



Country Paper:

**Environmental Performance Audit on Climate Resilient  
Participatory Afforestation and Reforestation Project**

**Supreme Audit Institution (SAI), Bangladesh  
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## **ABBREVIATIONS:**

AF	: Arannayk Foundation – A company established by joint initiative of Bangladesh & US Government
ALSFDC	: Alternative Livelihood Support to the Forest Dependent Communities
BCCRF	: Bangladesh Climate Change Resilience Fund
BCCSAP	: Bangladesh Climate Change Strategy and Action Plan
BEZA	: Bangladesh Export Zone Authority
BFD	: Bangladesh Forest Department
C&AG	: Comptroller & Auditor General
CRPARP	: Climate Resilient Participatory Afforestation & Reforestation Project
DPP	: Development Project Proposal
FAPAD	: Foreign Aided Projects Audit Directorate
FDG	: Forest Dependent Group
GIS	: Geographical Information System
GPS	: Global Positioning System
IBFCR	: Inclusive Budgeting and Financing for Climate Resilience – A project under the Ministry of Finance, Government of Bangladesh
OCAG	: Office of the Comptroller & Auditor General
PIM	: Project Implementation Manual
PNGO	: Partner Non-Government Organization
RIMS	: Resource Information Management System – A unit under BFD
RS	: Remote Sensing
SAI	: Supreme Audit Institution
SFR	: Social Forestry Rules
YPSA	: It is one of the PNGO working with AF

# Environmental Performance Audit on Climate Resilient Participatory Afforestation and Reforestation Project

## Audit Background

Statutory audit by the Comptroller & Auditor General (C&AG) of Bangladesh encompasses all types of audit including performance audit as well as financial & regularity audit. Authority of C&AG to carry out all types of audit derives from (i) Article-128 of the constitution of Bangladesh & (ii) The Comptroller and Auditor General (Additional Functions) Act, 1974.

‘Inclusive Budgeting and Financing for Climate Resilience (IBFCR)’ project has been taken by the Finance Division, Ministry of Finance to rationalize the Public Financial Management of climate finance and introduce a climate policy focus to planning, budgeting and performance management. The performance management of climate finance needs to be evaluated by an independent audit which can be done effectively through the statutory audit. One of the important goals of IBFCR project is to strengthen the Office of the Comptroller & Auditor General (OCAG) of Bangladesh towards conducting the climate performance audit.

Against this backdrop, IBFCR project, through Finance Division, requested OCAG to conduct a performance audit on a project implemented under Bangladesh Climate Change Resilience Fund (BCCRF). Considering the importance of climate issues, the OCAG directed to conduct the performance audit pertaining to a climate sensitive project. Subsequently, “*Climate Resilient Participatory Afforestation and Reforestation Project (CRPARP)*”, has been selected for performance audit with the approval of OCAG.

A three-member audit team has been formed by the Foreign Aided Projects Audit Directorate (FAPAD), an audit wing of OCAG, for conducting the said performance audit. The audit is conducted following the International Standard of Supreme Audit Institutions (ISSAI), Government Auditing Standards and C&AG’s Performance Audit Manual. Accordingly, the audit team prepared an audit plan and then completed their field audit activities by December 10, 2017. Now the team is going to analyze, verify, and consolidate the audit evidences before writing the draft audit report.

## **Environmental Audit in SAI of Bangladesh**

Over the last decade in Bangladesh, there has been an increase in effort in the area of performing the environmental audit. In this regard, SAI Bangladesh is not new in this field of Environmental Audit. However, SAI Bangladesh did not develop as much expertise as it was expected over the decade. Two environmental audits were conducted on i) “Conservation of Natural Environment and Bio-diversity and Development of Tourism in St. Martin Island: Present Condition & Future Actions” and ii) “Harvesting Procedure of Sundarban (Bangladesh)”. Recently, another environmental performance audit on “Climate Resilient Participatory Afforestation and Reforestation Project (CRPARP)” is going on. Here, the SAI Bangladesh team will try to highlight some of the interim findings on that environmental performance audit on CRPARP.

## **Importance of the Topic**

Climate change is one of the most serious global concerns due to its severity, magnitude and impact. Almost each country in the world faces the adverse impact of global climate change. But the severity of climate change is more of human induced rather than nature itself. Again, the roles of different countries in climate change are uneven. Being a Least Developed Country (LDC) Bangladesh contributes a very low share of global greenhouse gases emission. However, Bangladesh is one of the most vulnerable countries in the world to the effects of climate change, which poses significant risks to the socio-economic development of the country.

To address the issue of climate change, the government of Bangladesh launched the Climate Change Strategy and Action Plan (BCCSAP) 2008 and updated it again in the year 2009 to include more areas of actions. Following this, the Bangladesh Climate Change Trust Act 2010 was passed by the National Parliament. Under this act, the Bangladesh Climate Change Trust Fund (BCCTF) was created with finance from national budget. Moreover, the BCCRF fund was created with resources from a consortium of Development Partners. The program of BCCSAP is financed from these two funds. By August 2016, eight investment projects have been approved by the Governing Council with a cost of US\$ 153.8 million under BCCRF finance. Climate Resilient Participatory Afforestation and Reforestation Project (CRPARP) is one of the eight projects implemented by Bangladesh Forest Department under the Ministry of Environment and Forests, Government of Bangladesh.

## **Project Objectives**

The overall objective of the project is to reduce forest degradation and increase forest coverage through participatory planning and monitoring and to contribute in building the long-term resilience of the communities in coastal and hilly areas to climate change.

The specific objectives of the project are:

- i. To establish newly afforested and reforested areas using climate resilient species to work as windbreak along the coastal and hilly areas;
- ii. To support alternative livelihoods of forest dependent communities; and
- iii. To strengthen the institutional capacity of the Forest Department to manage forest in a participatory and sustainable manner.

## **Audit Objectives**

### **Overall Audit Objective**

Assess whether the objectives of CRPARP Project have been achieved in a sustainable manner to cope with climate change.

### **Specific Audit Objective**

- To determine the enhancement of forest coverage through afforestation and reforestation with the climate resilient species in the target areas.
- To determine whether effective community participation in afforestation and reforestation activities has been ensured.
- To determine the impact of the Alternative Livelihood Support program for the Forest Dependent Communities in building the long-term resilience to climate change.

## **Audit Approach & Audit Methodology**

### **Audit Approach**

The audit for the CRPARP project has been aligned with **System-Oriented Approach** in which the audit examined the proper functioning of the management system and assessed the control systems of the project. The audit also aligned with the **Result-Oriented Approach** in which they assessed whether the project intended objectives, outputs, outcomes have been achieved. Both the approaches have been taken by the audit team to determine the conditions to analyze the causes of any particular deviations from criteria and to reach the conclusion after determining the consequences or effects.

## Audit Methodology

In the field audit examination, the audit has been followed the following methodologies or techniques for gathering audit evidences:

- Document collection, review and analysis
- Direct observation and physical verification of assets, stores, works and services through field visit and field survey
- Meetings, interviews and discussions with the auditee, project beneficiaries and other stakeholders
- Field visit, physical inspection/ verification and field survey
- Output and outcome analysis through the use of questionnaires

## Result of the Audit

### Interim Audit Findings

The audit team has just finished the audit execution activities. Some of the interim audit findings are described below stating with their corresponding audit criteria and audit questions (Line of Inquiry). These findings were assessed by the audit team while they were in the audit execution phase:

<b>Objective 1:</b> To determine the enhancement of forest coverage through afforestation and reforestation with the climate resilient species in the target areas.		
<b>Line of Inquiry</b>	<b>Audit Criteria</b>	<b>Interim Audit Findings</b>
Whether plantation has been made in the areas as specified in the Development Project Proposal (DPP) and Project Implementation Manual (PIM)?	Plantation should be established on the Reserved Forest Land (Bangladesh Forest Act 1927, amended in 2000) under the control of Bangladesh Forest Department (BFD) and on the lands that are under the process of reservation;	It was found that some forest lands where plantations had been established under CRPARP were leased later to other Govt. Departments and newly planted trees/plants on the leased land have been either cleared or destroyed. (Example: Buffer Zone and Core Zone Plantation areas under Cox's Bazar North Forest Division were used for Ramu Cantonment; Lands on which Mangrove, Mound, Golpata, Enrichment & Strip plantations had been established at Mirsarai under Chittagong Coastal Forest Division were leased to BEZA by the Govt.)
	Areas selected for plantation should include coastal mangrove lands including newly accreted char lands, roadsides, denuded forest and hilly areas (for core zone and buffer zone plantation);	A vast areas of newly accreted char lands on mangrove plantations had been established under the project were destroyed due to soil erosion at Patuakhali and Noakhali Coastal Forest Division.  Strip plantations established on the roadsides and on the sides of Dams (Patuakhali, Chittagong Coastal & Chittagong North Forest Divisions) have been either cleared due to

		development works on the same roads and dams by the respective authorities
	'Biophysical features' have been taken into consideration while making choice of plantation type;	Some Mangrove plantations were established under Patuakhali and Noakhali Coastal Forest Divisions during the project period. However, the plantation areas were not thick enough to withstand the regression of wave action. As a result, plants of vast areas were washed away by the waves. Besides, vast areas of plantation sites have been permanently disappeared in the sea because the newly char lands were transitional. 05 hectare non-mangrove buffer zone plantation was established with 100% 'Akashmoni' on the sandy sea-shore at 'Char Gongamoti' under Patuakhali Coastal Forest Division. According to the Biophysical Feature of the plantation site, it was suitable for Jhaw plantation.
	Plantation sites should be selected as per the Site Selection Criteria mentioned in the PIM;	40 hectare Non-mangrove Buffer Zone plantation was established at 'Char Tamuruddin' under Nalchira Range of Noakhali Coastal Forest Division during 2015-2016. According to the monitoring reports of Management Plan Division, Khulna, the survival rate of the plants was greater than 97%. However, the site was actually suitable for mangrove plantation. As a result, the plantation failed as 100% seedlings died out due to tidal waves and salinity. In the same way, 8 hectare Non-Mangrove Buffer Zone plantation at Nijhum Dwip under Zahajmara Range and 10 hectare Mound plantation at Nalchira failed because of the dying out of the seedlings.
	Diversity of species should be enhanced as per Project Implementation Manual;	Enhancement in the diversity of species was not observed. Plantations in the Buffer Zone, Non-mangrove Buffer Zone, Mound and Strip were dominated by Akashmoni (from 90% to 100%) and with a few other short rotation species. Mangrove plantations under the Coastal Forest Divisions were made either with 'Keora' or with 'Bayen'. Variety of species could not be enhanced even in the core zone plantations.
	Species with climate resilience attributes for plantation should be selected by a transparent consultation process with Project Area Communities.	Evidence of consultation process with the Project Area Communities regarding site selection was not found by audit.

**Objective 2:** To determine whether effective community participation in afforestation and reforestation activities has been ensured.

Line of Inquiry	Audit Criteria	Interim Audit Findings
<p>Whether participants for afforestation and reforestation have been transparently selected through public consultation and they have been involved in field level planning and implementation?</p>	<p>Social Forestry Rules 2011 (SFR-2011) should be followed while selecting participants for afforestation and reforestation;</p>	<p>Out of nine types of plantations, participatory methods have been followed in Buffer Zone, Non-mangrove Buffer Zone, Mound and Strip plantations and participants have been involved in the afforestation and reforestation.</p> <p>It was observed that participants were selected and agreements were signed with the participants following Social Forestry Rules 2011 with some exceptions: i) Participants did not get the copy of the agreements till today, ii) Participants still does not know what will be their share after felling the trees according to the SFR-2011 as they did not get the copy of agreement.</p>
	<p>Beneficiaries should be selected at least 03 months ahead of the initiation of the plantation activities and they should be selected by the nine (09) member Selection Committee formed under PIM;</p>	<p>Documents regarding the criterion have not been maintained for some of the plantation sites properly though the concerned BFD officials &amp; staff and the beneficiaries assured that the criterion was fulfilled while selecting the participants under Social Forestry Rules 2011. In many cases agreements were signed and distributed after the establishment of the plantations.</p>
	<p>07 types of people such as (i) landless, (ii) owner of less than 50 decimals of land, (iii) poor and destitute women, (iv) backward communities, (v) poor indigenou, (vi) poor forest villagers and (vii) insolvent freedom fighters living within one square kilometer of the social forestry area should be given priority for selecting as beneficiaries;</p>	<p>Audit gathered information from the beneficiaries through Questionnaire completed by the beneficiaries/ participants. The completed questionnaires have not yet been examined by audit. However, after partial examination of the questionnaires, it seems that the criteria have not been followed properly. Some influential people including the members of local government, their relatives, businessmen and solvent people of the society have been selected as beneficiaries.</p>

**Objective 3:** To determine the impact of the Alternative Livelihood Support (ALS) program for the Forest Dependent Communities (FDC) in building the long-term resilience to climate change.

Line of Inquiry	Audit Criteria	Interim Audit Findings
<p>Whether beneficiaries of ALSFC have been selected transparently as per provisions of the project documents?</p>	<p>200 villages should be selected by quantifying and scoring the selecting criteria (proximity to CRPARP afforestation/ reforestation sites; proximity to natural forest; potential impacts of climate change i.e. occurrence of soil erosion/ landslide, water retention, probability of tidal surges, salinity; size of area afforested/ reforested and level of poverty) from the project area for ALSFDC;</p>	<ul style="list-style-type: none"> <li>• As per documents provided by the Aranayak Foundation (AF), 200 villages were selected following the criteria set by the DPP and PIM of the project.</li> <li>• Audit has not yet received the baseline survey reports prepared by AF for selecting the villages though requisition for the same was issued to the concerned authority.</li> <li>• However, some deviation has been observed after primary examination of available information and physical inspection of some of the sites.</li> <li>• Villages selected at Charbata (Subarnapur Upazila, Noakhali) were far away from the CRPARP afforestation/ reforestation sites or natural forest.</li> </ul>
	<p>Persons to be selected as beneficiaries should have more than 60% of household income coming from forest and should spend more than 60% of their working time in forest;</p>	<ul style="list-style-type: none"> <li>• The criterion could not be followed by the concerned authority in selecting the beneficiaries for ALSFDC activities.</li> <li>• Most of the families selected for ALSFDC activities were not much dependent on forest for their livelihood. They were mainly dependent on agriculture, fishing or other low income generating activities. Only a few of the beneficiaries were found dependent on forest for gathering firewood.</li> </ul>
	<p>AF and its partner NGOs (Non-Government Organizations) should coordinate with the local BFD staff to ensure that people selected as beneficiaries of ALSFDC are given priority for inclusion in Social Forestry (SF) and afforestation and reforestation programs;</p>	<ul style="list-style-type: none"> <li>• Coordination regarding selection of beneficiaries for inclusion in SF and afforestation and reforestation programs was not evident in Barishal, Bhola, Patuakhali and Noakhali districts where ‘Uttaran’ worked as the Partner NGO (PNGO).</li> <li>• A number of beneficiaries of ALSFDC were found selected as participants of social forestry in Chittagong and Cox’s Bazar where YPSA worked as the Partner NGO (PNGO).</li> </ul>

<p>Whether training and other alternative livelihood facilities were provided effectively to the members of Forest Dependent Groups (FDGs)?</p>	<p>The PNGOs should prepare and organize training programs on aspects of (i) organizational development and management, (ii) livelihood development for the Forest Dependent Group (FDG) members and (iii) forest conservation and climate change adaptation for both FDGs and VCF members as per the training plan prescribed in the PIM;</p>	<ul style="list-style-type: none"> <li>• After primary examination of the relevant information and physical inspection of some FDGs and union level federations, it seems that training programs arranged for the beneficiaries have not been effective enough to enable the beneficiaries to (i) manage organizations and (ii) develop alternative livelihood for the FDG members.</li> </ul>
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## Audit Recommendations

Based on the interim audit findings above, the following recommendations are made.

Bangladesh Forest Department (BFD) should ensure:

- that the plantations be made in the areas mentioned in their DPP and PIM
- that the climate sensitivity of plant species is determined on scientific basis and plantations are made with climate resilient species
- that the rate of survival of plantation
- that the beneficiaries for afforestation and reforestation were selected transparently following Social Forestry Rules-2011
- that the beneficiaries of Alternative Livelihood Support for Forest Dependent Community (ALSFDC) have been selected transparently
- that the Resource Information Management System (RIMS) of BFD has been fully strengthened to meet the requirement of improving data collection, review and analysis through RS & GIS.

## **Expected Impacts**

Expected impacts are to strengthen the forest management and monitoring for enhancing forest coverage and poverty reduction through participatory forestation under the social forestry rules in order to implement national policy and to communicate the audit findings to different stakeholders.

## **Experiences and Challenges**

The audit of forests is very interesting and sometimes adventurous. BFD uses geographic information technology, for example, uses GPS & GIS system, ARCGIS software for analyzing satellite images and Remote Sensing methods and also uses Google Earth Pro apps for forest management and monitoring. Due to these conditions, the expertise of the performance audit on forest was limited to some extent:

- a. Geospatial analysis using geographic information technology is a technical part of forest management and monitoring which was not so easy to understand for the audit team.
- b. The audit team felt the necessity of a forest expert in the team and the training needs of the audit team regarding the GIS analysis, analysis of satellite imagery, land use land cover maps, remote sensing etc.
- c. The interior of the reserve and protected forest was not easily accessible due to lack of communication facilities and limited safety measures.
- d. Measuring the larger forest area (e.g. 100 Hector) and determining the survival rate of the trees were very challenging for the team

## **Lesson Learnt**

- The SAI should strengthen its capacity to carry out environmental performance audits.
- Before starting the audit work, assess the training needs and provide the required training to the audit team concerned. Moreover, Subject matter expert can be hired for performing the quality audit.
- Performance auditing is one type of research-based auditing. Hence, a reasonable period of time is required to complete the audit for ensuring quality audit report.

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