Role of Farm Women in Livestock Management in Rice-Livestock Farming System

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Abstract

This paper studies the role performance of farm women in rice-livestock farming system in Balasore district of Odisha during 2009-2011. A sample of 240 farm women belonging to marginal and small farming category were selected purposively from 12 randomly selected villages, representing all the community development blocks of the district. The study revealed that majority of small and marginal farming households of the district were rearing goats as compared to cows and poultry birds. Farm women were performing their role better in providing feed and water to animals (92.5%) than any other activities. The lowest involvement of farm women in livestock management was in liasoning with the veterinary staff for treatment with a participation index of only 13.8%.

Farming system refers to a mix of enterprises like crop, livestock, aquaculture, agro-forestry etc. to which farm families allocate resources, to efficiently utilize the existing enterprises for productivity and profitability of the farm (Sharma *et al.* 1991). Rice is the principal food grain consumed by a majority of the households of India. Rice based farming system is a system based enterprise, developed integrating components which are complementary to each other, of which rice is the principal entity. In India, livestock has been a natural companion of crop farming. Livestock is regarded as a major livelihood enterprise for most of the landless laborers, marginal, small and share farmers. In some areas of India, livestock farming contributes to 70 per cent of total family income (Mishra *et al.* 2006). Farm women are about half of the total population of rural India. In all types of on-farm and off-farm activities relating to agriculture, women are contributing more labour and their involvement is more than men (Verma and Sinha 1992). Their involvement in rice farming varies from 70% to 100% leaving the land preparation and using of chemicals (Nath and Nayak 2008).

In India, women's involvement in livestock management is a long standing tradition (Durggarani and Subhadra 2009). The crucial role of women in agriculture and allied activities has however been grossly underestimated and undervalued

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(Narmatha *et al.* 2009). However, Tulachan *et al.* (2000) and Javed (2006) in their study have reported that in livestock and poultry farming, women perform the most, in their rearing and management. Their participation is from cleaning the sheds to marketing of bi-products. Keeping this fact in view, the present study was undertaken to find out the role performance of farm women in livestock management in rice-livestock farming system.

Methodology

The investigation was carried out in Odisha state. Balasore district of Odisha was purposively selected for the study as rice is cultivated in more than 80 per cent of the total cultivated land in the district and most of farming systems there, are based on rice farming. All the twelve community development blocks were taken for the survey. One village from each of the twelve blocks of the district was selected through random sampling technique. Small and marginal categories of farm families with land holding less than 2 ha constitute about 80 per cent of total farm families of the district. Hence 10 small (1-2 ha) and 10 marginal (<1ha) farm families per village, were selected purposively for the study, to represent the rice-livestock farming households of the district. Data were collected from the total sample of 240 farm women through personal contact method in a pre-tested interview schedule. Participation in livestock management was measured on a scale of 0,1,2,3 scores allotted to never participated, rarely, often and most often participated respectively. The total score and mean score of each activity was calculated. Participation index of each activity was calculated using the formula

$$PI = \frac{SO}{PS} \times 100$$

Where PI = Participation index expressed in percentage
SO = Score obtained in individual activity
PS = Potential score of each activity

Results and Discussion

Crop and livestock farming are complementary to each other. As per the livestock census of Odisha (2003), Balasore district had 52 per cent poultry birds, 26 per cent cows and 20 percent goat population as the major domesticated livestock. The other livestock, i.e. sheep, pigs and buffaloes constituted less than two per cent of the total livestock population of the district.

Table 1 depicts the status of various types of livestock reared by responding small and marginal categories of farm families in Balasore district.

Table 1 Distribution of Respondents according to number of Livestock reared **N=240**

Livestock	Number	Frequency	Per cent
Cattle	No cattle	49	20.4
	1-5 cattle	115	47.9
	5-8 cattle	53	22.1
	8-15 cattle	20	8.3
	>15 cattle	3	1.3
Milch cows	No milch cow	100	41.7
	1-2milch cows	117	48.7
	3-4milch cows	21	8.8
	>5 milch cows	2	0.8
Poultry birds	No bird	98	40.8
	1-5 birds	59	24.6
	5-8 birds	55	22.9
	>8 birds	28	11.7
Goats	No goat	92	38.3
	1-5 goats	56	23.3
	5-8 goats	31	12.9
	8-15 goats	32	13.4
	>15 goats	29	12.1

It is observed from the above table that 20.4 per cent of the responding samples did not have any cattle. Only 1.3 per cent of the sampled respondents had more than 15 numbers of cattle. It shows cattle rearing among the largest share of rural population. The rearing of buffaloes, sheep and pigs were restricted to only three number of responding farm families. Hence they did not represent the majority of the rice-livestock farming system and were not included in the study. Cows, goats and poultry birds were found as the livestock in rice –livestock farming systems. Table 1 indicates that about 41.7 per cent, 38.3 per cent and 40.8 per cent of farm women had no milch cows, goats and poultry birds respectively. This shows the poor response of small and marginal category of farm families towards livestock farming. Around 62.7 per cent of the respondents had one or more number of goats out of which 25.5 percent had more than 8 goats and 12.1 percent had more than 15 goats. In comparison to goats, only 0.8 per cent of respondents had more than five milch cows and 48.7 per cent had one or two milch cows. Therefore it could be concluded that most of the farm women

belonging to small and marginal categories did not take dairy enterprise commercially and the preference towards goats was more than for cattle. This proves the proverb that goats are poor man's companion. During the survey a number of respondents opined requirement of less space, less investment, easy management, more reproductive capacity and better market demand and price as the key factors for preference of resource poor families towards goats over cattle. About 11.7 per cent of responding farm families had more than eight poultry birds. This indicates that goats, poultry birds and cows were popular among the responding farm families in order of preference. It was found that the fear of epidemics like bird flu, subsequent high mortality and reduction in demand and price of the birds inhibits these resource poor farm families to take up poultry farming commercially.

Farm women generally perform various roles in livestock management. Table 2 indicates the role performed by farm women in management of livestock.

Table 2. Role Performance of Farm Women in Livestock Management

N=240

S.No.	Roles	Most often	Often	Rarely	Never
1	Caring of newly born calves, birds etc.	117(48.7)	63(26.3)	24(10.0)	36(15.0)
2	Bathing and cleaning	23(9.6)	36(15.0)	61(25.4)	120(50.0)
3	Cleaning of cattle-shed	143(59.6)	44(18.3)	30(12.5)	23(9.6)
4	Bringing fodder from field	29(12.1)	85(35.4)	66(27.5)	60(25.0)
5	Preparation of feed for cattle and birds	148(61.7)	59(24.6)	15(6.2)	18(7.5)
6	Giving water and feed to cattle and birds	200(83.3)	22(9.2)	0(0.0)	18(7.5)
7	Chaff cutting	43(17.9)	63(26.2)	55(22.9)	89(37.0)
8	Health care and management	66(27.5)	106(44.2)	50(20.8)	18(7.5)
9	Consulting veterinary staff for treatment	7(2.9)	39(16.3)	0(0.0)	194(80.8)
10	Milking	71(29.5)	23(9.6)	27(11.3)	119(49.6)
11	Collection of eggs	88(36.7)	46(19.2)	0(0.0)	106(44.1)
12	Value addition	48(20.0)	57(23.8)	20(8.3)	115(47.9)
13	Marketing of milk, flesh and its bi-products	31(12.9)	27(11.3)	76(31.7)	106(44.1)
14	Compost making	33(13.8)	93(38.7)	51(21.2)	63(26.3)

*figures in parentheses represent the percentage

From table 2 it can be observed that the maximum number of responding farm women (83.3%) was very often performing the task of giving feed and water to animals. None of the respondents was coming under the category of rare participation in giving feed and water to animals and collecting eggs of the poultry birds. It was also found during the survey, that the maximum involvement of farm women in household works was the primary cause behind it. Nearly 80.8 per cent of the respondents never consulted the veterinary staff for treatment of their livestock. This might be due to the gender bias. During discussions most of them opined that consulting staff of the animal husbandry department was a male's domain. This finding is in line with the study of Mishra *et al.* (2008) and Narmatha *et al.* (2009). About one-fourth of the total respondents did not bring fodder from the field at all and 50 per cent of the respondents did not participate in the cleaning and bathing of animals. It was found that bathing of animals was mainly done in the river and ponds near the village. This might be the factor behind poor performance of farm women in this aspect of livestock management. Moreover, only 9.6 percent were found taking part in cleaning and bathing of animals regularly. Around 59.6 percent of respondents informed that they always performed the most drudgery prone work in livestock management i.e. cleaning the shed. This shows the dominating behavior of the male population of the society in allocation of activities. More than two-fifth of the respondents were not participating in post-harvest management activities like value addition and marketing of the bi-products. During a discussion it was found that lack of knowledge was the real limiting factor for their poor performance. It could be concluded that, in most of the activities relating to livestock management, the farm women were playing a major role. These findings are in line with the study of Muhammad *et al.* (2006); Mishra *et al.*(2008); Despande and Shibapara (2010) and Chauhan (2011).

The participation of farm women was analysed (Table 3) and Participation Index (PI) was calculated to know the extent of the performance of their role in livestock management.

Table 3: Activities undertaken by Farm Women in Livestock Management

S.No.	Activities	Total score	Mean score	PI (%)
1	Caring of newly born calves, birds etc.	501	2.09	69.6
2	Bathing and cleaning	204	0.87	28.3
3	Cleaning of cattle-shed	547	2.28	76.0
4	Bringing fodder from field	323	1.35	44.9
5	Preparation of feed for cattle and birds	577	2.4	80.1
6	Giving water and feed to cattle and birds	644	2.68	89.4
7	Chaff cutting	310	1.29	43.1
8	Health care and management	460	1.92	63.9
9	Consulting veterinary staff for treatment	99	0.41	13.8
10	Milking	284	1.18	39.4
11	Collection of eggs	356	1.48	49.4
12	Value addition	298	1.24	41.4
13	Marketing of milk, flesh and its bi-products	223	0.93	31.0
14	Compost making	243	1.01	33.8

From Table 3 it can be seen that the rate of participation of farm women of small and marginal categories was highest in giving feed and water to animals (89.4%). The calculated mean score in the table shows that the average participation of farm women in bathing animals, consulting veterinary staff and marketing of products and their bi-products was very poor. In compost making, milking, chaff cutting, health care, value addition, collection of eggs and bringing fodder their participation was medium. The participation of farm women in giving feed to animals, cleaning the cattle-shed and caring of new-born was much higher. This might be due to their maximum involvement in house hold activities. The participation index of consulting veterinary staff was the lowest i.e.13.8 percent. It is surprising to find that most of the farm women were not in touch with the extension personnel of the Animal Husbandry department. During the survey it was found that social restrictions, taboos and dependence on male members of the family are the causal factors for poor performance. Javed *et al.* (2006) also reported that rural women's participation was highest in cleaning of sheds and lowest in marketing of bi-products.

Conclusion

From the present investigation it can be concluded that very few farm families belonging to small and marginal categories in Odisha state have taken up livestock farming as a viable enterprise in rice-livestock farming system. Rural women play a major role in performing most of the activities in livestock rearing and their management. Though their involvement in most of the activities relating to physical labour is more, their liasoning with the veterinary staff is very poor. This type of communication gap hinders the adoption of various technologies of livestock management by the farm women. The officials of the Animal Husbandry department should try to bridge the gap. Steps should be taken to reduce gender discrimination and ensure effective dissemination of knowledge on livestock management to farm women for improving their participation in rice-livestock farming system.

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