Participation of rural women in goat rearing in a selected area of Bangladesh

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Abstract

The main purpose of this study was to assess participation of rural women in goat rearing. *Pakulla* union under *Sonatola* upazila of Bogra district in Bangladesh was the locale of the study. All the rural goat rearing farm family women heads of *Pakulla* union constituted the population of the study. Data were collected from a sample of 100 women heads selected randomly during15 December 2008 to 14 January, 2009. The extent of participation of rural women in fifteen items of goat rearing activities was measured through a five-point rating scale. Ten selected characteristics of women were independent variables. Coefficient of correlation 'r' was computed to test relationship between the dependent and independent variables. Findings revealed that participation of women in goat rearing ranged from 20 to 48 against expected value 0 to 60 with a mean of 35.87 and standard deviation of 8.64. Data also showed that largest portion (63 percent) of the respondents fell into medium participation categories while 28 percent and 9 percent fell into low and high participation categories respectively. Data revealed that participation of rural women in the item 'excreta cleaning of goat' had the highest participation index (PI= 327) and ranked 1st , 'looking after the kids' had the second highest participation with PI of 315 and participation in 'caring during pregnancy period' was in 3rd position with PI of 307 among 15 items. On the other hand the lowest participation was observed in 'arrangement of vaccination' (PI= 21) and in 'castration in time' with PI of 46 among these 15 items.

Correlation analyses indicate that knowledge about goat rearing and extension media contacts were found to have positively significant relationship with participation in goat rearing. On the other hand education, farm size, annual income had negative significant correlation with participation in goat rearing while respondents' age, marital status, family size, credit receipt and grazing land availability had no significant relation with participation in goat rearing. Regarding problem confrontation in goat rearing, data indicated that among the 10 major problems 'lack of proper training about goat rearing' ranked first with 251 problem index (PI). Lack of available grazing land came next in rank (rank 2, PI 242). High mortality rate of kids was the next problem (rank 3, PI 216).

Keywords: Participation, Rural women, Goat rearing

Introduction

Bangladesh is a densely populated country having about 145 millions of people in its 14750 sq. km of area. About 49 percent of population of the country is female (BBS, 2007). Women are most important segment of human resources who need attention for their development. There is a close relationship between the status of women and the socio-economic development in any country.The rate of literacy for women is very low in Bangladesh. It is only 25.5 percent for women compared to 38.9 percent for men. Bangladesh is one of the poorest countries in the world in terms of per capita income which is 482 US dollar (BBS, 2007). To ensure a balanced socio-economic development of the country improvement in the status of women with a change in the status is a precondition. This may be achieved only when there is an increased participation of women in development activities (Naher, 2000 and Alam, 2001). Women play the most dominant part in rearing goat. The role of women in goat keeping is very significant in the rural families and goat is the most important means through which rural women are able to contribute meaningfully to the cash needs for herself and their family members. Goat rearing is the most useful way of womens' earning those who stay at home. However livestock contribute about 2.95% percent to the GDP (Gross Domestic Product) of Bangladesh and therein total foreign exchange earning accounts for about 6.2 percent (Alam, 1995) in which share of goat is enormous. Goat production varies in different parts of the world. Since production cost of goat is much less than cattle and buffalo goat farming requires small initial investment and as such low risk of loss due to individual death. On the other hand, this species can easily be managed by women and children. Black Bengal goat is developed in this country through natural selection without any intervention by man. Through proper participation of rural women in goat rearing some advantages are given below: to create employment opportunity through goat rearing, to increase income generating activities, to create a new awakening among the neglected section of society, and to preserve and improve 'Black Bengal' variety (Ahmed, 1991).

From the ancient period goat rearing has an important role for the production of meat, milk and skin. Near about 677 million goat in the world, of them 64 percent is found in Asia, 30 percent in Africa, 3.3 percent in North and South America, 2.3 percent in Europe and 0.4 percent in Oceania. In Asia, 71 percent goat reared by small farmer. In case of Bangladesh out of 2 crore goats 52 percent reared by landless marginal farmer (Chowdhury *et al.*, 2002). In Bangladesh the average number of goat per farm is 4, which

is equal to the South-east Asian countries like Indonesia, Malaysia and Thailand. Forty one percent farm income come from goats in some parts of Bangladesh. Besides leather is the best export goods in Bangladesh that earn 25 crore Taka per year (Chowdhury *et al.*, 2002).

In Bangladesh the men dominated over the women in decision making aspect in rural area. The situation now seems to be changing considerably due to the introduction of new technologies in agriculture like goat rearing, poultry raising, homestead farming etc (Islam *et al.,* 1996). Women and their access to goat rearing is a dimension in the development process. This remained virtually an unexplored area of investigation. After remaining invisible for a long time, it has only recently been surfaced in discussion on development strategies. Now a days the rural women are being approached by different Government and Non Government agencies. On the other hand there is a need to find out working areas for intensifying their participation in agricultural production. In a country like Bangladesh more involvement of women in agriculture particularly goat rearing becomes mandatory to combat over all food storage, malnutrition and also to develop the socio-economic condition of the rural women. Agricultural Extension Service, therefore, needs to develop sound plans and procedure for improving knowledge of the rural women in various aspects of goat rearing. The success of any promotional work depends on the soundness of the extent programs. Information on farmers need, their problems, prospect etc. are essential for an effective plan of work. But very little research has been done on the participation of rural women in goat rearing in Bangladesh. Considering the above facts the investigator became interested to undertake a study on participation of rural women in goat rearing. The following specific objectives have been drawn in order to give proper direction of the study: to examine the selected characteristics of rural women, to assess the extent of participation of rural women in goat rearing, to explore the relationship between selected characteristics of rural women and their extent of participation in goat rearing, and to assess problems faced by the rural women in participating goat rearing

Materials and Methods

The main purpose of this study was to assess participation of rural women in goat rearing. *Pakulla* union under *Sonatola* upazila of Bogra district of Bangladesh was the locale of the study. All the rural goat rearing farm family women heads of *Pakulla* union constituted the population of the study. Data were collected from a sample of 100 women heads selected randomly during15 December 2008 to 14 January, 2009 through a pre-tested interview schedule. Ten selected characteristics of women were independent variables which are age, education, farm size, annual income, marital status, family size, credit received, knowledge about goat rearing, grazing land availability and extension media contact which was measured through following standard procedure. However their participation in goat rearing was selected as dependent variable in this study and 15 activities which they performed for goat rearing were included to measure this variable. In measuring participation in 15 activities a 5 point rating scale was developed with 5 kind of responses related to participation namely, 'regularly', 'often', 'sometimes', 'rarely' and 'not at all'and the scores assigned for each kind of responses were 4, 3, 2, 1 and 0, respectively to measure the participation of rural women in goat rearing. Each respondent was asked to indicate her participation in 15 activities following 5 point rating scale. After adding all the responses together on 15 activities, the participation score of a respondent was ascertained. The score could range from 0-60, 0 indicating no participation to 60 indicating very high participation. For better understanding of comparative participation of rural women on 15 activities of goat rearing a Participation Index (PI) was computed using the following formula:

$PI = (P_{np} \times 0) + (P_{rap} \times 1) + (P_{op} \times 2) + (P_{fp} \times 3) + (P_{rp} \times 4)$
P_{np}= Percentage of rural women with no participation
P_{rap}= Percentage of rural women with rare participation
P_{op}= Percentage of rural women with occasional participation
P_{fp}= Percentage of rural women with frequent participation
P_{rp}= Percentage of rural women with regular participation

Problem Confrontation Index on participation of goat rearing was prepared by following standard procedure. Statistical Software Package SPSS was used to analyze the collected data. The statistical measures such as range, mean, standard deviation, percentage distribution and rank order were used to describe both the independent and dependent variables. Correlation tests were used to ascertain the relationships between the concerned dependent and the independent variables of the study.

Results and Discussion

Data placed in Table 1 reveal that majority (62 percent) fell into middle age category where 21 percent and 17 percent fell into young and old age category respectively. In education level, majority (56 percent) fell into primary categories where 31 percent and 12 percent fell into illiterate and secondary categories respectively. Interestingly only 1 percent fell into higher secondary and above categories (Table 1). Majority (62 percent) fell into small categories of farm size where 20 percent and 18 percent fell into medium and marginal categories of farm size respectively. More than half proportion (55 percent) fell into low category of annual income where 37 percent and 8 percent medium and high categories of annual income respectively. Regarding marital status 72 percent of the respondent fell into married category where only 6 percent fell into unmarried category. Interestingly both widow and divorce categories have comprised same proportion (11 percent). Regarding family size 51 percent fell into medium category where 20 percent and 19 percent fell into small and high categories respectively. About credit receipt more than three fourth (78 percent) fell into not received category where 15 percent and 7 percent fell into low and medium categories of credit receipt. Regarding knowledge about goat rearing majority (68 percent) fell into medium category where 29 percent and only 3 percent fell into low and high categories respectively. In context of grazing land availability majority (57 percent) fell into medium category where 43 percent fell into low category of grazing land availability. Frustratingly there is no respondent fell into high category of grazing land availability (Table 1). Finally regarding extension media contact about half proportion (48 percent) fell into low category where 42 percent and only 2 percent had medium and high contact respectively. Interestingly 8 percent had no contact with extension media (Table 1).

Table 1. Salient feature of selected characteristics of respondents (N= 100)

Sl. No.	Characteristics	Measuring units	Range Expected	Range Observed	Category	Respondents (N-100) Number & Percent	Mean	Standard deviation
1.	Age	Year	⋮	18-65	Young(upto-30 years)	21	38.57	5.26
					Middle (>30-45 years)	62		
					Old(>45 years)	17		
2.	Education	Years of schooling	⋮	0-12	Illiterate (0)	31	3.82	1.24
					Primary(1-5)	56		
					Secondary (6-10)	12		
					Higher secondary and above	01		
3.	Farm size	Hectares	⋮	0.01-1.36	Marginal (Up to 0.5 ha)	18	0.78	0.12
					Small (0.6-1.0 ha)	62		
					Medium (> 1.0 ha)	20		
4.	Annual income	Thousand Taka	⋮	15-130	Low (upto-50)	55	48.92	7.83
					Medium (51-80)	37		
					High (>80)	08		
5.	Marital Status	Number	⋮	⋮	Unmarried	06	----	----
					Married	72		
					Widow	11		
					Divorce	11		
6.	Family size	Numbers	⋮	1-10	Small (up to 4)	20	6.18	1.65
					Medium (5-7)	61		
					High (8- and above)	19		
7.	Credit Receipt	Thousand Taka	⋮	0-10	Not received	78	1.05	0.12
					Low (1-5)	15		
					Medium(>5)	07		
8.	Knowledge about goat rearing	Scores	0-40	8-31	Low (up to 15)	29	16.87	4.57
					Medium(>15 to 25)	68		
					High (>25)	03		
9.	Grazing land availability	Scores	0-12	2-8	Low availability(up to 4)	43	5.37	1.58
					Medium availability (>4 to 8)	57		
					High availability (>8)	00		
10.	Extensions media contact	Scores	0-39	5-32	No contact	8	13.83	2.67
					Low (up to 15)	48		
					Medium (>15 to 25)	42		
					High (> 25)	02		

Participation of Women in Goat Rearing

Data presented in Table 2 indicate that participation of women in goat rearing ranged from 20 to 48 against expected value 0 to 60 with a mean of 35.87 and standard deviation of 8.64. However, based on their participation the rural women were classified into three categories as low, medium and high participation categories and their distribution is shown in Table 2.

Data presented in the Table 2 show that largest portion (63 percent) of the respondents fell into medium participation category while 28 percent and 9 percent fell into low and high participation categories respectively. An overwhelming majority of the women fell into low to medium participation category.

Table 2. Participation of Women in Goat Rearing

| Characteristics | Measuring units | Range | | Category | Respondents (N-100) | Mean | Standard deviation |
		Expected	Observed		Number & Percent		
Participation of Women in Goat rearing	Score	0-60	20-48	Low Participation (up to-30)	28	35.87	8.64
				Medium Participation (>30 to 40)	63		
				High Participation (>40)	09		

Aspects of rural women's participation in goat rearing

Extent of participation of rural women in each of the fifteen selected items related to goat rearing has been shown in table 3 along with participation indexes and rank order. Computed participation indexes against 15 items ranged from 21 to 327.

Data furnished in table 3 reveal that participation of rural women in the item 'excreta cleaning of goat' had the highest participation index (PI= 327) and ranked 1st, 'looking after the kids' had the second highest participation with PI of 315 and participation in 'caring during pregnancy period' was in 3rd position with PI of 307 among 15 items. All of these items are very much associated with women and naturally they perform these operations and thus participation was high (Table 3). The lowest participation was observed in 'arrangement of vaccination' (PI= 21) and in 'castration in time' with PI of 46 (Table 3). Alam *et al.* 2001 also observed similar results.

Table 3. Comparative participation of rural women in 15 items of goat rearing with participation Indices (PI) and rank order

| Items in goat rearing | Percent of women | | | | | Participation Index (PI) | Rank Order |
	Regular (4)	Often (3)	Some time (2)	Rarely (1)	Never (0)		
Excreta cleaning of goat	65	7	22	2	4	327	1
Looking after the kids	57	9	29	2	3	315	2
Caring during pregnancy period	52	12	30	3	3	307	3
Collection of goat from field during evening	45	15	26	10	4	287	4
Nursing during labour	43	17	23	11	6	280	5
Collection of leaves as feed	38	21	21	15	5	272	6
Bathing of goat in proper time	34	25	20	17	4	268	7
Collection of milk	25	14	22	21	18	207	8
Grazing in the field	20	15	23	18	24	189	9
Clothing during winter	17	13	27	23	20	184	10
Collection of goat	10	11	22	25	32	142	11
Mating in time	7	9	23	27	34	128	12
Selling	5	7	18	33	37	110	13
Castration in time	1	0	17	8	74	46	14
Arrangement of vaccination	1	1	2	10	86	21	15

Relationship Between the characteristics of Rural Women and their Participation in Goat rearing

Correlation analyses indicate that knowledge about goat rearing and extension media contacts were found to have positively significant relationship with participation in goat rearing (Table 4). On the other hand, education, farm size, annual income had negative significant relationship with participation in goat rearing while respondents' age, marital status, family size, credit receipt and grazing land availability had no significant relation with participation in goat rearing (Table 4).

Table 4. Co-efficient of correlation (r) between independent and dependent variable of the study

Dependent variable	Independent variables	Computed value of 'r'	Table value 'r' with 98 degrees of freedom	
			0.05 level	0.01 level
Participation in goat rearing	Age	0.181 ^{NS}	± 0.196	±0.257
	Education	-0.275**		
	Farm size	-0.298**		
	Annual Income	-0.307**		
	Marital status	0.136^{NS}		
	Family size	-0.147^{NS}		
	Credit receipt	0.154^{NS}		
	Knowledge about goat rearing	0.207*		
	Grazing land availability	-0.138^{NS}		
	Extension Media contact	0.214*		

** = Significant at 0.01 level of probability, * = significant at 0.05 level of probability and NS = Not significant

Problem faced by the Rural Women in Participating Goat Rearing Activities

Generally we face a number of problems or constraints in performing any production activity. In case of livestock activities the extent and types of problems are diversified. However, rural women of the study area mentioned 10 problems which are given in table 5 with rank in descending order of importance.

Data in table 5 indicated that among the 10 major problems 'lack of proper training about goat rearing' ranked first with 251 problem index (PI). Lack of available grazing land came next in rank (Rank 2, PI 242). High mortality rate of kids was the next problem (rank 3, PI 216). Problem regarding goat shed came next in order (rank 4, PI 214). Apart from these 'lack of adequate capital', 'lack of good breed of goat', 'high price of veterinary medicine', 'lack of necessary vaccine for controlling disease of goat', 'intrusion to others land by goat' and 'lack of knowledge about artificial insemination for improvement of goat' with problem index 207, 195, 164, 156 ,132 and 120 ranked 5th, 6th, 7th , 8th , 9th and 10th respectively.

Table 5. Rank order of the problem faced by the rural women

Problems	Number of respondent against each of the three problem level			Problem Index (PI)	Rank Order
	High (3)	Moderate (2)	Low (1)		
Lack of proper training about goat rearing	70	11	19	251	**1**
Lack of available grazing land	60	22	18	242	**2**
High mortality rate of kids	53	20	17	216	**3**
Problem regarding goat shed	32	50	18	214	**4**
Lack of adequate capital	30	47	23	207	**5**
Lack of good breed of goat	25	45	30	195	**6**
High price of veterinary medicine	20	24	56	164	**7**
Lack of necessary vaccine for controlling disease of goat	16	24	60	156	**8**
Intrusion to others land by goat	10	12	78	132	**9**
Lack of knowledge about artificial insemination for improvement of goat	5	10	85	120	**10**

Conclusion

In the present study overall participation of rural women in goat rearing was low to medium. In fact women in our country belong to conservative society who face different sorts of social obstacle to rear goat which rightly been reflected in this study. So, there is a need for strengthening extension work by GOs and NGOs to ensure a continuous flow of information to overcome these sorts of social obstacle in goat rearing. However, rural women of the study area mentioned 10 problems. These problems created disturbances in implementing the goat rearing activities. Therefore, it may be concluded that goat rearing activities of the rural women will be continuously disturbed if the above problems are not handled in an appropriate way. Most of the rural women were young to middle aged while age of the rural women had no significant relationship with their participation in goat rearing. But, as larger proportion of the rural women is middle aged, so it may be necessary to give some importance to these categories.

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