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Social Forestry- A Tool for Improving Livelihood of Rural People[1]

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Abstract

In many countries around the world, people living in rural areas have lower incomes and are generally less prosperous than their urban counterparts. Because of this, governments often attempt to promote rural development through the development of natural resources such as forests. Policies in developed countries tend to focus on increasing income and employment, whereas in developing countries rural development often has to meet more basic needs. However, when broader social and environmental considerations are taken into account, forests are considerably more important for rural communities. The utilization of forest resources could generate significant revenues for governments that could be used for rural development. A number of developing countries have implemented forest polices that aim to help rural communities. Examples include: Betagi and Pomra Community Forestry Project in Bangladesh; Joint Forest Management in India; Master Plan for Forestry Sector in Nepal; Promotion of Social Forestry and Rain Water Conservation Technology in Pakistan etc. These schemes have met with mixed success. The social forestry provide fuel, fodder small timber etc. The forest and forest products are generating employment and income. Women also participate in various social forestry program. So, the standard of living of the rural people rises. The peoples are involved in various social forestry activities i.e. plantation and nursery development etc from these they can improve their livelihood & alleviate poverty.

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CHAPTER 1

INTRODUCTION

People from all over the world are very much conscious for survival as their survival is dependent on the natural resources which are available to them. However, their level of consciousness is more acute among those people who have to make their livelihood from those natural resources directly, whether this is the sea, the field use for farming, or the forest from which various forest products are taken. Most of the people living in developing countries and rural areas of developing countries have some market economy to negotiate the fulfillment of their needs and wants from nature. In developing countries, especially in rural areas, many human needs are satisfied by income earned from market activities, and by direct subsistence from natural resources. The economic growth leads on the bases of utilization and exploitation of the natural resources, social forestry is one of these (Lacuna-Richman, 2012).

During the past decade it has been increasingly recognized that in tropical countries professional forester should adjust their role as a "guardians of the forest" to a more people-oriented role, in which proper attention is given to the forest-related needs of the local population living in or near the forests. This has resulted in an increasing number of forestry projects that incorporate more active participation of local people in forest establishment and management. Most of these projects aim also at diverting part of the forest products to local people. This changing pattern of forest resources management by incorporation of the needs of local people and grass-roots level support has been given labels such as forestry for local community development, community forestry, social forestry, extension forestry, and village forestry. These all are the categories of social forestry. It has been stated often that these are synonyms referring to any forest management practices based on the perspective and needs of local populations (Wiersum, 1984).

The term "social forestry" is used interchangeably with "farm and community forestry" and "forestry for local community development". The terms refer to a broad range of tree- or forest-related activities undertaken by rural landowners and community groups to provide products for their own use and for generating local income. Social forestry may also include governments or other groups planting trees on public lands to meet local village needs. The primary focus in social forestry is on involving community and individual farmers with trees and on analyzing how people grow trees and use them while they grow. Two ingredients are common in successful social forestry programs: widespread local participation backed by

higher level political support, and sustainable, productivity-increasing technologies that are adaptable to local circumstances and acceptable to local populations (Gregersen, 2010).

The term 'social forestry' was coined by Jack Westoby during his inaugural address at the Ninth Commonwealth Forestry Conference held in New Delhi in 1968 to include forestry activities. Its aim was producing flow of protection and recreating benefits for the community and the goal of social forestry should be determined by the amount of investment which the community should make to secure these benefits. In other words, the involvement and participation of the community in forestry related activities are essential components of social forestry.

The concept of social forestry has been perceived as a programme and a mission which aims at ensuring ecological economic and social security to the people mainly in the rural masses more so to the tribal and those people who live below the poverty line, particularly by involving the beneficiary's right. It aims at mixed production of wood, fiber, fodder, grasses, fruits and other raw materials for consumption and cottage industry and other surplus for sale. The profits that arise after meeting the local demands are to be shared between Government and people.

The activities involved in social forestry is making available tree-based produce such as firewood leaf fodder, small timber, fruits edible flower and a variety of other materials like bark, bum, resin etc for rural cottage industries within easy reach of people. As the emphasis should be on people and thus social forestry may be called forestry of the people, by the people and for the people (Source: https://www.google.com/search?hl=en&q=Shah+S.A-+Forestry+for+People-ICAR+New+Delhi,+1988; access on 8th may, 2018).

A village group in the Republic of Korea plants a small community fuel wood plantation. A Costa Rican landowner plants trees along her field as a living fence and as source of fuel wood. Filipino farmer's plant trees that they will sell later to the Paper Industries Corporation of the Philippines for pulpwood. Rural landless people in West Bengal, India plant, tend, and benefit from trees they grow on government lands. Villager in the Majia Valley of Niger plant trees along fields for windbreaks and fuel wood. Villagers in Thailand and Nigeria intercrop trees with food crops. All of these are examples of social forestry (Lacuna-Richman, 2012).

Objectives

- To review the status of social forestry in some different countries,
- To know how rural people are benefitted & improve their livelihood from social forestry activities in some Asia-pacific countries,
- To know the contribution of women in improving livelihood through social forestry activities.

CHAPTER 2

MATERIALS & METHODS

This seminar paper is exclusively a review paper, so all the information has been collected from the secondary sources like relevant books, journals, proceedings, reports, publications etc. I got valuable suggestion and information from my course instructors, my major professor and other resource personnel. After collecting all the available information, I myself compiled and prepared this seminar manuscript.

CHAPTER 3

REVIEW OF THE FINDINGS

Status of social forestry

Social forestry as an identifiable implementation strategy evolved in its contemporary form at this time and came onto the international agenda as an approach to address widespread forest loss and its consequent environmental degradation and negative impact on rural livelihoods.

The first 10-15 years of effort in implementing social forestry in countries such as India, Nepal or Pakistan were spent in developing, testing and institutionalizing approaches aimed at effectively involving rural communities in the active protection and management of forests. The protection, rehabilitation of degraded forests, the establishment of new forest resources& increase of economic condition were major policy and practical objectives. This is still the case for many countries in the Asian region where social forestry has come onto the national agenda during the past decade (Gilmour *et al*., 2004).

RECOFTC – It is an international non-government organization which stands for Regional Community Forestry Training Center but in recent it is known as the Center for People and Forests. It focuses on capacity building for community forestry in the Asia-Pacific region. It recommends for the increased involvement of local communities which are living in and around forests - some 450 million people in Asia-Pacific in the equitable and ecologically sustainable management of forest. Its mission is to assist the people by enhancing capacities at all levels of the Asia-pacific region in developing community forestry/social forestry & managing the forest resources for proper social, economic & environmental benefits.

RECOFTC conducted a linkage between community forestry/social forestry and poverty, with an emphasis on Asia. Through case studies, there is some clear empirical evidence that social forestry has provided some benefits to poor people.

(Source:https://en.wikipedia.org/wiki/RECOFTC_%E2%80%93_The_Center_for_People_and_Forests; access on 27th April, 2018)

RECOFTC's role in addressing poverty alleviation through social forestry

RECOFTC has committed itself to addressing equity issues (including poverty) within the context of its five-year Strategic Plan (2004-2009). It can play an important role in advancing the pro-poor community forestry agenda in several ways:

• Raise awareness through networking, training, workshops, publications, and so on, of the importance of adopting an explicit pro-poor approach to community forestry;

• Design and undertake action research studies on the impact of community forestry practice on poverty (as well as on the forest resource base);

• Design and implement country programs in selected countries in the region to advance, among other things;

• Contribute to the development of indicators for measuring the impact of community forestry implementation on the livelihood of the poor;

• Design and conduct national and international training courses of how to plan for and implement pro-poor community forestry;

• Analyze the results of field experiences from various countries for practical and policy implications; and

• Communicate and advocate results and lessons learned from field experiences to relevant national, regional and international policy forum.

Many of these activities can take place concomitantly and synergistically, working across the three program areas of RECOFTC (regional analysis, capacity building and country programs) (Gilmour *et al*., 2004).

The extend of social forestry in different country

In Nepal perspective

Forests in Nepal cover about 40% of the country and a great majority of the population, which lives in rural areas, depends on forest resources for their livelihood. Today, forests under community management represent more than one-third of the total forest area.

Forest area (% of land area) in Nepal was reported at 25.36% in 2015, according to the World Bank collection of development indicators.

(Source: https://tradingeconomics.com/nepal/forest-area-percent-of-land-area-wb-data.html; access on 28th April, 2018)

Nepal has a long history of community forestry &first community forests set up 30 years ago. With a positive impact on both community's livelihoods and on the condition of the forests, it is considered as one of the most well-established and successful models in the region.

The space for local people in forest management was created in order to mitigate the increasing rate of forest cover loss during the 1970s. The National Forestry Plan of 1976 paved the way to include local people, but through a local government unit known as the 'Panchayat'. The major emphasis of this policy was to engage local communities in protecting new plantations, but without considering their livelihood needs and without devolving any authority to local people.

In 1982, some progressive policies were formed to empower local communities. One such milestone on the way to community empowerment was the provision to form 'forest user groups', which was introduced in 1987.

Forest policy reforms were initiated in 1978 since then a number of reform initiatives have taken place such as: approval of Master Plan for Forestry Sector- MPFS in 1989; new forest act and regulations in 1993; and new forest policy on collaborative forest management and protected forest management in 2000 which focuses on revenue sharing among CFUG and central government (Kanel & Dahal, 2008).

Benefit flows from social forestry program in Nepal

Community forestry is always linked to poor people. The success of community forestry in increasing the area and quality of forests, especially in countries such as Nepal, is now reasonably well documented. During the past few years, reports of the financial and other benefits that are being generated from community forests are also coming to light.

Income generation from community forests in Nepal

Utilization of forest product, income and patterns of expenditure of 1,788 FUGs was carried out in 2002 from 12 hills and Terai districts in Nepal and deducted to all FUGs in the country. The results indicated that the total annual cash income from the sale of forest products from community forests was Rupees 747 million (more than US$ 10 million). Almost 42% of the annual budget was amounted of the Ministry of Forest and Soil Conservation. At the present time 100% of these benefits are going to the FUGs.

Analysis of the expenditure pattern showed that users groups spend about 50 percent of their income and retain the other half in their accounts. About 28 percent was contributed by CFGs on forest protection and management.

About 36% of the income from community forests was spent by the FUGs on community development activities such as building of schools, roads and drinking water facilities. Only 3% was targeted towards specific pro-poor activities.

(Source: Kanel & Niraula, 2004)

Contribution of social forestry in Nepal for improving livelihood

The stated vision for forest policy is to enhance and expand its contribution to poverty reduction, environmental security, good governance, social justice and intergenerational equity through sustainable, equitable and effective management and responsible use of the national forest resources. This vision for policy is also mentioned in the interim planning document (2008–2010), and the Master Plan for Forestry Sector (MPFS) development. Many policies involving forestry have been designed to sustainably manage the forests for environmental conservation and economic development.

Table 1: Major Policy decisions on community forest management in recent years in Nepal

Dates	Key decisions that have direct implications to CF
Dec 2009	Declaration of three new protected areas through the meeting of the council of Ministers held at Everest base camp
July 2010	Implemented President Chure Conservation Programme held for restricted annual tree harvesting
July 2010	Forest Act (1993) amendment proposal
July 2010	Ban on tree felling in two consecutive years- 2010 (to curb illegal logging) and in 2011 (International Year of the Forests)
June 2011	New pricing system for timber
July 2011	Declaration of half a dozen of protected forests

(Source: Paudel & Ojha, 2013)

Community forestry in the country developed in response to rural poverty, with the notion of 'forests for the people'. Community forests are granted by the forest administration for a specific purpose. Activities organized around a 'community forest user group' (CFUG) are very diverse and can range from forest maintenance and protection (thinning, pruning, etc.) to the production of timber, ecotourism or growing other forest products like cardamom or lemon grass.

Cardamom pods are just one of many valuable products that communities can produce in their community forests and sell on the local market. Processing timber is another activity that communities carry out in their forests.

Community forestry in Nepal has brought several benefits including an increase in the forest area and in available water resources. It has helped to fight against illegal logging by putting clear rules in place on timber access and a strong system of forest monitoring. Community livelihoods have also improved with easier access to firewood and fodder and better health care and energy access, for example through money from ecotourism and subsidies for renewable energy.

Social Forestry in India perspective

Although SF was introduced in India way back in 1980's, it did not gain much success initially. With experience a new attempt was made after 2000 that had an increased participation of community. Thane district in the state of Maharashtra, India is a unique example of such a success story, where the forest officials along with the community have produced unprecedented results in the success of social forestry.

First attempt of tree plantation outside forest boundary was made in 1935 in United Province. In 1952 attempts were made to plant trees on private farm bunds. In 1973 National Commission on Agriculture (NCA) stressed the need for manmade forests outside the existing forest. After 1975 with financial help from various international organizations, SF plantation started on large scale in many states of India.

In Maharashtra social forestry project was started in 1982 with financial help from United States Agency for International Development. Fifteen projects were implemented in the period between 1982 and 1989 in 4300 villages. Plantations were carried out on 25.70 lakhs ha of land and 16.79 lakhs saplings were distributed (Babasab & Potdar, 2016).

After 2001, Thane district of Maharashtra SFD implemented Hariyali project in Wada tahsil. The period of this project was five years i.e. from 2004 to 2009. This project was innovative and brought many social, economic and environmental changes (Dongre, 2011).

Contribution of social forestry in India for improving livelihood

Joint forest management program

Joint Forest management is the concept of developing partnership between society and forest department. It is helpful to forest protection and economic development. Joint forest Management is achieving the target of plantation and economic development in south plateau region of Maharashtra. Maximum income through Joint forest management shows in Satara district and minimum shows in Solapur district. The Detail income through joint forest management in Kolhapur, Sangli, Satara and Solapur district are shown in following table.

Table 2: Investment, Income and benefit in South Plateau Region of Maharashtra (2013-14):

Year	Investment (in lakh)	Income (in lakh)	Benefit (in lakh)
2008-09	129.76	136.52	6.76
2009-10	65.5	149.57	84.07
2010-11	98.47	176.03	77.56
2011-12	130.56	171.47	40.91
2012-13	145.82	219.8	73.98

(Source: Babasab & Potdar, 2016)

Hariyali project in Wada tahsil was another innovative project and brought many social, economic and environmental changes in the tahsil's micro watershed. Major impact of watershed treatment in Wada was found in agricultural sector, dairy farm & in employment (PrakashDongre, 2007).

Contribution Social Forestry in Pakistan

The History of Social Forestry in Pakistan based on the scenario to overcome the wood deficit, combat environmental issues, rehabilitate natural resources and elevate the economic conditions of people living on farms, in and around forests, the government designed and successfully launched many developmental projects associated with social forestry in 1975.

The first project in Pakistan, the Siran Forest Development Project. Other efforts such as the Malakand Social Forestry Project, Kalam Integrated Development Project, and Watershed Planning and Management Project (FAO) also had a strong community component at each stage of the project cycle.

In 1981, the Kalam Integrated Development Project with the Swiss assistance was among the pioneer social forestry programs. A key part of the project was the formation of community-based organizations thus helping communities to organize themselves for collective action. All the social forestry projects were completed at the provincial level to overcome the wood and energy crisis and explore the possible alternatives. To achieve this goal, in July 1984, the government initiated countrywide project for a period of 7 years. Later it was extended for another period of 3 years. Pakistan's first nation-wide social forestry project was jointly funded by the government of Pakistan and the United States Agency for International

Development (USAID) in 1985. It was designed to redress the ill effects of deforestation in Pakistan. Its ultimate goal was to expand tree planting and, thus, the production of fuel wood, fodder, and timber on farmlands in Pakistan, thereby improving rural welfare and sustaining the long-term economic and ecological viability of small farms.

The project "Promotion of Social Forestry and Rain Water Conservation Technology" was being launched by "Society for Up-gradation of Knowledge, Health and Infrastructure" - SUKHI (Non-government Organization) for a period of 2 years (2006 to 2008). SUKHI works on poverty alleviation through different interventions focusing on improvement in living conditions and infrastructure in the project area (Baig *et al*., 2008).

Contribution of social forestry in Philippines

Social forestry started in the mid-1970s. There are now 4,956 social forestry project sites, covering 5.7 million ha. Tenurial changes have been issued for 4.4 million ha of this land. The beneficiaries are 2,182 people's organizations (POs) involving 496,165 households. Management of forest is transferred to POs after application is approved and a Community based Forest Management (CBFM) agreement is issued. POs prepare a community resource management framework for their forest. Policies, rules and regulations to support CBFM are in place. A pending Act will institutionalize CBFM and strengthen rights of communities to manage forests (Gilmour *et al*., 2004).

In Africa

Results of a community-based wildlife program in Zimbabwe provided major incentive for community management in other countries. Many countries have new legislation allowing community management. An upcoming law in Tanzania has led to over 500 village forest reserves and 1,000 clan owned forests since 1996. Innovative CF initiatives exist in Cameroon, Ethiopia, and Mozambique, The Gambia, South Africa and several other African countries (Alden Wily, 2002).

In Europe

Strong public concerns about environment led to moves from industrial management of public forests, to multi-purpose management with increasingly participatory decision-making. In addition, there are 11 million forest-owning families, many belonging to 'community organizations' that provide information and marketing services and represent them on policy

matters. Forest Commission and Local Councils support a network of 12 community forests across England (Jeanrenaud, 2001).

In Canada

There has been a push from some communities to manage local forests – mainly because of vast loss of biological and timber resources. The Model Forests Program in early 1990s gave impetus to CF in some areas. In British Colombia, a new Act will allow communities to manage their local forests in partnerships with government. Requests were received from 88 communities for CF licenses under the British Columbia Community Forest Management Pilot Project (Haley, 2001).

In Unites States of America

There has been considerable growth in community-based approaches to management of forests, lakes, watersheds and pollution. The main drivers have been environmental movements and frustration by communities over their "lack of voice" in local forest management issues (Kusel & Adler, 2001).

Worldwide

Between 1990 and 2000, more than 320,000 communities with over 10 million people formed natural resource management groups (watershed, forest, micro-finance, pest management) (Pretty & Frank, 2000).

Social forestry perspectives in Bangladesh

SF at first was introduced in Bangladesh in 1967. The main objectives of this project were to establish two nurseries in Dhaka and Rajshahi and to distribute seedlings from those nurseries. The Community Forestry project, the first of its kind in the country has been launched in 1979 to cover the seven greater northwestern districts of Dinajpur, Rangpur, Bogra, Pabna, Rajshahi, Kushtia and Jessore. The project has a six-year time frame and is funded by the Asian Development Bank (ADB) with a technical assistance from the UNDP and the Food and Agriculture Organization of the United Nations (FAO) as an associated agency. The executing agency for the project is the Forest Department under the Ministry of Agriculture and Forestry (MAF). From 1979 various SF programmes started in this country in ensuring the socio-economic improvement of the rural poor, employment opportunity in rural area etc (Chowdhury, 2004). Such as:

1. Community Forestry Development Project

2. Betagi-Pomora Community Forestry Project

3. Thana Afforestation and Nursery development Project

4. Expanded Social Forestry Project

5. Forestry Sector Project

6. Coastal Greenbelt Project

7. Coastal Bank Rehabilitation Project

8. Rehabilitated Zumia Family Development and Security Camp Project

Table 3: Chronology of social forestry in Bangladesh2003

Programs	**Period**	**Stage**
1. Taungya System (introduced from Myanmar)	1871	Conceptual
2. Forestry Extension Service Phase-I	1967	
3. Betagi-Pomora Community Forestry Project	1979	Experimental
4. Development of Forestry Extension Service Phase-II	1980-85	Stage
5. Community Forestry Project	1982-87	Large scale
6. Jhoomia Rehabilitation Program in ForestryChittagong Hill Tracts Phase I	1979-89	social
7. Jhoomia Rehabilitation Program in EstablishedChittagong Hill Tracts Phase II	1990-95	
8. Thana Afforestation and Nursery Development Project	1987-95	
9. Extended Social Forestry Project (ESFP)	1995-97	
10. Coastal Greenbelt Project	1995-2000	Mass
11. Forestry Sector Project	1997-2004	production

(Source: Muhammed *et al*., 2005)

Social forestry program performance

The Government of Bangladesh has been implementing wider programmes to promote economy for poverty reduction of the rural masses. The major programmes of social forestry include afforestation, cattle, goat and poultry rearing, handicrafts, small and cottage industries, etc. so that poor people can generate employment and income to come out from the vicious circle of poverty. Since 1982 some social forestry programmes have successfully been completed by the BFD and some new programmes are in progress. The notable and successful programmes are described in the following sections.

Social Forestry Project (1982-1987): The purpose of the project was to develop a participatory approach to resource generation and management based on a 'benefit-sharing' mechanism between the government and the local communities. The components of the project included strip plantation, fuelwood plantation, village afforestation and social forestry growth center.

Table 4: Achievement of Social forestry in Bangladesh since the mid–1980s (Field Survey 2003)

Programs	Achievement
1. Strip plantation	48,420 km
2. Woodlot plantation	30,666 ha
3. Agroforestry plantation	7,738 ha
4. Embankment plantation	1,338 ha
5. Foreshore plantation	645 ha
6. Village afforestation	7,421 villages
7. Seedlings for sale and distribution	201 mill

(Source: Muhammed *et al*., 2005)

Extended Social Forestry Project (1985-97) and Thana Afforestation and Nursery Development Project (1987-95): To raise agroforestry and woodlot plantations in the degraded and encroached sal (*Shorea robusta*) forest land was main objective of the projects. The other components of the projects were: strip plantation; institutional planting and seedling distribution; training of local community leaders, NGO workers, teachers and

students; Thana nursery and Forestry Extension Nursery Training Centre; and support to private nurseries.

Coastal Green Belt Project (1995-2000): The main objective of the project was to create a live shelterbelt of trees along the coastlines of the country. The principal components included embankment plantation, homestead and institutional plantation, establishment of nurseries and training centers.

Forestry Sector Project (1997-2004): This project is also a successful one. To build up the overall tree resource base in the country, to reduce the rate of depletion of forest, to enhance public awareness about conservation and sustainable management of forest resources through local community participation are primary objectives of this project. The activities of this project have been also elongated to the newly accreted lands (locally called char), drained tracts, ponds and tank boundaries, etc.

Non-Timber Forest Products (NTFPS), rural economy and forest policy: Forest and forest products have provided food, shelter, clothing and many necessities of life to the forest dwellers and rural poor since prehistoric days. For supplying various products like fuelwood for cooking and timber for house construction, agricultural implements, boats, carts, furniture, etc. forests play a vital role in this case. Besides fuelwood and timber, NTFPs provide many vital forest resources such as food, medicine, honey, essential oil, spice, resin, gum, latex, fiber and floss, bamboo and cane, broom-grass, sun-grass, mushroom, tamarind, silk cocoon, lac etc (Source: http://www.fao.org/docrep/007/ad511e/ad511e0g.htm; access on 28th april,2018).

Betagi-Pomora Community Forestry Project:

The first social forestry programme in Bangladesh was started in Betagi and Pomora – the two villages of Rangunia Thana of Chittagong district in 1979 and 1980 respectively. It has been established as a social forestry model to alleviate rural poverty through the combination of barren land and hungry people. These projects have created ample employment opportunities for the landless people. Their income and the quality of life improved significantly in both the settlements. These projects have also created employment opportunities for women. The farmers have not only improved their economic condition but also have become employed (Zashimuddin *et al*., 1995).

Table 5: Input-output situation under Betagi and Pomra Community Forestry Project

Input	Average cost per plot(TK)	
	Betagi	**Pomra**
a) Seeds and seedlings	700	783
b) Fertilizers, insecticides, etc	650	711
c) Depreciation and overheads	50	150
d) Labour contribution	3,500	3,000
Total	**4,900***	**4,644***
Input	**Average income per plot(TK)**	
	Betagi	**Pomra**
a) Income from vegetables		3,942
b) Income from fruits		2,786
c) Income from sungrass and fuel wood		2,033
d) Income from livestocks	10,000	263
Total	**10,000***	**9,024***

(Source: Islam, 1998)

Table 6: The comparative results of family size, labour hour per day and annual farm income at Betagi and Pomra

Project area	**Year**	**Family size**	**Labour hour per day**	**Annual income(TK)**
Betagi	1985	5.6	14.0	14000*
	1994	7.4	11.47	29343*
Pomra	1985	5.7	12.0	9023*
	1994	6	7.53	22593*

(Source: Islam, 1998)

Bangladesh Community Forestry Project

Following the success story of Betagi-Pomora social forestry project, the most systematic and planned social forestry project in the country was initiated in July 1981 in the denuded plain land Sal forests of Northern-districts. The project activities started in 1982 and completed in 1987. The main objective of the programme was to replenish the depleted forest lands (plain land Sal Forests) with the active participation of the local landless farming community and to augment supply of fuel wood, construction timber and other products (Zashimuddin, 1995).

Contributions of social forestry in Bangladesh

The contribution of farm forestry to rural livelihood: Farming is an activity carried out by households on holdings that represent managerial units organized for economic production of crops and livestock. When tree components are integrated with the farming system it is called farm forestry. It is an integral part of land-use system. So, we could define farm forestry as a subsystem or a component of community forestry that refers to an activity which involves the rural individuals in forestry activities in their farms. So many various types of traditional farm forestry practices in Bangladesh; the most familiar practices are homestead forestry and cropland agroforestry.

The contribution of homestead forestry to rural livelihood: Homestead has been a part of traditional farming system in Bangladesh for ages. It is a unit of land surrounding a dwelling house, on which several annual and perennial plants including agricultural crops and trees are grown together with/without livestock, poultry and/or fish, largely managed by the household members for their own use or commercial purposes. The homesteads thus present an excellent example of all embracing multipurpose land-use system and biodiversity conservation.

Plants like trees and shrubs which are grown in and around homesteads are feasible source of food, fruit, vegetable, fuelwood, fodder, building material, NTFPs including spice and medicine, and also a source of cash income. Trees along the borders of the homesteads minimize soil erosion and enhance soil productivity of the homesteads as well as nearby crop fields (Hassan and Mazumder, 1990).

Community participation in reforestation: The Forest Department generally does reforestation of upland public lands and afforestation in coastal areas. The Department reforests degraded sal forest mostly with the participation of the local people on benefit

sharing system under the community forestry programmes. In some areas NGOs are also involved to accelerate the reforestation programme. Many people of different tribal communities and Bengali settlers in the Chittagong Hill Tracts (CHT) raise plantations of *Tectonagrandis* and *Gmelinaarborea* on their lease land. Raisingof rubber plantations in the degraded hills of the CHT by private entrepreneurs and they also raise tree plantations in the rubber estates (Roy, 2002).

Harvesting summary of social forestry plantations in Bangladesh

Forest area (% of land area) in Bangladesh was reported at 10.98% in 2015, according to the World Bank collection of development indicators.

(Source:https://tradingeconomics.com/bangladesh/forest-area-percent-of-land-area-wb-data.html; access on 4th april,2018)

Agroforestry is a land use technology where trees and cereal crops are grown simultaneously and or sequentially with wood production as the major objective. Strip plantations are mainly raised in two or more strips either on roadsides or on railway lines sides. The Government got a total of US$ 5.59 mill (Table 7) and participants got a total of US$ 5.26 mill during the last four years. In order to sustain the practice, i.e. to undertake further plantings after felling, a monetary reserve is being made by depositing 10% of final return from each plantation into a Tree Farming Fund (TFF); a total of US$ 1.19 mill is thus saved so far. This fund should be sufficient to prevent a monetary crisis in the Forest Department (Muhammed, 2005).

Table 7: Summary of total harvested plantations during 2000 to 2003

Type of plantation harvested	Area felled (ha/km)	Timber quantity (m)	Fuel wood quantity (m)	Poles (No.)	Total sale proceeds (000 U$S)	Participants involved (No.)	Participants share (000 U$S)	TFF* (000 U$S)	GOB** revenue in (000 U$S)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Woodlot	5089 ha	64	90	1429	6207	4934	2531	621	3055
Agroforestry	1597 ha	20	22	334	2156	2119	968	216	973
Strip	2897 km	44	42	45	3650	16442	1752	350	1549
Total	9583	128	154	1808	12013	23561	5251	1187	5577

***Tree Farming Fund, ** Government of Bangladesh**

(Source: Muhammed *et al*., 2005)

Table 8: Average yield of social forestry plantation in Bangladesh during 2000 to 2003

Type of plantation felled	Timber quantity(m3/ha)	Fuelwood quantity(m3/ha)	Poles(no/ha)
Woodlot	12.6	17.7	281
Agroforestry	12.5	13.8	209
Stripe*	15.2	14.5	16

(Source: Muhammed *et al*., 2005)

Considering the average yield of social forestry plantations in Bangladesh (Table 8), timber yield was highest in strip plantations (15.2 m3 ha-1) followed by woodlots and agroforestry

plantations. In the case of fuelwood, this was highest in woodlots (17.7 m3 ha-1) followed by strip and agroforestry plantations. After enacting Forest Policy in 1994 and the Master Plan in 1995, no such initiatives have been undertaken. Therefore, it becomes clear that policy is not fully obeyed in practice. Although some steps are undertaken in the light of policy statements.

Women's participation in SF program for improving life

Women's participation in forestry programs is particularly important because they have been responsible for fetching water and fodder. They acquire a special knowledge of species and of the process of regeneration. The reason for not incorporating women as direct participants is because the growth-led development policies ignored women's productive role in the overall economy. Women's productive functions include all tasks that contribute to the income and economic advancement of the household and community. For example, women in Asia and in Africa are accountable for crop processing, post-harvest work, livestock production, handicrafts production and wage employment.

Role of Women in National Forest Policy

The National Forest Policies recognize the importance of gender issues and state in the policy that "Women will be encouraged to participate in homestead and farm forestry, and participatory afforestation programs (National Forest Policy, 1994)". SF involves women in the following activities:

Seedbed preparation, which consists of making wooden sticks, putting the sticks into the soil as border, and leveling the plots; Seed broadcasting or sowing; Filling plastic bags with soil, and transplanting seedlings into plastic bags; & Nursery maintenance such as fertilizing, watering, weeding and spraying plants with pesticides.

The SF requires women in three specific areas:

- Conservation of available resources,
- Protection of upcoming resources, &
- Education of the masses.

In our country, Women who are fortunate (insignificant in number) enough to have access to their husbands' land have taken loan from NGO like Proshika and established nurseries. Moreover, since the ownership of land belonged to the husbands; authority over the products

were also controlled by men. Also, observed in the study area that men were exercising control of products of women's labor, specifically in terms of crop cultivation in between the commercial trees in agroforestry programs. Therefore, it could be argued that women are working as producers but as non-owners while men as non-producers got the benefits of owners. The other issue is the impact of SFPs on women's socio-economic empowerment. By providing women with credit and various income generating activities, NGOs are supposed to ensure that women are empowered. The observation reveals that in the study area, Proshika has involved a substantial number of resourceless women in credit.

The Participation of Women in Social Forestry in Bangladesh-

Govemment Nurseries,

Proshika Sponsored Nursery Development,

Strip Plantations, &

Women's Invisible Participation in Agroforestry and in Woodlot Plantation.

RECOFTC programmes are working to address gender bias in community forestry. These are-

- Women take the lead to revitalize a community forest user group in Nepal. Community forestry in Nepal can promote a better inclusion of women in the management of natural resources – including in leadership roles – that might improve recognition of their role in the community. Communities have said that it has "given them an incentive to preserve their resources and promote collective action. It has given communities social prestige and confidence".
- Women in Myanmar's Magway region take on advisory roles in the area's community forest management committee.
- Women's group become local climate change champions in Indonesia.
- Forest officers in Viet Nam promote opportunities for women's participation in sustaining forests.
- Women leaders in Thailand make their voices heard to prevent their community forest from being transformed into an industrial zone.

(Source: Anonymous, 2017)

CHAPTER 4

CONCLUSION

For promoting sustainable livelihood and basic social services, the eradication of poverty needs universal access to economic opportunities. The broad alleviation efforts include provision of food security, land rights, education, employment, primary health care services including reproductive health care, safe drinking water and sanitation. Unless until, the quality of life of the poor are improved, social development cannot be achieved in state. This is only possible through participatory poverty alleviation where the poor have to involve themselves with social forestry activities in identifying the poor, priorities their needs and monitor poverty at micro level. RECOFTC, Regional Community Forestry Training Center, works for making rules in addressing poverty alleviation through social forestry activities.

RECOFTC programmes are also working to address gender bias in community forestry. Rural women take part in various social forestry programs for betterment of their family income. The participatory micro level poverty alleviation is probably the stepping stone towards achieving the goal of improving livelihood in the state. It has generated sufficient resources and income to raise the rural poor above subsistence level and proved that social forestry can play a significant role in rural poverty alleviation in Bangladesh. Apart from the creation of resources, employment and income, social forestry is playing a vital role in preserving the environment, which also helps alleviate rural poverty.

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