system and the resulting wide varieties of rice farming systems, and also the involvement of different aggregates of farmers in rice cultivation, it is important that efforts are taken up in studying the differences within a particular ecosystem. Hence, this study was initiated to study the characteristics of different categories of rice farmers and find out the differences in the characteristics of the different categories of rice farmers

METHODOLOGY

The study was undertaken in a rice-growing area of Imphal Valley of Manipur. Through multistage-random sampling, a rice field Lairam Loukol under the Maklang Gram Panchayat was selected for the study. Complete enumeration of all the rice growers in the selected rice field was done. In the enumeration procedure, only farmers residing in the six villages within the Maklang Gram Panchayat were considered. The sampling was done for keeping the agro-ecological and socio-cultural condition of the respondents as uniform as possible. In this manner, 76 farmers and 78 farm-women were selected. The selected farmers were stratified into three categories according to their land owning status as:

(i) The farmers who have their own land and are engaged in rice cultivation.

(ii) The farmers (share-croppers/tenant) who have lease-in lands from other farmers or land-owners residing in towns and cultivate rice in these fields. They give a share of their produce to the land-owner as rent which usually is about 20 bags (800 kg) per *sangam* of land irrespective of the total yield. This category constitutes more than half of the total rice- farming population of

[1]Assistant Professor, School of Social Sciences, College of Post Graduate Studies, (Central Agricultural University), Umiam, Meghalaya 793103,
[2]Professor, Department of Agricultural Extension, Bidhan Chandra Krishi Vishwavidyalaya, Mohanpur, Nadia, West Bengal 741252

Imphal valley. ("A" *Sangam* is a customary unit of area, which is approximately equal to 0.617 acre or one-fourth of a hectare.)

(iii) Farmers do not have their own land or leased-in land to cultivate rice. They mainly work as manual labourers in the fields of the other farmers on day-to-day payment basis. They are engaged in activities like land preparation, transplanting, intercultural operations, plant protection, harvesting and threshing. In off-seasons they are engaged in off-farm activities for the livelihood. The profiles of the farmers in relation to selected characteristics are presented and differences in the characteristics worked out.

RESULTS AND DISCUSSION

Personal and socio-economic profile: The percentage of young farmers was more in the case of farm-women (15.38%) than the male farmers (11.84%) indicating that women enter farming earlier than men (Table 1). However, the percentage of old farmers was more in men (19.74%) than the women (15.38%) which might imply that women retire from farming earlier. This finding is in line with the findings of Al-Shadiadeh (2007). There was only one illiterate male farmer (1.32%) among the respondents, while more illiteracy was observed in the case of farm-women (10.26%). Also 9.21per cent of the male farmers have attended graduation while there was no graduate among the women respondents. This indicates higher level of education and literacy in male farmers than farm-women. Regarding socio-economic status, the distribution indicates that percentage of respondents having low socio-economic status was higher in the case of farm-women (11.54%) while the percentage of male farmers (21.05%) having high socio-economic status was higher than the women (5.13%). The low socio-economic status of the women is due to the fact that even if a male farmer and farm-women belonged to the same family, females generally believe that their male counterparts have more rights and access to material possessions. This was may be due to the lower level of education observed among the farm-women. The annual income from rice cultivation for majority of the respondents was Rs 10,000 to 18,000. The respondents earning more than Rs 18,000 were more in male farmers (15.79%) than farm-women (5.13%). A large majority of the farmers had low economic motivation. Male farmers (22.37%) having high economic motivation were more than the farm-women (5.13%). In the low economic motivation category the percentage of farm-women (14.10%) was higher than the male farmers (5.26%). This might be the reason for the variation in the annual income of the men and women farmers. Half of the respondents have medium risk orientation. It was interesting to note that the percentage of farmers having high risk orientation was much higher in the farm-women (28.21%) than the male farmers (6.58%). The percentage of farmers with low risk orientation was higher in male farmers (21.05%) than the farm-women (7.69%).

Majority of the male farmers (92.11%) and farm-women (83.33%) had medium-level attitude towards improved agricultural technology. Regarding the independency in decision making, there seem to be equal distribution of men and women respondents in the low, medium and high groups: 78.95 per cent of the men and 79.49 per cent of the women have medium level of independency in decision making, 19.74 per cent of the men and 20.51per cent women had high level dependency in decision-making. There was more percentage of farm-women than men in the medium and high group of social participation. No women had low-level social participation while 7.89 per cent of the men had low social participation. This is due to the fact that almost all the women were members of the local women organizations, Meira Paibies.

Table 1: Personal and socio-psychological profile of male and female farmers

Variables	Group	Male Farmers (n=76)		Farm-women (n=78)		Mean	S.D
		Frequency	%	Frequency	%		
Age	Young (< 30 yrs)	9	11.84	12	15.38	41.12	10.97
	Mid-aged (30 to 52 yrs)	52	68.42	54	69.23		
	Old (> 52 yrs)	15	19.74	12	15.38		
Education	0 (Illiterate)	1	1.32	8	10.26	3.76	1.46
	1 (Can read only)	1	1.32	3	3.85		
	2 (can read and write)	3	3.95	12	15.38		
	3 (up to primary school)	11	14.47	7	8.97		
	4 (up to middle school)	26	34.21	27	34.62		
	5 (up to high school)	27	35.53	20	25.64		
	6(Graduate)	7	9.21	0	0.00		
Socio Economic Status	Low (< 9)	3	3.95	9	11.54	10.44	7.08
	Medium (9 to 21)	57	75.00	65	83.33		
	High (> 21)	16	21.05	4	5.13		
Annual income (Rs.) from rice cultivation	Low (<10,000)	0	0.00	1	1.28	14.27	4.15
	Medium (10,000 to 18,000)	64	84.21	73	93.59		
	High (>18,000)	12	15.79	4	5.13		
Economic motivation	Low (< 17)	4	5.26	11	14.10	18.84	1.48
	Medium (17 to 20)	64	84.21	73	93.59		
	High (> 20)	17	22.37	4	5.13		
Risk orientation	Low (< 23)	14	21.05	6	7.69	26.23	2.91
	Medium (23 to 29)	55	72.37	50	64.10		
	High (> 29)	4	6.58	22	28.21		
Attitude towards improved agricultural technology	Low (< 20)	4	5.26	9	11.54	22.08	1.86
	Medium (20 to 24)	70	92.11	65	83.33		
	High (> 24)	2	2.63	4	5.13		
Independency	Low (< 15)	1	1.32	0	0.00	16.42	1.08

In case of knowledge level in scientific rice cultivation practices, many male farmers (73.68%) and farm-women (70.51%) had medium level knowledge. It was interesting to observe that the percentage of farm-women having high level of knowledge (14.10%) was comparatively higher than the male farmers (11.84%).

Nevertheless, in Table 2, it is observed that the level of utilization of various communication sources for getting agricultural information by the farm-women was lesser than the men-folk. In the case of personal localite sources, friends and relatives were the most frequently utilized sources. In personal cosmopolite sources, the respondents had reported to have been in contact with officials of the State Department of Agriculture, experts of Central Agricultural University (CAU) and input dealers. There was almost negligible contact with the ICAR and the KVK. There was high level of utilization of radio, television and newspaper as a source of agricultural information. The level of utilization of farm publications was relatively lower, which was found to be even lower for women. Overall, radio, television, newspaper and friends & neighbours are the most frequently utilised information channels. This is in line with the findings of Al-Shadiadeh (2007). Hossian *et. al*. (2011) who found friends, neighbours and input dealers to be an important communication source. The mass media channels need to be fully utilised in campaigns related to rice cultivation. Also, the channel of persuasion through peers needs to be fully exploited.

Table 2: Frequency of utilization of different information sources of male and female farmers

Information sources		Male farmers (n=76)						Female farmers (n=78)					
		Frequency of Contact				Total Score	Percentage *	Frequency of contact				Total Score	Percentage *
		Never (0)	Sometimes (1)	Often (2)	Always (3)			Never (0)	Sometimes (1)	Often (2)	Always (3)		
Personal localite	Friends and neighbours	1	52	15	8	106	46.49	0	68	9	1	89	38.03
	Progressive farmer	34	33	4	5	56	24.56	54	21	2	1	28	11.97
	Panchayat	60	10	6	0	22	9.65	69	6	3	0	12	5.13
Personal cosmopolite	State Dept. officials	50	21	5	0	31	13.60	67	11	0	0	11	4.70
	ICAR scientist	75	1	0	0	1	0.44	78	0	0	0	0	0.00
	KVK	75	1	0	0	1	0.44	78	0	0	0	0	0.00
	Experts of CAU	59	17	0	0	17	7.46	65	11	1	1	16	6.84
	Input dealers	38	35	1	2	43	18.86	56	21	0	1	24	5.98
Mass media	Radio	0	7	29	40	185	81.14	0	10	61	7	153	65.38
	TV	0	28	34	14	138	60.53	1	37	40	0	117	50.00
	Newspaper	4	18	29	25	151	66.23	6	39	33	0	105	44.87
	Farm publications	42	33	1	0	35	15.35	75	3	0	0	3	1.28

* Indicates the percentage of total score to the total maximum possible score

Mean scores of the male farmers and farm-women

The mean score obtained by the farmers and farm-women against the selected variables was compared using t-test. The significant 't' values (Table 3) in the case of education (4.07), socio-economic status (2.09), annual income (3.88), economic motivation (4.54), attitude towards improved agricultural technology (2.21), utilization of personal localite sources (3.40), personal cosmopolite sources (3.28) and utilization of mass media sources (7.71) indicates that the mean score of the male farmers were significantly higher than the farm-women in these variables. However, for the variable risk orientation, the negative 't' value (-4.99) indicates that the farm-women have significantly higher risk orientation than the male farmers. Table 3 also indicated that there were no significant differences between the male farmers and farm women in age, independency in decision making and social participation.

Table 3: Comparison of the characteristics of the male and female farmers using t-test

Variables	Mean Score		't' Value
	Male farmers (n=76)	Farm-women (n=78)	
Age	42.16	40.12	1.16
Education	4.22	3.31	4.07**
Socio-economic status	16.33	13.71	2.90**
Annual income	15.53	13.04	3.88**
Economic motivation	19.36	18.33	4.54**
Risk orientation	25.13	27.31	-4.99**
Attitude towards improved agricultural technology	22.41	21.76	2.21*
Independency in decision making	16.47	16.36	0.66
Social Participation	2.21	2.12	0.66
Utilisation of personal localite sources	2.42	1.65	3.40**
Utilisation of personal cosmopolite sources	1.22	0.65	3.28**
Utilisation of mass media	6.74	4.59	7.71**
Knowledge level	56.28	57.15	-0.44

* * P=0.01; * P=0.05;

Test for equality of the mean scores of different categories of farmers within the male farmers and farm-women worked out and the respondents were classified into three different categories according to their land-owning status. Details of the classification are presented in Table 4. The female share-croppers were the largest in number (23.38%), while the farm-women cultivating their own field were least in number contributing only 9.09 per cent of the entire population. Within the land-

holding categories, women outnumbered men except in the case of those cultivating their own land. The results were observed to be contrast with the findings of Philip and Itoda (2012).This establishes the strong participation and contribution of women in rice cultivation.

Table 4: Distribution of the respondents according to their land-owning status

Category	No. of respondents	Percentage
Farmers cultivating their own land (M_1)	20	12.99
Male share-croppers (M_2)	34	22.08
Landless farmers (M_3)	22	14.29
Farm-women cultivating their own land (F_1)	14	9.09
Female share-croppers (F_2)	36	23.38
Landless farm-women (F_3)	28	18.18
Total	154	100

Mean Score of different categories of farmers

The mean score of the farmers within each gender category and between the land-owning classes were compared using ANOVA. The results are presented in Table 5. The F score of the male farmers indicate significant differences in farmers belonging to land-holding classes with respect to the variables education (3.65), socio-economic status (33.91), annual income (5.83), utilization of personal cosmopolite sources (15.71) and utilization of mass media sources (3.75) and knowledge level (3.72). There was no significant difference between the land-owning classes of male farmers in age, economic motivation, risk orientation, attitude towards improved agricultural technology, independency in decision making, social participation and utilization of personal localite sources.

Table 5: Comparison of the mean scores of different categories of farmers and farm-women

Variables	Male farmers (n=76)				Farm Women (n=78)			
	Mean Score			F	Mean Score			F
	M_1 (n=20)	M_2 (n=34)	M_3 (n=22)		F_1 (n=14)	F_2 (n=36)	F_3 (n=28)	
Age	41.00	44.12	40.18	0.95	41.57	41.44	37.68	1.16
Education	4.70	4.24	3.77	3.65*	3.86	3.33	3.00	1.36
Socio-Economic Status	21.45	17.29	10.18	33.91**	17.79	15.69	9.11	38.90**
Annual Income	17.75	15.88	12.95	5.83**	15.43	13.33	11.46	12.98**
Economic Motivation	19.65	19.32	19.14	0.77	18.86	18.00	18.50	2.14
Risk Orientation	25.30	24.59	25.82	1.62	25.93	29.31	25.43	28.89**
Attitude towards improved agricultural technology	22.40	22.18	22.77	0.81	23.43	21.33	21.46	7.36**
Independency in decision making	16.20	16.53	16.64	1.10	17.00	16.36	16.04	3.42*
Social Participation	2.25	2.06	2.41	0.89	2.21	2.36	1.75	4.94*
Utilisation of personal localite sources	2.65	2.68	1.82	1.89	1.36	1.97	1.39	4.05*
Utilisation of personal cosmopolite sources	1.95	1.41	0.27	15.71**	0.71	1.08	0.07	10.95**
Utilisation of mass media	6.75	7.32	5.82	3.75*	7.14	0.00	0.00	4.36*
Knowledge level	58.41	58.56	50.83	3.72*	59.77	58.77	53.75	1.57

* P=0.01; **P=0.05;

In the case of the farm women as indicated by the F score, the different land-owning classes differed significantly in socio-economic status (38.90), annual income (12.98), risk orientation (28.89), attitude towards improved agricultural technology (7.36), independency

in decision making (3.42), social participation (4.94), utilization of personal localite sources (4.05), utilization of personal cosmopolite sources (10.95) and utilization of mass media (4.36).There were no significant differences within the land-owning classes of farm-women in age, education and economic motivation.

CONCLUSION

The significant differences was observed between the male and female farmers and also within the land owing class indicates that, these categories were differ not only in their gender roles and status of land ownership, but also in their socio-psychological and communicational behaviour. These differences, especially in the frequency of utilization of different sources of information, need to be considered and addressed in any developmental intervention of the rice farmers of similar agro-ecosystem. Efforts need to be made to rich out to those categories that have little access to the information sources in targeting the category specific information.

REFERENCES

Al-Shadiadeh, A. N. H. 2007. Descriptive study of the training needs for man and women farmers in semi desert areas A case study of South Jordan. World Applied Science Journal 2(1): 12-21.

FAO 2004a. Building on gender, agrobiodiversity and local knowledge. Food and Agriculture Organization of the United Nations. Rome, Italy.(Accessedfrom ftp://ftp.fao.org/docrep/fao/007/y5608e/ y5608e00.pdf on 15/05/12).

FAO 2004b. Report of the regional consultation on gender dimensions in Asian rice livelihood systems in the changing milieu of technologies and economy. Food and Agriculture organization of the United Nations regional office for Asia and the Pacific Bangkok, Thailand. Accessed from http://www.globalfoodsec.net/static/text/FAO_regional_consultation_gender_discrimination.pdf.

Hossain, K.Z., Islam, M.R., Bhuiyan, M.H., Wazed, M.A And Rahman M.M. 2011. Farmers' communication behavior in receiving information on improved rice production technologies. Journal of Innovation Development Strategy 5(1):28-33.

Pattanayak, A., Bujarbaruah, K. M., Sharma, Y. P., Ngachan, S. V., Dhiman, K. R., Munda, G. C., Azad Thakur, N. S., Datta, K. K., Prakash, N., Devi, P. and Viswakarma, A. K. 2006. Steps towards optimizing rice

PROFILE CHARACTERISTICS OF DIFFERENT CATEGORIES OF FARMERS AND FARM WOMEN IN RICE (ORYZA SATIVA L.) GROWING ECO-SYSTEM OF IMPHAL VALLEY

64

production in north east India. Technical Bulletin No. 21. ICAR Research Complex for NEH Region, Umiam, Meghalaya.

Philip, T. K. and Itodo, I. N. 2012. Demographic characteristics, agricultural and technological profile of acha farmers in Nigeria. Agricultural Engineering International: CIGR Journal 14(1):89-93.

Singh, B. N., Rautray, S, K, Pande, K., Panda, A. R and Rath, P. C. 2001. Towards rice self-sufficiency in Northeastern India. In: Barah, B. C. (Ed.) Prioritization of Strategies for Agricultural Development in Northeastern India. National Centre for Agricultural Economics and Policy Research (NCAP), New Delhi.(Accessedfrom http://www.ncap.res.in/upload_files/workshop/ws10_chapter11.pdf on 24/08/12.