

Participation of Rural People in Dairy Enterprise in a Selected Area of Bangladesh

M.S. Rabbani¹, M.M. Alam², M.Y. Ali³, S.M.R. Rahman³ and B.K. Saha¹

¹Bangladesh Rural Advancement Committee (BRAC), Dairy and Food project, Gazipur, Bangladesh

²Livestock Development Program, PROSHIKA, I/1-Ga, Section-2, Mirpur, Dhaka, Bangladesh

³Palli Karma Sahayak Foundation (PKSF), Agargaon, Dhaka, Bangladesh

Abstract: The aim of the study is to be participation of rural people in dairy enterprise in relation to their socio-economic characteristics in the selected areas of Bangladesh. The study was carried out at the five village of Bogra District of Bangladesh. From each village 20 farm families were selected with the purpose of the study and data were collected from them by direct interview. A total of 62% respondents were engaged in agriculture sector who have one or more dairy cattle. About 49% rural people were illiterate while 51% of them were literate. The result indicated that 65% men, 19% son, 10% women, 1% daughter and 4% servant were actively involved in the feeding practices. The farmer participation in feeding practices such as chopped straw, UMB and UTS, concentrate mixture and green grass to their cows were 90, 2, 40 and 90% respectively. In the study areas 78% rural people milked their cows once daily and about 31% farmers were inseminated their cows with artificial insemination. The Participation of in health care activities such as use of disinfectant to their dairy houses and utensils, use of vaccines, treated their diseased cow with veterinary Surgeon were 22, 22 and 29% respectively. It is evident that average total number of cattle per household was 6 and large farmers raised the highest number of crossbreed cattle (4.71 number/household). Small farmers were the highest of indigenous cattle raisers. Many problems were the barrier to milk production and establishing dairy enterprises in the study area. The result suggested that improved feeding technology, proper hygienic and sanitation program, proper treatment, sound breeding policy should be taken and more participation in management practices are necessary for increasing the milk production as well as establishing dairy enterprises.

Key words: Participation, rural people, dairy enterprise

Introduction

Bangladesh is a country of rural based subsistence agricultural farming system. Such this developing country, rural sector plays a vital role because most of the people (79.9 percent) of this country live in rural areas. Therefore, the policy makers have recognized rural development as the centerpiece of national development. Bangladesh is on of the poorest country of the world in terms of per capita income, which is US\$ 220 (BBS, 1993). We can rid of this situation by active participation of our rural people with various agricultural and livestock activity especially in dairy practices and management.

Cattle of Bangladesh are an inseparable part of the agricultural farming system and it ranks 12th in cattle population in the world and 3rd in the Asian countries. (Alam *et al.*, 1994). Despite such a high density of cattle population, the outputs of animal production such as milk, meat and drought power fall far short of requirement. These short falls are encouraging due to lack of optimum level of nutrition, disease control, proper housing management practices, efficient reproductive performance and well thought systematic breeding programme, etc. These animals are kept mainly in the stall with limited grazing on the roadside; embankment slopes, fallow land etc. and paddy straw are the stable food.

Management practices are responsible for 85-90% and genetic factor only 10-15% of low productivity (Dikey, 1985). Men, women and youth are the basic component of rural people and they are active partners in various farming activity. In rural areas, in addition to crop production, dairy is practiced as a subsidiary enterprise. Dairy farming got an impetus with support price by the government and well developed infrastructure for milk marketing (Shivalingaiah Veerabhadraiah, 1996). Several dairy management practices including feeding straw, green forage and water, breeding practices including artificial insemination, health care including cleaning and sanitation activity, milk production including processing, storing and marketing are being done directly by rural people. The degrees of participation vary due to the various type of working activity. Dairy enterprise provide additional income and gainful employment to the members of the family throughout the year are being practiced by many rural youth. Therefore, the present study was undertaken to know the participation of rural people in dairy management.

Materials and Methods

The present study was a field survey to investigate the participation of rural people in dairy enterprise in a selected area of Bangladesh. A total of five villages,

namely Silimpur, Changor, Bara-Belile, Coichar and Kanar from Katwally sub district of Bogra district of Bangladesh. The rationale of selecting this particular area was that the farmers in these areas rear dairy cow traditionally. A list of dairy cow rearing farmers was presented with help of local people for each area. A total of 100 dairy cow rearing farmers, taking 20 farmers from each area were randomly selected for interview.

The farm families under study area categorized according to BBS, 1994, which is land less (having below 0.02 ha), small farmer (having 0.02-1.0 ha) medium farmer (having 1.02-3.03 ha) large farmer (above 3.03 ha).

The parameters studied includes the participation of rural people in different feeding management and health care activity distribution of dairy cattle by breed type in relation of land size, problem ranking regarding dairy cattle rearing and also socioeconomic characteristics like age, education, religion, land size etc. of farmers.

After completion of the field survey, data from the entire interview schedules was set for its tabulation coding and reduction. All the interview schedules were transferred to a master sheet to facilitate tabulation. Simple tabular technique of analysis using statistical tools such as means ratio, percentage was used in the study.

Results and Discussion

Socioeconomic characteristics: Table 1 shows that various aspect of socioeconomic characteristics of the respondents who were owner of milch cow and living with their spouse and other family members under the same roof. Majority (45%) of the respondent belonged to the middle age (36-50 years) while 36 percent fill in the above 50 years of age and 19 percent were below 35 years of age. The religious statuses of the people were belonged to Islam (93 percent) and rest of them was Hindu (7 percent). A total of 62 percent respondents were engaged in agricultural sector. Islam (1986) shows that 56 percent of rural people are engaged in agriculture who have one or more dairy cattle. The highest member of farmers belonged to the small category which was 59 percent, 25 percent fill in the medium, 7 percent fill in the large and 9 percent fill in the land less groups.

A total of 49 percent rural people were illiterate which 51 percent of them were found literate. Hossain (1995) that 50 percent educated farmers involved in livestock activities in rural Bangladesh. Our result agree with the finding of Hossain (1995).

Participation of rural people in different feeding activities: Among the rural people, all categories of family members are involved in the feeding activities. Most important portion is the man in this study area. They cover 65% and then sons of the farmers, which cover 19% (Table 2). In the poor families, women were

participated in the feeding practice of dairy cattle. A total of 10% women, 1% daughter and 4% servant were actively involved in the feeding practices. This result is partially agreement with Islam *et al.* (1992) who found as for watering wives had largest participation (82%) followed by husband, 8% by wife, 6% labour and 4% others.

Although there were lack of pasture land 80% farmer graze their cattle at the road side, fallow lands, arable land after harvesting and 90% people supply green grass, only 2% people use Urea treated Straw (UTS) and supplies Urea Molasses Block (UMB). About 90% people supplies chopped straw and 20% farmer supplies concentrate mixture to their calves. Kokate and Tyagi (1991) observed that 22% of respondents supplied concentrate feeds. About 95% farmers fed colostrums of their new born calves and only 20% rural farmers supply concentrate mixture to their cows for increase milk production and reproductive efficiency in the study areas (Table 3). Kokate and Tyagi (1991) observed that only 23% of respondents on grazing. From Table 3 it was stated that among the feeding practices only 2% farmer cultivates improved fodder for their dairy cattle. Natraju and Channegowda (1985) stated that 22.70% people cultivate improved fodder.

Participation of rural people in the different activities related to management:

From Table 4 it was revealed only 4% people groom their milch cows before milking. Cow dung are used for various proposes, i.e. about 51% used as fuel and 42 percent people used cow dung both for manure and fuel. No farmers were used cow dung for the production of biogas. Baset (1996) found that 87.63% of total manure used as organic fertilizer and rest 6.91, 1.72 and 3.74% of the total manure use as fuel, plastering and others respectively. About 80% rural people milked their cows by self-service only 20% people milked their cows with the help of milk man and 78% rural people milked their cows once daily in the study area.

In case of insemination to the cows during heat period, 37% of the rural people inseminate their heated cows by natural services with the indigenous (Local) bull; 31% people inseminate their cows artificially with the semen of improved bull at the thana artificial inseminate sub center and 32% people inseminate their cows by both natural and artificial services in the study area (Table 4). Islam (1987) stated that insemination of cow by natural service was 74.0% and artificial was 26.0%

Participation of rural people in different activities to health care:

Proverb, "prevention is better than cure" so, health care program is very important for dairy cattle rearing. It keeps the animal healthy and brings sound productive performance. Much attention can save the dairy cattle from infectious, parasitic, venereal and

Rabbani et al.: Participation of Rural People in Dairy Enterprise in a Selected Area of Bangladesh

Table 1: Socioeconomic Characteristic of Respondents (farmer)

Characteristic	Parameter	No of respondent	Percentage
Age	up to 35	19	19
	36-50	45	45
	51 and above	36	36
	Total	100	100
Religion	Islam	93	93
	Hindu	7	7
	Total	100	100
Occupation	Agriculture	62	62
	Business	16	16
	Service	11	11
	Labor	7	7
	Independent profession	1	1
	Other	3	3
	Total	100	100
Land Size	Land less	9	9
	Small farmer	59	59
	Medium farmer	25	25
	Large farmer	7	7
	Total	100	100
Education	No education	49	49
	Primary	28	28
	S.S.C	15	15
	H.S.S	6	6
	Above H.S.C	2	2
	Total	100	100

Table 2: Categories of family members participated in feeding activities

Categories of Family members	No. of respondents	Percentage
Men	65	65
Women	10	10
Son	19	19
Daughter	1	1
Servant	4	4
Others	1	1

nutritional diseases. In this study area of Bogra district the participation of rural people in health care program is not very satisfactory. From Table 5 it is stated that only 22% farmers vaccinated their cattle regularly but 90 percent farmer treated their diseased animals by quacks, sometimes by veterinary doctors. About 51% farmers were exercised their milking animal i.e. grazing in the field, swimming in the bigger pond or river. Hossain (1995) observed that about 60.2% people gives vaccine to their cows whereas 39.8% people do not use any kind of vaccine in their animals. Only 22% people were used disinfectant to control the disease of their animal shed or milk utensils. Singh (1995) reported that the surveys of watering utensils of the rural woman in Nadia and South 24 Parganas of West Bengal were 86 and 88% respectively.

In case of cleaning the dairy house, majority of the farmer (90%) were cleaned the dairy house daily, 8 percent farmers cleaned the house thrice in week and only 2% farmers cleaned their dairy house twice in a week in the study area. From Table 6 it is stated that in case of treatment of diseased animals, only 29% farmers were treated their dairy cows by registered Govt. Veterinary Surgeon, 57% farmers were treated their sick animals by Quack and 4% people treated their animals by indigenous herbal plant resources in the study area. Hossain *et al.* (1996) observed that 59% farmers have not taken curative measures for the disease cattle. In case of curative measures, only 27 and 14% of farmers as a whole treated their diseased cattle by doctors and quakes respectively.

Distribution of cattle by bread type in relation to land

size: It is evident from Table 7 that average total number of cattle per household was 6 where 1.11 were crossbred and 4.89 were indigenous cattle. Large farmers raised the highest number of crossbred cattle (4.71 number/household). Small farmers were the highest number of local raisers. They raised 92.42% indigenous type or deshi cattle.

It is further observed that the small and medium farmers were more interested to raise indigenous or deshi cattle (92.42% for small and 76.24% for medium landholders) in comparison to crossbred type (7.58% for small and

Table 3: Participation of rural people in different feeding activities

Feeding activities	No. of respondents	Percentage
Grazing of dairy cattle	80	80
Feeding of green grass to the dairy cattle	90	90
Feeding of UMB/urea treated straw	2	2
Chopping of straw	90	90
Feeding of concentrate mixture to the calf	20	20
Feeding of colostrums to new born calf	95	95
Feeding of milk replacer to the calf	0	0
Feeding of concentrate mixture to the dairy cattle	40	40
Cultivation of improved fodder	2	2

23.76% medium landholders). Similar findings were reported by Islam *et al.* (1992) who observed that the small and medium farmers were more interested to raise local breed type cattle (91.80% for small and 74.76% for medium farmers) in comparison to crossbreed type (8.20% for small and 25.24% for medium farmers).

Problems faced by the farmers in dairy enterprise in the study areas:

In sufficiency of feed: The most important constraint to dairy raising was reported to be the insufficiency of the supply of feed and fodder. Around 74 percent of the respondents complained about this problem, which was shown in the Table 8. Most of the farmers reported that shortage of quality feed stuffs particularly scarcity of green grass was the most severe problem. Mahbub *et al.* (1991) found that 36% of dairy cow owners facing shortage of feed problem.

High price of concentrate feed: Concentrate feeds i.e. wheat bran, pulses bran, rice polish, oil cake, molasses etc, are very important for production specially milk production of dairy cattle. In the study area most of the farmers cannot purchase and supply those concentrate feeds to their cattle due to high price. A total of 90% farmers complained about high price of concentrate feeds and some (40%) farmers supplied a very little amount, which cannot fulfill the requirement of the cattle. Respondents cannot supply concentrate mixture to the calves due to high price. This is why calves are fully dependent on her mother's milk, which is completely extracted by the milkman. This reduces milk production and health condition of cows. Rahman (1996) found that 100 of dairy cow owners reporting high price of concentrate feed.

Problems of milk marketing system: Milk is a very perishable product and this is why it should be marketed instantly. Milk marketing problem is very acute in the study area. It was an important problem especially for the crossbred raisers. Table 8 shows that about 40 percent rural people pointed out that there were limited number of consumers for their large volume of milk. Due

to lack of milk marketing system in the locality they sold their milk to the milkman at a lower price which in economically unsatisfactory.

Grazing problem: Grazing problem in very acute in the study area. For the production of cereal crop, all lands are under crop cultivation. This is why no grazing lands are available in the locality for cattle. Green grass is the most important feed item for increasing milk production. A little opportunity for grazing after the harvesting of cereal crops which is a very short period. Table 8 shows that about 70% farmers of the study area pointed out that they have suffered much crisis for green grass and grazing land. Mahbub *et al.* (1991) found that 65% of dairy cow owners facing grazing problem.

Insufficiency of loan: Lack of loan was also one of the major constraints to the development of the dairy enterprises. Farmers often failed to supply the recommended quality of feed and comfort housing. As a result, the enterprises face proper nourishment of dairy cows. It was observed in the study areas that 37% (Table 8) of the rural people felt this problem. Rahman (1996) observed that 25% of dairy cow owners facing insufficiency of loan.

Disease Problem: Sometimes milk production greatly reduced due to disease of dairy cattle. Dairy cattle are very much susceptible to FMD, milk fever, grass tetani, mastitis, anthrax, hemorrhagic septicemia etc. About 52% (Table 8) rural people pointed out that their cattle suffer in various diseases in different periods of the year. (vii) Inadequate Veterinary Services: The farm owners claimed that veterinary services are not available in the study area. On the other hand, the supply of medicines and vaccines from the Thana Livestock Office were not sufficient. About 60% (Table 8) rural people of the study area stated that they have suffered much for insufficient veterinary services.

Other problems: Balance feeding with concentrate mixture or green forage supplementation is rare. At the same time artificial insemination is not introduced largely in the locality. Hygienic and sanitation condition

Rabbani et al.: Participation of Rural People in Dairy Enterprise in a Selected Area of Bangladesh

Table 4: Participation rural people in the different activities related to management

Activities	No. of respondents	Percentage
Grooming of milch cows before milking	4	4
Disposal of cow dung as manure	51	51
Disposal of cow dung as fuel	7	7
Disposal of cow dung for biogas production	0	0
Disposal of cow dung as manure and fuel	42	42
Insemination of cow by natural service	37	37
Insemination of cow by AI	31	31
Insemination of cow by both naturally and artificially	32	32
Number of milking (Once/day)	78	78
Milking by self service	80	80
Milking by milk man	20	20

Table 5: Participation of rural people in the different activities to health care

Activities	No. of respondents	Percentage
Vaccine of dairy cattle	22	22
Treatments of diseased animal	90	90
Exercise of milch animals	51	51
Use of disinfectant to house and utensil	22	22
Cleaning dairy house daily	90	90
Twice/week	8	8
Twice/week	2	2

Table 6: Participation of rural people in the different types of treatment of their diseased dairy cattle

Activities	No. of respondents	Percentage
No treatment	10	10
Treatment with veterinary surgeon	29	29
Treatment with quaks	57	57
Treatment with indigenous herbal plant resources	4	4

Table 7: Distribution of cattle by breed type in relation to land size

Land Size	No. of Land holding	Cross-breed			Indigenous (Deshi)			Total		
		No. of Cattle	Av. per house-hold	%	No. of cattle	Av. per house-hold	%	No. of cattle	Av. per house-hold	%
Land less	9	9	1.00	3.33	18	2	66.67	27	3	100
Small farmer	59	21	0.35	7.58	256	4.34	92.42	277	4.69	100
Medium farmer	25	48	1.92	23.76	154	6.16	76.24	202	8.08	100
Large farmer	7	33	4.71	35.11	61	8.71	61.89	94	13.43	100
All	100	111	1.11	18.5	489	4.89	81.5	600	6	100

Table 8: Different problems of rural people

Nature of problems	No of respondents	Percentage
Insufficient of feed	74	74
High price of concentrate feed	90	90
Problems of marketing	40	40
Lower price of the milk and milk products	67	67
Lack of pasture land	70	70
Insufficiency of livestock loan	37	37
Insufficiency of land	60	60
Insufficiency of labor	30	30
Suffering various diseases	52	52
Inadequate veterinary services	60	60
Others	-	-

Rabbani et al.: Participation of Rural People in Dairy Enterprise in a Selected Area of Bangladesh

are also below standard in the study area.

From the above discussion, we could concluded that rural people of the locality could not be successfully participated in dairy management practice due to lack of capital, shortage of feed, high price of concentrated feed, illiteracy and ignorance about improve technology, insufficient of extension services and disorganized marketing system. The credit facilities should be extended at the lower interest as well as distribution of credit must be strengthened. Different training program on dairy cattle rearing technology in the study area should be offered from GOINGOs and other private sector. Vaccination schedule, proper hygienic and sanitation program, suitable breeding policy also can be taken. More participation is needed in the dairy enterprise and establishes sustainable dairy business.

References

- Alam, J.M. A. Akteruzzaman, Rahaman and Z. Ahmed, 1994. A Socio-economic Evaluation of the Artificial Insemination Programme in Bangladesh " Final Report, Socio-Economic Research Division, Bangladesh Livestock Research institute, Saver, Dhaka.
- BBS, 1993. Statistical Yearbook of Bangladesh. Bangladesh Bureau of Statistics, Ministry of Planning, Dhaka.
- BBS, 1994. Statistical Yearbook of Bangladesh. Bangladesh Bureau of Statistics, Ministry of Planning, Dhaka.
- Baset, A., 1996. Management and Production Systems of Draught Cattle in Mymensingh District of Banglaesh. M.S. Thesis, Animal Science Department, BAU, Mymensingh.
- Dikey, J.R., 1985. "Status of the Bangladesh Livestock Industry in relation to Fodder Supply and to Consumption of Animal Products. Bangladesh Agricultural Research Project Phase-II, Bangladesh Agricultural Research Council, Farmgate, Dhaka.
- Hossain, M.S., 1995. Transfer of feeding technology to promote livestock production at village level. Thesis, Department of Animal Science, BAU, Mymensingh.
- Hossain, M.S., M.S. Alam and M.F. Islam. 1996. Incidence of diseases of livestock and its economic loss among the selected rural households of Bangladesh. *Bang. J. Anim. Sci.*, 25: 11-17.
- Islam, A., 1992. A comparative Economic Analysis of Milch cows and Buffaloes in two villages of Mymensingh District in Bangladesh. M.Sc. Thesis, Dept. of Agri. Finance, Bangladesh Agricultural University, Mymensingh, Bangladesh.
- Islam, S.M.M., 1986. Economics of dairy cows under milk-shed area of Pabna District. M. Sc. Thesis, Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh, Bangladesh.
- Islam, M.N., 1987. Artificial Insemination Problem Confrontation of the farmers in two-selected union of Madhupur Upazilla under Tangail District. M.Sc. Thesis, Department of Agricultural Extension, Bangladesh Agricultural University, Mymensingh, Bangladesh.
- Islam, M.R., M.U. Asaduzzaman and J. Begum, 1992. Women's role in livestock raising in Bangladesh. *Asian Livestock*, 17: 41-45.
- Kokate, K.D. and K.C. Tyagi, 1991. Dairy Farming Practices of Tribal Cattle owners, *Ind. J. Ex. Ed.*, 27: 70-75.
- Mahbub, A.S.M., A.K.M. Ziaul Haq and H. Rahaman, 1991. Identification of essds and fodder situation and its impact on farm animal production at Flat Brindm Area. *Bang. J. Anim. Sci.*, 20: 69-74.
- Natraju, M.S. and M.B.C. Channegowda, 1985. Comparative study of knowledge and adoption behaviou of rural labours practicing dairying. *Dairy Guide*, 7: 31-39.
- Rahman, M., 1996. A Study on the Present Status of Private Small dairy Farms in Dhaka Metropolitan City. M.Sc. Thesis. Department of Dairy Science, BAU, Mymenshings.
- Shivalingaiah, Y.N. and V. Veerabhadraiah, 1996. Knowledge assessment and participation of rural youth in dairy management practices. *Ind. J. Dairy Sci.*, 49: 244-251.
- Singh, L., 1995. Participation of rural women in dairy task in Nadia and South 24 Parganas of West Bengal. *Ind. J. Dairy Sci.*, 48: 285-289.