

Arannayk Foundation: At a Glance

Background and Origin

Arannayk Foundation, also known as Bangladesh Tropical Forest Conservation Foundation, was established on 26 July 2003, through an agreement between the Government of the People's Republic of Bangladesh and the Government of the United States of America. This was done under the auspices of the Debt Reduction Agreement signed on 12th September, 2000, by the two governments, through which Bangladesh agreed to be pursuant to the US Tropical Forest Conservation Act of 1998 in lieu of gaining reduction of certain debts that it owed to the United States. **Arannayk Foundation** is registered as a not-for-profit company limited by guarantee (Reg. No.C-550(02)/2003) and not having a share capital under section 28 of the Bangladesh Companies Act 1994.

Vision and Mission

Together with its associated agencies and support organizations, the Foundation envisions that the natural ecosystem and biodiversity resources of the forests in Bangladesh are maintained in a sustainable manner by responsible stakeholders through collective efforts – providing access and benefits to local communities, national economy and the humankind at large in an equitable manner.

In regard to its own future, the **vision** of the Arannayk Foundation is to become:

- a) the premier agency in creating partnership among the public and private sector organizations and institutions engaged in activities relating to forestry;
- b) the leader for intervening between the private and public sector agencies to coordinate all forestry-sector activities following a systematic method;
- c) a top developer of models for poverty alleviation through forestry related activities; and
- d) financial support provider in the forestry sector.

The **mission** of Arannayk Foundation is to facilitate conservation, protection, restoration and sustainable use and management of tropical forests in Bangladesh through awareness and capacity development of stakeholders for planning and implementing necessary policies, programs and projects.

The Foundation provides financial grants or other support to eligible entities for activities aimed at conserving, protecting, maintaining and/or restoring tropical forest and biodiversity assets of Bangladesh.

The activities supported by the AF include:

- a) establishment, restoration, protection and maintenance of protected areas and reserves;
- b) development and implementation of scientifically sound systems of natural resources management;
- c) training programs to increase scientific, technical and managerial capacities of individuals and organizations involved in forest conservation;
- d) restoration, protection or sustainable use of diverse animal and plant species;
- e) research and identification of medicinal uses of tropical forest plants; and
- f) development of alternative livelihoods of the individuals living in or near a tropical forest, in a manner consistent with the protection of the forest.

The Arannayk Foundation works in partnership with the non-governmental environmental, developmental, educational and indigenous peoples' organizations active in Bangladesh; scientific, academic and professional organizations related to forests and other appropriate forest-related entities active in the country.

Governance

The apex body of the Foundation is its Board of Directors that consists of seven honorary Member-Directors. The Board members include a representative of the US Government and another from the Government of Bangladesh; the rest five are selected from organizations of the following three categories: (a) environmental organizations, (b) community based local development organizations and (c) scientific and academic institutions dealing with forestry.

The USAID Mission Director in Bangladesh and the Joint Secretary (Development), Ministry of Environment and Forests (MoEF) are the ex-officio members, as the representatives of the two Governments, in the Arannayk Foundation Board. The five non-governmental representatives are selected by the MoEF through an open solicitation process and in consultation with the USAID Mission in Bangladesh for a term of three years with possibility of extension for a maximum of one more term. The Board members meet at least three times a year, and decide policies, plan and activities of the Foundation.

For effective management of the organization and its activities, the Board members constitute two Standing Committees: **Program and Operations Standing Committee (POSC)** – for development of programs and program implementation plans; and **Finance Standing Committee (FSC)** – for budgeting and investment-planning. AF makes prudent investments through fixed deposits in leading private sector Banks.

The implementation of the decisions of the Board and other day-to-day activities of the Foundation are done by the AF Secretariat consisting of a dynamic team of technical and financial management experts headed by an Executive Director who is the Chief Executive Officer (CEO) of the organization.

Grant-making Procedure

Arannayk Foundation grants are given to eligible entities for implementation of projects within the broad program areas determined by the Foundation. AF solicits proposals from eligible entities through its website and advertisement in national dailies. The proposals are evaluated by a three-member team of external evaluators using a tool called PPET (Project Proposal Evaluation Tool). The institutional strengths of the project proponents whose proposals qualify (scoring 60% and above) in the external evaluation are verified by the AF Secretariat through field visits and interviews with the management and key staff members of those organizations. The process is summarized in Flowchart 1 (page 4).

The competitive grant making procedure (CGMP), the project monitoring system and the automated financial management and reporting system developed and applied by the Arannayk Foundation has made the operations of the Foundation effective, efficient and transparent. The evaluation of the Foundation conducted by the TFCA Secretariat, Washington DC, in September 2008, by engaging a team of independent consultants, headed by Dr. Kathleen Mikitin, appraised the grant making procedure, financial management, and the monitoring systems and tools of Arannayk Foundation as examples of best practices.

Competitive Grant Making Procedure (CGMP)

The AF normally solicits proposals for grants once a year. However, it depends on the priority of the program, availability of fund and work load of AF Secretariat. The following steps are followed for awarding grants:

Step-1: Financial Planning

- AF Secretariat develops financial plan annually. The plan is submitted to the Finance Standing Committee (FSC) for review. After reviewing, FSC makes recommendation on the budget for Board's approval.
- The Board discusses and approves the annual financial plan.

Step-2: Program Development

- AF Secretariat identifies biodiversity issues through interaction with relevant organizations and select new programs/projects
- AF Secretariat prepares a concept note on the problem and submits to Program and Operation Standing Committee (POSC) for review. After review the proposal is send to the Board for approval.
- The Board discusses and approve the programs/projects proposed by the Secretariat to make call for proposal.
- The AF Secretariat proposes five names of reputed relevant professionals to form a Peer Review Team (PRT) comprised of three members for approval by the Board. The Board approves three names out of five for reviewing the project proposals.

Step-3: Public Call for Proposals

- The AF Secretariat makes public call, receive proposals and review the proposal for compliance.

Step-4: Evaluation and Selection of Project Proposals

- The AF Secretariat then invites the reviewers at the AF Secretariat to sign contract and review the proposals following Project Proposal Evaluation Tool (PPET) and related guidelines for assessing and scoring the proposals.
- The AF Secretariat compiles the scores of the PRT members and calculates the average scores. Proposals receiving 60% or higher scores are considered as qualified
- The AF Secretariat assesses the physical facilities, existing human resources and quality of work of the shortlisted entities and checks their relevant documents by visiting their offices and fields and interviewing their key staff members, project beneficiaries and other stakeholders. Based on such assessment process the Secretariat assigns a numeric score using the physical verification tools.
- Secretariat combines weighted scores of the PRT members and that of the Secretariat allocating 60% and 40% weights, respectively and rank the candidate (qualified) proposals based on the combined scores.
- Secretariat submits the combined scores along with other remarks and recommendations to the Board for decisions.

Step-5: Grant Disbursement

- Secretariat submits the combined scores along with other remarks and recommendations to the Board for decisions.
- The Board reviews the results of the evaluation process and the remarks and recommendations of the AF Secretariat and makes the final selection for awarding grant.
- Secretariat notifies the decision of the Board, and sign Grant Agreement with, the proponents of the selected proposals.
- Secretariat disburses grant on the basis of Grant Agreement signed between AF and the Grant Recipient.

Board of Directors

Mr. Ishtiaq Uddin Ahmad

Country Representative,
IUCN, Bangladesh

Mr. Mihir Kanti Mahumder

PhD, Azimpur Government Quarter
Azimpur, Dhaka

Mr. Niaz Ahmed Khan

Ph.D, Department of Development Studies
University of Dhaka

Mohammed Jashimuddin

Ph.D, Professor, Institute of Forestry & Environmental Sciences,
University of Chittagong

Raja Devashish Roy

Chakma Raja and Chairperson of Taungya, Rangamati
Former Asst. Advisor to the Caretaker Government, Bangladesh

Ms. Janina Jaruzelski

Mission Director, USAID/Bangladesh
Representative of the US Government

Abdullah Al Mohsin Chowdhury

Additional Secretary (Development),
Ministry of Environment and Forests, Dhaka

AF Grant

Starting from November 2006, AF financed 89 grants (USD 8.85 million) on important issues of forest and biodiversity conservation¹. Out of these, 59 got completed by 2014, and 30 are continuing.

Table-1 List of on-going projects of Arannayk Foundation (as of May 2014)

SL#	Project Title	Implementing entity	Amount in USD
1	Coastal Biodiversity Conservation through Creating AIG Facilities)	Uttaran	73764
2	Conservation of Threatened Species	IFESCU	55,323
3	Inani Protected Forest Area (PFA) Co-management - NGO component	SHED	98,353
4	Restoration and Conservation of Biodiversity in the Inani PFA - FD component	Forest Dept. Inani	404,166
5	Restoration and Conservation of Biodiversity in the Inani PFA - CMC component	CMC	6,661
6	Restoration and Conservation of Biodiversity in the Denuded Hills in Sitakunda and Mirsharai, Chittagong - NGO component	YPSA	73,764
7	Restoration and Conservation of Biodiversity in the Denuded Hills in Sitakunda and Mirsharai,	Forest Dept.	246,866

¹Although the Foundation was set up in 2003, its grant making activities started from 2006 as it took couple of years for preparatory activities such as establishment of the office, management bodies (Board of Directors and Standing Committees), grant making procedures and administrative and financial management systems and tools.

SL#	Project Title	Implementing entity	Amount in USD
	Chittagong – FD component	Chittagong North	
8	Restoration and Conservation of Biodiversity in the Denuded Hills in Banskali, Chittagong - NGO component	DAM	73,764
9	Restoration and Conservation of Biodiversity in the Denuded Hills in Banskali, Chittagong - FD component	Forest Dept. Chittagong South	115,654
10	Restoration and Conservation of Biodiversity in the Denuded Hills in Banskali, Chittagong - CMC component	Banskali CMC	5,369
11	Restoration and Conservation of Biodiversity in BarindDhamoirhat Sal Forest, Naogaon - NGO component	Padakhep	66,388
12	Restoration and Conservation of Biodiversity in BarindDhamoirhat Sal Forest, Naogaon - FD component	Forest Dept. Rajshahi	76,644
13	Restoration and Conservation of Biodiversity in Singra Sal Forest, Dinajpur - NGO component	RDRS	61,470
14	Restoration and Conservation of Biodiversity in Singra Sal Forest, Dinajpur - FD component	Forest Dept. Dinajpur	71,953
15	Restoration and Conservation of Biodiversity in Singra Sal Forest, Dinajpur - CMC component	Singra CMC	5,350
16	Restoration of Hilly Biodiversity through Community Based Bio-Resource Management at Dighinala, Khagrachari	Anando	73,764
17	Community-based Conservation of Forest Resources and Enhancing Rural Livelihood in Rangamati of CHT	Hill Flower	49,176
18	Indigenous Community Based Sustainable Management of Chimbuk Hill Forest in Bandarban Hill District	Humanitarian Foundation	61,470
19	Community Based Forest Resource Management for Sustainable Development in Rowangchari, Bandarban Hill District	Tah Zing Dong	49,176
20	Conservation and Regeneration of Biodiversity of Village Common Forest in Khagrachari	Proshika	80,407
21	Swamp Forest Restoration in Haor Areas of Shunamganj Dist.	CNRS	61,470
22	Capacity building of stakeholders and program/management support (CBPMS)	PROSHIKA	81,075
23	Promotional and awareness raising activities on forest & biodiversity conservation	BCL	86,868
24	Biodiversity Conservation Through Livelihood Improvement, Sundarbans West Wildlife Sanctuary	Burigoalini CMC	24,588
25	Biodiversity Conservation Through Livelihood Improvement, Sundarbans East Wildlife Sanctuary	Sarankhola CMC	24,588
26	Livelihood support for Conservation of Gazalia Village Common Forest, Bandarban Hill Tracts	Toymu	24,588
27	Livelihood support for Conservation of Dhanpata Village Common Forest, Khagrachari Hill Tracts	Kabidang	24,588
28	Determination of Carbon Uptake and Floral Conservation in the Tropical Wet Mixed Forests in Rangamati	IFESCU	36,882
29	Livelihood Development of Forest-dependent Communities in and around Chunati Wildlife Sanctuary – Co-financing with GIZ	SHED	667,119
30	Alternative Livelihood Support to Forest Communities (ALSFC) component of Climate Resilient Participatory Afforestation and Reforestation Project; Co-financing with World Bank administered BCCRF	YPSA and Uttaran	4,000,000
31	Training of stakeholders on adaptation to change including climate change with funding from ICIMOD	Arannayk Foundation	42,000
	Total		6814248

Table-2 List of completed projects of Arannayk Foundation

SL#	Project Title	Implementing entity	Amount in USD
1-27	Nursery development for regeneration threatened species	27 Nurseries	88,318
28.	Parent stock plantation at ESCB campus	ECB	10,465
29.	Community based participatory herbal garden	OSAD	74,627
30.	Community based participatory herbal garden	IDO	74,627
31.	Recolonization& mass propagation of Civit	IFESCU	44,776

SL#	Project Title	Implementing entity	Amount in USD
32.	Recolonization& mass propagation of Banspata	IFESCU	44,776
33.	Coastal biodiversity conservation through creating AIG facilities	CFSD	60,570
34.	Coastal Biodiversity Conservation through Creating Alternative Income Generation Facilities	Uttaran	68,388
35.	Homestead agroforestry through improved management practices in Bandarban	CFSD	51,471
36.	Homestead Agroforestry through Improved Management Practices in Sitakunda and Mirsharai, Chittagong	Prottiyashi	51,471
37.	Homestead Agroforestry through Improved Management Practices in Chandanaish and PatiyaUpazila of Chittagong	CODEC	51,471
38.	Homestead Agroforestry through Improved Management Practices in Tala, Satkhira	Uttaran	60,157
39.	Genetic diversity conservation and restoration of Sidr hit area	BFRI	14,706
40.	Inani PFA Co-management - NGO component	SHED	234,496
41.	Restoration and Conservation of Biodiversity in the Denuded Hills in Sitakunda and Mirsharai, Chittagong - NGO component	YPSA	82,501
42.	Restoration and Conservation of Biodiversity in the Denuded Hills in Banskhal, Chittagong - NGO component	DAM	87,987
43.	Restoration and Conservation of Biodiversity in BarindDhamoirhat Sal Forest, Naogaon - NGO component	Padakhep	63,465
44.	Restoration and Conservation of Biodiversity in Singra Sal Forest, Dinajpur - NGO component	RDRS	81,052
45.	Swamp Forest Restoration in Haor Areas of Shunamganj District	CNRS	86,731
46.	Access to Food Security and Accelerated Livelihood towards Biodiversity in KhaliajuriUpazila, Netrokona	SUS	87,371
47.	Community-based Conservation of Forest Resources and Enhancing Rural Livelihood in Rangamati of CHT	Hill Flower	87,614
48.	Restoration of Hilly Biodiversity through Community Based Bio-Resource Management at Dighinala, Khagrachari	Anando	87,593
49.	Community Based Forest Resource Management for Sustainable Development in Rowangchari	Tah Zing Dong	74,701
50.	Indigenous Community Based Sustainable Management of Chimbuk Hill Forest in Bandarban Hill District	Humanitarian Foundation	83,544
51.	Biodiversity monitoring in selected protected forest areas	Dept. Zoology JU	43,434
52.	Environmental Education	IFS Agroforestry Fellow	8,750
53.	Capacity building of stakeholders and program/management support (CBPMS)	PROSHIKA	86,868
54.	Livelihood support to forest user groups in co-managed protected forest areas, Lawachara	Lawachara CMC	14,478
55.	Livelihood support to forest user groups in co-managed protected forest areas, Remakelanga	Remakelanga CMC	14,478
56.	Livelihood support to forest user groups in co-managed protected forest areas, Satchari	Satchari CMC	14,478
57.	Pilot Level Community Based Participatory Herbal Garden in Rangamati	Juno Pawr	81,474
58.	Community-based management of Itchari Community Reserve Forest, Khagrachari	BIRAM	87,719
59.	Access to Food Security and Accelerated Livelihood towards Biodiversity in Khaliajuri Upazila, Netrokona	SUS	24,588
Total			2,129,145
Grand total			8,952,393

Manpower of Arannayk Foundation

Arannayk Foundation has the following staffs.

A. Core Staffs:

1. Executive Director
2. Senior Program Officer
3. Manager, Finance & Admin
4. Program Officer (Monitoring & Evaluation)
5. Secretary cum IT Officer (Administration)
6. Assistant Finance & Admin. Officer

B. Project Staffs:

1. Project Coordinator-ALSFC sub-project under World bank administered and BCCRF funded CRPAR project
2. Business Development Specialist-ALSFC sub-project under World bank administered and BCCRF funded CRPAR project
3. Communication Specialist-ALSFC sub-project under World bank administered and BCCRF funded CRPAR project
4. Project Coordinator for other projects – 17
5. Training and Monitoring Officer – 5
6. Field Supervisor/ Site Coordinator - 16
7. Field Facilitator – 61
8. Project Accountant - 15
9. Field Accounts Assistant - 13

Coordination Mechanism

Quarterly and Annual Review Meeting: The AF Secretariat organizes quarterly progress review meeting for all its partner organizations where the Project Manager/Coordinator presents physical and financial progress of activities of each project. After critical review the plan for subsequent quarter is developed and budget is approved. The approved budget is released as advance. Thus there are four quarterly review meeting in a year but the fourth quarterly review meeting is considered as Annual Progress Review meeting where the partner presents the output of the projects against each objective. Thus quarterly review is considered as activity level monitoring while Annual Review stands as output level review meeting. During annual review, representative from the management of the partner organization also remain present. The fund is released quarterly but within the broad framework of approved annual plan. The Board of Directors is invited to attend the quarterly review meeting and annual review meeting so that they remain aware of the activities. They also visit field to oversee the field level activities so that they can contribute in program development.

Collaboration with other development partners

Though the main source of fund is tropical forest conservation fund of the United States, other development partners are also taking interest in activities of the Arannayk Foundation.

Collaboration with GIZ: The AF is working closely with GIZ in providing livelihood support to the forest dependent communities of Chunati Wildlife Sanctuary where 2500 forest dependent communities are supported to improve their livelihood and reduce their dependence on forests.

Collaboration with World Bank: Jointly with Bangladesh Forest Department, the AF is implementing a project administered by the World Bank on '*Climate resilient participatory afforestation and reforestation project*' nine coastal districts which are: Barisal, Bhola, Patuakhali, Barguna, Noakhali, Feni, Laxmipur, Chittagong and Cox's Bazar. The project is financed from the Bangladesh Climate Change Trust Fund (BCCRF). YPSA (responsible for

Chittagong and Cox's Bazar) and Uttaran (responsible for rest seven coastal districts) are the field level partners of the Arannayk Foundation for the project.

Collaboration with ICIMOD: The AF is also working in partnership with the International Centre for Integrated Mountain Development (ICIMOD) for supporting rural livelihood and building capacity of the stakeholders to adapt to changes including Climate Change in Chittagong Hill Tracts.

Accounting system of Arannayk Foundation

Arannayk Foundation (AF) has an automated financial management system that operates under a strong internal control framework following the International Accounting Standard (IAS) adapted in Bangladesh Accounting Standard (BAS). AF has an approved operative manual consists of-

- a) Competitive grant making procedure
- b) Financial management and monitoring system of the implementing partner including Grant Management Software (GMS) manual
- c) Finance manual
- d) Procurement manual
- e) Personnel (Human Resource) manual

Financial planning, implementation and investment are done by the AF secretariat under guidance of the Finance Standing Committee (FSC) comprised of 3 (three) board members.

AF has an automated online payment mechanism for anywhere in country or aboard through "Straight To Bank (STB)" software provided by the Standard Chartered Bank. The financial management is done through a reputed and widely accepted web-based ERP system developed by Tally Solution India named, "Tally.ERP9". It made the management information and decision support system of AF very strong and efficient. A customized web based financial management, reporting and monitoring system called "Grant Management Software (GMS)" has been developed and implemented for the partner organization of AF. The GMS consists of 8 real time online operating modules that can be monitored and intervened from anywhere in the globe (e.g. Financial Planning, Cash Book Journal, Cost Center Accounting, Bank Reconciliation, Outstanding Management (advances/receivables/payables), Automated reporting (Receipt-Payment, Budget Variance, Fund Utilization etc.), Ledger / Register Control, Master Data (Period control, Chart of accounts, Bank accounts, Donor accounts, Cost Centers etc.). This made the fund management system of AF highly transparent and efficient.

Annual external audit of AF activities are carried out by an independent Chartered Accountant firm for each of the implementing partner of AF and AF headquarter.

Significant Achievements and Impacts

The projects of the Arannayk Foundation have made significant impact toward restoration and conservation of biodiversity in national Protected Areas (PA) as well as in community conserved forests and rural homesteads. Some specific examples of such impacts are:

- **Nursery program for promotion of endangered species plantation:** Through supporting 26 local nurseries throughout Bangladesh for raising endangered species, 150 species have been identified of which 50 species were identified as critically endangered. Nursery owners were trained on raising seedlings of critically endangered species and supported to raise those endangered species. Those nurseries are now producing seedlings of endangered species along with other species making indigenous species available for plantation.
- **Collaborative Forest Management:** Jointly with Forest Department Arannayk Foundation has contributed to conserve Inani Forest, Chunati Wildlife Sanctuary, Banskhali Forest, Sitakunda-Mirsharai forests, Singa National Park and DhamoirhatAltadighi National Park, covering a total area of about 25,000 hectares. Those forests have been brought under co-management system involving local communities and community patrol groups. Illicit extraction of timber, fuel wood and bamboos; poaching of wildlife and incidence of forest fire

have significantly reduced in these forests due to increased awareness of local communities, better collaboration between local communities and Forest Department, forest protection by community patrol groups (CPG) and adoption of alternative income generating activities (AIGA) by forest dependent people using the revolving loan fund (RLF) support of the AF projects. It may be mentioned that in Inani (10,000 ha) forest, extraction of fuel wood from the forest by local communities (annual) reduced from 60,000 tons in 2011 to 50,000 tons in 2013, round timber from 506,000 cft in 2011 to 303,000 cft in 2013, sawn timber from 4,438,000 cft in 2011 to 798,000 cft in 2013, poles from 1,351,000 pieces in 2011 to 2,380,000 pieces in 2013 and bamboo from 1,130,000 pieces in 2011 to 169,000 pieces in 2013.



- Forest Conservation through promotion of alternative livelihood:** The AF adopted strategy of forest conservation through improving livelihood of forest dependent communities. The forest dependent communities were organized for improving management of their organization and supported to improve their technical skill for alternative income generating activities (AIGA). To provide access to fund, they were encouraged to start their own saving program followed by project grant to develop a revolving loan fund. In almost all projects of AF, such provision is made. Now there are 558 CBOs working under 25 projects and the amount of grants provided by the AF as RLF grant is BDT 24.3 million. On the contrary, the amount of savings by the CBO is around 14.8 million. The CBO members are using the money for alternative income generating activities either individually or in group (eg. In case of community patrol groups they are using the money for large scale investment in group). The RLF fund is managed by the communities. This fund is used for providing loan to the CBO members. Each individual member can have loan up to BDT 15,000 (maximum) for one year for any alternative income generating activities. However, to qualify for loan, one has to plant at least one sapling per BDT 1000 (for fuel wood production) at own cost. The loan is either interest free or with minimum rate of interest as set by the CBOs to cover the cost of communication and entertainment during monthly meeting.
- Alternative Income Generating Activities:** So far, the CBOs adopted more than 30 AIGAs. The profitability varies with locality and market demand. However, in general households look for a quick returning AIGA. In most cases, vegetable cultivation is found to be the first choice. Other profitable AIGAs include cattle fattening, cow rearing, fish farming, small trade, rickshaw and van buying, tailoring, land lease in for agriculture and handicrafts making



- **Restoration of community conserved areas:** In Chittagong Hill Tracts, eight community conserved forests covering an area of 1500 ha have been brought under sustainable management by developing technical, organizational and management capacities of the indigenous communities concerned.
- **Restoration of degraded swamp forest:** In the *haor* (basin land) area of Sunamganj, two almost denuded swamp forests (68 ha) have been successfully regenerated by the project participants by leasing the forest land for ten years from the Government. In another '*haor*' area in Netrokona district, the project participants have established 6.5 km of strip-plantation of *hijal* (*Barringtoniaacutangula*) and *koroch* (*Pongamiapinnata*) trees in erosion-vulnerable areas of four villages.
- **Enrichment of homestead biodiversity:** About 50 species of endangered native trees have been restored in about 4,000 homesteads including 1,000 homesteads in a coastal area in the south-west region and 3,000 households in three non-coastal areas (one in south-west and two in south-east region) of the country along with establishment of Revolving Loan Funds (RLF) for alternative income generating activities of the poor project participants. In 4000 homestead, 400,000 trees of 50 species have been established.
- **Conservation of medicinal plants:** More than 150 species of local medicinal plants of Chittagong Hill Tracts (CHT) have been conserved in several places of Rangamati district (CHT) and 25 species of medicinal plants of the plain land have been conserved in 10 institutional (school) premises and 400 private homesteads in Keshabpur of Jessore district in the south-west of Bangladesh. Aside from saving them from probable extinction, the medicinal plants so conserved in two project areas will help in primary health care of local communities and also in further multiplication and dissemination in other areas. There has been increasing industrial and commercial demands of some of the medicinal plants too.
- **Training of stakeholders on Adaptation to change including Climate Change issues:** AF with support from ICIMOD raised awareness and understanding of stakeholders of Chittagong Hill Tracts on adaptation to change including climate change. AF organized training for different stakeholders such as officers from government organizations, school and college teachers, journalists, NGO staff and research organizations. Among the participants 33% were female. The key issues identified for adaptation to change including climate change included conservation and restoration of natural forests for biodiversity and sustained supply of water and need for promoting alternative livelihood. A massive mass awareness program is needed to stop conversion of natural forests for non-forest uses.



- **Promotion of improved cooking stoves (ICS):** In all field-based projects, use of ICS has been ensured by the project participants which has contributed considerably in reducing collection of fuel wood from the forests. So far, 25000 ICS have been installed in the project areas. Manufacturing ICS has also become an alternative income generating activity for the entrepreneur who are involved in preparing, selling, installing the improved cooking stoves (ICS) in each of the project sites.
- **Restoration of critically endangered species:** Critically endangered tree species like Asar, Parul, BuddhuNarikel, Dharmara, Udal, Haldu, KaloBatna, Gutgutya, Kusum, Raktan, HorinaGoda, Champan, Mose, TejBal, Rita, SidaJarul, Dhup, Boilam, SilBatna, TeliGarjan, Uriam, Bon Amra, Konnari, Bandarhola, Bajna,

Kerong, Lohakath, Punial, Sheori, Bon Badam and Bon Litchi have been saved from extinction through development of propagation techniques and by establishing seed orchards and restoration planting in multiple locations.

- **Establishment of revolving loan fund:** The most notable impact of the AF-supported projects is the development of alternative livelihood opportunities for forest dependent communities through revolving funds channeled through community based organizations (CBO). Revolving loan funds (RLF) have been established in 558 CBOs providing access to micro-finance to about 12500 forest dependent poor people for alternative livelihood development. Since 2009, AF has given BDT 24.23 million of RLF grants to 558 groups of forest dependent people under all its projects. As of December 2013, about 4,000 poor forest dependent people received RLF loans for alternative income generating activities (vegetable cultivation, small businesses, livestock rearing, fish cultivation, handicrafts making, etc.).



Through effective use of the RLF loans, the borrowers have been able to improve their economic conditions and repaid their loans on time. The rate of repayment of RLF loans is over 90%. A throughout cost benefit analysis of the most profitable AIGA has been done in each of the project sites. Till July 2014, agricultural activities and cow rearing were denoted as two of the most profitable AIGA in the project site of 'Proshika manobik Unnayan Kendra, Khagrachari' and duck rearing and vegetable cultivation were pointed out as two of the most profitable AIGA in the project site of CNRS.

Organizational and financial management capacities of the CBOs are being raised through training and coaching so that they can continue managing the RLF, participatory savings and other funds in a sustainable manner after the end of the projects. The CBOs are being encouraged and assisted to get registered with the Department of Cooperatives. When registered the CBOs will be monitored and supported by this agency of the Government of Bangladesh. About 20 CBOs already have got such registration. To enhance their organizational strength and registration, the village-based small CBOs are being federated at Union level.

- **Documentation of biodiversity of different forest areas:** Another significant contribution of the Arannayk Foundation towards conservation of forest biodiversity (flora, fauna) in Bangladesh is monitoring and documentation of biodiversity in the protected areas. Under a project of the Arannayk Foundation, the Wildlife Unit of Jahangirnagar University in association with the Institute of Forestry, Chittagong University (IFESCU) and the Botany Department of Dhaka University, has documented floral and faunal biodiversity of six protected areas (Rema-Kalenga, Dudhpukuria-Dophakhali, Fasiakhali and Teknaf Wildlife Sanctuaries, Inani National Park, Sitakunda Eco-park) through year-long monitoring at each site. Through this study, 493 species of plants, including 79 species of medicinal plants and 600 species of wildlife (139 invertebrates, 89 fishes, 25 amphibians, 57 reptiles, 245 birds and 45 mammals) have been identified and documented in the six PA in the eastern and south-eastern hill forests of Bangladesh. The most significant outcome of this study is that it has photographic evidence of species including some very rare species found in different forests for the first time in Bangladesh such as Particolored Flying Squirrel recorded at Rema-Kalenga WS, Hog-Badger

recorded at Teknaf WS and Pallas's squirrel recorded at Dudhpukuria-Dhopachari WS. A web-based database of flora and fauna of the protected areas of Bangladesh has been established based on the findings of these projects.



The data-base (http://www.arannayk.org/biotrack_database) enables people from all over world to view the photographs and brief descriptions of the plants and animals of the protected areas of Bangladesh. The AF plans to made survey of all 37 PAs in Bangladesh. The database provides options for searching information by PA as well as by species names.

- **Publications of AF:** AF published biodiversity information of three PAs in the form of books in three volumes. These include Biodiversity of Rema-Kalenga WS, Dudhpukuria-Dhopakhali WS and Teknaf WS. Publications on Biodiversity of other protected areas are under process. Arannayk Foundation has also published a book titled, 'Tigers in the Mangrove: Research and conservation of the tigers in the Sunderbans of Bangladesh', authored by Prof. Dr. Monirul Haque Khan of Jahangirnagar University. This book describes present status of tiger population in the Sunderbans including the habitat quality and threats and techniques of training dogs to prevent tigers from entering human settlements. AF has also made biodiversity assessment of its project areas. Those are available in AF website (www.arannayk.org).