

Role of Women in Poultry Rearing Amongst Resource-poor Mixed Farming Families

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ABSTRACT

The present study was conducted in all the six agro-climatic zones of West Bengal. Two blocks were selected randomly from each agro-climatic zone. One village from each block was selected randomly. A total of 61 poultry rearing farm households were selected randomly from 12 villages. Husband and wife of each selected farm household were taken as respondents which constituted a total sample size of 122 respondents. The poultry unit possessed by farm families was observed generally having an average of 6-7 adult birds. It was found that all the poultry related daily activities were predominantly performed by farm wives. Their highest participation was recorded in the activity of collection and storage of eggs (88.52%) followed by feeding and watering of birds (86.89%) and lowest involvement was observed in watching of birds (62.30%). Husbands' participation varied from zero per cent (in case of feeding and watering) to 27.87 per cent (in case of watching of birds). Husband-wife joint participation was found almost negligible. Family members' involvement in poultry related daily activities varied from 1.64 per cent (collection and storage of eggs) to 11.48-19.67 per cent (cleaning of poultry house). It was reported that husbands were predominantly involved in purchasing of poultry feed (63.93%) and other two occasional activities like hatching activity and selling of eggs and birds were mostly taken care by farm wives (88.52% and 50.82% respectively). It was found that on an average a farm family keeping an average of 6-7 adult birds spent 62.37 minutes per day in poultry related daily activities and 4 man-days/annum in occasional activities, in which 86.08 per cent of total time in daily activities and 75 per cent of total time in occasional activities were spent by farm wives.

Key words: Role of women, poultry rearing, resource-poor

INTRODUCTION

India is a land of farmers. Farming is the most ancient occupation for Indians and it is the cultural identity of the nation. Agricultural sector with all its allied forms like dairy, poultry, fishery *etc.*, at present, provides livelihood to about 64 per cent of the total population of India. Interestingly, in India the distribution of farm holdings is dominated by resource-poor small and marginal farmers. In India, 63 per cent of total operational holdings were of size less than 1 hectare (*i.e.*, marginal holding) and 18.88 per cent were having small holdings between 1-2 hectares [Agricultural Census Report, India (2000-01)]. These percentages are still increasing.

The role of female members of resource-poor farm families is a matter of concern, because a resource-poor farmer cannot be entirely dependent on outside labourers to work in his farm, instead all the able family members including the females of the family have to be involved themselves in various farming practices. It is not an exaggeration that women play an active role in farming, whether it is crop cultivation or animal husbandry. It was reported that out of the 310 million rural workforces, 199 million are male and 111 million are female (Tikoo,

2006). Women constitute about 69 per cent of the workforce in livestock sector as against 39 per cent in crop farming. They are the backbone of rural economy. In India, there were 10, 73, 63,000 (89.08%) male cultivators and 1,31,57,000 (10.92%) female cultivators [Agricultural Census Report, India (2000-01)]. Sometimes the hard and committed works done by the rural women are either being overlooked in face of insurmountable gender bias and gender oppression (Sarkar and Pradhan, 2004). Strategies of women component plan and gender budgeting have the main objective to mainstream gender perspectives in all sectors and to work towards the ultimate goal of elimination of gender discrimination and creating enabling environment for gender justice and empowerment of women.

Concerns for sustainable development and poverty alleviation are forcing public agricultural research systems to focus on improving livelihood security. Mixed crop-livestock farming systems are central to the livelihood security of the small and marginal farmers and the landless labours, in the developing countries of the tropics (Devendra and Chantalokhana, 2002). Variations in resource availability at the farm level (natural resources, capital, farm size, labour), and access to

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markets and services as well as socio-cultural variations lead to the adaptation of a variety of crop-livestock systems each suited for specific conditions (Rao, 2006). Mixed farming is a combination of crop production with a significant amount of animal raising. It covers diversified agriculture, in which a farmer invariably devotes to animal production as a complementary enterprise. Mixed farming can provide round the year employment opportunity and household food and nutritional security to resource-poor farm families. It is the key to low-external-input farming and/or organic farming which is suitable for and practiced by resource-poor farmers. The improvement of livelihood security of the rural poor in India and other developing countries of the tropics is therefore, directly linked with the growth of the small farm, mixed crop-livestock economy (ILRI, 2000).

Poultry plays a vital role in mixed farming. In addition to being a good source of human nutrition, poultry is a dependable source of regular cash income, and forms one of the few assets of the rural poor. Often, poultry is only source of income for the landless and the marginal farmers. Poultry manure provides vital input for sustainable organic farming. Crop residues and grains provide the feed for the poultry. Poultry produces enable farmers to diversify their income and absorb occupational as well as production risk.

Analysis of gender-wise activity profile and time utilization pattern regarding poultry farming is a matter of concern to compare the involvement of male and female members of resource-poor farm families practicing mixed farming for sustainable livelihood security. In order to satisfy this concern, an attempt has been made to study gender-wise activity profile and time utilization pattern in poultry rearing amongst resource-poor mixed farming families. The study focused on main operational areas of both genders involved in poultry rearing under limited resource base and thus, the findings of this study would help in providing a framework for developing appropriate technologies for making their work more efficient, drudgery reducing and remunerative.

METHODOLOGY

Locale of the study

The study was conducted in the state of West Bengal. It is situated in the eastern part of India and lies between 21°31' and 27°14' north latitude and 85°51' and 89°53' east latitude. The state has a total geographical area of 88,752 square kilometers representing only 2.7 per cent of the total area of India. It is territorially divided into 19 districts. According to Census 2001, population of this state was 80,176,197 among which about 72 per cent

were living in rural areas. The sex ratio of the state was 934. The literacy percentage of West Bengal was 68.64 per cent (male 77.02 per cent of male and 59.61 per cent of female). The state is divided into six agro-climatic zones from north to south direction viz. hill zone, *terai* zone, old alluvial zone, new alluvial zone, lateritic, red soil zone, and coastal saline soil zone. There are 341 community development blocks, 333 *panchayat samitis*, 3354 *gram panchayats* and 37945 inhabited villages in West Bengal. The average landholding of the state is 0.79 ha. and cropping intensity is 180 per cent. Fifty two per cent of the total cultivable area of West Bengal is irrigated in nature. The principle crops of West Bengal are rice, jute, mustard and potato which cover 61.10, 6.47, 4.72 and 3.21 per cent of the total cultivable area respectively.

The state was selected for the study under following reasons:

(i) The state is dominated by small and marginal subsistence farmers. In West Bengal, 81.17 per cent and 14.38 per cent of total operational holding fell in marginal and small operational holding category, respectively. Percentages of total cultivable area owned by them were 50.65 and 28.87, respectively [Agricultural Census Report, West Bengal (2005-06)]. Crop cultivation along with animal and poultry rearing is a traditional and most common practice being seen among these farmers.

(ii) Out of total women population of the state, 46.26 per cent (14.08% cultivators and 32.18% agricultural labourers) were directly involved in agriculture and allied activities [Statistical Handbook, West Bengal (2005 & 2006)].

Sampling plan selection of blocks and villages

The study was conducted in all the six agro-climatic zones of West Bengal in order to get a comprehensive picture of poultry rearing. Two blocks were selected randomly from each agro-climatic zone. Districts were not selected, because majority of the districts have parts of more than one agro-climatic zone. From hill zone, Kalimpong-I and Gorubathan blocks; from *terai* zone, Falakata and Mathabhanga-I blocks; from old alluvial zone, Arambag and Bhatar blocks; from new alluvial zone, Krishnanagar-I and Purbasthali-I blocks; from lateritic and red soil zone, Gangajalghati and Balarampur blocks; and from coastal saline soil zone, Hingalganj and Tamluk blocks were selected randomly. Thus a total of twelve blocks were selected from six agro-climatic zones. One village from each block was selected randomly.

Table 1: No. of poultry birds enumerated in each selected block

Block	No. of poultry birds
Kalimpong-I	53880
Gorubathan	52828
Falakata	173906
Mathabhanga-I	129141
Arambag	102511
Bhatar	348087
Krishnanagar-I	102703
Purbasthali-I	117640
Gangajalghati	173906
Balarampur	102229
Hingaljanj	174431
Tamluk	89520

Source: 17th Livestock census of India (2003)

Selection of the respondents

A total of 61 poultry rearing farm households were selected randomly from 12 villages. Husband and wife of each selected farm household were taken as respondents. So 61 each of husbands and wives of 61 from households constituted a total sample size of 122 respondents for the present study.

Data collection and tabulation

Data were collected with the help of a pretested structured interview schedule using personal interview method. A comprehensive list of daily and occasional activities pertaining to poultry rearing was prepared in consultation with the experts, available literature and farmers of non-sampled area. The possible combinations used for activity analysis were husband (H), wife (W), along with spouse (HW) and along with family members (a/family). Time spent in individual daily activities were recorded in minutes/day and in individual occasional activities, it was recorded in hours/annum.

The total time spent by both husband and wife in daily and occasional poultry rearing activities were determined by summing up the times spent in individual activities and final units used were minutes/day in case of daily activities and man-days/annum in case of occasional activities (1 man-day= 8 hrs.).

Statistical tools used

Statistical tools like frequency and percentage were used for analysis of the data to measure the extent of association or agreement between husbands' and wives' responses.

RESULTS AND DISCUSSION

In the present study, activity profile and time utilization pattern of husbands and wives of selected farm families in poultry rearing activities were studied in depth

and responses were taken into consideration.

It indicates that there was high degree of agreement in the responses of husbands and wives regarding the participation of their counterpart. So, husbands' responses were considered for husbands only and wives' responses were considered for wives only in the description of results.

Gender-wise activity profile and time utilization pattern in poultry related activities

Poultry rearing activities involve both daily and occasional activities. Daily activities are usually performed regularly and occasional activities are generally performed periodically when situation comes. In the following tables and paragraphs gender-wise activity profile and time utilization pattern of both daily and occasional dairy farming activities are being discussed.

The poultry unit possessed by farm families was observed generally having an average of 6-7 adult birds. The number was observed highest in lateritic and red soil zone and lowest in hill zone.

Table 2: (a) Gender-wise activity profile in poultry related daily activities

Daily activities	[Husband response (n=61)]							
	H		W		HW		a/family	
	F	%	F	%	F	%	F	%
Cleaning of poultry house	1	1.64	43	70.49	5	8.20	12	19.67
Preparation of poultry feed	5	8.20	44	72.13	4	6.56	8	13.11
Feeding and watering	0	0.00	51	83.61	1	1.64	9	14.75
Releasing and receiving of birds	11	18.03	39	63.93	3	4.92	8	13.11
Watching of birds	17	27.87	35	57.38	0	0.00	9	14.75
Collection and storage of eggs	5	8.20	54	88.52	1	1.64	1	1.64

Table 2 (b): Gender-wise activity profile in poultry related daily activities

Daily activities	[Wife response (n=61)]							
	H		W		HW		a/family	
	F	%	F	%	F	%	F	%
Cleaning of poultry house	1	1.64	47	77.05	6	9.84	7	11.48
Preparation of poultry feed	4	6.56	47	77.05	2	3.28	8	13.11
Feeding and watering	0	0.00	53	86.89	0	0.00	8	13.11
Releasing and receiving of birds	10	16.39	41	67.21	3	4.92	7	11.48
Watching of birds	13	21.31	38	62.30	2	3.28	8	13.11
Collection and storage of eggs	5	8.20	54	88.52	1	1.64	1	1.64

A perusal of Table 2 (a & b) exhibits that all the poultry related daily activities were predominantly performed by farm wives. Their highest participation was recorded in the activity of collection and storage of eggs (88.52%) followed by feeding and watering of birds (86.89%) and lowest involvement was observed in watching of birds (62.30%). Husbands' participation varied from zero per cent (in case of feeding and

watering) to 27.87 per cent (in case of watching of birds). Husband-wife joint participation was found almost negligible. Family members' involvement in poultry related daily activities varied from 1.64 per cent (collection and storage of eggs) to 11.48-19.67 per cent (cleaning of poultry house). Almost similar trend was also found in every zone regarding gender-wise activity profile in poultry related daily activities.

Table 3 (a): Gender-wise activity profile in poultry related occasional activities [Husband response (n=61)]

Occasional activities	H		W		HW		a/family	
	F	%	F	%	F	%	F	%
Purchasing of poultry feed	39	63.93	13	21.31	0	0.00	9	14.75
Hatching activity	5	8.20	52	85.25	2	3.28	2	3.28
Selling of eggs and birds	28	45.90	30	49.18	1	1.64	2	3.28

Table 3 (b): Gender-wise activity profile in poultry related occasional activities [Wife response (n=61)]

Occasional activities	H		W		HW		a/family	
	F	%	F	%	F	%	F	%
Purchasing of poultry feed	34	55.74	17	27.87	0	0.00	10	16.39
Hatching activity	5	8.20	54	88.52	2	3.28	0	0.00
Selling of eggs and birds	27	44.26	31	50.82	2	3.28	1	1.64

It can be observed from Table 3 (a & b) that husbands were predominantly involved in purchasing of poultry feed (63.93%) and other two activities like hatching activity and selling of eggs and birds were mostly taken care by farm wives (88.52% and 50.82% respectively).

Poultry feed were generally purchased at the time of purchasing concentrates and sometimes, concentrates are used as poultry feed as reported by respondents.

Farm wives reported that they used to sell eggs and birds to neighbours and the obtained money was saved by them for future use or spent for children. This type of local sale resulted higher involvement of women. However, in old alluvial zone, husbands were found dominant over wives in selling of eggs and birds.

The results received in the study are in agreement with the findings of Huque and Paul (1995) and Saha *et al.* (2005).

Huque and Paul (1995) studied the role of village women in poultry raising in the existing farming system of Bangladesh and found that most of the works related to poultry raising like house construction, feeding, medication, housing and releasing of birds, house cleaning, hatching management, brooding management,

decision of purchasing and selling out birds and eggs and decision of home consumption were done by women.

Women of landless, marginal and small farm categories were actively involved in poultry raising as part of their income earning activities. On an average, women completed 80.00 per cent works of poultry husbandry.

In a study on work distribution pattern in poultry farming in six villages of two blocks of North 24 Paragana district, West Bengal, Saha *et al.* (2005) showed by interviewing 96 farm women possessing backyard system under semi-intensive system that majority of the females (100.00%, 100.00%, 100.00%, 93.70% and 100.00%) participated in poultry farming activities like providing feed and water, releasing birds from poultry house in morning, receiving birds in poultry house at evening, health care and collection and storage of eggs, respectively, at regular basis.

Sometimes, they (100.00%, 67.70%, 79.20% and 45.80%) participated in cleaning of poultry house, hatching activity, selling of meat or birds and selling of eggs, respectively.

A few of males (8.30%, 14.50% and 7.30%) occasionally participated in activities like providing feed and water, selling of meat or birds and selling of eggs, respectively, where 36.50 per cent, 5.20 per cent and 34.40 per cent of children occasionally participated in activities like providing feed and water, selling of eggs and collection and storage of eggs, respectively.

Table 4: Zone-wise average time utilization pattern of respondents in poultry related activities

Agro-climatic zones	Hill zone		Terai zone		Old Alluvial zone		New Alluvial zone	
	H	W	H	W	H	W	H	W
Activities	(n=5)(n=5)		(n=10) (n=10)		(n=15) (n=15)		(n=6) (n=6)	
Daily activities (min/day)	4.80	43.90	10.10	52.20	10.86	44.94	7.00	47.50
% to total	9.86	90.14	16.21	83.79	19.46	80.54	12.85	87.15
Total	48.70		62.30		55.80		54.50	
Occasional activities man-days/annum)	1	2	1	3	2	3	1	3
% to total	33.33	66.67	25.00	75.00	40.00	60.00	25.00	75.00
Total	3		4		5		4	

Agro-climatic zones	Lateritic and red soil zone		Coastal saline soil zone		Overall	
	H (n=15)	W (n=15)	H (n=10)	W (n=10)	H (n=61)	W (n=61)
Activities						
Daily activities (min/day)	13.54	66.54	5.80	67.10	8.68	53.69
% to total	16.91	83.09	7.96	92.04	13.92	86.08
Total	80.08		72.90		62.37	
Occasional activities (man-days/annum)	2	4	1	4	1	3
% to total	33.33	66.67	20.00	80.00	25.00	75.00
Total	6		5		4	

From Table 4, it can be concluded that on an average a farm family keeping an average of 6-7 adult birds spent 62.37 minutes per day in poultry related daily activities and 4 man-days/annum in occasional activities, in which 86.08 percent of total time in daily activities and 75 percent of total time in occasional activities were spent by farm wives. Total times spent on poultry related daily activities as well as occasional activities were observed highest in lateritic and red soil zone (80.08 min/day and 6 man-days/annum respectively) and that of lowest was found in hill zone (48.70 min/day and 3 man-days/annum respectively). This variation was due to the variation observed in number of birds kept by farm families in these two zones. However, the percentage of total time spent by wives in poultry related daily as well as occasional activities was found highest in coastal saline soil zone which reflects higher extent of participation of coastal wives in poultry farming activities.

CONCLUSION

Activity profile provides a clear picture of predominant participation of males and females in various farm activities. It helps to formulate a sound strategy for developing the efficiency of the farm workers (both males and females) through training and awareness programme. The study of activity profile also gives an outline to the researcher for developing appropriate technology suitable for both genders which will reduce their drudgery. Time utilization pattern denotes the time spent by farmers and farm women in various daily and occasional farm activities throughout the year. It gives an idea of the employment generation of rural populace. Considering the higher degree of involvement of women in poultry rearing activities, it is very imperative to provide training to them on these sectors for transforming their work in a scientific, hygienic and cost-effective manner. Women should also be given training on scientific recycling of farm-byproducts.

REFERENCES

Agricultural Census Report, India. 2000-01. A publication of Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, Krishi Bhavan, New Delhi.

Agricultural Census Report, West Bengal. 2005-06. A publication of Land and Land Reform Department and Evaluation Wing, Department of Agriculture, Govt. of West Bengal.

Anonymous. 2005. The Report of 17th Livestock census conducted in 2003. Government of India, New Delhi.

Basic Animal Husbandry Statistics. 2006. Published by Department of Animal husbandry, Dairying and Fisheries, Ministry of agriculture, Government of India, Krishi Bhavan, New Delhi.

Census Reports of India. 2001. Registrar General of India, Government of India.

Devendra, C. and Chantalakhana, C. 2002. Animals, poor people and food insecurity: opportunities for improved livelihoods through efficient natural resources management. *Outlook on Agriculture*, 31(3):161175.

Huque, Q.M.E. and Paul, D.C. 1995. Participation of village women in chicken rearing in Bangladesh. In: Proceedings of A National Workshop on Gender Issues in Agriculture, Dhaka (Bangladesh), BARC, pp 177-184.

ILRI 2000. Strategy to 2010: making the livestock revolution work for the poor, *ILRI*, Nairobi, Kenya. http://www.ilri.cgiar.org/InfoServ/Webpub/Fulldocs/Strategy_10.

Rao, N.H. 2006. Agricultural research policy framework for improved livelihoods security in crop-livestock production systems. *International Journal of Agricultural Resources, Governance and Ecology*, 5 (1):7589.

Saha, D., Khandekar, N., Tudu, B. and Goswami, A. 2005. Studies on work distribution pattern in poultry farming. *Indian Research Journal of Extension Education*, 5 (1): 53-55.

Sarkar, A. and Pradhan, K. 2004. Women's participation in behavioural processes regarding crop livestock farming practices. *Indian Research Journal of Extension Education*, 4 (1-2): 192-194.

Statistical Handbook, West Bengal. 2005 & 2006. Population census on workers and non-workers in West Bengal-2001. Bureau of Applied Economics & Statistics, Government of West Bengal.

Tikoo, S. 2006. Problems of female agriculture workers. *Haryana Economic Journal*, 26(1-2):58-60.