



## Role of Society-Based Forest Management for Improving Rural Livelihoods: A Study of Bogra District, Bangladesh

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### Abstract

*Social forestry (SF) is a government adopted forest management practice introduced with the help of ADB since 1982. In Bangladesh, the challenge of natural catastrophes and the high density of population, social forestry is a potential sector for sustainable development of rural livelihoods. The overall objectives of this study are to determine how to improve the utilization of forest products and the livelihoods of the participants through social forestry. The analysis is carried out through a household survey, using a random sampling, along with formal and informal discussion with the participants and the data which is collected from district forest office (DFO). The results show that SF is effective for improving sustainable development of rural livelihoods through various activities that create positive attitude among people to foster social development.*

**Keywords:** Social forestry, rural livelihood, rural people, management committee, sustainable development.

### Introduction

Social forestry is a forestry which aims at ensuring economic, ecological and social benefits to the people, particularly to the rural masses and those living below poverty line, especially by improving the beneficiaries' right from the planning stage to the harvesting stage. Social forestry in Bangladesh is linked with the institutional approach to the introduction of forest extension services in the Forest Department<sup>1</sup>. During 1962-63, two forest extension divisions, one at Rajshahi and another at Dhaka were created and the tree planting day on 1<sup>st</sup> June was introduced. Since the creation of the forest extension division for raising and distributing of seedlings, a gradual expansion activities took place.

In real sense, social forestry is the term started with the Asian Development Bank (ADB) financed through community based forest project. ADB sanctioned a loan of 11 million US dollar and United Nations Development Programme allotted 2.0 million dollar through Food and Agricultural Organization (FAO) as technical assistance. Project activities started in 1982 and completed in 1987 in seven districts, namely Rangpur, Dinajpur, Pabna, Rajshahi, Bogra, Kushtia and Jessore. The objectives of the projects were to increase supply of fuel wood, fodder, small timbers, fruits and other products and creating community awareness with permanent institutional capacity<sup>2</sup>. Now the various socioeconomic user groups can be benefitted from social forestry (SF) by participating in forest management activities and they are ultimately involved in the improvement of rural livelihood and society development. The scope of this

program has been spreading expanding to other natural resources management such as soil conservation, watershed management, wildlife management and rural development activities<sup>3,4</sup>.

This study seeks to examine how the SF program improves rural people's livelihood and also highlights the fulfillment of society development activities. This study inspected the activities of Social Forestry Management Committees (SFMCs) in Bogra district, Bangladesh. Generally, in the study area, the beneficiaries are usually selected from amongst the local inhabitants living with one kilometer of the respective plantation site of social forestry and preferably be from amongst the following persons, namely- landless people, owners or occupants of less than 50 decimals of land, destitute women, unprivileged community, poor ethnic minority, poor forest villagers and insolvent freedom fighters or insolvent successor of freedom fighters. In case of social forestry initiated by local community in land under the forest department or after mangrove forestation, controlled production of honey, fishes, hogla and grass, the receivable rate is 25% for forest department and 75% for beneficiaries and for semi-government or autonomous body, this ratio is 10% for forest development, 75% for beneficiaries and 15% for the land owning agency<sup>5</sup>. The district of Bogra is situated on the western side of the largest river the Jamuna and a transit route to the northern part of Bangladesh. A large number of populations engaged in their commercial activities in various sector in the district. So, sustainable environment through social forestry is critically important in the region of the country.

### Methodology

**Study area:** This study employed data from twelve society forests located at Bogra district in north-west region of Bangladesh (Figure 1). It is a socially and historically developed area under Rajshahi division and 205 km north-west of Dhaka,

capital city of Bangladesh. The social forestry (SF) program was initiated in the district during the fiscal year of 1982-83 with the help of Asian Development Bank (ADB). It covers 934.4 km and 40 ha of land and utilized by 4667 beneficiaries in the district (Table 1).



Figure-1  
Map of the study area in Bogra district, Bangladesh

**Sampling design:** Data were collected by randomly selecting respondents from twelve SFMCs with 340 households. Among them, 85 respondents (25%) were selected. The analysis was based on qualitative interviews and quantitative household surveys. The interviews and surveys were conducted in 2014. For data collection and analysis purposes, a questionnaire and checklist were prepared in English and translated into Bengali so that they were understandable to both enumerator and researcher. Supplementary information was collected from office records of community forest and the District Forest Office (DFO) through informal interviews and direct field observations.

Mainly three types of forest products produced in the district, namely- timber, fuels and pole/post from SF. For the period 1990-91 to 2012-13, twelve upazilla of the district collectively supplied \$1053884.62 of forest products and of them \$485283.28 distributed among the beneficiaries of the SFMCs. As the modified social forest rules, about 10% of total sales value of the resources of SF, used to reserve as Tree Farming Fund (TFF) is \$102086.25. So, the social forestry is playing an important role in generating income, creating employment opportunities of men and women through the sustainable development of the rural areas of Bogra district in Bangladesh (Table 2).

## Results and Discussion

**Discussion regarding areas of social forestry and the number of beneficiaries in the district:** Social forestry has created a new horizon for socio-economic development and poverty alleviation of the rural marginal people. Social forestry helps to keep the balance of environment, protect the negative change of climate and adaptation and the biodiversity of the environment.

With the entrepreneurship of social forestry in Bogra district, a plenty of forest resources have grown up in twelve upazilla areas of total 934.4 km and 40.0 ha of land and have employed 4667 beneficiaries whose about 50% are women employees in the district that indicates a potential attempt for women empowerment in the rural economy (Table 1).

*Income through the social forestry and improvement of rural people's livelihood for the time 2000-2014 in US dollar (Upazilla- based)*

**Table-1**  
Areas for social forestry and the number of beneficiaries

| Time for harvest   | Social Forestry areas | Quantity of Garden (in K.M.) | Number of beneficiaries |        |
|--------------------|-----------------------|------------------------------|-------------------------|--------|
|                    |                       |                              | Male                    | Female |
| 1990-91 to 2012-13 | Bogra Sadar           | 43.10                        | 154                     | 35     |
|                    | Shajahanpur           | 49.00                        | 164                     | 80     |
|                    | Nandigram             | 84.5                         | 284                     | 137    |
|                    | Sonatola              | 72.00                        | 237                     | 121    |
|                    | Sherpur               | 61.00                        | 184                     | 87     |
|                    | Dhunat                | 34.00                        | 149                     | 46     |
|                    | Sariakandi            | 52 km, 40 ha.                | 335                     | 88     |
|                    | Gabtali               | 41.00                        | 196                     | 47     |
|                    | Dhupchanchia          | 125.80                       | 115                     | 446    |
|                    | Kahaloo               | 139.50                       | 236                     | 321    |
|                    | Adamdighi             | 131.50                       | 156                     | 517    |
|                    | Shibganj              | 101.00                       | 324                     | 208    |
|                    | Total                 | 934.40 km, 40 ha.            | 2534                    | 2133   |

Source: Divisional forest office, Bogra, 2014

**Table-2**  
Income and upgrading people's living

| Name of Upazilla/area | Amount of Timber in m <sup>3</sup> | Amount of Fuel in m <sup>3</sup> | Number of Pole/Post | Total value in US dollar (\$) | For T.F.F in US dollar (\$) | Share of profit for beneficiaries |        |                          |
|-----------------------|------------------------------------|----------------------------------|---------------------|-------------------------------|-----------------------------|-----------------------------------|--------|--------------------------|
|                       |                                    |                                  |                     |                               |                             | Male                              | Female | Distributed Profit in \$ |
| Bogra Sadar           | 51326.31                           | 32370.00                         | 717                 | 100245.00                     | 3861.21                     | 39                                | 66     | 19442.20                 |
| Shajahanpur           |                                    |                                  |                     |                               | 5857.66                     | 1                                 | 25     | 13611.31                 |
| Nandigram             | 82144.39                           | 84989.72                         | 165                 | 177301.02                     | 17627.60                    | 53                                | 64     | 92192.36                 |
| Sonatola              | 25191.54                           | 16468.00                         | 145                 | 43978.68                      | 4431.61                     | 37                                | 83     | 24081.59                 |
| Sherpur               | 75139.01                           | 54202.50                         | 35                  | 147870.33                     | 13917.74                    | 295                               | 110    | 73713.79                 |
| Dhunat                | 15633.52                           | 13998.00                         | 0                   | 22448.77                      | 2243.74                     | 60                                | 41     | 12198.69                 |
| Sariakandi            | 35928.73                           | 25790.00                         | 0                   | 48864.31                      | 4503.55                     | 113                               | 15     | 16816.69                 |
| Gabtali               | 52189.30                           | 37448.00                         | 0                   | 91389.88                      | 8773.88                     | 338                               | 26     | 46331.26                 |
| Dhupchancha           | 47922.77                           | 43757.00                         | 0                   | 73162.83                      | 6210.56                     | 100                               | 40     | 34052.33                 |
| Kahaloo               | 85967.08                           | 82131.00                         | 468                 | 143831.45                     | 14383.15                    | 157                               | 209    | 72686.66                 |
| Adamdighi             | 65663.22                           | 64628.00                         | 108                 | 100643.05                     | 10055.25                    | 90                                | 59     | 51014.50                 |
| Shibganj              | 50447.58                           | 32135.04                         | 0                   | 104149.32                     | 10220.35                    | 550                               | 117    | 29141.90                 |
| Total                 | 587553.45                          | 487917.26                        | 1638                | 1053884.62                    | 102086.25                   | 1833                              | 855    | 485283.28                |

Source: Divisional Forest office, Bogra, 2014 (assumed US \$1= Bangladeshi Tk. 80)



**Figure-2**  
**Road Forestry in the district**



**Figure-5**  
**Forestry in new growing land in the river Jamuna**



**Figure-3**  
**Rail way Forestry in inter district**



**Figure-6**  
**Forestry by the side of agriculture farm**



**Figure-4**  
**Riverside Forestry on embankment**



**Figure-7**  
**Forestry beside drain and water bodies**



**Figure-8**  
Accumulated timber waiting for transfer to their desired place



**Figure-9**  
Ensuring employment in rural economy

By the help of forest department, a remarkable number of tree farming farms (nursery) have grown up all through the district of Bogra for the future development of social forestry in private enterprise which is shown in Table 3.

**Table-3**  
Private tree farming in the district in the district of Bogra, Bangladesh

| Areas       | Number of tree farming areas | Total areas in decimals | Produced tree plants |
|-------------|------------------------------|-------------------------|----------------------|
| Shibganj    | 13                           | 1494.71                 | 511000               |
| Sherpur     | 25                           | 1546                    | 1755000              |
| Gabtali     | 2                            | 50                      | 20000                |
| Sariakandi  | 2                            | 86                      | 140000               |
| Dhunat      | 4                            | 115                     | 51000                |
| Sonatola    | 6                            | 100                     | 12500                |
| Nandigram   | 3                            | 55                      | 13000                |
| Bogra Sadar | 53                           | 571                     | 157900               |

Source: Forest Department, 1995

**Contribution of homestead forest to rural livelihood:**

Homestead is the traditional system of forest farming in Bangladesh. The land surrounding a dwelling house is an excellent example of all embracing multipurpose land use system and biodiversity conservation. Homestead forest appears to offer the best potential to improve production of tree products<sup>6,7</sup>. Trees alongside of the borders of the homesteads minimize soil erosion and enhance soil productivity of the homesteads as well as nearby crop of fields<sup>8</sup>. Through the homesteads, trees and tree products play an important role in household food security meeting the food needs as fruits like jack fruit, mango, banana, guava, coconut, papaya etc. and the cash earned through the sale of fruits and other tree products that help the poor farmers to overcome the lean periods. At present homesteads have occupied 0.27 million ha regions which is about 11% of the total forest areas of Bangladesh<sup>9</sup>. From the homestead of Bogra district, a remarkable portion of forest resources are exported to the other places of Bangladesh after mitigating the internal demand of the district. It also ensures the employment opportunities and socio-economic development that opened a new horizon to the people of the district of Bogra, Bangladesh.

**Socioeconomic characteristics of the household surveyed:**

The household survey was carried out by categorization on respondents' economic condition and caste of the twelve selected SFMCs in the districts. The three classes defined here are rich, middle class and poor and most of the respondents belonged to Muslims caste (80%), followed by Hindus (14%) and other disadvantaged caste (6%). Table 3 shows that 25% of the households are rich, 41% households are middle classes and 34% are poor. The involvement of middle and poor classes of participants are greater in number. But the major portions of land, capital, live stocks etc. are captured by the rich and middle classes in the region. So, these groups (middle and rich) get the better opportunities from social forestry.

**Institutional effectiveness and decision making process:**

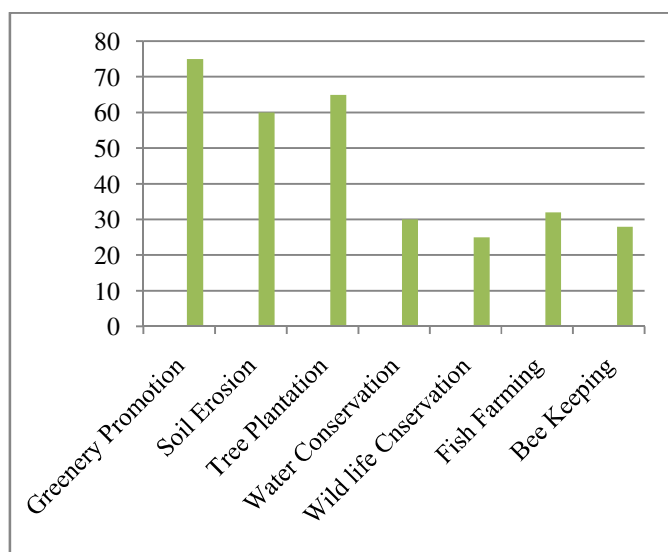
During the household survey, respondents pointed out that, forest protection and conservation, education and community awareness and enforcement of law to punish forest defaulter is important for the development of social forestry. The working group named as Social Forestry Management Committee (SFMC) for each locality of social forestry consisting of members, namely- Chairman (1), Vice-chairman (1), General Secretary (1), Assistant General Secretary (1), Treasurer (1) and General member (4). The meeting place and time are decided by the chairman of SFMC and the committee convenes at least one meeting in every three month and in case of emergency the chairman may convene a meeting at any time giving one weeks' notice. All decisions of the management committee are approved in the meeting and the decisions are finalized with the consent of two-thirds of the members present in the meeting. In absence of consent of requisite number of members, the matter is usually forwarded to the advisory committee to be finalized.

**Table-4**  
**Socioeconomic features of the respondents**

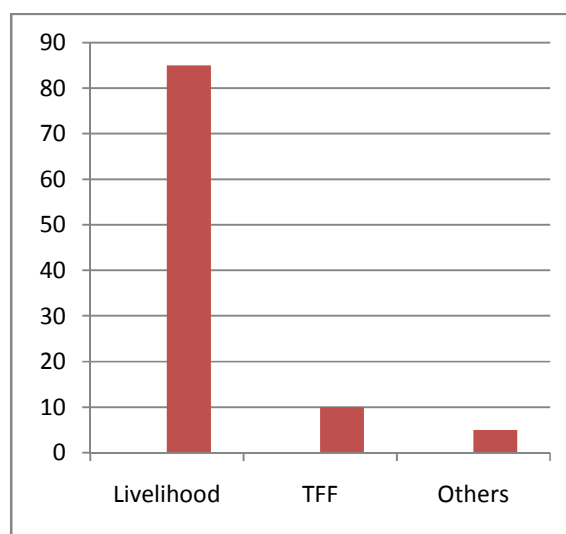
| Name of SFMCs | No. of user HHs | No. of surveyed HHs | Population |      | No. of respondents by class |              |      | No. of respondents by caste |       |        |
|---------------|-----------------|---------------------|------------|------|-----------------------------|--------------|------|-----------------------------|-------|--------|
|               |                 |                     | Female     | Male | Rich                        | Middle-class | Poor | Muslim                      | Hindu | Others |
|               |                 |                     |            |      |                             |              |      |                             |       |        |
| Shahjahanpur  | 19              | 5                   | 2          | 3    | 1                           | 2            | 2    | 4                           | 1     | -      |
| Nondigram     | 31              | 8                   | 5          | 3    | 2                           | 3            | 3    | 6                           | 1     | 1      |
| Sonatola      | 26              | 7                   | 3          | 4    | 2                           | 3            | 2    | 6                           | 1     | -      |
| Sherpur       | 22              | 5                   | 3          | 2    | 1                           | 2            | 2    | 4                           | 1     | -      |
| Dhunat        | 13              | 3                   | 2          | 1    | 1                           | 1            | 1    | 3                           | -     | -      |
| Sariakandhi   | 20              | 5                   | 2          | 3    | 1                           | 2            | 2    | 4                           | -     | 1      |
| Gubtoli       | 15              | 4                   | 2          | 2    | 1                           | 2            | 1    | 4                           | -     | -      |
| Dupchachia    | 45              | 11                  | 5          | 6    | 2                           | 5            | 4    | 8                           | 2     | 1      |
| Kahalu        | 50              | 12                  | 6          | 6    | 3                           | 4            | 5    | 9                           | 2     | 1      |
| Adamdighi     | 47              | 12                  | 5          | 7    | 3                           | 6            | 3    | 10                          | 2     | 1      |
| Shibgonj      | 35              | 9                   | 3          | 6    | 3                           | 3            | 3    | 7                           | 2     | -      |
| Total         | 340             | 85                  | 40         | 45   | 21                          | 35           | 29   | 68                          | 12    | 5      |

SFMC: Forestry Management Committees, HH: Household

**People’s view of society forest:** The respondents of SFMCs mentioned that SF not only ensures the earnings of the participants but also has many benefits for the development of the environment and the society. The frequent meeting at general and executive level creates leadership, institutional development and positive attitude of the people of society alongside the income of households through forest resources in the district.



**Figure-10**  
**Household perceptions of society forest**



**Figure-11**  
**Status of SF fund expenditures for various activities**

The respondents expressed that they are highly satisfied with greenery promotion as it improves the scenic beauty of the area and helps increase tourism in their country. They were also highly satisfied with tree plantation program taken under SFMCs to minimize soil erosion. However, they were less satisfied with water conservation, wildlife conservation, fish farming and bee keeping under this program. The household survey also revealed that the most of income generated from SF,

goes to household expenditure of the group for their livelihood, expenses of their children's education and about 10% income reserved for Tree Farming Fund (TFF). According to the respondents of the household survey, the social forestry is a positive endeavor for ensuring women empowerment with their participation in the process.

### Conclusion and recommendations

Social forestry appealing land-use strategy by local poor landless community has been in practice in Bangladesh for more than twenty years. It has become a highly attractive and acceptable programme to the rural people, especially landless farmers, poor villagers and destitute women. In the district of Bogra, a remarkable development of forestation has occurred due to the forestation by the road sides and rail ways, surroundings of agricultural farms, on the embankment of rivers and canals and the environs of the dwelling areas. Government's enterprise and political commitment are also important factors for the development of this sector. From the findings, it is also clearly observed that it has generated sufficient income among the beneficiaries of the rural poor above subsistence level and proved that social forestry can play a significant role in alleviating rural poverty. Apart from the creation of resources, employment and income; social forestry is playing a vital role in preserving the environment, creating leadership, institutional development and an essential practice for conserving biodiversity.

Although income of the participants in social forestry has increased, there have been many restraints that need to be overcome for expected performance and sustainable management for social forestry programs. Some recommendations are given below to improve the social forestry in Bangladesh. i. From the planning to harvest stage, it is needed to ensure the participation of the target people and decision must be taken in consultation with the local community. ii. Integrated multidimensional programs of the production should be introduced under social forestry, especially in the homesteads with suitable production system. iii. Medium and long-term leasing of land should be introduced for the security of both land and tree. iv. Need to improve marketing system of the products of social forestry among producers, traders, and

consumers. v. Need to ensure strong patronage from state, political leaders, government officials, local elites and social organizations and proper training of the participants involved in social forestry.

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