SOCIOECONOMIC CHARACTERISTICS AND ACTIVITIES OF BENEFICIARIES UNDER SFP IN RAJENDRAPUR FOREST AREA OF GAZIPUR DISTRICT

A. Awal[1], M.M.H. Khan[2], M.S. Rahman[3], M.A. Mazed[4] and M.S. Uddin[5]

ABSTRACT

This study was designed to assess the present socio-economic characteristics of persons involved in Social Forestry Program (SFP) and some management practices of trees planted under SFP adopted by the activities of beneficiaries at Rajendrapur range under Gazipur district during August to September 2006 following simple random sampling technique through pre-tested structured interview schedule by direct interview method. Fifty four per cent of the respondents were in the middle age group having average farm size of 0.42 ha. Most of the respondents were male and they had primary level education. The highest portion of the respondents had small size of family and their main occupation was agriculture. Sixty two percent of the respondents received training from forest department of different duration while 38% respondents did not receive any training. The maximum respondents were in the category of low annual income group. Most of the respondents engaged themselves with the SFP by the motivation of the forest department and the majority of them followed woodlot plantation method. Maximum of the respondents planted saplings having age 4 months in the month of July. Among the selected plant species, *Acacia auriculiformis* was found in cent percent of the planting site and it was found as the most frequently planted species in woodlot plantation site and in agroforestry plantation site, respectively. The highest mortality of saplings was in woodlot plantation after 10 years.

Key words: Socioeconomic, activities, beneficiaries, social forestry, respondents

INTRODUCTION

Being a deltaic small country, Bangladesh never had huge forest resources. The total forest area of Bangladesh is 2,460 thousands hectares, which cover 16.85 percent of the total land area of the country but actual tree cover of the country is only 5.8 percent (BBS, 2003). This limited forest coverage of the country is reducing at the rate of 3.3 percent per year to meet the increased demand of firewood, timbers, urbanization, industrialization, infrastructure development, conversion of forestland to agricultural land. Shekhar and Sahoo (1995) while carrying out a study of 14 landless farmers under the Forest Farming for Rural Poor (FFRP-AGRO) "Social Forestry Program" in Orissa (funded by SIDA) reported that all the beneficiaries were able to sustain their families for 6-8 months each year, instead of the 4-5 months of bare survival achieved under shifting cultivation. Griappa (1984) stated that the "Social Forestry Project" had turned out to be a commercial in nature and although it had been economically beneficial to its adopters but it had a negative effect on the environment, reducing soil fertility on plantation lands and causing a loss of national vegetation in India.

Ruangpanit (1985) reported that the participation of the beneficiaries or the people in the local community was extremely important, as if they did not participate in the planning and implementation,

[1]Upazilla Agriculture Officer, DAE, Farmgate, Dhaka; [2]Department of Entomology, Patuakhali Science and Technology University, Dumki, Patuakhali; [3]Department of Agricultural Extension, HSTU, Dinajpur; [4]Agriculture Extension Officer, DAE, Khamarbari; [5]Horticulturist, DAE, Khamarbari, Dhaka, Bangladesh

the community forestry project would not satisfy individual and local need, if they did not receive any benefits, the projects would have no meaning for them. The forest department of Bangladesh stepped into a new era in the year 1981 by introducing participatory forestry project named as "Community Forestry Project (CFP)" in 23 northern districts of the country with the financial and technical assistance of Asian Development Bank (ADB) to provide early return to the beneficiaries, which would attract participants to be involved in these project activities (Anon., 2006).

People around the forests and marginal lands have been involved in forest management by agreement with benefit sharing mechanism through above mentioned different projects. This kind of participatory forestry is also called social forestry. It is generally said that the contribution of the Social Forest Program (SFP) to the beneficiaries is remarkable. But information regarding the impacts of Social Forestry Program on socio-economic conditions of the beneficiaries is not enough. For expansion and sustainability of this program, in-depth qualitative information regarding socio-economic conditions of the beneficiaries and impacts of SFP on the beneficiaries are needed. The present study was undertaken to examine the present socio-economic condition of persons involved in SFP and some management practices followed by the beneficiaries under SFP.

MATERIALS AND METHODOLOGY

The study was conducted during August to September 2006 following simple random sampling technique. At first stage Gazipur district was selected purposely as it is one of the representative forest growing area of Bangladesh. For this purpose, Rajendrapur range under Gazipur district was selected for data collection on different activities of Social Forestry Program (SFP) and their impacts on socio-economic condition of the beneficiaries involved in SFP. After a short visit and discussion with the Forest Department personnel and local beneficiaries, nine villages namely Atlara, Bankharia, Sitpara, Noyagaon, Dagoria, B.K. Bari, Madhabpur, Mitalo and Bansh Poka were selected randomly as study area. Among other things, the main criteria behind the selection for the above mentioned villages were as follows: i) Good establishment of plantation under SFP, ii) No systematic study on this aspect had yet been conducted, and iii) Easy accessibility to collect required information
Data were collected from randomly selected 50 respondents out of 428 beneficiaries following simple random sampling technique through pre-tested structured interview schedule by direct interview method. To serve the purpose of the study, 8 characteristics viz., age, level of education, family size, farm size, sex, occupation, duration of training received, annual income of the respondents were considered as variables. The SPSS computer package program was used to analyze the statistical measures such as number and percentage distribution, mean, standard deviation (SD) which were used in describing selective socioeconomic characteristics of beneficiaries.

RESULTS AND DISCUSSION

Socio-economic characteristics of the respondents: Socio-economic characteristics of the respondents are shown in Table 1. The data showed that the age of the respondents belonged to middle-aged group was the highest (54%) than that of respondents in the category of old (28%) and young (18%) aged groups, respectively. **T**he percentage of the respondents was the highest (48%) in case of primary level (I-V) of education, compared to the respondents of secondary (22%), and higher secondary and above level (10%) of education, respectively. However, one-fifth (20%) of the respondents had no schooling. Family size ranged from 2 to16 with an average of 5.60 and standard deviation of 2.59. The highest proportion (62%) of the respondents had small size of family, whereas, 32 and 6 percent of the respondents had medium and large family size, respectively. Farm size of the respondents ranged from 0.01 to 2.40 hectare and the average farm size was 0.42 hectare. Majority of respondents (62%) had small farm size, whereas 20, 14 and 4 % of the respondents had marginal, landless and medium farm size, respectively. Most of the respondents (96%) were male, whereas, only

4% of the respondents were female (Table 1). Among different occupations, agriculture was the main occupation (78%) of the respondents in the study area. Business (16%) and service (6%) were the other occupations. Sixty two per cent of the respondents received training from forest department of different duration, whereas, rest of them (38%) did not receive any training. Among the training received respondents, 40, 14 and 8% of them received very short (less than 4 days), short (4-7 days) and medium (more than 7 days) term training, respectively. Annual income of the respondents during the financial year 1994-1995, the time when they engaged themselves with SFP ranged from Tk. 12,000 to Tk. 1,20,000, with an average annual income of Tk. 31,382. Forty six per cent of the respondents' annual income was low, whereas, 32 and 22 percent of the respondents' annual income were medium and high, respectively (Table 1). Awal *et. al.* (2008) reported that the average annual income from agricultural crops and tree products in agroforestry and woodlot plantation increased after completion of SFP of 10 years tenure.

Table 1. Distribution of the respondents in relation to socioeconomic characteristics

Socioeconomic characteristics		Distribution of the respondents			
		Number	%	Mean	SD
Age level and category (years)	Young (20-35)	9	18		
	Middle aged (36-50)	27	54	48.94	14.37
	Old aged (51 years and above)	14	28		
Level of education and category	Illiterate	10	20		
	Primary level education (I - V class)	24	48	5.78	4.22
	Secondary level education (VI - X class)	11	22		
	Higher secondary and above	5	10		
Family size and category of family (person/family)	Small Family (<5)	31	62		
	Medium Family (5-8)	16	32	5.60	2.59
	Large Family (above 8)	3	6		
Farm size and farm category (ha)	Land less (<0.02)	7	14		
	Marginal (0.02-0.19)	10	20	0.42	
	Small (0.20-1.0)	31	62		
	Medium (1.01-3.03)	2	4		
Sex	Male	48	96	-	-
	Female	2	4		
Occupation	Agriculture	39	78	-	-
	Business	8	16		
	Service	3	6		
Category of income (Tk.)	Low income (<10,000)	23	46	-	-
	Medium income (10,001-50,000)	16	32		
	High income (>50,000)	11	22		
Duration of training (days)	Very short duration (<4 days)	20	40	-	-
	Short duration (4-7 days)	7	14		
	Medium duration (>7 days)	4	8		
	No training received	19	38		

Activities of the Beneficiaries under SFP: Activities of the beneficieries are directly related to forestry program. From the Table 2 it is evident that most (90%) of the respondents engaged themselves with the SFP by the motivation of the Forest Department. Rest of the farmers engaged them in the SFP as residence near to the forest area (6%), while 2 percent engaged them as they worked in the SFP site as labor and other 2% by the suggestion of local leaders. Forest Department followed two types of planting methods i.e. woodlot and agroforestry methods in the Social Forestry Program. Among the respondents, 70% of them followed woodlot plantation and rest 30% followed agroforestry plantation method. The majority of the respondents followed woodlot with the belief that

the more the number of trees per unit area more the benefit, but it was not true for all cases. Tree species planted from May to July. Maximum of the respondents (48%) planted saplings in the month of July, whereas, 28 and 24% of the respondents planted saplings in the month of May and June, respectively. Age is an important factor for survivability of saplings in the main field. Age of the supplied saplings varied from 3 to 7 months where maximum (42%) of the saplings was the age of 4 months. However all saplings required for plantation in the SFP sites were supplied by forest department. Cent percent of the respondents earthen up the base of the sapling. They did this operation at the early stage of the plantation and continued up to two years. More than half of the respondents (58%) did this operation twice and about one-third (32%) of the respondents did it thrice during the establishment stage of the saplings (Table 2).

Table 2. Role of forest department on the activities of the beneficiaries among respondents

Activities and categories		Respondent's opinion	
		Number	%
Motivated by	Forest Department	45	90
	Residence near to the forest area	3	6
	Worked as labor in SFP site	1	2
	By suggestion of local leaders	1	2
Planting method	Woodlot method	35	70
	Agroforestry method	15	30
Planting time (Month)	May	14	28
	June	12	24
	July	24	48
Age of the planting sapling (Month)	3	5	10
	4	21	42
	5	7	14
	6	14	28
	7	3	6
Earthing up around saplings (Frequency)	Once	5	10
	Twice	29	58
	Thrice	16	32

Species planted in woodlot plantation and respondent's opinion: Selected 11 different tree species including 1 fruit species were planted in the SFP sites. Among the species, Akashmoni (*Acacia auriculiformis*) was found as the most frequently planted species (average 1685/ha) followed by Eucalyptus (average 547/ha), Mangium (average 171/ha) and Mahagoni (average 113/ha) (Table 3). However, in woodlot plantation, forest department recommended to plant 2,500 saplings per hectare. Cent percent respondents opined *Acacia auriculiformis* was found in most of the planting site as compared to 52% of Mangium, 22% of Eukalyptus, 20% of Mahagoni and 10% of Bokain among the planted species (Table 3).

Table 3. Number of tree species planted in woodland sites and respondent's opinion

Tree species	Number of species planted/ha			Respondent's opinion	
	Max.	Min.	Mean	No.	%
Akashmoni (*Acacia auriculiformis*)	2,490	300	1,685	50	100
Eucalyptus (*Eucalyptus amaldulensis*)	2,150	10	547	11	22
Mangium (*Cassia siamea*)	500	50	171	26	52
Bokain (*Melia azedirach)*	1,200	5	113	5	10
Black berry (*Syzygium nervosum*)	200	25	9	4	8
Mahagoni (*Swietenia mahogani*)	50	15	2	10	20
Gamar (*Gmelina arboria*)	50	5	2	3	6
Arjon (*Terminalia arjuna*)	100	100	3	2	4
Rain tree (*Samanea saman)*	30	10	1	1	2
Bahera (*Terminalia bellirica*)	5	5	.14	1	2
Neem (*Azadirachta indica*)	15	15	1	3	6

Species planted in agroforestry plantation site: A total of 7 species were identified in agroforestry plantation site. Like woodlot plantation site, Akashmoni was the most frequently planted species in agroforestry plantation site (average 1022/ha), followed by Mangium (average 108/ha) and Neem (15/ha) (Table 4). However, FD recommended to plant 1, 200 saplings per hectare of land.

Table 4. Species planted in agroforestry plantation site

Name of species	Number of species planted/hectare		
	Maximum	Minimum	Mean
Akashmoni	1,150	300	1,022
Mangium	200	35	108
Bokain	50	0	3
Black berry	25	0	2
Korai	25	0	2
Mahagani	25	0	4
Neem	10	0	15

Use of pesticide: Among the respondent farmers, none of them used any pesticide for protecting planted tree species from pest attack. On the other hand, about one fourth (26%) of the respondents used different chemicals to protect agricultural crops grown in association with trees (Table 5) at different frequencies.

Table 5. Pesticide use for protecting tree species and associated crops

Use of pesticide	Respondent's opinion	
	Number	Percent
Low frequencies of pesticide use (1-3 times)	3	6
Medium frequencies of pesticide use (4-6 times)	5	10
High frequencies of pesticide use (7 and above)	5	10
No use of pesticide	37	74
Total	50	100

Mortality of sapling: Mortality of sapling was counted at the age of 1 to 10 years (from the age of one year to time of final felling). After one year, mortality rate of woodlot site was 18%, which was more than double compared to agroforestry site (8%). Similarly, after 10 years mortality rate in woodlot site (55%) was more than double compared to the agroforestry site (25%) (Table 6).

Table 6. Mortality of planted sapling in woodland and agroforestry plantation sites

Saplings at different period	Woodlot plantation			Agroforestry plantation		
	Average no. of species	Survivability (percent)	Percent mortality	Average no. of species	Survivability (percent)	Percent mortality
No. of sapling planted/ha	2,084	-	-	1,117	-	-
No. of sapling after 1 year/ha	1,707	82	18	1,025	92	8
No. of sapling after 10 years/ha	943	45	55	835	75	25

CONCLUSION

The findings of the present study on the socio-economic characteristics of beneficiaries of Gazipur district could enhance individual respondent's knowledge level and also enable him to see and understand the activities of forest department for making any developmental decision in forest sector in Rajendra region of Gazipur district in Bangladesh. Knowledge of the respondents about various aspects of social forestry program plays an important role in adoption decision process. This findings indicate that overall forest tree plantation knowledge level including planting method, age of sapling, earthing up, tree species in woodlot and agroforestry plantation sites, use of pesticides and mortality of sapling were discouraging. So, there is urgent need to disseminate information about various aspects of social forestry program to the respondents having high education and high income through training and demonstration in different forest areas of Bangladesh. For sustainable development of SFP, proper execution of forest rules, strengthening visits of forest department officials should be enhanced. With due consideration of the present findings, the study was conducted in specific locations of a specific district, while a detail in depth study should be undertaken covering all the regions where SFP being implemented.

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