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|  | Fourth Deliverable | |
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| FINAL Technical Report for Identification of Policies and Measures to Address Drivers of Deforestation and Forest Degradation in Bangladesh | |
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|  | **Submitted By** | |
|  | **Azharul H. Mazumder** | |
|  | **Junaid K. Choudhury** | |
|  | **Khairul Chowdhury** | |
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|  | **Submitted To** | |
|  | **Programme Management Unit (PMU)**  **UN-REDD Bangladesh National Programme**  **Bangladesh Forest Department** | |
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|  | **27 April 2018** | |

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**Abbreviations and Acronyms**

7FYP Seventh Five Year Development Plan

AC Assistant Commissioner

ADP Annual Development Plan

AF Acquired Forest

AIGA Alternate Income Generating Activity

ANR Assisted Natural Regeneration

BCCSAP Bangladesh Climate Change Strategy and Action Plan

BCCRF Bangladesh Climate Change Resilience Fund

BCCTF Bangladesh Climate Change Trust Fund

BCSIR Bangladesh Council of Scientific and Industrial Research

BECA Bangladesh Environmental Conservation Act

BFD Bangladesh Forest Department

BFRI Bangladesh Forest Research Institute

BGB Border Guard Bangladesh

BLD Bangladesh Legal Digest

BMZ German Federal Ministry for Economic Cooperation and Development

BWDB Bangladesh Water Development Board

CBA Community Based Adaptation

CBD Convention on Biological Diversity

CCA Climate Change Adaptation

CCF Chief Conservator of Forests

CF Conservator of Forests

CFF Climate Fiscal Framework

CHT Chattogram Hill Tracts

CHTRC Chattogram Hill Tracts Regional Council

CHTWCA Chattogram Hill Tracts Watershed Co-management Activity

CIP-EFCC Country Investment Plan for Environment, Forestry and Climate Change

CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora

CMC Co-management Committee

CMS Convention on the Conservation of Migratory Species

CODEC Community Development Center, Chattogram

CREL Climate Resilient Ecosystems and Livelihoods Project

CRPARP Climate Resilient Participatory Afforestation and Reforestation Project

DAE Department of Agricultural Extension

DC Deputy Commissioner

D&D Deforestation and Forest Degradation

DFO Divisional Forest Officer

DLRS Department of Land Records and Survey

DoE Department of Environment

DoF Department of Fisheries

DR&H Department of Roads & Highways

EBA Ecosystem Based Adaptation

ECA Ecologically Critical Area

EX-ACT Ex-Ante Carbon-balance Tool

FAO Food and Agriculture Organization of the United Nations

FCPF Forest-Carbon Partnership Facility

FIP Forest Investment Plan

FMP Forestry Sector Master Plan

FRA Forest Resources Assessment

FSO Forest Settlement Officer

GCC Global Climate Change

GCF Green Climate Fund

GHG Greenhouse Gas

GoB Government of the People’s Republic of Bangladesh

GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

HDC Hill District Council

ICS Improved Cooking Stoves

INDC Intended Nationally Determined Contributions

IOM International Organization of Migration

IPCC Intergovernmental Panel on Climate Change

IUCN International Union for Conservation of Nature

LDC Least Developed Countries

LGED Local Government Engineering Division

LNG Liquid Natural Gas

LPG Liquid Petroleum Gas

LULUCF Land Use, Land Use Change and Forestry

MEL Monitoring, Evaluation and Learning

MoA Ministry of Agriculture

MoE Ministry of Energy

MoEd Ministry of Education

MoEF Ministry of Environment and Forests

MoF Ministry of Finance

MoHA Ministry of Home Affairs

MoHPW Ministry of Housing and Public Works

MoI Ministry of Industries

MoL Ministry of Land

MoLGRDC Ministry of Local Government, Rural Development and Cooperatives

MoLPA Ministry of Law and Parliamentary Affairs

MoPA Ministry of Public Administration

MoWCA Ministry of Women and Children’s Affairs

MoWR Ministry of Water Resources

MP Member of Parliament

MtCO2e Metric Tons Carbon Dioxide Equivalent

NAMA Nationally Appropriate Mitigation Action

NBR National Board of Revenue

NBSAP National Biodiversity Strategy and Action Plan

NCS National Conservation Strategy

NDC Nationally Determined Contribution

NEMAP National Environmental Management Action Plan

NFI Bangladesh’s Strengthening National Forest Inventory and Satellite Land Monitoring System in support of REDD+ in Bangladesh

NGO Non-governmental Organization

NPD National Project Director

NSDS National Sustainable Development Strategy

NTFP Non-timber Forest Products

PA Protected Area

PAMs REDD+ Policies and Measures

PBSA Participatory Benefit Sharing Agreement

PF Protected Forest

PLR Policies, Laws and Regulations

PMO Prime Minister’s Office

PMU Project Management Unit

PPP Public Private Partnership

PRSP Poverty reduction Strategy Paper

PSMF Protection of Sundarban Mangrove Forests

RC Regional Council

REDD+ Reducing Emissions from Deforestation and Degradation

REHAB Real Estate and Housing Association of Bangladesh

RF Reserve Forest

RIMS Resource Information Management System

SDG Sustainable Development Goals

SF Social Forestry

SFM Sustainable Forest Management

SFR Social Forestry Rules

SUFAL Sustainable Forests and Livelihoods Project

SUROKKHA Sundarban Surokkha Project

tCO2e Tons of Carbon Dioxide Equivalent

ToF Tree Outside Forests

ToR Terms of Reference

UN United Nations

UNDP United Nations Development Programme

UNEP United Nations Environment Programme

UNFCCC United Nations Framework Convention on Climate Change

UNHCR United Nations High Commissioner for Refugees

UN-REDD NP UN-REDD Bangladesh National Programme

USAID United States Agency for International Development

USF Unclassed State Forest

VCF Village Common Forest

VCF Village Conservation Forum

WB The World Bank

WFP World Food Programme

**Executive Summary**

Once a heavily forested country with diverse biodiversity, Bangladesh has been suffering from massive loss of its natural forest cover since the colonial period because of a host of adverse anthropogenic activities. Only about 10% of the country has forest cover now. Recent studies have shown a decline of forests exceeding 9000 km2 since the 1930s alone, with a deforestation rate of 1% per year. The remaining forests are categorized in four broad types in distinct and disconnected areas: Sundarbans mangroves, sal forests north of Dhaka, hill forests in the southeast, and coastal forests. The UN-REDD NP completed a comprehensive assessment of the indirect and direct drivers of deforestation and forest degradation (D&D) in Bangladesh. Most of the remaining forests are seriously degraded. In summary, this has been caused as a result of heavy use for industry, fuelwood harvesting, and subsistence living, including shifting cultivation in the hill forests, and shrimp farming in coastal mangroves.

One of the key components of the REDD+ readiness process is to identify public policy approaches and interventions. These include incentive mechanisms to effectively address key drivers and causes of deforestation and forest degradation (D&D). Such policy approaches and interventions are called **REDD+ Policies and Measures (PAMs)**. The UN-REDD Bangladesh National Programme commissioned a study to advance the process through a thorough study being conducted by a team of Consultants.[[1]](#footnote-1) The main purpose of the study was to develop and prioritize PAMs in relation to REDD+ strategy development and implementation following a thoroughly participatory process involving, as far as realistically possible, all the stakeholders of forests from important forest regions of Bangladesh. The task mainly was twofold: (1) identification of public policy approaches and intervention in addressing D&D, and (2) identification of key drivers and prioritization of the drivers in order to address them in future interventions.

The status of the forest resources was discussed. The drivers of D&D identified by a number of studies were analyzed and consolidated into five broad, common categories. Existing and emerging threats that may encourage trigger further D&D were identified and discussed. The status of forest carbon estimation, including the Forest Reference Level (FRL) estimated by the UN-REDD Bangladesh National Programme was also summarized. Finally, the report contains the recommended PAMs, priority for implementation of the measures and a priority list for the UN-REDD Bangladesh National Programme to implement as a pilot program.

**Drivers of D&D**

The UN-REDD NP (2017) conducted a study to identify the D&D and prepared a report. The report provided the primary basis of identifying the major drivers. In addition, a number of other analyses were cross-checked to arrive at a consensus of the drivers. An attempt to consolidate the identified drivers for the ease of identifying PAMs revealed that four major drivers are responsible for both deforestation and forest degradation in Bangladesh, namely, *Fuelwood Harvesting*, *Illegal Timber Harvest*, *Expansion of Agriculture*, and *Encroachment*. *Governance*, although recognized as an indirect driver, is perhaps the strongest driver that triggers an over-arching impact that fuels the four major drivers.

**Common Direct and Indirect Drivers of D&D**

|  |  |  |  |
| --- | --- | --- | --- |
| **Deforestation** | | **Degradation** | |
| **Indirect drivers** | **Direct drivers** | **Indirect drivers** | **Direct drivers** |
| Overpopulation   * Demand for Fuelwood | Fuelwood Harvesting | Overpopulation | Fuelwood Harvesting |
| Poverty   * Subsistence Income | Illegal Timber Harvest | Poverty | Illegal Timber Harvest |
| Governance   * Inadequate Planning * Inadequate Capacity * Corruption * Policy Barrier | Agriculture | Governance | Encroachment |
| Unclear Land Tenure | * Illegal Timber Harvest * Encroachment | Unclear Land Tenure | * Illegal Timber Harvest * Encroachment |

**Implementation of Measures**

The PAMs suggested to address the drivers to arresting D&D and, ultimately developing and sustaining forest resources aiming at conserving and enhancing carbon stocks in Bangladesh are quite comprehensive. Already having a low area coverage under low quality forest with low crown cover, biomass density and biodiversity, sustainable forest resources development has already emerged as a priority development issue. As identified in all the studies on D&D as well as the suggestions offered by all stakeholders, the forest resources are suffering from over-exploitation and large scale illicit removal of timber and other forest resources is common. The pressure on forest land for many purposes leading to illegal encroachment and official conversion of forest land to commercial/institutional land use is mounting. Also, at increase are demands for fuelwood, timber and industrial wood in a situation where forestry, unfortunately, is not a priority for the GoB resulting in low investment in the sector. The commitment of the GoB to increase the coverage and enhance the quality of forests in order to increase carbon stock compounds the challenge. Setting a priority for implementation where all the PAMs merit equal priority is; therefore, challenging.

Implementation of the measures identified to address the gaps in the policy and legal regimes and strategic premises through various programs, projects and activities is essential in achieving the ultimate target – sequestration of carbon in forests and, ultimately, attaining the qualifying feat to claim results-based payments. The needs both in terms of investments and capacity building of the Bangladesh Forest Department (BFD) to ensure SFM and thereby bring about performance-based carbon payments from the REDD+ process is of mammoth scale. A map was charted on how the measures should be implemented as well as a list of priority programmatic ideas for the UN-REDD NP to consider for its pilot program.

The recommended measures have a “Vision” that focuses on both national level (macro) and community level (micro) issues. The macro issues will include addressing legal, regulatory, policy, strategic and institutional capacity, including, but not be limited to, national-scale conservation management, issues. The micro issues will include, but not be limited to, resource use and tenure rights, planning, conservation and management.

1. **Policies and Measures for REDD+ implementation for period of 2019-2024**

| **Bundle** | **PAMs Bundle** | **Rationale** | **PAMs Projects** | **Estimated Funding Need for the Project in Million US$** |
| --- | --- | --- | --- | --- |
| 1 | **Sustainable Supply of Alternate Energy for Fuelwood** | Currently, ~40% households use fuelwood and are mostly dependent on forests. Non-forest energy supply is; therefore, essential to addressing fuelwood demand, particularly for the poor communities relying on forests for energy supply. | Emergency supply of improved cooking devices for households and small businesses (tea stalls, restaurants, etc.) | **2.2** |
| **3.3** |
| Energy efficient, sustainable supply of alternate technology for replacing traditional brick for construction | **1.28** |
| Energy efficient, sustainable supply of alternate fuel for tobacco curing and paddy boiling | **6.4** |
| Research on and Extension of Alternate Energy for Domestic and Industrial Use | **5.0** |
| Research and popularization of the use of treated timber, aminated wood, in lieu of solid wood | **2.56** |
| 2 | **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | There will always be a steady or growing demand for fuelwood no matter how successful the alternate energy supply scenario is. Meeting the fuelwood demand will require dedicated initiatives to establish fuelwood plantations. There must be an aggressive program to develop fuelwood plantation in forest land, marginal land, homesteads, private land (including agricultural land of absentee landlords), strips and institutional premises. | Develop nursery for fuelwood species | **3.84** |
| Expand and strengthen tissue culture facilities to enhance supply of fuelwood seedlings | **4.0** |
| Collaborative management of NTFP (Bamboo, Murta, Cane, Golpata, Melia grass, etc.) | **10.45** |
| Establish fuelwood plantation in marginal land, homesteads and institutional premises | **40.0** |
| Agro-forestry in homesteads | **4.8** |
| 3 | **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | Survey and demarcation of the forest land is essential not only for better monitoring of carbon sequestration, it is also essential to prudently plan and properly execute forest management and conservation practices. Implementation of forest land use policy is also crucial to addressing encroachments from multiple fronts as well as some other pressing governance issues. | Secure land tenures, forest boundary demarcation, digitization of land records and public access to forestland records. | **283** |
| **3.02** |
| **2.0** |
| Resettlement of forest villagers, encroachers, etc. | **100.0** |
| 4 | **Improved Management of Existing Forests and Protected Areas** | This bundle will include all small and large forest management activities, both domestically funded and donor supported, technical assistance or investments in the sector. All these activities will address the UN-REDD criteria or SFM contributing to enhancement of carbon stock.  The BFD manages a large number of forest PAs even though the area coverage is fairly small. This bundle will subsume all ongoing and future PA management activities as well as planning new interventions | Restoration/ reforestation of degraded and deforested forest lands | **72.3** |
| **750.0** |
| **13** |
| **22.5** |
| **32** |
| **62.5** |
| 5 | **Improving the Enabling Environment for Increasing Carbon Stocks** | Improving the enabling environment would entail revision of and, where it seems prudent, promulgate new legal provisions. The 1927 Forest Act has undergone a number of revisions to create new provisions, for example, the SF Rules. Further revisions/modifications are needed as the participants at the regional consultations voiced. Similarly, the Transit Rules for the CHT and Sundarban have to be made workable. The most recently declared PA Rules also has rooms for improvement. True devolution to the community level may be needed for sharing power by the PA communities and more decision-making authority of the SF communities. | Introduce subsidy for alternate energy devices for forest dependent population in target areas | **2.2** |
| PLR Review and suggest revision of Transit Rules for CHT and Sundarban | **1.8** |
| Impose high tax on furniture to discourage use of solid wood furniture. | **- 40** |
| Simplify Reservation Process | **2** |
| Provide AIGAs to the forest dependent communities (but not as individual) | **265,000[[2]](#footnote-2)** |
| Promote synthetic pole manufacturing for betel leaf cultivation through incentives | 4.0 |
| Revise transit rules and “jot” permit provisions for CHT | **0.25** |
| Promote use of logging debris from “jot” felling | **4.0** |
| Reduction of Use of Forest Resources in Tobacco Curing and Brick Manufacturing | **4.0** |
| 6 | **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources** | Economic incentives in the form of direct benefit sharing (e.g., formal compensation to the CPG) or AIGA have been in practice as a tactic of taking the pressure off the forest resources and biodiversity assets. It is clearly evident the BFD has come a long way. The current incentive practices, however, need to be more comprehensive and more people oriented to completely remove the “command and control” nature of forest resources management. | Expand social forestry in target areas (RF, buffer zones, USF, Strip, Private & Public land, strip) | **0.5** |
| Introduce gender-responsive AIGA and other livelihood opportunities | **5.0** |
| Establish with formal incentives (salary and benefits) community patrol groups, VTRT and Smart Patrol Groups | **2.89** |
| Develop benefit sharing mechanisms from NTFP, nature tourism (entry fee, tourism infrastructure, etc.) | **2.5** |
| 7 | **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | The BFD and MoEF have already embraced a multi-stakeholder approach in forest and PA management, e.g., by introducing Social Forestry, Co-management and benefit sharing with the dependent communities. As the management has a multi-prong approach, there should be in place a wider capacity building approach. The BFD – the principal stakeholder that assumes the bulk of the managerial and administrative burden – has a serious lack of staff strength. Given the trend that the recruitment processes are going through major bureaucratic hurdles and a bulk of the staff is approaching retirement with no immediate sign to replenish the pool, there must be a “crush” approach to remove the hiring bottleneck.  In addition, the large pool of decentralized community-based organizations should be provided with training and continuing education. The BFD training facilities should be reinvigorated in terms of infrastructure, equipment and, most importantly, human and financial resources.  Capacity building should also include the administrators and policymakers.  The BFD needs a fully equipped Monitoring, Evaluation and Learning (MEL) Division/Unit. The RIMS will form a part. Also needed is scale up and strengthen the Legal Unit. | Revision of BFD recruitment rule and expedite hiring in vacant positions. Revise BFD Organ-O-Gram on the basis of Work Load Analyses. | **0.25** |
| Intensify capacity building at all levels of BFD Personnel. | **6.0** |
| Community engagement & Collaborative Forest Management. | **14.5** |
|  | Establish a full-fledged Monitoring, Evaluation and Learning (MEL) Division at CCF’s Office, BFD | **15.0** |
| 8 | **Developing a Communications Protocol for Mass Awareness Generation** | The BFD has never established a Communications Division. Therefore, even the most resounding successes of the BFD are communicated on an ad hoc or project-tied event or memorial days basis. At a time when the entire world is depending on communication to take development from one point to the other, the BFD is yet to take advantage of this. More awareness generation is needed at all levels starting from the policy-makers to the grassroots communities at the national level. When it comes to communicate on a regular basis with the international fora, e.g. the UNFCCC on the REDD+ issues, the value of communication cannot be overemphasized. The BFD must develop a modern communication strategy and establish a Division to implement it. | Establish a Communication Cell at BFD HQ. | **257** |
| Coordination with Agriculture extension especially for Agro Forestry programs | **5.0** |
| Assess Carrying Capacity of each and every eco-tourism sites | **11** |
| Establish a film & photography unit at BFD HQ | **6.0** |
| Arrange regular one or two-day lucrative courses for all, especially for the students, free of charges at BFD training institutions on natural resources | **6.0** |
| **TOTAL** |  |  |  | **1,719.54** |

**Implementation Priority**

As a result of elaborate discussions, we arrived at a point that even though all the PAMs must be implemented to sustain the forest resources, there are four categories of interventions that are priority. The categories are:

**Priority 1** Bundle 1: Sustainable Supply of Alternate Energy for Fuelwood

Bundle 2: Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply

**Priority 2** Bundle 3: Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems

Bundle 7: Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation

**Priority 3** Bundle 4: Improved Management of Existing Forests and Protected Areas

Bundle 5: Improving the Enabling Environment for Increasing Carbon Stocks

Bundle 6: Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources

**Priority 4** Bundle 8: Developing a Communications Protocol for Mass Awareness Generation

**Carbon Sequestration Potential of the Recommended Measures**

Total forest land under the BFD is estimated at 1,884,161 ha. The net carbon sequestration benefits estimated using Ex-Act tool for the proposed FIP interventions for a period of 20 years is 7.59 MtCO2e for the 16,075 ha considered for sustainable forest management (SFM) under FIP out of total available hill forest land. Similarly, the net carbon sequestration benefit estimated for Project FIP (Trees outside Forests) was 8.51 MtCO2e, considering an area of 18,000 ha. We used this estimate to provide a proxy of the maximum carbon sequestration potential considering that the entire available forest land (52,600 ha) will be brought under SFM (Bundles 4, 5, 6) and 50,000 ha (forest land and ToF) will be brought under a massive fuelwood plantation scheme.

|  |  |  |  |
| --- | --- | --- | --- |
| **PAMs Projects** | **FIP Intervention and C-sequestration 20-year Target** | **UN-REDD PAMs Target, ha** | **UN-REDD PAMs C-sequestration Potential**  **tCO2e/year** |
| **SFM in Deforested and Degraded Forest Land and PAs** | Total: 52,600 ha  C-sequestration potential: -24,861,237  FIP Intervention: 16,075 ha C-sequestration potential: -7,597,802 tCO2e | 52,600 | -24,861,237 |
| **Fuelwood Plantation** | Target: 18,000 ha for ToF and other FIP intervention  C-sequestration potential: -8,507,648 tCO2e | 50,000 | -23,632,355 |

**Recommendations for Pilot Implementation by UN-REDD NP**

The next agenda of the UN-REDD NP mainly are two-fold: identifying some pilot activities and begin to implement them and developing a UN-REDD Bangladesh Strategy to mainstream a program within the GoB to materialize its REDD+ commitments. Recommendations at the public consultation workshops as well as the briefing with the CCF and senior management of the BFD revealed a number of clear areas where intervention is essential right now. While the Rohingya crisis triggered a massive, sudden process, use of fuelwood in brick manufacturing and tobacco curing, for example, has a menacing impact.

**Recommended Pilot Initiatives for UN-REDD**

|  |  |  |  |
| --- | --- | --- | --- |
| **PAMs Package** | **PAMs Project** | **Component** | **Comment** |
| **Bundle 1** | | | |
| **Sustainable Supply of Alternate Energy for Fuelwood** | Emergency supply of improved cooking devices for households and small businesses (tea stalls, restaurants, etc.) | Survey of demand for improved cooking devices (ICS, solar cooker, LPG, LNG, briquette, charcoal, etc.) including market research | * While the survey should include all forest regions, priority geographic areas should be covered (e.g., CHT) with already involved development partners (e.g., IOM at Teknaf) for the pilot intervention. * Should simultaneously work on energy subsidy issues. |
| Training of local service providers for manufacturing and marketing of appropriate improved cooking devices | * Once the popular preference(s) is identified, organize training programs |
| Energy efficient, sustainable supply of alternate technology for replacing traditional brick for construction | 1 Survey of potentially affected brickfields around forest areas  2 Establish linkages for conversion of the brick manufacturer to take up alternate | * The opportunity of the GoB’s decision to completely replace bricks with concrete block should be seized. A small project should be designed on a priority basis. * A survey should be designed to assess the situation from the angles of partnership(s) development. |
| Energy efficient, sustainable supply of alternate fuel for tobacco curing and paddy boiling | Survey of demand for efficient fuel (briquette, coal, etc.) including market research | * The gravity of the issue makes it a popular intervention area. * UN-REDD is at an advantage to take up a small project (combining both brick manufacturing and paddy boiling) immediately. |
| **Bundle 2** | | | |
| **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | Develop nursery for fuelwood species | 1. Encourage private nursery owners to grow fuelwood species. 2. Impart Training on Nursery Techniques. 3. Assist marketing of fuelwood seedlings. | * With the launching of the SUFAL project, there will always be a demand for nurseries, both traditional and laboratory-based. * The UN-REDD NP should emerge as a quick-starter in helping the BFD and the SUFAL project. |
| Expand and strengthen tissue culture facilities to enhance supply of fuelwood seedlings | 1. Encourage and support tissue culture labs for growing fuelwood seedlings. 2. Assist marketing of tissue culture seedlings in test tubes to private nurseries. |
| **Bundle 5** | | | |
| **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | Secure land tenures, forest boundary demarcation, digitization of land records and public access to forestland records. | Develop a Data Management System for keeping of land records under BFD. | * UN-REDD NP is committed to keep working on the MRV process. While working on the entire depth and breadth of the land use policy issues is beyond the scope and manageable interest, UN-REDD activities may act as a precursor and building block. * This activity will combine with institutional capacity building efforts. |
| Capacity building of BFD, especially RIMS |
| **Bundle 6** | | | |
| **Improving the Enabling Environment for Increasing Carbon Stocks** | Introduce subsidy for alternate energy devices for forest dependent population in target areas | 1. Survey and identification 2. Motivation 3. Provide financial assistance | * The UN-REDD NP is rightly poised to take up this activity on a priority basis since this is out of mainstream BFD activities. |
| PLR Review and suggest revision of Transit Rules for CHT and Sundarban | 1. Engage consultants to prepare the document. 2. Vetting of the consultant’s output. 3. BFD to get processed and notified. | * The issue of Transit Rules, especially at the CHT, is a sore one but the issue deserves priority attention in addressing some of the drivers of D&D. * The UN-REDD NP should design a study and begin a consultative process to help BFD. |
| Promote synthetic pole manufacturing for betel leaf cultivation through incentives | 1. Identification of willing entrepreneurs. 2. Provide Financial Assistance. | * A major threat to regeneration and new plantation is the use of small saplings as poles in betel leaf cultivation in the south. An alternate source has not been explored. The UN-REDD NP can effectively and quickly mobilize efforts to address the issue with a pilot initiative that can be scaled up by BFD through larger initiatives, for instance, SUFAL. |
| **Bundle 7** | | | |
| **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | Establish a full-fledged Monitoring, Evaluation and Learning (MEL) Division at CCF’s Office, BFD | Establish a web-based MEL system from BFD HQ down to all Range Offices | * The UN-REDD NP is proposing to establish a REDD+ Unit at BFD. Instead of establishing a small, narrowly focused Unit, the effort should aim at contributing to a more inclusive MEL Division at the BFD that will be permanent and well equipped with properly skilled human resources. * The current initiatives (MRV, NFI, etc.) that use RIMS should be harmonized. |
| **Bundle 8** | | | |
| **Developing a Communications Protocol for Mass Awareness Generation** | Establish a Communication Cell at BFD HQ. | 1. Develop a Communication Strategy 2. Prepare an Organogram and ToR for the Communication Cell and its personnel | * Developing a Communication Strategy for the forestry sector should be a prime priority of the UN-REDD NP. * Helping the BFD with the Organogram and ToR will contribute enormously to the overall capacity building efforts. * The UN-REDD NP may examine options in consultation with the BFD and develop an effective coordination mechanism. |

**Implementation Approach**

**Coordination**: Lack of coordination among stakeholders has been repeatedly cited as a major factor that results in the failure of attempts to combat D&D and attempts to legally challenge forest offenses in inaction. While inter-ministerial collaboration is a desirable goal, despite reasonable efforts, the past and ongoing forestry projects have had limited success in national level inter-ministerial collaboration. The National REDD+ Steering Committee has been formed. However, the committee is yet to hold its first meeting. The UN-REDD NP should immediately organize a launching meeting. Once up and running, the committee can take up the leading role in stimulating a functional cooperation among the ministries and agencies particularly those whose action or inaction has consequences in forest protection. The development partners funding and implementing conservation programs need to coordinate their efforts not only to avoid duplication but also to promote a unified conservation strategy. The Local Consultative Group (LCG) Environment and Climate Change Subgroup, which has been utilized sub-optimally so far, is the appropriate forum to trigger this coordination effort.

**Inclusive and Shared Governance**: The principle of “shared governance” will be the driver of actions at the community and local government level with a focused connection with the central government.[[3]](#footnote-3) This principle recognizes that local people and government must work together in order to conserve the natural resource base. Each has a role to play in improved management; each must take responsibility for their actions; and there must be accountability on both sides. Co-management has been practiced in Bangladesh for two decades now. There is recognized challenge in this approach as co-management has not worked in some areas around the world and has not resulted in improved natural resources management. This is mainly because of inadequate project design, which did not fully appreciate the temporal, social and policy challenges of co-management. The governance structure of the pilot REDD+ projects, wherever appropriate, must be necessarily inclusive across gender, class, status, economic, and ethnic divides. Consensual and pluralistic group processes for decision making enable the best compromises to be reached and ultimately result in improved collaboration.

**Mainstreaming**: Implementation of the UN-REDD+ Pilot Program will not be a standalone effort. The entire program will be part of the BFD’s overall SFM and conservation initiatives. Part of the pilot program, of course, may be a new beginning of a newer effort, e.g., initiating non-forest solutions to meet the growing demand for fuelwood or developing a communication strategy. These will, eventually, constitute part of the BFD’s regular program.

**Ensuring Safeguards and Equitable Growth**: The REDD+ social safeguards framework was developed as a result of rights-based movements because REDD+ has the potential to result in “the biggest land grab of all time… threatening the very survival of indigenous peoples and local communities”. The ‘No Rights No REDD’ movement has arisen primarily in response to the failure of climate negotiations to guarantee a binding commitment to indigenous rights and safeguards for indigenous and other forest people (Larson et al., 2013). Land tenure in Bangladesh is very complicated. The situation is more complex in the CHT, where forests cover one-third of the total land. Bangladesh’s engagement in REDD+ necessitates a better understanding of the complexities of the tenure situation in the country. In implementing REDD+ activities, new ideas should emerge for improving forest governance and contributing to the effectiveness of national REDD+ objectives. Bangladesh has the PA and SF Rules that have the provisions for benefit sharing by the communities. It must be ensured that these provisions are adhered to in project design to ensure equitable growth. IUCN is working with a range of partners in Cameroon to enable and sustain multi-stakeholder participation as a mechanism for fostering rights-based REDD+ in seven REDD+ countries: Cameroon, Guatemala, Indonesia, Peru, Uganda, Mexico and Ghana. The approach can be examined.

Women’s participation in forestry activities, including functioning of women-only CPGs, has become quite widespread practice in last two decades. Review of 17 studies in natural resources management (Sharmin, 2018) demonstrated that increased participation by women leads to improvements in local natural resource governance and forest conservation efforts. Enhancing women’s engagement as decision-makers can lead to improved outcomes relevant to REDD+, such as increased regeneration and forest growth, and increased carbon stock. The UN-REDD NP complemented the environmental safeguards for the REDD+ program. These safeguards must be followed throughout REDD+ implementation practices.

**Chapter 1**

**Bangladesh and the UN-REDD Programme**

* 1. **UN-REDD and Bangladesh**

Prior to the Paris Climate Agreements of which Bangladesh is a signatory, as part of the country’s long-term strategy to reduce GHG emissions, Bangladesh produced and submitted it’s Intended Nationally Determined Contributions (INDC) (GoB, 2015). Moreover, the GoB has taken initial steps to contribute to this global effort to address climate change, particularly in climate change mitigation actions in the forestry sector. The role of forests and “reducing emissions from deforestation and forest degradation” (REDD+), and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries have been fully recognized and enshrined in the Paris Agreements. Bangladesh joined the UN-REDD Programme in 2010. The GoB prepared and endorsed its REDD+ Readiness Roadmap (GoB, 2012). To support this effort, the UN-REDD Bangladesh National Programme (UN-REDD NP) was established to provide technical capacity development assistance to the GoB. It will focus on designing and implementing the National REDD+ Strategy and in meeting the international requirements under the Warsaw Framework for REDD+ in order to receive results-based finance.

* 1. **Scope**

Once a heavily forested country with diverse biodiversity, Bangladesh has been suffering from massive loss of its natural forest cover since the colonial period because of a host of adverse anthropogenic activities. Only about 10% of the country has forest cover now. Recent studies have shown a decline of forests exceeding 9000 km2 since the 1930s alone, with a deforestation rate of 1% per year. The remaining forests are categorized in four broad types in distinct and disconnected areas: Sunderbans mangroves, sal forests north of Dhaka, hill forests in the southeast, and coastal forests. The UN-REDD NP completed a comprehensive assessment of the indirect and direct drivers of deforestation and forest degradation (D&D) in Bangladesh. Most of the remaining forests are seriously degraded. In summary, this has been caused as a result of heavy use for industry, fuelwood harvesting, and subsistence living, including shifting cultivation in the hill forests, and shrimp farming in coastal mangroves.

One of the key components of the REDD+ readiness process is to identify public policy approaches and interventions. These include incentive mechanisms to effectively address key drivers and causes of D&D. Such policy approaches and interventions are called **REDD+ Policies and Measures (PAMs)**. The UN-REDD NP commissioned a study to advance the process through a thorough study being conducted by a team of Consultants.[[4]](#footnote-4) The main purpose of the study is to develop and prioritize PAMs in relation to REDD+ strategy development and implementation following a thoroughly participatory process involving, as far as realistically possible, all the stakeholders of forests from important forest regions of Bangladesh. The task mainly is twofold: (1) identification of public policy approaches and intervention in addressing D&D, and (2) identification of key drivers and prioritization of the drivers in order to address them in future interventions.

* 1. **Organization of the Report**

The Consultants started working as a Team in November 2017 and submitted a ‘Preparatory and Inception Report’ on November 30, 2017 and an ‘Interim Progress Report’ on December 13, 2017. Following inception, the Consulting Team started conducting public consultations to understand and gather public perception of the issues via a series of regional consultation workshops. The current document is the ‘Technical Report’ that summarizes the findings and recommends a set of priority PAMs to arrest D&D in Bangladesh.

The report provides a brief introductory section illustrating the UN-REDD NP as well as the purpose of the current assignment. **Chapter 2** describes the approach and methodology that were used in developing the PAMs for implementing REDD+ activities in Bangladesh. The basic approach included a thorough review of the existing literature on the forest resources in general and D&D issues in particular. The literature review also included the available international literature of D&D and PAMs. The methodology focused on consultation of the issues with a wide range of stakeholders throughout the country aiming at arriving at a consensus on the PAMs.

**Chapter 3** and the associated Annex will provide an exhaustive review of the pertinent national policies, laws, regulations, strategies and action plans with respect to D&D. A thorough discussion on the most important ones in relation to developing PAMs will be discussed in details. While Bangladesh’s commitments to international conventions and protocols are the starting point to embark on the REDD+ process to conserve and enhance forest carbon stock by maintaining a sustainable forest management system, Bangladesh already has in place a number of PAMs although the effective implementation of these PAMs may be subject of discussions.

In **Chapter 4**, a range of PAMs to address a consolidated set of drivers of D&D suggested by the participants at the multi-stakeholder consultation workshops held in eight important forest regions of the country and Dhaka has been documented. Suggestions came through focused interviews with select resource persons are also incorporated. In addition, references were also used from a number of special studies that the UN-REDD NP conducted. Finally, an attempt was made to prioritize the PAMs for immediate, medium- and long-term interventions. The criteria of prioritization have been discussed that includes addressing the emerging D&D issues in Bangladesh. A bundle of priorities were suggested and their linkages with Bangladesh’s forestry sector priorities as well as carbon sequestration potential discussed.

The **Chapter 5** provides an implementation roadmap, mainly focusing on a proposed UN-REDD Pilot Program Implementation of the measures identified to address the gaps in the policy and legal regimes and strategic premises through various programs, projects and activities is essential in achieving the ultimate target – sequestration of carbon in forests and, ultimately, attaining the qualifying feat to claim results-based payments. As discussed in the previous Chapter, the needs both in terms of investments and capacity building of the BFD to ensure SFM and thereby bring about performance-based carbon payments from the REDD+ process is of mammoth scale. This Chapter attempts to chart a map of how the measures should be implemented as well as a list of priority programmatic ideas for the UN-REDD NP to consider for its pilot program.

**Chapter 2**

**Approach and Methodology**

Chapter 2 describes the approach and methodology that were used in developing the PAMs for implementing REDD+ activities in Bangladesh. The basic approach included a thorough review of the existing literature on the forest resources in general and D&D issues in particular. The literature review also included the available international literature of D&D and PAMs. The methodology focused on consultation of the issues with a wide range of stakeholders throughout the country aiming at arriving at a consensus on the PAMs.

* 1. **State-of-the-Art Review**

The consultant team conducted a thorough review of the existing literature on land use, land classification, forestry and resource development, global climate change and, of course, the development processes of the REDD+ initiatives in Bangladesh. A thorough state-of-the-art understanding was developed through studying and analyzing the legal and strategic premises, planning framework, government programs and non-governmental initiatives, and the projects that are in implementation as well as in design stage.

* + 1. **Identifying the Drivers of D&D**

The UN-REDD NP conducted a study to identify the D&D and prepared a report (UN-REDD NP, 2017). The report provided the primary basis of identifying the major drivers. In addition, a number of other analyses were cross-checked to arrive at a consensus of the drivers. Chapter 3 contains the detailed analyses. The Consulting Team grouped the drivers into five groups. An attempt to consolidate the identified drivers for the ease of identifying PAMs revealed that four major drivers are responsible for both deforestation and forest degradation in Bangladesh, namely, *Fuelwood Harvesting*, *Illegal Timber Harvest*, *Expansion of Agriculture*, and *Encroachment*. *Governance*, although recognized as an indirect driver, is perhaps the strongest driver that triggers an over-arching impact that fuels the four major drivers. Chapter 6 provides the list and rationale.

* 1. **Inception and Meetings with UN-REDD NP and BFD**

Soon after the arrival of the International Consultant, an inception meeting took place on November 30, 2017 at the UN-REDD Project Management Unit (PMU) located at the BFD. The Consultant Team had the opportunity to meet with the following key people from the NP:

* Mr. Rakibul Hasan Mukul, National Project Director (NPD)
* Mr. Nasim Aziz, Programme Manager
* Mr. Md. Shams Uddin, National Consultant (Forest Governance Specialist)

The meeting was very productive and set the course of the assignment, including the identification of additional key meetings as well as the key methodological approach.

Following the inception, the consulting team met with the Chief Conservator of Forests (CCF) to explore his vision of the assignment. The CCF was very supportive and he provided invaluable input and extended full cooperation and support.

* 1. **Stakeholder Engagement**

Public perception as well as expert opinion is key to developing any development program. As such, the consulting team conducted a number of individual meetings, regional public consultations in eight important forest regions of Bangladesh and expert level consultation in Dhaka.

* + 1. **Regional Stakeholders: Understanding the Public Perception and Ground Realities**

Policy pluralism or, in other words, conflicting/overlapping policies, strategies, plans and programs, is a reality in natural resources and climate finance management in Bangladesh. Developing the REDD+ PAMs will have to find a practical middle-ground to harmonize with the existing policy regime. This is a major challenge facing this sector. The Consulting Team has engaged in a series of multi-stakeholder consultation programs using a systematic process at the sub-national level. Eight regional consultative sessions have so far been conducted in the following:

* Senior officials of the FD and relevant GoB technical agencies and administrative units at the local level
* Senior representatives of the established conservation NGOs, civil society and activists
* Representatives from the academia
* Representatives from the grassroots level conservation stewards
  + 1. **Public Consultation at Key Forest Regions**

Table 2.1. **Regional Public Consultations at Key Forest Regions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Region** | **Key Forest Areas** | **Venue** | **Participants** | | |
| **Men** | **Women** | **Total** |
| December 6, 2017 | Rangamati | Hill Forest, Village Common Forest | Parjatan Holiday Complex | 53 | 8 | 61 |
| December 7, 2017 | Chattogram | Hill Forest, Mangrove Forest | Hotel Peninsula | 55 | 6 | 61 |
| December 9, 2017 | Cox’s Bazar | Hill Forest, PAs, Mangrove Forest | Hotel Seagull | 63 | 11 | 74 |
| December 12, 2017 | Tangail | Sal Forest, PAs, Social Forestry | Elenga Resort | 42 | 13 | 55 |
| January 7, 2018 | Sreemongal | Hill Forest | Hotel Grand Sultan | 59 | 6 | 65 |
| January 14, 2018 | Khulna | Mangrove Forest, PAs | Hotel City Inn | 59 | 7 | 66 |
| January 18, 2018 | Dinajpur | Social Forestry | Parjatan Motel | 52 | 7 | 59 |
| January 22, 2018 | Noakhali | Non-Sundarban Coastal | Hotel Nice | 53 | 7 | 60 |

* + - 1. **Illustrative Format of the Consultation Process**
* The consultations were a mix of structured and carefully crafted open-ended group discussion sessions as follows:
  + An opening session featuring brief remarks by the dignitaries, powerpoint presentation of the purpose and expectations by the Consulting Team, vote of thanks by theB FD.
  + Group discussion (in four or five mixed groups, depending on the number of participants) centering around the following major drivers of D&D as mentioned in Section 2.1.
    - Fuelwood (excessive extraction)
    - Illegal and indiscriminate logging
    - Encroachment and conversion of forested land
    - Conversion of forest lands to agriculture.
    - Governance

Land tenure is a conflicting issue in all the forest areas at varying degrees. The UN-REDD NP expected that the Consulting Team would make a special reference to the issue and the sessions’ planning complied.

* + *A special emphasis was given on gender and marginalized population issues.*
  + The group composition was randomly selected and that has ensured an un-bias mix, equal opportunity and representation. The groups elected note-takers and discussion leaders at the outset of the discussion.
  + The groups recorded the summary of the discussion and recommendations on flip charts. The elected group leaders made brief presentations of the findings at the conclusions of the consultative sessions.
* In all consultations, the Consulting Team took notes while representatives from the UN-REDD NP provided the Team Leader with the summary presentations recorded on the flip charts. The sessions were recorded for documentation and the summarized information was used for the reports.
  + - 1. **Stakeholders at the Center: Consultations in Dhaka**
* Following completion of the regional workshops, the UN-REDD NP organized an expert consultation on February 11, 2018 in Dhaka involving the academia, civil society, NGO and development partners where the consulting team presented the progress of the REDD+ process in Bangladesh and summary of the recommendations that came from the regional consultation workshops. The workshop yielded valuable suggestions even though those were very similar to the recommendations made at the regional consultation and resource persons. The experts in fact validated the views and recommendations of the regional stakeholders.
* On April 8, 2018, the UN-REDD NP organized a presentation of the PAMs Recommendations to the CCF and senior management of the BFD. The presentation was very well received and the CCF accepted all the recommendations.
  + 1. **Perspectives from Key Resource Persons**
       1. **Rangamati**

The Chattogram Hill Tracts (CHT) is the largest terrestrial forest resources area in the country that provides a tremendous potential for REDD+ interventions. Unfortunately, however, the CHT poses the greatest challenge of forest governance mainly because of the institutional overlap and political instability. Therefore, the Consulting Team conducted some targeted meetings with the following leaders of influence in Rangamati:

* Mr. Goutam Chakma, Chattogram Hill Tracts Regional Council (CHTRC)
* Barrister Raja Devashis Roy Wangza, Chief, CHT Chakma Circle
* Mr. Goutam Dewan, Chairman, Nagarik (Citizens’) Committee
  + - 1. **Chattogram**

The Community Development Center, Chattogram (CODEC) – a leading NGO – has been active in the CHT for over a decade implementing environment and development projects. There has been recent incidents that forced CODEC to stop operating in the CHT. The Team decided to have a meeting with the CODEC Executive Director, Dr. Khurshid Alam and the Deputy Executive Director, Mr. Kamal Sengupta.



Exhibit 2.1. **Expert Consultation in Dhaka**

|  |  |
| --- | --- |
| E:\rrrrr\DSC_0830.JPG | E:\rrrrr\DSC_0045.JPG |
| **Public Consultation Workshop at Rangamati** | **Public Consultation Workshop in Chattogram** |
| E:\rrrrr\DSC_0096.JPG | C:\Users\Azharul Mazumder\Downloads\Pic-1 (Tangail).jpg |
| **Public Consultation Workshop at Cox’s Bazaar** | **Public Consultation Workshop at Tangail** |
|  |  |
| **Public Consultation Workshop in Khulna** | **Public Consultation Workshop at Dinajpur** |
|  |  |
| **Public Consultation Workshop at Noakhali** | **Public Consultation Workshop at Sreemongal** |

Exhibit 2.2. **Public Stakeholder Consultations in Eight Forest Regions of Bangladesh**

Table 2.2. **Key People Met**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date** | **Region** | **Venue** | **Participants** | **Representation** |
| December 5, 2017 | Rangamati | CHTRC | Mr. Goutam K. Chakma | CHTRC |
| CF Office | Mr. Goutam Dewan | Nagarik (Citizens’) Committee |
| December 6, 2017 | Rangamati | Chakma Circle Office | Barrister Raja Devashis Roy Wangza | Chakma Circle |
| December 8, 2017 | Chattogram | CODEC Office | Dr. Khurshid Alam  Mr. Kamal Sengupta | Civil Society |

* 1. **Recommendations and Prioritization of PAMs**

The responses that the Consulting Team received from the individual consultations and workshops were objective and, except for some specific situation-specific issues depending on the region, quite uniform and comprehensive. Recommendations were compiled in two broad categories, namely, preventive and forward-looking measures. In addition, PAMs suggested by two special studies that the UN-REDD NP conducted on governance and land tenure issues have also been summarized.

* + 1. **Criteria of Prioritization**

The PAMs recommended to address the drivers in order to arrest D&D and, ultimately develop sustainable development of forest resources aiming at conserving and enhancing carbon stocks in Bangladesh are quite comprehensive. Already having low area coverage under low quality forest with low crown cover, biomass density and biodiversity, sustainable forest resources development has emerged to be a development issue of utmost priority. As identified in all the studies on D&D as well as the suggestions offered by all stakeholders, the forest resources are suffering from over-exploitation and large scale illicit removal of timber and other forest resources is common. The pressure on forest land for many purposes leading to illegal encroachment and official conversion of forest land to commercial/institutional land is mounting. Also, at increase are demands for fuelwood, timber and industrial wood in a situation where forestry, unfortunately, is not a priority for the GoB resulting in low investment in the sector. The commitment of the GoB to increase the coverage and enhance the quality of forests in order to increase carbon stock compounds the challenge. Setting a priority for implementation where all the PAMs merit equal priority is; therefore, challenging. However, we have taken the following into consideration in recommending a set of PAMs:

* Addressing the Overall Challenges for the Forestry Sector
* The BFD’s capacity and management challenges contributing to the major drivers of D&D such as weak capacity, lack of priority setting and finances, lack of institutional coordination, and transparency and accountability.

Special attention was given to analyze the situation in the CHT, particularly in assessing the challenges and opportunities in developing the forest resources in this most important terrestrial forest area in the country with the most diverse biological resources.

* + 1. **Addressing Immediate, Medium- and Long-term Needs**

We recommended the following priority PAMs for implementing REDD+ in Bangladesh. Given the perilous situation of the forestry sector, implementing these activities are essential both for maintaining a sustained forest cover, sustaining improved forest management and, ultimately, enhancing carbon stock aiming at receiving performance-based payments. We also listed some priority projects, with major project components, under each bundle with the possible institutional framework for implementing the projects. We also provided the notional funding requirement to implement each bundle. The bundles are:

**Bundle 1:** Sustainable Supply of Alternate Energy for Fuelwood

**Bundle 2:** Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply

**Bundle 3:** Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems

**Bundle 4:** Improved Management of Existing Forests and Protected Areas

**Bundle 5:** Improving the Enabling Environment for Increasing Carbon Stocks

**Bundle 6:** Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources

**Bundle 7:** Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation

**Bundle 8:** Developing a Communications Protocol for Mass Awareness Generation

We also showed the linkages of the bundles with the forestry sector policy and programmatic priorities as well as with the ongoing and planned projects and programs under the BFD. We also made an attempt to provide a proxy estimate of the carbon sequestration potential of the bundle. Also discussed was the mode of implementation of the projects under the bundle in an equitable arrangement making sure that the activities address inclusive and gender-responsive economic growth and are responsive to the Cancun Safeguards.

* 1. **Carbon Sequestration Potential of Proposed PAMs Bundles**

The attempt to calculate the carbon sequestration potential is a proxy adapted from the FIP (2016) funded by the World Bank for Bangladesh forests. The World Bank Environment Strategy (2012) adopted a corporate mandate to account for the greenhouse gas (GHG) emissions for investment lending. The quantification of GHG emissions is an important step in managing and ultimately reducing emissions, as it provides an understanding of the project’s GHG mitigation potential. Further, Paris Agreement also mandates reporting of assumptions and methodological approaches including those for estimating and accounting for anthropogenic greenhouse gas emissions to achieve the goals of Article 2.

The World Bank has adopted the Ex-Ante Carbon-balance Tool (EX-ACT)[[5]](#footnote-5), developed by FAO in 2010, to estimate the impact of agricultural investment lending on GHG emissions and carbon sequestration in the project area. EX-ACT is a land-based appraisal system that allows the assessment of a project’s net carbon-balance, defined as the net balance of CO2 equivalent GHG that are emitted or sequestered because of project implementation compared to a no project or without project scenario. EX-ACT captures project activities in following five modules: land use change, crop production, livestock and grassland, land degradation, inputs and investment. EX-ACT estimates the carbon stock changes (emissions or sinks), expressed in equivalent tons of CO2 per hectare and year.

**Chapter 3**

**Existing PAMs to Combat Deforestation and Forest Degradation**

This Chapter and the associated Annex will provide an exhaustive review of the pertinent national policies, laws, regulations, strategies and action plans with respect to D&D. A thorough discussion on the most important ones in relation to developing PAMs will be discussed in details. While Bangladesh’s commitments to international conventions and protocols are the starting point to embark on the REDD+ process to conserve and enhance forest carbon stock by maintaining a sustainable forest management system, Bangladesh already has in place a number of PAMs although the effective implementation of these PAMs may be subject of discussions.

* 1. **Review of the Policies, Laws and Regulations (PLR) of Bangladesh**

The **Constitution of the People’s Republic of Bangladesh** is the supreme law of the country and has recently adopted through the Constitution (Fifteenth Amendment) Act, 2011 (Act XIV of 2011) “protection and improvement of environment and biodiversity” as one of its state policies in accordance to Bangladesh’s commitment to international obligations to environments, protection of bio-diversity and sustainable development. The **Article 18A** stipulated in Part II, “The Fundamental of State Policy”, it says,

**“The State shall endeavor to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests and wild life for the present and future citizens”.**

Although the Constitution enshrines the "right to life and personal liberty" as one of the fundamental rights and does not explicitly recognize the right to environment as a fundamental right (Article 31 and 32), in two recent cases the Supreme Court has resolved that the "right to life" enshrined as a fundamental right includes the "right to a healthy environment".[[6]](#footnote-6)

In 1989, the GoB established the independent MoEF to oversee environmental issues and the BFD, which was operating under the Ministry of Agriculture (MoA), was taken under its jurisdiction even though the existence of the BFD predates even the independence of two nation states – Pakistan in 1947 and Bangladesh in 1971. The BFD was established under the Government of Assam in the British colonial period. While the Constitution is the supreme law, there are a number of legal provisions that govern the forestry sector.

Forest conservation and management also predates Bangladesh primarily through the promulgation of the *1927 Forest Act* (declaring RF) and the *Chattogram Hill Tracts Regulation 1900*. Concern for biodiversity assets in Bangladesh dates back to colonial times which saw the passage of the *1879 Elephant Preservation Act*and the*1912 Wild Bird and Animals Protection Act*. Developing forest protected areas started in 1962 (Madhupur National Park). Bangladesh currently has over a hundred laws that deal with various aspects of forestry and environmental issues, which are relevant to addressing D&D. We have reviewed the most relevant PLRs for the purpose. Table 3.1. provides the list.

Table 3.1. **List of PLRs Reviewed**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **National Policies** | **Acts, Laws and Regulations** | **National Strategies and Plans** | **International Commitments** | **Programs and Projects** |
| Forest Policy 1994 | The Constitution of the People’s Republic of Bangladesh | Forestry Master Plan 1995-2015 | 1971 Ramsar Convention (Convention on Wetlands of International Importance, especially as Waterfowl Habitat) | Arannayk Foundation |
| Forest Policy 2016 (Draft) | The Forest Act, 1927 (Act No. XVI of 1927) | Forestry Master Plan 2016 (Draft) | 1972 Convention Concerning the Protection of World Cultural and Natural Heritage | Climate Resilient Ecosystems and Livelihoods (CREL) |
| Land Use Policy 2001 | The Chattogram Hill Tracts Regulation of 1900 (Regulation 1 of 1900) | Jalmahal (waterbody) Management Policy 2009 | 1972 Convention on Biological Diversity (CBD) | Sustainable Forests and Livelihoods (SUFAL) |
| Coastal Zone Policy 2005 | Forest Transit (Control) Rules 2011 | National Environment Management Action Plan 1996 | 1981 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) | Sundarbans Mangrove Forests for Biodiversity Conservation and Increased Adaptation to Climate Change (SMP) |
| National Fisheries Policy 1998 | Chattogram Hill Tracts Transit Rules 1973 | National Conservation Strategy 1997 | 1992 United Nations Framework Convention on Climate Change (UNFCCC or Agenda 21) | Surokkha |
| National Water Policy 1999 | The Private Forest Ordinance 1959 | Nationally Determined Contribution (NDC) or Intended Nationally Determined Contribution (INDC) 2015 | 2005 Kyoto Protocol | Chattogram Hill Tracts Watershed Co-management Activity (CHTWCA) |
| National Tourism Policy 2010 | Saw Mills (License) Rules 2012 | National Biodiversity Strategy and Action Plan (NBSAP) (2003, updated in 2016) | Cancun Safeguards |  |
| National Agriculture Extension Policy 2012 | The Environmental Conservation Act 1995 | National Adaptation Programme of Action (NAPA) (2005) | 2005 Convention on the Conservation of Migratory Species (CMS) |  |
| National Agriculture Policy 1999 | Environment Court Act 2010 | Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2008 (revised 2009) | 2015 Paris Climate Agreement |  |
| National Energy Policy 2004 | The Brick Manufacturing and Brick Kilns Establishment (Control) Act 2013 | National Sustainable Development Strategy (NSDS) 2008 |  |  |
|  | Social Forestry Rules 2004 (Amended up to 2011) | Moving Ahead: National Strategy for Accelerated Poverty Reduction II (FY 2009 – 2011) 2008 |  |  |
|  | The Wildlife (Preservation and Protection) Act 2012 | Bangladesh Tiger Action Plan 2009 |  |  |
|  | The Management of Protected Areas Rules 2017 | Bangladesh Delta Plan 2100: a holistic, long-term, vision-based plan for the Bangladesh Delta |  |  |
|  | Bangladesh Bio-diversity Act 2017 | Bangladesh Country Investment Plan (CIP) for Environment, Forestry and Climate Change (EFCC) for 2016-2021 |  |  |
|  | Tourism Act 2010 | Forest Investment Plan (FIP) |  |  |

* 1. **Acts and Regulations Governing the Forestry Sector in Bangladesh**

Bangladesh has a number of Acts and Regulations that govern the forestry sector. Table 3.2 provides a list and attempts to relate the Acts and Regulations with the drivers of D&D.

Table 3.2. **Acts and Regulations Governing the Forestry Sector in Bangladesh**

| **No.** | **PLR** | **How does this law relate to the drivers of D&D?** | | | | | **Recommendation** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fuel-wood** | **Illegal Felling** | **Agriculture** | **Encroachment** | **Governance** |  |  |
| 1 | The Constitution of Bangladesh | None | None | None | None | Helped formulating various laws in order to protect bio-diversity of the country. |  |  |
| 2 | The Forest Act, 1927 (Act No. XVI of 1927) | Prohibited the action unless permitted or recognized as the rights of private individuals or community. | Prohibited the action with fine and punishment. | Prohibited the action unless permitted or recognized as the rights of private individuals or community. | Prohibited the action with fine and punishment. | The law does not have any provision on Forest Department, and thus the department has never had any defined responsibilities by the law. However, in practice, the governance of forests depends on centralized planning and bureaucratic control, focusing on revenue income. | The law should define the responsibility of Forest Department in relation to different forests and their management. | The does not support effective and transparent forest governance. |
| 3 | Forest Transit (Control) Rules 2011 | Regulate the production and supply of fuel wood and timber and help to meet demand of forest produces, may help to decrease D&D through maintain the balance between supply and demands of forest produces. | Regulate and controls the illegal felling of all forests, and does help to decrease D&D effectively. | None | None | Lacks of adequate manpower in the department of forest negatively affect the regulation of control of forest produces. | The forest produce from trees commonly found on farms, and other small private or community owned properties but not commonly found in natural or planted forest should be exempt from the application of the transit rules. time to time. | Considering the recent development road networks across the country, the planning of forest check-posts need serious rethinking. |
| 4 | The Private Forest Ordinance 1959 | Prohibited the action unless permitted or recognized as the rights of private individuals or community. | Prohibited the action with fine and punishment. | Prohibited the action unless permitted or recognized as the rights of private individuals or community. | Prohibited the action with fine and punishment. | Because of private ownership of the Vested Forests, the control of forest department has been contested. |  |  |
| 5 | Saw Mills (License) Rules 2012 | None | Prohibited the action with fine and punishment including the loss of license. | None | None | Empowered civil society and civil administration as counter measures to any abuse of power by Forest department. |  | Serious confusion and many interpretations exist regarding the category of Vested Forests, and their legal status and extents to which they exist. |
| 6 | The Environmental Conservation Act 1995 | None | None | None | Prevent the action by securing not only in the Sundarban but also help to protect adjacent areas and their bio-diversity. | None | Because of the Wildlife (Protection Act) 2012 help protect the forest, wildlife and their ecologies, the Environmental Conservation application of Act can further secure this protection through this law, provided livelihood support programs for forest neighboring communities. |  |
| 7 | Environment Court Act 2010 | Prohibited with fine and imprisonment under the Brick Manufacturing and Brick Kiln Establishment (Control) Act 2013. | None | None |  | The act helps speedy trial and eviction encroachers from the forest, if the forest is a ecologically critical area. |  | The court established under the Act should have been designed in such a manner that can overcome the adversarial drawbacks of civil and criminal courts.  The environmental court should have removed from the workloads of civil suits and criminal cases. |
| 8 | The Brick Manufacturing and Brick Kilns Establishment (Control) Act 2013 | Prohibited with fine and imprisonment | None | None | None | None | Considering the current pace of economic development and industrialization in the country, brick manufacturing and brick kiln need to be subsidizes for control, like agriculture and Ready-made garments (RMG). | There are only three Environment Courts in Dhaka, Chittagong and Sylhet, and DoE has office only in 22 districts. So it is practically impossible to establish Environment Court and effective implementation of this Act. |
| 9 | Social Forestry Rules 2004 (Amended up to 2011) | Provide programs to meet fuel wood demands and control participant individuals collecting fuel wood. | Provides programs to prevent illegal felling through creating fast growing timber species through participation of forest dependent communities and sharing responsibility | Provide programs to prevent agriculture expansion through agro-forestry, and income opportunity during the plantation. | Provide programs to limits encroachment. | Provides some good and effective governance structures. |  | The Rules implies beneficiaries are to be grouped for the management and the protection of the plantation, however, it falls short as to how participant selected on individuals’ social and economic or gender ground to make a effective working groups. |
| 10 | The Wildlife (Preservation and Protection) Act 2012 | Strongly prohibited by implication of the law. | Strongly prohibited with fine and imprisonment. | Strongly prohibited with fine and imprisonment. | Explicitly Strongly prohibited with fine and imprisonment as the law does not allow entry to the Areas without permission, saving research, and eco-tourism. | The law provides for a model of good governance through co-management of the Protected Areas by stakeholders communities, forest bureaucracy and civil bureaucracy. |  |  |
| 11 | The Management of Protected Areas Rules 2017 | Addressed the local demands for fuel wood through plantation program in buffer zone and landscape zones. | Not related to the Rules, but strongly prohibited by the Wildlife (Preservation and Protection) Act 2012. | Not related to the Rules, but strongly prohibited by the Wildlife (Preservation and Protection) Act 2012. | Provide participatory mechanism to prevent encroachment. | Provide effective and good governance of the Protected areas. |  |  |
| 12 | Bangladesh Bio-diversity Act 2017 | None | None | None | None | None |  |  |
| 13 | The Chittagong Hill Tracts Regulation of 1900 (Regulation 1 of 1900) | Regulate and control  fuel wood collection from USF. | Implied regulation and control over the feeling of timber trees through traditional administration and civil administration, and Chittagong Hill Tracts Transit Rules 1973 exercises direct control of illegal felling. | Control and regulate jhum cultivation | None | Provide for traditional local administration for regulation and control of land and forests in USF |  | The law provides administration and local government over people who use their land through jhum as common property. The Notion of private property and deforestation are contradictory with the system of cultivation which has been practices for centuries. |
| 14 | Chittagong Hill Tracts Transit Rules 1973 | Regulated the collection of fuel wood with permits, while allowing the hill people’s rights over fuel wood for domestic use. | Prohibited with imprisonment and fine. | None | None | Issuance free permits for the removal of timber from private forest has long been subject of controversy and debates. |  |  |
| 15 | Tourism Act 2010 | None | None | None | None | None | It should have provisions to conserve ecosystems | Pollution of natural habitats need to be guarded strictly. |

* 1. **International Conventions and Protocols**

Bangladesh is signatory to a number of international conventions and protocols. Table 3.3 provides a summary. These are Bangladesh’s commitment to the international processes and the country is sincere about meeting the obligations, including the sincerity to join the REDD+ process even though Bangladesh is not an emitter.

Table 3.3. **International Conventions and Protocols**

| **No.** | **PLR** | **How does this Policy relate to the drivers of D&D** | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Fuel-wood** | **Illegal Felling** | **Agriculture** | **Encroachment** | **Governance** |
| 1 | Ramsar | None | None | None | None | Indirect |
| 2 | Cultural Heritage | Indirect | Indirect | Indirect | By declaring a World Heritage Site, the Sundarbans has been declared off-limits to encroachment. | Solicits stark enforcement of forest laws. |
| 3 | CBD | Indirect | Indirect | Indirect | Promotes conservation of forested areas. | Since signing the CBD, biodiversity issues have received some attention in a variety of sector policy and strategy documents. |
| 4 | CITES | Indirect | Indirect | Indirect | Indirect | Indirect |
| 5 | UNFCCC | Indirect | Indirect | Indirect | Indirect | Indirect |
| 6 | Kyoto | Includes provisions to reduce deforestation thus promotes indiscriminate fuelwood collection. | Discourages illegal logging. | Discourages expansion of agriculture into forest land. | Introduces forestry projects into the Clean Development Mechanism (CDM) that requires clear boundary marking and thus stopping encroachment. | Promotes transparent forest governance. |
| 7 | Cancun Safeguard | Promotes the causes of ecosystem services, including meeting fuelwood demand. | Emphasizes on protection. | Indirect | Emphasizes on stopping conversion of natural forests. | Transparent and effective national forest governance structures, taking into account national legislation and sovereignty is a requirement |
| 8 | CMS, 2005 | None | None | None | None | None |
| 9 | Climate Agreement 2015 | Reforestation/restoration of degraded state forest, afforestation reforestation outside state forest including ToF, coastal afforestation and creation of coastal green belt, management and protection of existing plantations. | Reforestation/restoration of degraded state forest, afforestation reforestation outside state forest including ToF, coastal afforestation and creation of coastal green belt, management and protection of existing plantations. |  | Conservation of remaining natural forests, management of protected areas and protection of wildlife, control of forest encroachments. | Institutional reforms and capacity building for BFD, strengthening community participation through co-management and Alternate Income Generation Activities (AIGA), promotion of PPP for reforestation, strengthening, monitoring, evaluation and database facilities. |
| 10 | Other | Indirect | Indirect | Indirect | Indirect | Indirect |

* 1. **Forestry and Other Relevant Sectoral Policies Governing the Forestry Sector**

While the Forest Policy (1994) (revised in 2016, which has not yet been approved) still governs the forestry sector of Bangladesh, a number of other sectoral policies directly or indirectly influences the sector. Table 3.4 provides a summary.

Table 3.4. **Forestry and Other Relevant Sectoral Policies Governing the Forestry Sector**

| **No.** | **PLR** | **How does this Policy relate to the drivers of D&D** | | | | | **Recommendation** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fuel-wood** | **Illegal Felling** | **Agriculture** | **Encroachment** | **Governance** |
| 1 | Forest policy 1994 | Though it has no statement as such, its social forestry concept enhances the fuel-wood production. | Concept of social forestry involved the participants to watch against illegal felling. | Instead of direct contradiction, it has tried to accommodate through agro-forestry concept under social forestry. | This policy suggests afforestation of encroached forest lands. | By tabling the social forestry concept, it has encouraged the creation of social forestry setup in the BFD. | Updating is required incorporating climate change aspect in forest management and administration. | BFD has proposed an updated & revised Forest Policy in 2016. |
| 2 | Forest Policy 2016 (Draft) | Explicit policy statements of sustainable forest management combat this drivers group. | Prohibitive under this policy. Suggested community involvement, etc. Section 3 has the details. | Prohibitive under this policy. Suggested boundary demarcation, mapping, etc. | Suggested boundary demarcation, mapping, etc.  Suggested no transfer of forest land for non-forestry use. | Suggested empowerment BFD and logistic supply. | Looks fine for the presence. | May be reviewed after 20 years. |
| 3 | Land Use Policy 2001 | By suggesting strip plantation, it has encouraged fuel-wood supply. | It has indirect support to enhance the supply of timber. | This has a strong bias towards agriculture, thus it may indirectly support conversion of forest land to agriculture. | It does not support encroachment of forest land but has suggested to go for settlement on charlands. | Nothing specific on governance of forestry sector. | Since it does not contradict forestry it may be kept as such for the presence. | May be reviewed later. |
| 4 | Coastal Zone Policy 2005 | It has no direct statement on use and harvest of fuel-wood. | Does not encourage felling of timber, rather its suggestion for zoning may assist prohibition of timber-felling | It favors agriculture, but does not encourage conversion of forests to agriculture directly. | Its suggestion for zoning may help combat encroachment in forest land. | It is highly confused on governance issue and its suggestion to have a lead of WARPO over many ministries is impractical. | Need immediate review to bring it at par with prevailing administrative norms of the country. | Since WARPO is designated to take lead over various ministries it is not expected to work. It is highly engineering biased, needs immediate updating. |
| 5 | Fisheries Policy 1998 | It has no impact on fuel-wood harvest. | It will not improve the REDD+ situation | Its suggestion to integrate fish rearing in agricultural fields is good. The prohibition to convert mangroves for fisheries will help conservation of mangroves. | It has nothing to do with the encroachments of forest lands. | May bring in some governance issue with the BFD on Sundarban waters. | Incorporation of use of plastic poles in fish catching might have been helpful to REDD+ approach. | May be updated clarifying the conservation issues of wetland forests. |
| 6 | National Water Policy 1999 | It has no impact on this driver. | It has no impact on this driver. | This may indirectly help conversion of forest land to water bodies by encouraging hydro power. | Encouragement of hydro power may lead to encroachment of forest land. | Collaboration with BFD for catchment management may have been fruitful. | Willingness to pay for the water harvested from catchment will be beneficial towards REDD+. | Ecosystem benefits need to be recognized in this policy. |
| 7 | National Tourism Policy 2010 | It has no mention of prohibiting cooking by fuel-wood. | None | No afford for the conservation of landscapes. | None | There is a grey area. BFD controls the PAs. Tourism Ministry uses those. | Collaborative arrangement with BFD may be beneficial. | May be updated incorporating BFD’s inputs. |
| 8 | National Agriculture Extension Policy 2012 | None | None | The policy of horizontal expansion of agriculture may aggravate the situation. | Horizontal expansion of agriculture will encourage encroachment. | None | This policy may prohibit use of fuelwood in paddy parboiling plants. It could suggest low foliage trees on the iles of agricultural fields. | Since Agri Extension workers reaches most people, they may advocate for ICS. |
| 9 | Agriculture Policy 1999 | None | None | It aims to bring all fellow lands under agriculture. Many of these fellow lands have tree cover. This is a concern. | It has nothing encouraging encroachment. | None | It could suggest low foliage trees on the iles of agricultural fields. | It could advocate for ICS. |
| 10 | Forestry Master Plan 1995-2015 | It had the required but was not implemented. | It suggests programs but went unattended. | It’s suggestion to involve people is expected to benefit the BFD but did not receive required attention. | This FMP encouraged replanting of encroached forest land. | Restructuring suggestion was ignored by the Govt.. | GOB should use the lessons learned. | Next FMP formulation may be designed to be more reality oriented. |
| 11 | Forest Master Plan 2016 (Draft) | The demand of wood fuel is declining. Implementation of this plan will help reduce the impact of this driver. | This will help reduce the illicit logging. | This plan is against conservation of forests to agriculture. | It against encroachment of forest land. | The poor manpower and logistic are concerns of this. Suggested for immediate improvement. | GOB need to take proper interest and implement this plan and ensure that it receive at least 538.7 billion Taka during this plan period. | GOB’s notion of low priority towards forestry sector need to be changed. |
| 12 | Jalmahal Management Policy 2009 | Nothing positive or negative | None | None | None | TNO & DC are the chairs for up to 20-acre and more than 20-acre size water bodies respectively. | The fishers use lots of wood and bamboos. This policy may have provisions of incentives for using alternatives. | May be revised prohibiting use of wood in all fishing gears including that in boats. |
| 13 | Gender Policy Draft 2016 | None | None | None | None | None | It may have some clauses to aware about climate change. | Improvement may be done by adding Climate Change aspects. |
| 14 | NDC (INDC)  2015 | Its side-approach towards ICS will help reduce the pressure of this driver. | No impact. | Its solar irrigation approach may convert wet land to agricultural land. | It has the risk of conversion of wet land to agricultural land. | No impact | It has not recognized afforestation &/or reforestation as tool. | It should have a clause on afforestation. |
| 15 | National Energy Policy 2004. | The energy conservation approach may indirectly reduce the pressure of this driver. | None | None | None | It has prohibition on mining within the RF areas. | It should have some provision to provide incentives for solar power. | Too long and does not have straight forward policy statement. |

* 1. **New Strategies and Plans Important to the Forestry Sector**

There are a number of national strategies and plans that are very important for the forestry sector in general and for REDD+ in particular. While Table 3.7 provides a summary, brief discussions of these strategies and plans are provided below.

* + 1. **Seventh Five-Year Development Plan 2016-2020 (7FYP)**

Bangladesh is currently implementing the 7FYP. The ‘Forestry Sector’ has been described as a sub-sector under “Environment”. The 7FYP has incorporated a clear set of goals, objectives and activities to be implemented during the plan period. The Forestry sub-sector strategy includes continuing the moratorium on tree felling in the natural forests, increasing tree density of the existing forests and older plantations through 'enrichment planting' and 'assisted natural regeneration', and intensification of plantation activities in the coastal zones. Social forestry development is proposed to continue to be an important strategy. Table 3.5 provides a summary of the programs, objectives and activities under the 7FYP in the forestry sector.

Table 3.5. **Programs, Objectives and Activities of the 7FYP for the Forestry Sector**

| **Program** | **Objectives and Activities** |
| --- | --- |
| **Afforestation/reforestation/plantation** | 1. Green Growth strategy to harmonize economic growth for better environmental sustainability  2. Greater efforts (which should exceed 6thFYP period achievements) shall be made for afforestation and reforestation activities during the plan period.  3. Productivity of plantations will be increased, so that by 2021, 90% of those designated for forests (1.6% of land) comprises of regenerating native trees. Multi-purpose trees will receive special attention to increase the productivity of land under forest.  4. The 20,000 acres of the denuded Chokoria-Sundarbans Reserve Forest shall be restored with time bound action and monitoring plan  5. People’s meaningful and informed participation will be incorporated in all forest development activities.  6. Integration of tree plantation and crop cultivation will be practiced. |
| **Moratorium on felling** | 1. Moratorium on felling in the natural forests will continue.  2. Existing scattered and denuded hill forests will be replanted to increase productivity.  3. Scientific management principles will be strictly followed to restore productivity of these lands. |
| **Protection of Sundarbans and coastal afforestation** | 1. Greater efforts shall be taken for sustainable conservation of Sundarbans and its resources during the plan period.  2. Measures will be taken to involve local community by allocating appropriate property rights in the management of the Sundarbans  3. Creation of alternative livelihood opportunities for the people, depending on the Sundarbans mangrove forest.  4. Special attention will be given to the Sundarbans Reserve Forest (SRF) for its biodiversity conservation. All sorts of protective measures will be taken to keep the Sundarbans’ bio-physical characteristics intact.  5. The existing afforestation and enrichment plantation will continue in the coastal areas. The existing mature coastal plantations will remain as green belt.  6. To prevent the extent of damage by cyclones and tidal surges, coastal green belt will be created and seedling will be raised to distribute or sell in the coastal zone. |
| **Restoration of Sal Forest** | Immediate steps will be taken for restoration of the Sal Forest aiming specific targets. Considering its wildlife and dwelling place of the Garo tribal community, necessary programes will be implemented. |
| **Reed lands of Sylhet** | - Existing program on reed land planting to continue.  - Extending the program to new areas. |
| **Eco-park/ botanical garden** | - Development and establishment of five new initiatives such as eco-parks, recreational garden along river or bay and botanical gardens, safari park, national park will be continued under this 7thFive Year Plan.  - Regional botanical garden will also be setup for uniform biodiversity conservation in the country. |
| **Social forestry** | - Social forestry Program to continue for expansion and strengthening of *upazila* nurseries, union level nurseries, and strengthening of forest extension and nursery training centers.  - Short/medium rotation fast growing tree species will be planted along the roads and embankments, and on marginal and fallow lands with active participation of local people.  - The amended provision for social forestry on involvement of local people to be utilized to bring new areas under tree coverage. |
| **Non-wood forest** | More emphasis shall be given to non-wood forest products: bamboo, cane, *murta*, medicinal plants, honey, wax, *golpata*, during the 7FYP. |
| **Survey and land records** | Efforts shall be taken to complete the forest land survey and updating the land record during the plan period. Forest cover shall also be monitored. Entire forest area will be demarcated to avoid unlawful encroachments. |
| **Protected areas** | Presently, only 2,700 sq. km land area falls under Protected Area category which is about 1.82% of the country.  The Protected Area will be increased to 5 percent of the country during the 7FYP period.  Effective management for all the Protected Areas will be established. |
| **Watershed management** | Watershed management and wetland conservation will be initiated in the haor regions and hill districts and also will be intensified in the old areas for better conservation of nature during the plan period. |
| **Private forests** | Village forest has been meeting most of the demand for forest products like timber, firewood, etc. Credit facilities will be provided in the 7FYP to encourage the private sector to undertake rubber, teak, jackfruit and other high value crop plantations on a commercial basis. |
| **Carbon Credit and REDD Mechanism** | The mechanisms for certifying and approving reforestation and forest protection under carbon credit and REDD mechanisms will be rationalized and streamlined and be used to enable substantial forest restoration and coastal afforestation through partnerships with local communities, civil society and private sector. |

* + 1. **Bangladesh Forestry Sector Master Plan 2016**

The GoB had a comprehensive Forestry Master Plan (FMP) prepared in 1994. During the World Bank -managed **Climate Resilient Participatory Afforestation and Reforestation Project (CRPARP)**, a program was initiated to update the FMP, which was prepared in 2016 based on secondary data and information, and stakeholder consultations. The FMP has identified the following as the major strategies:

* Afforestation / reforestation on government lands,
* Strengthening of Protected Area system and wildlife conservation,
* People’s participation in forestry and conservation,
* Boosting of private tree planting activity, especially in areas that have been identified as TOF (Trees Outside Forest),
* Control on encroachments,
* Address the drivers of deforestation/degradation.

The FMP considers three **Scenarios** for afforestation and reforestation as under:

* ***Scenario 1*:** Investments based on GoB’s own fiscal resources and current level of institutional capacity
* ***Scenario 2*:** Investments based on current level of donor support and current level of institutional capacity i.e., with some additional availability of resources due to the unique (though unenviable) position of Bangladesh as the most climate vulnerable country in the world.
* ***Scenario 3*:** Investments without any resource or capacity constraints depending on estimated requirements. This scenario will incorporate the possibility of tapping non-traditional sources of funding, such as public private partnerships (PPP) or institutional finance.

The FMP recommended activities aimed at carbon sink conservation, carbon sink enhancement and supportive activities to promote implementation of REDD+. The dominant programs recommended under them are presented in Table 3.6.

Table 3.6. **REDD+ Related Activities and Programs Recommended under the FMP**

|  |  |
| --- | --- |
| **REDD+ Activity** | **Program** |
| Carbon Sink Conservation | 1. Conservation of remaining natural forests  2. Management of protected areas and protection of wildlife  3. Control of forest encroachments |
| Enhancing Carbon Stock | 1. Reforestation/restoration of degraded state forest  2. Afforestation reforestation outside state forest including ToF  3. Coastal afforestation and creation of coastal green belt  4. Management and protection of existing plantations |
| Supportive strategies for carbon sink | 1. Institutional reforms and capacity building for BFD  2. Strengthening community participation through co-management and Alternate Income Generation Activities (AIGA).  3. Promotion of PPP for reforestation  4. Strengthening, monitoring, evaluation and database facilities |

Table 3.7. **National Strategies Pertaining to the Performance of the Forestry Sector**

| **No.** | **PLR** | **How does this Policy relate to the drivers of D&D** | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Fuelwood** | **Illegal Felling** | **Agriculture** | **Encroachment** | **Governance** |
| 1 | National Environment Management Action Plan (NEMAP) 1996 | Addressed the gap between demand and supply. | Recognized the impact of illegal timber harvest. | Recognized the threat of agricultural expansion on forests. | Identified encroachment as a major threat. | Highlighted the importance of capacity building. |
| 2 | National Conservation Strategy (NCS) 1997 (revised in 2016) | The widening gap between demand and supply of forest produce need be bridged through augmentation of supply and economy in use. Increase supply through social forestry programs, reforestation of blank areas of forests including old plantations, and regeneration of exploited areas. | Achieve biodiversity protection and conservation through strict enforcement of laws and community based participatory forest management. | Indirect | All encroachments in hill forests are to be recovered by strict enforcement of existing laws. Shifting cultivation in reserved forests of the Hill Tracts to be stopped by vigilance and rehabilitation. | Consider proposed reorganization of the Forest Department; build capacity and provide necessary logistics for the BFD. |
| 3 | National Biodiversity Strategy and Action Plan (NBSAP) | Indirect | Indirect | Indirect | Promotes ideas about conservation and protection of biodiverse forest areas. | Indirect |
| 4 | Bangladesh Climate Change Strategy and Action Plan (BCCSAP) 2009 | Study the scope for carbon credits under REDD and invest, if appropriate, in reforestation of degraded reserve forests. | Provide support to existing and new homestead and social forestry programs and enhance carbon sequestration. | Indirect | Indirect | Research the suitability of various tree species for their carbon-locking properties for designing various forestry programs keeping in mind other environmental and socio-economic functions of forestry. |
| 5 | National Sustainable Development Strategy (NSDS) | Supports social protection. | Indirect | Indirect | Indirect | Supports community-based conservation of wetland and coastal areas and crop/genetic biodiversity, although details remain to be developed. |
| 6 | Poverty Reduction Strategy Paper (PRSP II) | Identified the gap between demand and supply. | Highlighted illegal harvest as an issue. |  | Highlighted the issue. |  |
| 7 | Tiger Action Plan 2009 | Indirect | indirect | indirect | indirect | Proposes strict enforcement of laws and involvement of communities. |
| 8 | Bangladesh Delta Plan 2100 | Demand for fuel and firewood has been identified as an alarming issue. | Illicit felling of trees has been recognized as a serious issue. | Recognizes conversion of forest land to agriculture is a serious issue. | Recognizes encroachment of forest land as an issue. Also recognizes the growing urbanization as a threat to forests. | Lack of policies and non-sustainable forest management have been identified as issues. |
| 9 | Country Investment Plan (CIP) for Environment, Forest and Climate Change (EFCC) 2015 | Proposes many interventions in favor, such as, social forestry, reforestation, afforestation, coastal green belt development, landscape restoration, and other agro-forestry practices | Proposes many interventions in favor, such as, social forestry, reforestation, afforestation, coastal green belt development, landscape restoration, and other agro-forestry practices | Discourages expansion of agriculture. | Promotes improved forest monitoring (to include both bio-physical and socio-economic aspects) - GIS & RS Based Forest Management) | Promotes “Improved stakeholder participation and gender equity” and “Improved transparency, organizational processes and knowledge for evidence based decision-making” |
| 10 | Forest Investment Plan (FIP) | Proposed alternate energy use to reduce fuelwood extraction. | Objective is to reduce illegal felling. | Promotes keeping integrity of the forest land and thus reducing agricultural expansion. | Discourages encroachment. | Promotes good governance practices. |
| 11 | Seventh Five Year Development Plan (7FYP) | Strengthening of forest development, nursery training centers, planting and rotating fast growing trees under Social forestry enhancement. | Replanting of scattered and denuded hill forests to overcome Moratorium on felling. | Indirect | Expanding social forestry and protected area management. Maintaining and updating land records and avoiding unlawful encroachment by survey of land records. | Maintaining and updating land records and avoiding unlawful encroachment by survey of land records. |

* 1. **Ongoing and Upcoming Bilateral Projects and Multilateral Investments Relevant to REDD+**

A number of ongoing and upcoming projects are extremely relevant to REDD+ Table 3.8 provides a summary.

Table 3.8. **Ongoing and Upcoming Bilateral Projects and Multilateral Investments Relevant to REDD+**

| **No.** | **PLR** | **Summary** | **How does this Policy relate to the drivers of D&D** | | | | | **Recommendation** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fuel-wood** | **Illegal Felling** | **Agriculture** | **Encroachment** | **Governance** |
|  | AF | The**Arannayk Foundation** is a grant-giving organization that supports tropical forest conservation. The Foundation is based on the Tropical Forest Conservation Act (TFCA) and ensuing agreements between the U.S. Government and the GoB). Using TFCA debt-for-nature swap funds, the Arannayk Foundation provides financial grants to qualified organizations, or entities (including those sponsored by the GoB), to conserve, protect, maintain, and/or restore tropical forests and biodiversity assets of Bangladesh. | Works to provide alternate energy sources to reduce fuelwood demand. | Organizes community strength to combat illegal felling. | Discourages expansion of agriculture into forest land and provides improved agricultural technology as well as homestead production systems. | Clear boundary marking and digitized maps have been produced to combat encroachment. | Promote a transparent shared governance system with people at the center (co-management) |  |  |
|  | CREL | The **Climate Resilient Ecosystems and Livelihoods (CREL)** activity aims to increase the country’s responsiveness and resilience to climate change and natural disasters. Specifically, CREL provides technical assistance to improve forest and wetland management, conserve biodiversity, and promote sound natural resource management by working with community co-management organizations, private sector, and relevant government ministries and technical agencies in protected forest and wetland areas of Bangladesh. | Works to provide alternate energy sources to reduce fuelwood demand. | Organizes community strength to combat illegal felling. | Discourages expansion of agriculture into forest land and provides improved agricultural technology as well as homestead production systems. | Clear boundary marking and digitized maps have been produced to combat encroachment. | Works to promote a transparent shared governance system with people at the center (co-management) | CREL’s carbon inventory results should be transferred to the BFD and UN-REDD Programme for future monitoring of changes. | BFD should institutionalize the approach. |
|  | SUFAL | The World Bank’s US$175 million **Sustainable Forests and Livelihoods (SUFAL)** is going by far to be the largest investment in Bangladesh’s forestry sector. The project development objective is, *“To improve collaborative forest management and increase access to alternative income generation activities for forest-dependent people at targeted sites.”* Key results expected are:   * Forest and protected area at targeted sites managed according to site specific management plans (ha) * [guidance for site specific management plans will be developed during preparation] * Area of coastal belt at targeted sites under afforestation according to defined criteria (ha) * Share of targeted forest-dependent people with access to alternative income generating activities (disaggregated by gender) * Share of targeted forest-dependent people with rating ‘Satisfied’ or above on project interventions (%) (disaggregated by sex) (focus: access to forests and forest management, livelihoods aspects) (citizen and gender indicator)   The SUFAL project is still at the design stage and details are not yet available. However, the expected key results give some indication of the ensuing activities. | One envisioned component – working on tree outside forests will have positive impact on the demand for fuelwood. | SUFAL should be able to reduce the threats of illegal felling. | Since massive afforestation programs will be undertaken, the site selection process will deal with some encroachment issues. | Expansion of agriculture into forest lands is expected to be reduced. | There will be positive impact on forest governance. | The SUFAL design Team should make a solid attempt to design REDD-responsive activities and monitoring plan. | The BFD should advise the design team to make SUFAL REDD-responsive. |
|  | Surokkha | The GoB has approved a dedicated self-funded project named, **Protection of Sundarbans Mangrove Forest or PSMF (in Bangla *Sundarban Surokkha*)**, to improve the management and protection of the SRF. The main **goal** of the project is: “Management efficiency is enhanced for the protection of Sundarbans mangrove forests, thereby improving biodiversity”. The **objective/purpose** of PSMF has been defined as “Measures taken to provide logistics to enhance management efficiency, creating sustainable livelihood opportunities for dependent population and institutionalization of community based organization for the protection of Sundarbans mangrove forests, thereby improving biodiversity of Sundarbans”. | Incentives to communities for protection will have positive impact on the demand for fuelwood. | It will be able to reduce the threats of illegal felling. |  |  | The community organizations are meant for improved governance. | Work closely with the cooperatives to provide them with skills and techniques. |  |
|  | BAGH | The Bengal Tiger Conservation (Bagh) project aims to build a stronger and safer future for wild tigers and the local communities who rely upon their forest home – the Sundarbans. To do this, multiple stakeholders including the GOB, local communities, NGOs, international organizations, and the private sector will be directly involved. | Indirect | Indirect | Indirect | Indirect | Working with shared governance approach. |  |  |
|  | SMP | Management of the Sundarbans Mangrove Forests for Biodiversity Conservation and Increased Adaptation to Climate Change (SMP) is a project of the MoEF and the BFD, supported by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The project aims at strengthening the institutional and organizational framework conditions for a collaborative management of the Sundarbans. The coordination among the various stakeholders at national and district level as well as at regional level will be supported, and contributions will be made to the establishment of an interactive knowledge platform on the Sundarbans. A vital part of SMP is the further institutionalization of the co-management approach for the Sundarbans Reserved Forest. Civil society organizations and local organizations such as the Co-Management Committees (CMC) and all their tiers will be involved in the process and given the opportunity to actively engage in the management of their natural resources. Crucial to the approach is the equitable sharing of the revenues generated by the BFD in the Sundarbans with these CMCs and their gender sensitive use for the improvement of the livelihood situation of forest-dependent villagers. | Indirect | Indirect | Indirect | Indirect | Working with shared governance approach. |  |  |
|  | CHTWCA | USAID’s Chittagong Hill Tracts Watershed Co-management Activity (CHTWCA) is implemented within the framework of UNDP’s Adaptive Environmental Governance for the Poor Program of the United Nations Development Program (UNDP). The overall objective of CHTWCA is to enhance sustainable forest management, conserve biodiversity, and promote resilient livelihoods in the Chittagong Hill Tracts. This activity provides technical assistance to local communities and government institutions to improve forest and wetland management, biodiversity conservation, and natural resource governance. |  |  |  |  |  |  |  |

**Chapter 4**

**Policies and Measures (PAMs)**

In this Chapter, a range of PAMs to address a consolidated set of drivers of D&D suggested by the participants at the multi-stakeholder consultation workshops held in eight important forest regions of the country and Dhaka has been documented. Suggestions came through focused interviews with select resource persons are also incorporated. In addition, references were also used from a number of special studies that the UN-REDD NP conducted. Finally, an attempt was made to prioritize the PAMs for immediate, medium- and long-term interventions. The criteria of prioritization have been discussed that includes addressing the emerging D&D issues in Bangladesh, including a number emerging development programs as well as the recent crisis emerged out of the sudden influx of Rohingya refugees in Bangladesh from neighboring Rakhine State of Myanmar, which has already started creating a havoc on the forest resources in Bangladesh, has also been discussed. A bundle of priorities were suggested and their linkages with Bangladesh’s forestry sector priorities as well as carbon sequestration potential discussed.

* 1. **Drivers of D&D**

It is quite evident that Bangladesh, historically, has been experiencing D&D. Even though only 17.4%, or 2.6 million ha (National Conservation Strategy, 2016) (Rahman, 2016) of geographic area is theoretically under forests by definition (although the forest cover estimates it to be less than 10%), D&D occurs in Bangladesh roughly at the rate of 1.1% annually. However, estimates according to UNFCCC definition of deforestation are not clear (FIP, 2016). The causes of D&D in different forest types are, indeed, very complex and diverse (UN-REDD Bangladesh Programme, 2016).

Table 4.2. **Common Direct and Indirect Drivers of D&D**

|  |  |  |  |
| --- | --- | --- | --- |
| **Deforestation** | | **Degradation** | |
| **Indirect drivers** | **Direct drivers** | **Indirect drivers** | **Direct drivers** |
| Overpopulation   * Demand for Fuelwood | Fuelwood Harvesting | Overpopulation | Fuelwood Harvesting |
| Poverty   * Subsistence Income | Illegal Timber Harvest | Poverty | Illegal Timber Harvest |
| Governance   * Inadequate Planning * Inadequate Capacity * Corruption * Policy Barrier | Agriculture | Governance | Encroachment |
| Unclear Land Tenure | * Illegal Timber Harvest * Encroachment | Unclear Land Tenure | * Illegal Timber Harvest * Encroachment |

An attempt to consolidate the identified drivers for the ease of identifying PAMs revealed that four major drivers are responsible for both deforestation and forest degradation in Bangladesh, namely, Fuelwood Harvesting, Illegal Timber Harvest, Expansion of Agriculture, and Encroachment. Governance, although recognized as an indirect driver, is perhaps the strongest driver that triggers an over-arching impact that fuels the four major drivers. Table 4.2 is an attempt to list the common direct and indirect drivers of D&D. This set of drivers were used in the consultation process to seek recommendations from all stakeholders in the regional consultation workshops, individual with key resource persons and national consultation with a group of experts.

* + 1. **Demand for Fuelwood**

Demand for fuelwood is a living issue and growing. More than 80% of the rural population is directly or indirectly dependent on free access natural resources for subsistence. For example, over 60 million people are dependent on aquatic resources on a daily basis for food and about 90% of rural people cook with fuelwood, which amounts to 80% of the wood used in the country. Nevertheless, a 2014 survey suggested that there has been a decline from 44% to 35% of people cooking with fuelwood, overall, between 1991 and 2011. This would mean a decline in fuelwood use to about 11 million m3 by 2050 (FMP, 2016).



Figure 4.1. **Fuelwood Harvest in Bangladesh** (FAOSTAT, 2016)

* + 1. **Illegal Timber Harvest**

No reliable data on the production of forest products is available in the country. While a 2014 survey of private forests by BBS estimates the production of timber to be nearly one million m3 per annum, from private forests, in contrast, 15,880 sawmills spread across the country are conservatively estimated to consume nearly 7 million m3 of sawlogs per annum, mostly produced in homesteads and private plantations. As per FAO estimates, the production and consumption of roundwood (all wood including fuelwood) in the country has been showing a downward trend since 2001 and the current production and consumption of total roundwood is estimated to be nearly 27 million cubic meters per annum. The BFD officially produces only about 30,000 cubic meters of roundwood per annum from its social forestry operations. The gap is met perhaps I most cases from illegal harvest.

* + 1. **Encroachment**

Up to 2006, an estimated 89,000 ha of forest lands have been encroached upon in different forest areas (Rahman, 2011). Insufficient demarcation of the boundaries of national forests has made the situation worse. In addition, between 1971 and 2015 more than 20,000 ha of forestlands have been transferred to other agencies for non-forest purposes (Rahman, 2011; MoEF, 2015).

* + 1. **Expansion of Agriculture and Other Conversions of Forest Land**

Conversion of forests to agricultural land use has been a historical truth in Bangladesh, even though the current Land Use Policy explicitly mentions that the forest land will be kept intact. Old records and literature testify to the fact that clearing forests for expanding agriculture was rampant in the Sundarbans area. Remote sensing based quantitative estimates (Reddy et al. 2016) showed that from 1975 to 2014, 25% of deforested area was converted to agriculture and about 58% was subjected to degradation (scrub) in 40 years. However, during the recent 8-year period (2006 to 2014), 34% of deforested land was converted to agriculture and 35% became degraded scrub land.

Most of the sal forests of the country have been converted into agricultural land, illegally, or are under monocultures of akashmoni, planted under the social forestry programme. Only about 17,500 ha of the original 125,000 ha of sal forest has some sort of natural tree cover now. The hill forests, which were a part of the global biodiversity hotspot spanning India, Bangladesh, Myanmar and adjoining countries, have been severely degraded under the impact of progressively reducing cycles of shifting cultivation. Only about 1,00,000 ha hill forest land, out of over 7,00,000 ha, has any natural tree/bamboo cover at present. Apart from the land hunger amongst the public, for agriculture and habitation, forest lands are also under pressure from the developmental and security needs of the country. More than 125,000 ha of the forest land, including coastal plantations, have been disforested for conversion to other land uses.

* + 1. **Governance**

The issue of governance is a superimposing driver that cuts across all other drivers of D&D in Bangladesh (UN-REDD NP, 2016). Governance in the forestry sector has many dimensions; it is a compounding problem of policy, institutional capacity and accountability. Although problems of governance are rooted historically in forest administration and their laws and policies, contemporary changes in administration, laws and policies are inadequate to address sustainable forestry and conservation for the implementation of UN-REDD strategies. The problems with policies are not only that they are inconsistent and at times out of place, but the forestry sector in Bangladesh has in many ways remained colonial as revenue demands for the state still dominate policy agendas. Similarly, the BFD administration has not changed much in terms of its institutional practices and their relation to other government agencies. Considering the extent of territory and the importance of forest resource, the BFD is seriously under-employed to enforcing laws with limited human personal in order to protect, maintain, and develop the forest resources. There is a clear lack of plan for the development of human resources as well as an apparent gap of skill, incentive and motivation for forest officials to deal with forest conflicts and emerging challenges of responsive and accountable people-oriented forest policies and governance.

Land tenure is a serious governance issue in the forestry sector and one of the major indirect drivers of D&D (UNDP, 2017). Forest land tenure in Bangladesh is quite complicated. This is partly because forest land in the country are not only ecologically diversified but are also varied politically in terms of their relations to communities, laws, and customary practices. According to the study on assessment of tenure issues relevant to REDD+ strategy, some of the common problems with land tenure in forest regions are unclear tenure rights, overlapping rights, and land grabbing by elites (Jashimuddin and Suratuzzaman*,* 2017). However, many of these land tenure disputes and conflicts arise due to multiple authorities over forest land, in particular in the USF in the CHT, and vested forests and acquired forests in other forest regions which are often considered as *Khas* land and under the authority of DCs. As such, the study suggests that major challenges of forest land tenure issues and conflicts are: forest land administration, demarcation of forest land and land survey, corruption and land grabbing.

* 1. **Recommendations on PAMs from Stakeholders and Special Studies**

The responses that the Consulting Team received from the individual consultations and workshops were objective and, except for some specific situation-specific issues depending on the region, quite uniform and comprehensive. Recommendations are compiled in two broad categories, namely, preventive and forward-looking measures. Summaries of the outputs of the workshops and meetings are provided in Annex B. In addition, PAMs suggested by two special studies that the UN-REDD NP conducted on governance and land tenure issues have also been summarized.

* + 1. **Addressing the Demand for Fuelwood**
       1. **Preventive Measures for Immediate Action**
* ***Ensuring affordable alternate source of fuelwood is absolutely critical to reducing indiscriminate use of forest resources to meet the demand for fuelwood.*** The recommendations follow.
* Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities.[[7]](#footnote-7) Electric, kerosene and solar cookers must also be promoted.
* Incentives should be provided to promote use of biogas.[[8]](#footnote-8)
* Charcoal and briquette manufacturing using sawdust, rice husk, etc. should be encouraged. In addition to promoting these alternate devices among the forest adjoining communities, the retail price of liquid petroleum gas (LPG) cylinders should be made available to those dependent communities at a subsidized rate.
  + As elucidated in Chapter 4, the pressure on forests in the southern peninsula has become insurmountable. Extraction of fuelwood from the forests are intense and growing. This needs an urgent attention; therefore, there was a unanimous recommendation that not only rice, food and other logistics, but also alternative, non-wood cooking fuel must be given to the Rohingya refugees.
* Use of fuel wood in local hotels, tea stalls, paddy boiling mills, bakery should be immediately prohibited by, if need be, promulgating new law.
* Expansion of tobacco cultivation must be stopped. In tandem, use of fuel-wood in tobacco curing must be prohibited by law and that law must be strictly enforced.
* Evicting brickfields from the periphery of the forests is a must. Fuelwood use in brick burning must stop. Heavy punishments must be imposed for establishing brick burning kilns near the forest violating the Brick Burning Act. Minor change in the Act should be done in this regard. Supply of coal for brick burning must be ensured. Introduce and enforce use of improved brick burning technology.
* Encourage using branches/stems of trees harvested under “jot” permit. Allow the branches of the jot trees be transported legally.
  + - 1. **Medium- to Long-Term Actions for Sustaining the Growing Demand**
* ***A unanimous recommendation from all the regional workshops was establishing and increasing fuelwood plantation with fast-growing species in homesteads by individuals and the government (BFD) on forest and other public land.*** The recommendations were:
  + Surveys should be conducted in the landscape (PA or RF) to identify special zones in buffer area and firewood plantations be established following proper needs assessment. Areas outside forest (e.g., railway tracks, embankments, etc.) may also be brought under fuelwood plantation schemes.
    - Special fast-growing species such Dhaincha (*Sesbania* spp.) and raintree may be encouraged.
    - Hardwood species should be made mandatory in social forestry plantations.
    - Pruning of trees may be encouraged.
  + Use of saplings to provide support to betel leaf, particularly in the south, is the most damaging act that destroys plantation schemes and stops forests from regenerating. This practice must be stopped and alternate materials such as use PVC pipes and live fences must be made mandatory.
* In addition to the above recommendations that would directly address fuelwood harvesting issue, there also were recommendations covering demographic, research and development issues, including:
  + Need for increased awareness raising campaigns.
  + Addressing population pressure by promoting family planning.
  + Introducing and/or enhancing AIGA activities, especially for women.
  + Changing food habit to reduce fuelwood use for cooking.
  + Ensuring enforcement of law.
  + Universally intensifying co-management both for empowering people and raising awareness.
  + Encouraging research on alternate efficient fuel source.
    1. **Addressing Illegal Timber Harvest**
       1. **Preventive Measures for Immediate Action**
* ***Weakness of legal instruments was universally identified as main obstacles to addressing the illegal timber harvest problem.*** A large number of recommendations came out:
  + The existing laws are old and primitive; therefore, there is an urgent need for modernizing all relevant major laws, namely, the Forest Act, Wildlife (Protection) Act, and Social Forestry Rules. The revision of laws to suit the modern needs must be people-oriented and done in a consultative fashion.
    - There have been recommendations that region-specific laws must be updated/modernized as well. For example, there is a strong demand to modernize the 1900 CHT Regulations and the CHT Transit Rules. In addition,
      * Stop DC’s permit for furniture export from CHT. The BFD should be authorized to issue furniture transit with source verification.
      * Furniture factories or shops cannot be established without the permission of the BFD.
      * Depositing of fees along with the application of the saw mill permission should be stopped.
      * The “jot” permit process should be made flexible.
    - Enforce greater scrutiny prior to giving permits for furniture manufacturing, sawmill and brickfield establishment.
  + Heavy taxes may be imposed on luxury wooded furniture.
* ***Lack of political commitment and inter-agency coordination has been identified as a primary issue.*** Recommendations for improving the situation were as follows:
  + Ensure that there is an enhanced political commitment to stop/reduce illegal timber harvest.
  + Promote effective coordination among all relevant local government agencies and other stakeholders.
    - Ensure law enforcement with the help of law enforcing agencies such as police, coast guard, Border Guard Bangladesh (BGB), etc.
    - Ensure Upazila Forest and Environment Committees are effective and functional
  + Address the threats from the influx of the Rohingya refugees both politically, institutionally and socially.
    - 1. **Medium- to Long-Term Actions for Sustaining the Growing Demand**
* ***Visible lack of strict enforcement of existing laws and implementation of existing laws through programs have also been identified as a deterrent.*** Summary of recommendations to address the issue follows:
  + To ensure peoples empowerment and ownership, co-management should be made functional and the PA Rules 2017 implemented.
    - Increase the number of PAs.
  + Introduce institutional afforestation rules in consultation with HDC and CHTRC.
  + Stop jhum cultivation in the CHT and other hilly areas.
  + Encourage developing community forests, VCFs and plantation on private land in the CHT.
  + Immediately ensure complete delineation and demarcation of forest land and ensure regular monitoring.
* ***Lack of capacity in enforcing law as well as implementing programs is a serious issue.*** Recommendations to address the situation were:
  + The BFD and other stakeholders must have adequate manpower and capacity; therefore, hire the required manpower at the BFD.
  + Empower check-posts, Quick unloading & loading, species identification, authority to verify source, etc. in the CHT
  + Introduce Smart Patrolling system involving communities.
  + Build capacity of the Community Patrol Groups (CPG) and introduce permanent, formal remuneration for CPG members for contributing to conservation and protection.
  + Make people aware of the existing laws through information dissemination, increased awareness campaign and motivational programs.
* ***Inadequate availability of research-based technology has also been identified as an indirect cause of increased timber harvest, legally or illegally.*** The suggestions to address the situation were:
  + Promote use of improved technology such as treatment of timber before using them for furniture making or construction to increase durability. Bangladesh Forest Research Institute (BFRI) has the technology.
  + Promote research on alternate of timber and construction materials and reduce use of solid wood.
  + Encourage enhanced use of bamboo and cane furniture as well as non-timber forest product (NTFP) development and marketing, etc.
* ***Population pressure and poverty are indirect, but intense problems that trigger illegal harvest of timber.*** Recommendations were:
  + Address population pressure by promoting family planning, raising awareness and motivation.
  + Intensify poverty alleviation programs for the forest dependent communities by
    - Creating jobs and other AIGA.
    - Expanding the Social Forestry program.
    - Ensure women’s empowerment through income generation (textiles, sewing machine, etc.).
    1. **Addressing Agricultural Expansion**
       1. **Preventive Measures for Immediate Action**
* ***Ever expanding agricultural field often encroaching into the forest areas has been identified as a major D&D driver.*** Recommendations were as follows:
  + Ensure proper land use planning under existing laws, in particular, in coordination with the civil administration.
    - Demarcate and delineate forest boundaries physically and monitor regularly.
    - Ensure that a planned housing scheme is in place and stop building houses in agricultural land.
    - Abolish/revise forest villager system.
    - Ensure control on tobacco expansion.
    - Introduce cooperative farming systems instead of land fragmentation.
* ***Absence of adequate technology for increased agricultural production encourages agricultural expansion into the forest land.*** Suggestions to address the situation follow:
  + Adopt improved and environmentally friendly agricultural technology such as improved plantation/cropping techniques/systems.
    - Instead of horizontal expansion of agriculture, vertical expansion by high yielding variety (HYV) crops and diverse cropping pattern, and appropriate crop rotation should be encouraged.
    - Provide training to farmers on improved agriculture.
    - Stop removing topsoil from agricultural land and promote organic fertilizer.
    - Introduce and expand agroforestry especially on encroached forest lands.
    - Encourage site-specific species. For example, discourage pineapple along the slope even using terraces, etc. also, discourage root crops in forest land.
    - Shifting cultivation (Jhum) should be totally prohibited in plain districts. Encourage no harvesting of jhum in erosion prone areas. Research to develop new technologies for jhum (hill farming) systems.
    - Improve marketing of agricultural products so that the farmers get proper value for the crops. Increase cold storage facilities and technologies for preservation of horticultural products.
      1. **Medium- to Long-Term Actions for Sustaining the Growing Demand**
* ***Ultimately, it comes down to poverty and lack of income that forces communities to expand agriculture by encroaching into forest land.*** To arrest the trend, the following suggestions were made:
  + Introduce AIGA and also GoB-sponsored programs like ‘*ekti bari ekti khamar*’ (one house one farm) program.
  + Encourage afforestation in marginal land by the marginalized population through
    - Introducing horticulture, apiculture, etc.
    - Establishing fire-line/break.
    - Expanding social forestry programs.
    1. **Addressing Encroachment**
       1. **Preventive Measures for Immediate Action**
* ***Political influence has been vocally identified as a prime reason to promote encroachment; therefore, political commitment is a pre-requisite for ensuring that encroachment doesn’t happen by creating an enabling environment for law enforcement and improving governance.*** The suggestions were:
  + Stop political influence especially in forest land grabbing and erecting illegal infrastructure/houses.
  + Take up special and well-coordinated eviction drives along with rehabilitation programs under BFD supervision.
  + Identify and punish the forest encroachers. Forest land grabbers and encroachers should be given exemplary punishment, if required by promulgating new laws. Those identified as encroachers should be barred to participate in any public election in next 10 years.
  + No permit for constructing roads, highways or industrial units can be given without BFD’s permission.
  + Establish Conservation and Protection Task Force.
  + Ensure public participation in decision making process.
  + Ensure transparency of every work.
  + Introduce complain drop box system at offices.
  + Stop leasing of forest land for industrial or any other use and, if needed, retrieve the existing leases.
  + Empower the CPGs.
  + Socially boycott encroachers and keep them out of social safety network.
    - 1. **Medium- to Long-Term Actions for Sustaining the Growing Demand**
* ***Similar to addressing other drivers, lack of enforcement of law has been identified to enhance encroachment.*** The recommendations were as follows:
  + Make land ownership laws clearer or stronger.
  + Ensure proper land use planning under existing laws:
    - Demarcate and delineate forest boundaries physically.
    - Introduce a monitoring system and ensure regular monitoring of the forest boundaries.
    - Enhance coordination with civil administration.
    - Stop hill cutting in the forest areas.
    - Stop the ‘headman’ system in the forest areas.
  + Declaration of PAs and, for that matter, the slow and cumbersome forest reservation process must be made faster.
* ***Massive afforestation on forest land must be ensured***
  + Through assisted natural regeneration (ANR) programs.
  + By taking new plantation programs.
  + By introduce participatory forestry and involving local population in afforestation.
* ***Population pressure of the forest adjoining communities should be reduced through family planning.***
  + 1. **Addressing Governance Issues**
       1. **Preventive Measures for Immediate Action**
* ***Developing ownership among stakeholders, increased awareness and increased participation have been identified as probable measures***. Recommendations were:
  + Provide communities with benefit sharing from forest revenue
  + Co-management approach should be expanded to all forest areas
  + Address gender issues and empower women
  + Enhance skill-based training programs to dependent communities
  + Improve communication.
    - People must know, for example, the difference between protected forest and protected area, vested forest, etc.
  + Increase agroforestry.
    - 1. **Medium- to Long-Term Actions for Sustaining the Growing Demand**
* ***Lack of inter-agency coordination has been identified as a primary issue.*** Recommendations for improving the situation were as follows:
  + Strengthen local governance and improve FD, civil administration and traditional leadership coordination.
  + Avoid taking plantation projects without consulting the headmen.
  + Address the threats from the influx of the Rohingya refugees both politically, institutionally and socially.
* ***Lack of enforcement of law has been identified to enhance encroachment.*** The recommendations were as follows:
  + Relevant Acts and Rules should be updated immediately and enforcement must be ensured
  + Make land ownership laws clearer or stronger. Land dispute issues should be addressed on a priority basis.
  + Ensure proper land use planning under existing laws:
    - Demarcate and delineate forest boundaries physically
    - Introduce a monitoring system and ensure regular monitoring.
  + Village Forest, Protected Forest and Acquired Forest must be returned to the BFD.
  + Implement forest policy.
  + Revise BS Documents and return the forest land taken under the jurisdiction of the civil administration (official encroachment) and indiscriminate acquisition must be stopped.
  + Construction of roads, railways, etc. through the forest areas should be strictly prohibited by law if required by formulating new laws or by improvement of prevailing laws & rules.
  + Speed up the resolution of the forest cases.
  + Transfer forests except RF lands to HDCs.
  + Modernize VCF management.
  + Corrupt practices must be stopped.
    - Punishment for corrupt practices should be enhanced.
    - Increase accountability.
  + Increase vigilance, monitoring
* ***Capacity building needs, particularly of the BFD, has been identified in all cases***. Recommendations follow:
  + Remove barriers to the recruitment rule
    - Adequate and skilled manpower must be provided to the FD.
    - Increase budget allocation for adequately addressing degradation.
  + Introduce capacity/incentive building programs for headmen and traditional leaders.

Khan (2018) suggested the following PAMs to account for the overall forest governance:

* A greater degree of consultation and interaction between the various directorates/department of Forest Department (FD, BFRI, etc.) and the MoEF to synergize the Revenue and Development heads during the allocation process in order to harmonize the (entity level) needs and plans with central resource allocation.
* Guarantee share of benefits of local communities in social forestry program made in the Participatory Benefit Sharing Agreement (PBSA) and other form of participatory arrangements in order to ensure public support for forestry activities.
* Setting up a Legal Unit at the BFD headquarters to deal with forest crimes and coordination with civil administration concerning land tenure issue and forest boundary.
* A central HR strategic planning process at the BFD headquarters under the close purview of the CCF. The emphasis should be on long range HR strategic planning in regular consultation and communication with the relevant ministries (especially MoEF, and subsequently MoPA and MoF).
* Centrally issued formal directives and decisions regarding the functional coordination and mutual support for forest management among relevant government agencies including the coordination at level of sub-districts, especially in the forest regions.
* Increased the logistical and other support in of BFD.

The study by Jashimuddin and Suratuzzaman (2017) suggested a number of PAMs to address the land tenure issues:

* *Khas* land should be redefine to exclude acquired forests (AF) under the State Acquisition and Tenancy Act, 1950, protected forests (PF) under section 29 of the Forest Act, 1927, newly accreted and forested land in coastal region, haor, baor, beel, river, khal, creeks, lake and other water bodies and wetland from Register VIII under Land Management Manual 1990 in order to avoid lease for non-forest use; *Khas* land should be identified in a new Register prohibiting lease and change of land use for conservation of these fragile ecosystems.
* Appointment of Deputy Secretary as Forest Settlement Officer (FSO) under the DC with financial logistic and technical support in the areas where more land litigated such as Gazipur, Tangail, Chattogram, Cox’s Bazar, Sylhet etc. so that under the supervision of DC, FSO can complete the process of forest settlement, demarcate the forest and *khas* lands and update records accurately.
* Survey and demarcation of forest land as well as digitization of land record so as to minimize disaggregation or disintegration of forest land.
* The functions of record keeping and registration have to be brought within a single executive process at the field level i.e. Tahsil office and Sub-Registrar’s office both should come within the jurisdiction of a single executive officer, say the Assistant Commissioner (AC) of Land under the Directives of the MoL ensuring same structure with full equipped data-based office to provide quick and effective service to the people.
* Declared forest lands through gazette notification shall remain under the BFD till the lands are not excluded from the BFD through gazette notification under section 27 of the Forest Act 1927.
* When forest is managed traditionally by communities, decentralizing property rights from state control to user communities has to be encouraged for community participation in forest management.
* Implementation of land conflict in CHT and implement *delegated management* model to local groups, most often to village communities, for a specific period of time, with the possibility of renewal;
* Reserved forest or protected forest notified under gazette shall be ineligible for settlement;
* As Members of Parliament (MPs) are advisor of *Khas* land distribution (1995 Act) committee but sometimes government officials have to work on political pressures, making of new law prohibiting political influences on the officials of the land ministry, administration, revenue or BFD on land lease.
* Updating the Forest Act 1927 to impose severe and effective deterrent measures under the section 26 and also include provision for mobile court for speedy trial of the forest offenders.
  1. **Prioritization of Recommended PAMs**
     1. **Criteria of Prioritization**

The large number of drivers, their underlying causes and their different combinations and sequences demand multiple strategies to reduce D&D. However, the analysis in this report only considered four proximate drivers and some of their underlying causes. Even with the four drivers, it is unlikely that REDD+ funds in the near future would be sufficient to incentivize the required behavioral changes to remove the drivers. Therefore, it is necessary to prioritize. The following sections provide some potential lines of action for REDD+ interventions for consideration.

The PAMs suggested above to address the drivers to arresting D&D and, ultimately developing and sustaining forest resources aiming at conserving and enhancing carbon stocks in Bangladesh are quite comprehensive. Already having low area coverage under low quality forest with low crown cover, biomass density and biodiversity, sustainable forest resources development has already emerged as a priority development issue. As identified in all the studies on D&D as well as the suggestions offered by all stakeholders, the forest resources are suffering from over-exploitation and large scale illicit removal of timber and other forest resources is common. The pressure on forest land for many purposes leading to illegal encroachment and official conversion of forest land to commercial/institutional land is mounting. Also, at increase are demands for fuelwood, timber and industrial wood in a situation where forestry, unfortunately, is not a priority for the GoB resulting in low investment in the sector. The commitment of the GoB to increase the coverage and enhance the quality of forests in order to increase carbon stock compounds the challenge. Setting a priority for implementation where all the PAMs merit equal priority is; therefore, challenging. However, we have taken the following into consideration in recommending a set of PAMs.

* + 1. **Addressing the Overall Challenges for the Forestry Sector**

The 7FYP as well as Khan (2018) listed some of the major challenges facing the forestry sector and, for that matter, the BFD that has the sole agency of the GoB to manage all the affairs pertaining to the sector. The challenges, which were also identified as major drivers of D&D, are as follows:

* **Weak Capacity:** The BFD is under a chronic problem of capacity shortage due to various complications. The human resources required to tackle even the normal forest management operations let alone addressing climate change issues, including conserving and enhancing carbon stocks. Most of the remaining senior officials will retire by 2018, and the situation no better in the field: out of the 209 Forest Rangers on BFD’s employment records, 187 will retire by 2020 (FMP, 2016). The BFD hosts one of the nation’s first Resources Information Management Systems (RIMS). However, the RIMS has never been functioning up to its potential. There is a clear weakness in monitoring, learning and sharing experience. Also, the GoB officials, especially at the local (Upazila, Union Parishads, Municipal Corporations, etc.) do not have adequate management skills in order to respond to various impacts of climate change. The GoB institutions are not adequate to improve performance of officials or to hold them accountable for delivery of results. Even at the central Government level, understanding and knowledge are limited to few officials working in technical institutions. Most of the officials need immediate capacity enhancement trainings in order to equip themselves to act as per mandate of the BCCSAP and project designing under the Annual Development Plan (ADP). But, Climate Change Adaptation (CCA) and mitigation are a process that requires participation from all stakeholders. CCA sensitive projects should be designed through a proper participatory process, where the concerns of local people, especially women and the marginalized population, will be duly addressed. The BFD has inadequate infrastructure, legal support for enforcing forest laws and for undertaking conservation and afforestation. Research capacity is completely non-existent.

The BFD has a Project Monitoring Unit (PMU), which does not have proper human resources or an established, monitoring system in place. Usually, monitoring of projects is the responsibility of the Project Director (or the DFO for regular development activities) if it is a development project funded internally or externally. There must be a full-fledged project monitoring system in place with adequate capacity. The monitoring process must also allow people’s voice to be incorporated and evaluated.

* **Lack of Power and Political Clout to Address Institutional Encroachment Issues**: Despite Bangladesh’s low coverage of forests compared to what is needed to maintain a global average for sustaining nature and lives, the country is gradually losing its forests to other land uses in the name of development and security. The defense forces, for example, the Bangladesh Army and the Coast Guard have got allocations from the GoB for establishing cantonments and security outfits. Also, powerful vested quarters are encroaching into forest lands, particularly in Madhupur, for industries and recreational facilities. The BFD lacks the political or bureaucratic clout to address this issue. his issue has repeatedly come in the regional as well as Dhaka consultations.
* **Lack of Political Will**: The message was loud and clear at all the regional as well as the Dhaka workshops that there is a serious lack of political will that is critically needed to save the forest and environment. Forestry is not a priority of the government.
* **Lack of Priority Setting and Financing:** The BFD has so far made no effort to prioritize the programs or projects or to elaborate financial requirements for each of the prioritized programs/projects. Planning is done on an *ad hoc* basis. Without proper prioritization, concerned authorities will find it difficult to identify projects that might be more useful towards CCA and/or mitigation. Even though there are some large financial commitments in the pipeline recently, the sector is always facing shortage of finance. The scenario in the overall climate change sector is similar. The BCCSAP requires an outlay of $10 billion for the 10-year period. Lack of financing has been a crippling factor for the government in implementing BCCSAP, especially its priority projects and programs. Furthermore, release of funding, especially by development partners and lack of fund management capacity is additional limitations.
* **Institutional Coordination:** Following a review of the policies over the last thirty years, it is apparent that natural resource related policies have been enacted to favor individuals rather than protect the common good. More often than not, policies issued by one GoB institution contradict those of other institutions making implementation and enforcement of natural resource protection next to impossible. In the end policies have been issued in a haphazard fashion in the absence of a unifying national strategy for forestry management. In almost all cases, the forestry projects are implemented under the BFD even though many relevant aspects fall under cross-ministerial jurisdiction. To ensure an effective multi-dimensional response system, proper coordination among relevant institutions is a must. A whole of government approach is best suited to achieve this objective. This is particularly important since there is a serious issue with demarcation of forest land and boundaries.
* **Transparency and Accountability:** Lack of transparency or corruption by the BFD personnel has been cited as a prime governance issue. Absence of accountability of the BFD and, for that matter, other agencies has also been repeatedly mentioned as an indirect but harmful driver.
* **Political Economy:** Repeated efforts (e.g., USAID, 2016; DeCosse et. al., 2012) in evaluating the success of conservation initiatives, particularly community-based conservation initiatives, in Bangladesh met a unanimous conclusion: “the greatest threats to protected areas come from powerful socio-political interests, not the poor people who depend on them”. DeCosse, et. al., 2012 challenged the theory that ‘In order to conserve the forest, you need to offer alternative incentives to those neighboring poor that enter the forest.’ It is indeed true that many thousands of poor survive from the forests and PAs in Bangladesh, but if the only extraction from the forest was for the immediate needs of the neighboring poor, the conservation challenge would be quite manageable. The deeper and greater threat to the natural resources is not these neighboring poor acting to meet their immediate livelihood needs, but well-organized commercial demands placed on the resources from a network of powerful economic and political actors.
  + 1. **The CHT: Massive Opportunities in the Midst of Mammoth Challenges**

The Consulting Team had engaging dialogues with a number of traditional and political leaders in the CHT as well as civil society development partners that have long experience dealing with the development programs in the CHT. The CHT comprises the largest terrestrial forested area (~28% of the total land area). Official records from the first few years of the 20th century show that the area of the reserved forests in the CHT was 3587 km2, out of a total area of 13,307 km2 (with 9,720 km2 of USF). The CHT still contains the richest terrestrial biodiversity, transboundary wildlife corridor, and micro watersheds (VCF) that are critical for maintaining ecosystem health.

Management and conservation of the CHT forests are the most serious challenge for the forestry sector, in view of the difficult socioeconomic and law and order situation. Hill forests are the only region in the country where significant land is available for reforestation but working conditions in the region are also the most difficult due to the prevailing situation and the unsettled land tenure issue. Land tenure has been most inciting factor to all the civil unrest in the CHT. The BFD’s efforts to rehabilitate the severely degraded headwater reserves and other RFs have failed time and again even though 40% of the CHT’s land is under the jurisdiction of the BFD. While the BFD’s official statistics records that about 5,250 ha of the forest land have been encroached, the real figure may go further up. Political unrest has forced the BFD to implement a number of reforestation attempts. There has been opposition from the traditional as well as political leadership to expanding social forestry programs. They demand that an appropriate SF model be developed to suit the popular and political reality of the CHT. The Forest Transit Rules 1973 has also been identified as a hindrance. There has been success in recent efforts in improving the VCFs. However, the VCFs are very small as resource bases. To bring about a positive change in the CHT forestry resources would require large-scale initiatives, of course, by involving the local population.

The CHT is also subject to unplanned and aggressive land use that directly harms the remaining forests. Rampant expansion of tobacco cultivation keeps increasing demand for fuelwood for the curing process. This is a major driver for D&D.

The conglomerate of the drivers of D&D that the study is using termed by the traditional leaders as sub-drivers, the main driver being unclear and conflicting land tenure. “The main driver is population, which is not a natural growth, but an imposition. Encroachment and fuel wood all are related to this artificial population growth” they opined. Also, the Forest Act (1927) still does not gain any acceptability. “The 1900 CHT Regulation is the forest law for the region.”

The CHT Peace Accord emphasizes on devolution of power to the RC and CHT Hill District Council (HDC). The CHT Accord acknowledges the roles of the RC and HDCs in managing the natural resources in the region, particularly “forests outside the RFs”. An effective coordination mechanism has to be devised to not only involve the CHT RC and HDCs in REDD+ activities ut establishing a formal process that recognizes their leadership and coordinating role since the CHT Accord also recognizes that these local government institutions will lead rural development activities in the region. While designing projects, a focused attention will be needed for the CHT since the D&D for the region are different in nature; therefore, implemention of measures would also be different.

* + 1. **Addressing Immediate, Medium- and Long-term Needs**

Even though there is a decline from 44% to 35% people using fuelwood, but the projection says that there will be fuelwood use of about 11 million m3 by 2050 (FMP, 2016). This figure is also tentative since the demand for fuelwood in tobacco curing and brick burning are not accurately accounted for. The demand is a huge one that will need to be met. The suggested priority PAMs will address these issues.

Encroachment as well as conversion of forest land for agricultural expansion or institutional allocation will continue to be problems. The ever-growing challenge of the BFD’s capacity needs, including staff recruitment, coordination capacity and mass communication to sustainably manage forestry operations will require planning for a medium-term strategy. Capacity development takes time and resources, but it is an essential upfront and ongoing investment. Conservation of natural resources needs strong public participation and ownership. Although the BFD has made significant progress in social forestry as well as co-management of PAs, Bangladesh needs a complete reorientation of foresters from being primarily a law enforcement force to being a steward for conservation and an extension agent with good communications and teaching skills to facilitate forest resources development.

In the long-term, the BFD will need to successfully implement programs and projects, essentially in a participatory process, to increase the areas under forest coverage and conservation, both under conventional forest management and PA management to ensure an enhancement in carbon stock with a robust monitoring capacity in place.

* + 1. **Inclusive and Equitable Forestry Development**

Poverty and population growth have been identified as drivers of D&D as well. Bangladesh achieved a resounding success in curbing the population growth rate. Addressing population growth rate will not be a purview of the proposed PAMs; this is already a national priority. The current growth rate is 1.05% (2016 estimate). However, with a base population of over 163 million and a population density of 1,252 people per km2, the pressure on the nation’s natural resources is already intense and growing.

The GoB has also done a tremendous job in reducing poverty. Poverty has come down to below 25% and extreme poverty down to around 12%. Directly or indirectly, 70% of Bangladeshis depends on natural resources for their livelihoods. Although rural headcount poverty has fallen dramatically over the past decade from 48.9 in 2000 to 31.5 in 2010, poverty is mainly rural and mainly among the natural resources dependent population. Seventy-seven percent of rural households say they are at break-even or deficit status. As a consequence, regardless of the national economic growth rate, for at least the medium term, the 12% extreme poor (or the ultra-poor) will continue to depend on natural capital, adversely affecting biodiversity, food security, nutrition and incomes.

The proposed activities will be responsive to the needs of the forest dependent rural poor and ultra-poor, ethnic communities, women and youth.

* + 1. **Addressing Emerging Crisis in the Forestry Sector**
       1. **Rohingya Infiltration**

The ceaseless infiltration of the Rohingya into the Bangladesh territory has been putting tremendous pressure on the forested areas and the resources, mainly in the Cox’s Bazaar District. The exodus *en mass* of the Rohingya population inherently living for generations in the Rakhine State of Myanmar had begun in 1992.

As hundreds of thousands of Rakhine people from Myanmar seek safety in the country, they have little choice but to overburden the jungles on which their livelihoods depend (Ahmed, 2018). In addition to formal and informal camps set up in forest areas to home these homeless refugees, the already degraded forests are serving as the refugees’ source of fuelwood. The highly congested refugee site, which houses around 560,000 refugees, used to be forest land but is now crowded with tens of thousands of refugee shelters and services.

The Teknaf peninsula as a whole and from Cox’s Bazaar to Chunoti Wildlife Sanctuary is along one of Asian elephants’ main migratory routes between Myanmar and Bangladesh. Asian elephants are a critically endangered species in Bangladesh, thought to number just 268. Sudden influx of a million people in the peninsula has made it impossible for the elephants to use the territory, resulting in an obvious human-elephant conflict. Specia (2017) wrote, “Four Rohingya refugees were trampled to death by an elephant in a makeshift camp in the Cox’s Bazar area. A woman and three young children, who had fled violence in their home country of Myanmar, were killed when the animal stormed their temporary shelter in the Balukhali camp, where tens of thousands of refugees are living.” Since November 2017, however, there have been at least 10 deaths resulting from human-elephant incidents in the main Kutupalong-Balukhali refugee settlement (The Dhaka Tribune, March 2, 2018).

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| --- | --- |
| [https://thescarlet.org/wp-content/uploads/2017/11/rohingya-map-900x630.jpg](https://thescarlet.org/15526/category_news/understanding-the-rohingya-refugee-crisis/#photo) | Image may contain: sky, outdoor and nature |
| **Map of Bangladesh and Myanmar (PC: Al-Jazeera)** | **A new Rohingya Camp on a land that was a deep forest a few weeks ago (PC: Md. Shams Uddin)** |
| Image may contain: 2 people, people smiling, mountain, sky, outdoor and nature | http://www.dhakatribune.com/assets/uploads/2018/02/WEB_Wil-Elephant-Attack_Rohingya-Camp_Edited_22.02.2018-1024x590.jpg |
| **Indiscriminate collection of fuelwood by both the local population and the Rohingya (PC: Md. Shams Uddin)** | **An Elephant is Storming through the Kutupalong Camp (PC: The Dhaka Tribune)** |
|  |  |
| Exhibit 4.1. **The Rohingya Refugee Crisis** | |

“Behaviorally, elephants always follow their traditional routes and corridors for regular movement. If they find any obstacles within it, they try to break it,” said IUCN in a recent survey report carried out to assess the scale of the problem (UNHCR-IUCN, 2018). The survey, which covered a hilly area of 70 km2, revealed frequent elephant movement around the refugee settlement area, with the highest concentration of movements along the west boundary. It estimated that as many as 45 elephants could currently be active around the site. The report said the refugees and some host communities living nearby were highly exposed to future incidents, since elephants could enter from a number of open points. Recently, United Nations High Commissioner for Refugees (UNHCR) has come to its first-ever conservation partnership with IUCN “to reduce incidents involving elephants coming into conflict with refugees in one of the world’s largest refugee settlements”. However, it remains skeptical whether the issue can be addressed properly. This is a natural wildlife corridor and carrying capacity issue.

The Rohingya population is directly impacting three PAs, namely, the Chunati Wildlife Sanctuary (CWS), Teknaf Wildlife Sanctuary (TWS) and Medhakacchapia National Park (MNP). Currently, the GoB is planning to shift the camps either to an offshore island (Bhashan Char) or *khas* land outside the forests. The concerned quarter opine, this is will just spread the issues, not solve it. In designing REDD+ projects, this issue should be taken under serious consideration.

* + - 1. **Development of Major Communication Infrastructures**

The GoB is planning to establish a rail road for improving rail connectivity between Bangladesh and its South Asian neighbours and other Asian countries. This includes the construction of a single line dual gauge railway track from Dohazari to Cox’s Bazar via Ramu and Ramu to Gundum. The Asian Development Bank (ADB) is financing the project. The Environmental Impact Assessment (EIA) noted that there will be “impact due to elephant movement through construction areas as well as disruption of elephant travel routes due to construction”. The EIA also noted that the rail lines will have impacts on three PAs, namely CWS, Fashiakhali Wildlife Sanctuary (FWS) and (MNP). The EIA also says, it is expected to have minimal negative impacts on the three protected areas mainly because the habitat is already highly disturbed. Through implementation of a compensatory afforestation program for trees removed under the component, possible habitat restoration activities in coordination with the local forestry officials; mitigation measures for elephant crossings (as described above) it is expected that the component will bring no “net loss” in the local biodiversity.” This will not be as simple as it was put. The proposed rail line will completely change the ecology of the southern peninsula. There are scopes to plan the alignment avoiding the PAs.

* + - 1. **Overlapping Jurisdiction and Unabated Institutional Conflict**

While the BFD is preparing to declare an RF at the Sonadia Island, which is also an ECA under the management jurisdiction of the DoE, is now a big embarrassment for both the departments. The Sonadia Island has become a favorite site for many development activities, including but not limited to, shrimp farming, afforestation, building a deep-sea port, building an LNG terminal, etc. The future of forests itself has become uncertain and with that the future of carbon sequestration potential.

The most talked about institutional chaos in recent years finds a prominent place in the Sundarbans. The GoB, defying all protests of the BFD and environmental activists, is installing a mega coal fired power plant at Rampal just 14 km away from the vicinity of the Sundarbans and adjacent to the Sundarbans ECA. It is also a fact that the DoE – the custodian of the ECA – has issued environmental clearance certificates to 183 (or 143) industrial units in the ECA landscapes. Most recently, the MoE has given Energypac – a private company – permission to build an LPG processing facility just 11.5 km away from the Sundarbans.[[9]](#footnote-9)

Also, many other government development initiatives in the past and at present encroached forest land that directly lead to conversion of forestland. Major conflicting issues also arise when forest lands are leased out to government or non-government institutions or enterprises for the purpose of development of roads and railways, rubber and tea garden, orchard, settlement programs, establishment of military base without consulting BFD (UN-REDD NP, 2016, 2018). A recently established cantonment at Ramu at Cox’s Bazaar District is right on a major corridor of the Asian elephants. In addition to Ramu, forestland has been encroached by Bangladesh Army in other forest areas also. An official estimate shows that 60,782.30 ha (150,132.29 acre) has so far been transferred to different organization or institutions officially of which only 1.27% (774.65 ha) land has been transferred after de-reserving.

* + 1. **Communication is Key**

Communication is part of capacity. However, we consider it to be prudent to mention it as a focused issue. The BFD does not have a permanent set up or mechanism even to drum up its most laudable success even though the Department has quite a few over the period of its existence let alone conduct routine communication. A permanent, well equipped with adequate human resources, Communication Division. The BFD should start designing a communication program immediately.

* 1. **Priority PAMs**

We recommend the following priority PAMs for implementing REDD+ in Bangladesh. Given the perilous situation of the forestry sector, implementing these activities are essential both for maintaining a moderate forest cover, sustainable forest management and, ultimately, enhancing carbon stock aiming at receiving performance-based payments.

Bundle 1: **Sustainable Supply of Alternate Energy for Fuelwood**

Bundle 2: **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply**

Bundle 3: **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems**

Bundle 4: **Improved Management of Existing Forests and Protected Areas**

Bundle 5: **Improving the Enabling Environment for Increasing Carbon Stocks**

Bundle 6: **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources**

Bundle 7: **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation**

Bundle 8: **Developing a Communications Protocol for Mass Awareness Generation**

Table 4.3. provides a detailed scenario of the PAMs under each recommended bundle.

Table 4.3. **Policies and Measures for REDD+ implementation for period of 2019-2024**

| **No.** | **PAMs Bundle** | **PAMs Projects** | **PAMs Project Components** | **Regional Coverage** | **Unit** | **Unit Cost**  **Million US$** | **Total Costs in Million US$** | **Implementing Agency** | **Key Outputs** | **Estimated Funding Need for the Project in Million US$** | **Coordinating Instruments** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | **Sustainable Supply of Alternate Energy for Fuelwood[[10]](#footnote-10)** | Emergency supply of improved cooking devices for households and small businesses (tea stalls, restaurants, etc.) | 1. Survey of demand for improved cooking devices (ICS, solar cooker, LPG, LNG, briquette, charcoal, etc.) including market research | Nationwide  *Priority*: CHT, Chattogram, Cox’s Bazaar, Sal Forest Area | 11 | 0.2 | 2.2 | UN-REDD + NGO | Reduce Carbon depletion from Forests | **2.2** | Linked with Communication | District wise survey for greater Ctg, Cbr, Rang, Khara, BBan, Syl, Dhaka, Tangail, Mymensingh, Dinajpur, Rangpur. |
| 1. Training of local service providers for manufacturing and marketing of appropriate improved cooking devices | Do | 11 | 0.3 | 3.3 | Do | Do | **3.3** | Do | In 11 districts |
| Energy efficient, sustainable supply of alternate technology for replacing traditional brick for construction | 1 Survey of potentially affected brickfields around forest areas  2 Establish linkages for conversion of the brick manufacturer to take up alternate | Nationwide | 64 | 0.02 | 1.28 | UN-REDD + NGO + MoE + REHAB + MoHPA | Do | **1.28** | Do | In 64 districts,  Technology may be concrete blocks. |
| Energy efficient, sustainable supply of alternate fuel for tobacco curing and paddy boiling | 1. Survey of demand for efficient fuel (briquette, coal, etc.) including market research | Nationwide | 64 | 0.01 |  | UN-REDD + NGO | Do | **6.4** | Do | , Dinajpur, Rangpur, .Rangamati, Khara, BBan, Ctg, Cbr, Syl, Dhaka, Tangail, Mymensingh. |
| Research on and Extension of Alternate Energy for Domestic and Industrial Use | 1. Field research | Nationwide | 10 | 0.5 | 5 | UN-REDD + Bangladesh Council of Scientific and Industrial Research (BCSIR) | Do | **5.0** | Do |  |
| Research and popularization of the use of treated timber, aminated wood, in lieu of solid wood | 1. Basic research on technology improvement. 2. Market study & incorporate that as feedback in the research. 3. Camping and advertisement. | Nationwide | 64 | 0.04 | 2.56 | UN-REDD + BFRI + Forestry faculty of Universities. | Do | **2.56** | Do |  |
| 2 | **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | Develop nursery for fuelwood species | 1. Encourage private nursery owners to grow fuelwood species. 2. Impart Training on Nursery Techniques. 3. Assist marketing of fuelwood seedlings. | Nationwide | 64 | 0.06 | 3.84 | UN-REDD + NGO | Reduce Carbon depletion in Forests by supplying Fuelwood from TOF area | **3.84** | Secure technical support from BFD |  |
| Expand and strengthen tissue culture facilities to enhance supply of fuelwood seedlings | 1. Encourage and support tissue culture labs for growing fuelwood seedlings. 2. Assist marketing of tissue culture seedlings in test tubes to private nurseries. | Nationwide | 10  Tissue Culture Lab | 0.4 | 4 | UN-REDD + tissue culture labs. | Cut back the nursery time & produce fuelwood seedlings in large scale at low costs | **4.0** | Do |  |
| Collaborative management of NTFP (Bamboo, Murta, Cane, Golpata, Melia grass, etc.) | 1. Identification of collaborative partner 2. Collaborative management & benefit sharing | Forest areas (209 Upazila) | 209 | 0.05 | 10.45 | BFD | Sustainability & combat carbon reduction | **10.45** | Collaborate with Agri Extension. | Priority areas will be BFD adjoining areas. |
| Establish fuelwood plantation in marginal land, homesteads and institutional premises | 1. Identify planting sites 2. Motivation & planting 3. Ensure after care | Nationwide | 64 Districts say about 50,000 ha equivalent Area. | 0.0008 | 40 | UN-REDD + NGO | Reduce depletion of Forest Carbon by supplying fuelwood from rural areas. | **40.0** | Collaborations with BFD, LDGED, R&H, WAPDA, Railway, etc. | Country wide program |
| Agro-forestry in homesteads | 1. Identification of participants 2. Motivation 3. Implement agro-forestry to yield fuelwood | North Western region of Bangladesh | 64 Districts | 0.075 | 4.8 | UN-REDD + BFD + NGO | Enhance rural fuelwood supply & reduce Forest Carbon depletion | **4.8** | Tagged with communication | TOF areas |
| 3 | **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | Secure land tenures, forest boundary demarcation, digitization of land records and public access to forestland records. | 1. Demarcation of forest land boundary on the ground. | Nationwide | BFD areas 1,884,161 ha | 0.00015 | 282.624 | UN-REDD in close collaboration of BFD & Department of Land Records and Survey (DLRS) | Forest land properly demarcated towards FRL to claim carbon benefits. | **283** | MoL & MoEF shall have to extend a faithful lead | All the BFD land to be surveyed jointly with LA & LR |
| 1. Develop a Data Management System for keeping of land records under BFD. | All BFD Land 1,884,161 ha | ha | 0.0000016 | 3.015 | BFD | Do | **3.02** | MOEF shall have to extend a faithful support. | Do. Including equipment |
| 1. Capacity building of BFD, especially RIMS | Do | RIMS. LS requirement | LS | 2 | BFD | Do | **2.0** | Do | Training & International Consultant Support. |
| Resettlement of forest villagers, encroachers, etc. | 4 Resettlement of Forest Villagers | All BFD land | LS | LS | 100 | BFD + District Admin | Do | **100.0** | Do | All out support from District Administration & will be essential. |
| 4 | **Improved Management of Existing Forests and Protected Areas** | Restoration/ reforestation of degraded and deforested forest lands | 1. Land identification for plantation. | Do | Thousand Hectares | 0.05 | 72.3 | BFD | Carbon enhancement | **72.3** | Do | About 2.5 Lakh Hectares is PA.  Total BFD land is 1446181 Ha |
| 1. Restoration through enrichment planting including nursery training | Do | Thousand Hectares | 0.75 | 750 | BFD | Do | **750.0** | Do | Proposed for about 1 Million Ha.  About 30 Thousand Ha is expected to be worked under SUFAL |
| 1. ANR & enrichment planting for establishment of plantations on degraded sites including nursery raising. | Do | Thousand Hectares | 0.65 | 13 | BFD | Do | **13** | Do | Proposed for 20,000 Ha.  Out of these 5000 hectares will be worked under SUFAL |
| 1. Plantation establishment on deforested sites including nursery raising. | Do | Thousand Hectares | 0.75 | 22.5 | BFD | Do | **22.5** | Do | Proposed for about 30 thousand Ha. |
| 1. Establishment of plantation with mixed indigenous species including nursery. | Do | Thousand Hectares | 0.8 | 32 | BFD | Do | **32** | Do | Proposed for about 40 thousand Ha. |
| 1. Protected Area management for sustainability, biodiversity, etc. as per PA Management plans. | Do | Thousand Hectares | 0.25 | 62.5 | BFD | Do | **62.5** | Do | About 2.5 Lakh Hectares is PA. |
| 5 | **Improving the Enabling Environment for Increasing Carbon Stocks** | Introduce subsidy for alternate energy devices for forest dependent population in target areas | 1. Survey and identification 2. Motivation 3. Provide financial assistance | Nationwide | District wise | 0.2 | 2.2 | BFD + MOF + REDD | Carbon enhancement. | **2.2** | Support from Hill District Council will be necessary. | District wise survey for greater Ctg, Cbr, Rang, Khara, BBan, Syl, Dhaka, Tangail, Mymensingh, Dinajpur, Rangpur. (11 Districts) |
| PLR Review and suggest revision of Transit Rules for CHT and Sundarban | 1. Engage consultants to prepare the document. 2. Vetting of the consultant’s output. 3. BFD to get processed and notified. | Sundarban & CHT | Consultations | 0.15 | 1.8 | BFD | Do | **1.8** | Do | About 12 consultations & Consultants will be necessary. |
| Impose high tax on furniture to discourage use of solid wood furniture. | Impose high tax on solid wood furniture | Nationwide | Per ton of Furniture | 0.01 | 40 | National Board of Revenue (NBR) + MoEF | Do | **- 40** | MOEF + NBR + Ministry of Chattogram Hill Tracts | About 4000 tones of wood furniture is brought out the CHT per year.  It will be negative investment since it will be revenue income |
| Simplify Reservation Process | Office Order may be issued by the PM to expedite the reservation process. | Nationwide | No costs except TA/DA | LS | 2 | MoEF + Prime Minister’s Office (PMO) | Do | **2** | MOEF + Ministry of Land + PM’s Office | True desire of the Government towards conservation of Natural Resources is necessary. |
| Provide AIGAs to the forest dependent communities (but not as individual) | 1. Survey and identification 2. Motivation 3. Provide financial assistance | Do | Each Group of 5-6 Households  i.e. 265 Million AIGA required. | 0.001 | 265,000 | BFD + NGO | Do | **265,000[[11]](#footnote-11)** |  | District-wise survey for greater Chattogram, Cox’s Bazaar, Rangamati, Khagrachari, Bandarban, Sylhet, Dhaka, Tangail, Mymensingh, Dinajpur, Rangpur. (11 Districts). |
| Promote synthetic pole manufacturing for betel leaf cultivation through incentives | 1. Identification of willing entrepreneurs. 2. Provide Financial Assistance. | All betel leaf growing areas | LS | LS | 4.0 | UN-REDD + BFD + NGO | Do | 4.0 | MOEF shall have to extend a cordial support. |  |
| Revise transit rules and “jot” permit provisions for CHT | 1. Consultations 2. Revise Rules & get vetted. 3. Pursue & notified | CHT | LS | LS | 0.25 | BFD | Do | **0.25** | Support from Ministry of CHT will be necessary |  |
| Promote use of logging debris from “jot” felling | 1. Motivation 2. Promote chipping in situ 3. Chipboard factory establishment | CHT | LS | LS | 4.0 | UN-REDD + Ministry of Industries (MoI) | Locking wood carbon | **4.0** | Support from Ministry of CHT & Regional Council will be necessary |  |
| Reduction of Use of Forest Resources in Tobacco Curing and Brick Manufacturing | 1. Motivation 2. Restrict tobacco cultivation by regulations 3. Enforcement of Law | CHT & North Western area of Bangladesh | LS | LS | 4.0 | UN-REDD + Department of Agricultural Extension (DAE) + Ministry of Home Affairs (MOHA) | Carbon enhancement | **4.0** | Administrative support will be essential. | Mass People’s support is there.  District Administration shall have to sincere & proactive. |
| 6 | **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources** | Expand social forestry in target areas (RF, buffer zones, USF, Strip, Private & Public land, strip) | 1. Identify participants & sites 2. Implement social forestry programs | In Forestry districts | District wise. | LS costs as TA/DA | 0.5 | UN-REDD + BWDB + DR&H + LGED + BFD | Enhance carbon stock | **0.5** |  | In 11 Forest districts. |
| Introduce gender-responsive AIGA and other livelihood opportunities | 1. Identify forest dependent community 2. Group formation 3. Deliver AIGAs | Nationwide | LS | LS | 5 | UN-REDD + Ministry of Women Affairs (MoWA) + BFD | Reduce carbon depletion | **5.0** |  |  |
| Establish with formal incentives (salary and benefits) community patrol groups, VTRT and Smart Patrol Groups | 1. Identify volunteers 2. Training & Capacity building. 3. Ensure sustained benefits to the volunteers | Do | Thousand hectares | 0.002 | 2.89 | BFD + NGO | Do | **2.89** | Fund is needed from Revenue budget. | Volunteer Forestry Patrol Groups in 11 Forest Districts.  Forest area 1446181 Ha |
| Develop benefit sharing mechanisms from NTFP, nature tourism (entry fee, tourism infrastructure, etc.) | 1. Identify communities around PA areas. 2. Ensure application of PA Rules | Nationwide | LS | LS | 2.5 | BFD | Do | **2.5** |  | Rules may have to formulated similar to that of PA Rules to provide benefits from non-PA areas. |
| 7 | **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | Revision of BFD recruitment rule and expedite hiring in vacant positions. Revise BFD Organ-O-Gram on the basis of Work Load Analyses. | 1. Revise recruitment principle & rules 2. Immediately recruit for all vacant positions. 3. Every year at least 2 to 5 be recruited at every entry points to create “Reserve” even if no vacancy. | Nationwide | LS | LS | 0.25 | MOEF + MOF | Improved technical forestry leading to carbon enhancement. | **0.25** | GOB’s priority of resource allocation has to be changed towards natural resource management. | Proposed BFD Organ-O-Gram should be approved immediately and all vacant positions are fill up. |
| Intensify capacity building at all levels of BFD Personnel. | 1. Replace training curriculums with intensive modern & updated forestry topics in Forest academy & Forest School 2. Ensure qualified and reputed trainers. 3. Year-round trainings and refreshers’ courses be held in all BFD training institutions. 4. Enhance the logistics and lab-facilities in every BFD training institutions. | Chattogram, Sylhet & Rajshahi | 3 | 2.0 | 6.0 | BFD + MOEF + MOF | Do | **6.0** | Do | An yearly allocation of 6 Million $ is necessary from Revenue Budget |
| Community engagement & Collaborative Forest Management. | 1. Identify forest dependent communities. 2. Table collaborative forest management approach. 3. Continual discussions & setup a collaborative forest management frame work. 4. Develop collaborative forest management rules. | Nationwide | Thousand Hectares | 0.01 | 14.5 | BFD + MoEF + MoLPA + MoF | Carbon enhancement | **14.5** |  | 1446181 Hectares is the total Forest Area (BFD Land). |
|  |  | Establish a full-fledged Monitoring, Evaluation and Learning (MEL) Division at CCF’s Office, BFD | 1. Modify organogram and hire required staff 2. Establish a web-based MEL system from BFD HQ down to all Range Offices. | Country wide | LS | LS | 15 | BFD + MoEF + MoPA |  | **15.0** |  | Straightening RIMS of BFD. + Procure all required equipment + Impart Specialized training.  Some work will be done under SUFAL. Amount proposed is additional requirement. |
| 8 | **Developing a Communications Protocol for Mass Awareness Generation** | Establish a Communication Cell at BFD HQ. | 1. A set of communication personnel be included in the BFD Organogram. 2. Arrange recruitments. 3. Training & capacity building. | Nationwide | Upazila wise | 0.5 | 257.0 | BFD + MoEF + MoF | Awareness leading to carbon enhancement. | **257** | MOEF + MOL | One BFD Communication office in each of the 514 Upazila |
|  | Coordination with Agriculture extension especially for Agro Forestry programs | 1. Motivation 2. Launch agro-forestry programs. | Nationwide | LS | LS | 5.0 | BFD + DAE | Enhance carbon stock | **5.0** | Agriculture + BFD |  |
|  | Assess Carrying Capacity of each and every eco-tourism sites | 1. Field the study & obtain the results 2. Restrict the number of visitors as assessed by manipulating the gate money. 3. Arrangement be placed for advanced booking for at least 5 future years. 4. Maintain the site and resting places with a business mentality to provide best services and attract visitors. | In all PA sites | 55 of Each PA | 0.2 | 11 | BFD + REDD+ | Improve awareness leading to carbon enhancement. | **11** | Universities having Forestry curriculums. |  |
|  |  | Establish a film & photography unit at BFD HQ | 1. Include this in the BFD organogram. 2. Recruit personnel. 3. Position them to produce the required. 4. Procure equipment & logistics. 5. Let the unit roll to produce target products. | Nationwide | LS | LS | 6.0 | BFD + MOEF + MOF + MOI | Improve awareness leading to carbon enhancement. | **6.0** |  | Equipment will be necessary. Training of personnel will be necessary.  Yearly allocation of about 3 Million $ from Revenue budget will be necessary. |
|  |  | Arrange regular one or two-day lucrative courses for all, especially for the students, free of charges at BFD training institutions on natural resources | 1. Design the course including site seeing. 2. Develop a program in conjunction with Schools, Colleges & Universities. 3. Impart the program | Nationwide | Training Institution (3 No) | 2 | 6 | BFD + Ministry of Education (MOEd) + MOF +  Private & Public Universities | Do | **6.0** |  | Yearly allocation @ of about $2 Million per training institution, from Revenue budget will be necessary. |
| **TOTAL** |  |  |  |  |  |  |  |  |  | **1,719.54** |  |  |

* 1. **Recommended PAMs in Relation to Sector Priorities**

The PAMs that we recommend take cognizance of the priorities depicted in the GoB’s plans and programs in the forestry sector. The recommended PAMs align very well with the priorities and implementation of the PAMs no matter whether on a pilot basis or through long-term programs must be in harmony with these priorities to ensure sustainability. Table 6.4. summarizes the alignment.

Table 4.4. **Recommended PAMs in Relation to Forestry Sector Policy Priorities, Programs and Projects**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Relevance to** | | |
| **Bundle** | **PAMs Package** | **Drivers of D&D** | **Sector Policies/Plans** | **Programs/Projects** |
| 1 | **Sustainable Supply of Alternate Energy for Fuelwood** | * Demand for Fuelwood | * National Energy Policy * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC * 7FYP | * Ecosystem Restoration and Resilient Livelihoods (Proposed – UNDP/FAO) * SAFE – IOM * CREL * SUFAL * SUROKKHA |
| 2 | **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC * Bangladesh Delta Plan | * Ecosystem Restoration and Resilient Livelihoods (Proposed – UNDP/FAO) * SUFAL * SUROKKHA * CHTWCA |
| 3 | **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * Land Use Policy * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC | * Ecosystem Restoration and Resilient Livelihoods (Proposed – UNDP/FAO) * CREL * SUFAL |
| 4 | **Improved Management of Existing Forests and Protected Areas** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * PA Rules 2017 * Wildlife Safety Act 2012 * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC | * Ecosystem Restoration and Resilient Livelihoods (Proposed – UNDP/FAO) * SAFE – IOM * CREL * SUFAL * CHTWCA |
| 5 | **Improving the Enabling Environment for Increasing Carbon Stocks** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * PA Rules 2017 * Wildlife Safety Act 2012 * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC | * CREL * SUFAL * CHTWCA |
| 6 | **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment | * PA Rules 2017 * Social Forestry Rules * Wildlife Safety Act 2012 * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC | * Ecosystem Restoration and Resilient Livelihoods (Proposed – UNDP/FAO) * SAFE – IOM * CREL * SUFAL * CHTWCA |
| 7 | **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * PA Rules 2017 * Social Forestry Rules * Wildlife Safety Act 2012 * 7FYP * BCCSAP * NCS * Forest Policy (2016) * Forestry Master Plan (2016) * CIP-EFCC |  |
| 8 | **Developing a Communications Protocol for Mass Awareness Generation** | * Demand for Fuelwood * Illegal Timber Harvest * Encroachment * Expansion of Agriculture * Governance | * Forest Policy * PA Rules * Forestry Master Plan | * CREL * CHTWCA * SUFAL |

* 1. **Bangladesh National RFEL/RFL**

Bangladesh has drafted a report that presents Bangladesh’s National FREL/FRL, which is developed **voluntarily** in accordance with the UNFCCC decisions (decision 1/CP.16 and decision 12/CP.17) and IPCC Guidelines 2006. The FREL/FRL Report is now undergoing review at the senior policy level of the GoB and will be submitted after finalization to the UNFCCC in the next available submission window. The overarching objective of this voluntary submission of the FREL/FRL report is to facilitate the receipt of results-based payments, as per Decisions 9/CP.19, 13/CP.19 and 14/CP.19 (UNFCCC, 2014). This submission; therefore, does not represent any commitment under the NDC of Bangladesh. Rather, the preparation and development of National FREL/FRL will enhance the documentation and monitoring of forest resources, which will eventually strengthen capacity of the BFD on management information focusing on current status of forest resources and stored carbon in the forests, as well as vulnerable land-use zones. Hence, this document will facilitate natural resources management planning in future, and be able to provide better concept and tools for forest monitoring and governance.

The proposed FREL of Bangladesh is 1,123,715 tCO2e/year, and the proposed FRL is -828,040 tCO2e/year. Emissions from deforestation account for 69 % (779,040 tCO2e/year) of the total emissions while emissions from degradation account for 31% (344,675 tCO2e/year). Removals of forest carbon stocks from restoration accounts for 52% (-42,7961 tCO2e/year) of the total removals while removals from afforestation/reforestation accounts for 48 % (-400,079 tCO2e/year).

The proposed FREL of Bangladesh is 1,123,715 tCO2e/year, and the proposed FRL is -828,040 tCO2e/year. Summary of the proposed FREL and FRL per zone and at the national level are in Table 4.1.

Table 4.5. **FREL and FRL (t CO2e/year) for Each Zone and at the National Level. The numbers within the parentheses are confidence interval (%)**

|  |  |  |
| --- | --- | --- |
| **Zone** | **FREL**  **tCO2e/year** | **FRL**  **tCO2e/year** |
| Coastal | 49,624 (15) | -319,588 (61) |
| Hill | 938,422 (23) | -402,002 (26) |
| Sal | 109,368 (22) | -46,535 (33) |
| Sundarban | 14,294 (34) | -27,867 (51) |
| Village | 12,008 (24) | -32,043 (28) |
| National | 1,123,715 (20) | -828,040 (28) |

Emissions from deforestation account for 69 % (779,040 tCO2e/year) of the total emissions while emissions from degradation account for 31% (344,675 tCO2e/year). Removals of forest carbon stocks from restoration accounts for 52% (-42,7961 tCO2e/year) of the total removals while removals from afforestation/reforestation accounts for 48 % (-400,079 tCO2e/year).

* 1. **Carbon Sequestration Potential of the Recommended Measures**

Total forest land under the BFD is estimated at 1,884,161 ha. The net carbon sequestration benefits estimated using Ex-Act tool for the proposed FIP interventions for a period of 20 years is 7.59 MtCO2e for the 16,075 ha considered for sustainable forest management (SFM) under FIP out of total available hill forest land. Similarly, the net carbon sequestration benefit estimated for Project FIP (Trees outside Forests) was 8.51 MtCO2e, considering an area of 18,000 ha. We used this estimate to provide a proxy of the maximum carbon sequestration potential considering that the entire available forest land (52,600 ha) will be brought under SFM (Bundles 4, 5, 6) and 50,000 ha (forest land and ToF) will be brought under a massive fuelwood plantation scheme.

Table 4.6. **Carbon Sequestration Potential of the Bundles of Measures**

|  |  |  |  |
| --- | --- | --- | --- |
| **PAMs Projects** | **FIP Intervention and C-sequestration 20-year Target** | **UN-REDD PAMs Target, ha** | **UN-REDD PAMs C-sequestration Potential**  **tCO2e/year** |
| **SFM in Deforested and Degraded Forest Land and PAs** | Total: 52,600 ha  C-sequestration potential: -24,861,237  FIP Intervention: 16,075 ha  C-sequestration potential: -7,597,802 tCO2e | 52,600 | -24,861,237 |
| **Fuelwood Plantation** | Target: 18,000 ha for ToF and other FIP intervention  C-sequestration potential: -8,507,648 tCO2e | 50,000 | -23,632,355 |

* 1. **Responsiveness of the PAMs to Cancun Guidance and Safeguards**

The proposed PAMS followed the Decision 1/CP.16, appendix I, paragraph 2 **Guidance** for policy approaches and positive incentives on issues relating to reducing emissions from D&D; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. All the bundles of the proposed PAMs will: (a) Contribute to the achievement of the objective set out in Article 2 of the Convention; (b) Contribute to the fulfilment of the commitments set out in Article 4, paragraph 3, of the Convention; (c) Be Bangladesh‐driven and be considered options available to Parties; (d) Be consistent with the objective of environmental integrity and take into account the multiple functions of forests and other ecosystems; (e) Be undertaken in accordance with Bangladesh’s development priorities, objectives and circumstances and capabilities and will respect sovereignty; (f) Be consistent with Bangladesh’s national sustainable development needs and goals; (g) Be implemented in the context of sustainable development and reducing poverty, while responding to climate change; (h) Be consistent with the adaptation needs of Bangladesh; (i) Be supported by adequate and predictable financial and technology support, including support for capacity building; (j) Be results‐based; and (k) Promote sustainable management of Bangladesh’s forests.

The Cancun Safeguards are the outcomes of Decision 1/CP.16, appendix I, paragraph 2. The Decision states:

1. [REDD+] actions complement or are consistent with the objectives of national forest programme and relevant international conventions and agreements;
2. Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
4. The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities [in REDD+ PAMs];
5. [REDD+] actions are consistent with the conservation of natural forests and biological diversity, ensuring that REDD+ actions are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;
6. Actions to address the risks of reversals; and
7. Actions to reduce displacement of emissions.

Table 4.7. **Responsiveness of the PAMs to Cancun Safeguards**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PAMs Bundle** | **Cancun Safeguards** | | | | | | |
|  | **(a)** | **(b)** | **(c)** | **(d)** | **(e)** | **(f)** | **(g)** |
| **Sustainable Supply of Alternate Energy for Fuelwood** | √ | √ | √ | √ | √ | √ | √ |
| **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | √ | √ | √ | √ | √ | √ | √ |
| **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | √ | √ | √ | √ | √ | √ | √ |
| **Improved Management of Existing Forests and Protected Areas** | √ | √ | √ | √ | √ | √ | √ |
| **Improving the Enabling Environment for Increasing Carbon Stocks** | √ | √ | √ | √ | √ | √ | √ |
| **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources** | √ | √ | √ | √ | √ | √ | √ |
| **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | √ | √ |  | √ | √ |  |  |
| **Developing a Communications Protocol for Mass Awareness Generation** | √ |  |  |  |  |  |  |

**Chapter 5**

**Looking Ahead**

Implementation of the measures identified to address the gaps in the policy and legal regimes and strategic premises through various programs, projects and activities is essential in achieving the ultimate target – sequestration of carbon in forests and, ultimately, attaining the qualifying feat to claim results-based payments. As discussed in the previous Chapter, the needs both in terms of investments and capacity building of the BFD to ensure SFM and thereby bring about performance-based carbon payments from the REDD+ process is of mammoth scale. This Chapter attempts to chart a map of how the measures should be implemented as well as a list of priority programmatic ideas for the UN-REDD NP to consider for its pilot program.

* 1. **Implementation of Measures**

The recommended measures have a “Vision” that focuses on both national level (macro) and community level (micro) issues. The macro issues will include addressing legal, regulatory, policy, strategic and institutional capacity, including, but not be limited to, national-scale conservation management, issues. The micro issues will include, but not be limited to, resource use and tenure rights, planning, conservation and management.

* + 1. **Implementation Priority**

As a result of elaborate discussions, we arrived at a point that even though all the PAMs must be implemented to sustain the forest resources, there are four categories of interventions that are priority. The categories are:

**Priority 1** Bundle 1: Sustainable Supply of Alternate Energy for Fuelwood

Bundle 2: Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply

**Priority 2** Bundle 3: Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems

Bundle 7: Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation

**Priority 3** Bundle 4: Improved Management of Existing Forests and Protected Areas

Bundle 5: Improving the Enabling Environment for Increasing Carbon Stocks

Bundle 6: Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources

**Priority 4** Bundle 8: Developing a Communications Protocol for Mass Awareness Generation

Table 5.1. provides the rationale and the linkages of the priority bundles.

Table 5.1. **Prioritization of the Recommended PAMs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Bundle** | **PAMs Package** | **Rationale** | **Linkages** |
| **Priority 1: Addressing the Demand for Fuelwood** | | | |
| 1 | **Sustainable Supply of Alternate Energy for Fuelwood** | Currently, ~40% households use fuelwood and are mostly dependent on forests. Non-forest energy supply is; therefore, essential to addressing fuelwood demand, particularly for the poor communities relying on forests for energy supply. | * This PAMs package is linked to Bundle 5 (for energy subsidy) and Bundle 8 (for awareness raising and promotion). * Implementing the PAMs package will require the BFD and MoEF to work with the MoE on subsidy issues and with the private sector to establish public-private partnerships and with research institutes to develop alternate energy devices/processes. * Establishing partnership with development partners, e.g., the IOM, UNHCR, World Food Programme (WFP), will help advance the implementation of this package. |
| 2 | **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | There will always be a steady or growing demand for fuelwood no matter how successful the alternate energy supply scenario is. Meeting the fuelwood demand will require dedicated initiatives to establish fuelwood plantations. There must be an aggressive program to develop fuelwood plantation in forest land, marginal land, homesteads, private land (including agricultural land of absentee landlords), strips and institutional premises. | * This PAMs package is linked to Bundles 4, 5 and 6 for leveraging and Bundle 8 for partnership and awareness building. * Dedicated fuelwood plantation must constitute a component in all small and large forest development initiatives (e.g., SUFAL project). * The BFD must work with the elected local government and local representation of the public administration (including but not limited to the CHT RC, HDCs, CHTDB, for example), educational institutions, Roads and Highways Division, LGED, Bangladesh Railway, Arannayk Foundation, NGOs and DAE. |
| **Priority 2: Capacity Building** | | | |
| 3 | **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | Survey and demarcation of the forest land is essential not only for better monitoring of carbon sequestration, it is also essential to prudently plan and properly execute forest management and conservation practices. Implementation of forest land use policy is also crucial to addressing encroachments from multiple fronts as well as some other pressing governance issues. | * This PAMs Bundle has relationship with the entire work of the BFD. * BFD must work with the MoL, DLRS, Space Research and Remote Sensing Organization (SPARRSO). * The MoEF must work with the Parliamentary Standing Committee on Forest, Environment and Climate Change as well as the PMO. * Strong communication (Bundle 8) and rapport building with the local authorities and communities and establishing a political clout will be pre-requisites. * This should be included in large forestry initiatives such as SUFAL. |
| 7 | **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | The BFD and MoEF have already embraced a multi-stakeholder approach in forest and PA management, e.g., by introducing Social Forestry, Co-management and benefit sharing with the dependent communities. As the management has a multi-prong approach, there should be in place a wider capacity building approach. The BFD – the principal stakeholder that assumes the bulk of the managerial and administrative burden – has a serious lack of staff strength. Given the trend that the recruitment processes are going through major bureaucratic hurdles and a bulk of the staff is approaching retirement with no immediate sign to replenish the pool, there must be a “crush” approach to remove the hiring bottleneck.  In addition, the large pool of decentralized community-based organizations should be provided with training and continuing education. The BFD training facilities should be reinvigorated in terms of infrastructure, equipment and, most importantly, human and financial resources.  Capacity building should also include the administrators and policymakers.  The BFD needs a fully equipped Monitoring, Evaluation and Learning (MEL) Division/Unit. The RIMS will form a part. Also needed is scale up and strengthen the Legal Unit. | * Implementation of this PAMs Bundle is the most crucial to keep the BFD’s technical, managerial and implementation capacity up and running. * Capacity building is a long-term process. The MoEF and BFD must intensify their lobbying with the MoPA, MoF, Public Service Commission (PSC), Parliamentary Standing Committee and the Attorney General. |
| **Priority 3: Conserving PAs and SFM** | | | |
| 4 | **Improved Management of Existing Forests and Protected Areas** | This bundle will include all small and large forest management activities, both domestically funded and donor supported, technical assistance or investments in the sector. All these activities will address the UN-REDD criteria or SFM contributing to enhancement of carbon stock.  The BFD manages a large number of forest PAs even though the area coverage is fairly small. This bundle will subsume all ongoing and future PA management activities as well as planning new interventions | * This PAMs Package is the largest in its scope and link. * It includes all the SFM and PA management activities, including management of SF. |
| 5 | **Improving the Enabling Environment for Increasing Carbon Stocks** | Improving the enabling environment would entail revision of and, where it seems prudent, promulgate new legal provisions. The 1927 Forest Act has undergone a number of revisions to create new provisions, for example, the SF Rules. Further revisions/modifications are needed as the participants at the regional consultations voiced. Similarly, the Transit Rules for the CHT and Sundarban have to be made workable. The most recently declared PA Rules also has rooms for improvement. True devolution to the community level may be needed for sharing power by the PA communities and more decision-making authority of the SF communities. | * This PAMs Package is linked with all other Bundles and Packages. * A number of legal and statutory provisions must be modified to erase the concerns over prudent management and protection of the forests. * The BFD should convene a legal task force to examine the legal issues that might require modifying/modernizing. |
| 6 | **Economic Incentives to Poor and Marginalized Communities for Protection and Improvement of Forest Resources** | Economic incentives in the form of direct benefit sharing (e.g., formal compensation to the CPG) or AIGA have been in practice as a tactic of taking the pressure off the forest resources and biodiversity assets. It is clearly evident the BFD has come a long way. The current incentive practices, however, need to be more comprehensive and more people oriented to completely remove the “command and control” nature of forest resources management. | * Implementation of this PAMs Package is not only crucial to taking the pressure off the forest resources but is also equally important in empowering poor communities to resource management stewards. This Package should be an integral part of all forest development initiatives. * The BFD should explore more inclusive economic incentives as opposed to AIGA, SF benefit sharing, etc. * Upcoming initiatives such as SUFAL and SUROKKHA will have large AIGA and Livelihoods components. Those could be innovatively designed. |
| **Priority 4: Communication** | | | |
|  | **Developing a Communications Protocol for Mass Awareness Generation** | The BFD has never established a Communications Division. Therefore, even the most resounding successes of the BFD are communicated on an ad hoc or project-tied event or memorial days basis. At a time when the entire world is depending on communication to take development from one point to the other, the BFD is yet to take advantage of this. More awareness generation is needed at all levels starting from the policy-makers to the grassroots communities at the national level. When it comes to communicate on a regular basis with the international fora, e.g. the UNFCCC on the REDD+ issues, the value of communication cannot be overemphasized. The BFD must develop a modern communication strategy and establish a Division to implement it. | * Communication is crucial and the BFD must work to establish a Communication Division. This will take time, but the process can start with a special project. * A Communication Strategy must be developed. * This Bundle will augment successful implementation of all forestry and climate change initiatives. |

* 1. **Recommendations for Pilot Implementation by UN-REDD NP**

The next agenda of the UN-REDD NP mainly are two-fold: identifying some pilot activities and begin to implement them and developing a UN-REDD Bangladesh Strategy to mainstream a program within the GoB to materialize its REDD+ commitments. Recommendations at the public consultation workshops as well as the briefing with the CCF and senior management of the BFD revealed a number of clear areas where intervention is essential right now. While the Rohingya crisis triggered a massive, sudden process, use of fuelwood in brick manufacturing and tobacco curing, for example, has a menacing impact. Table 5.2. recommends a number of options for UN-REDD NP to seriously consider for the pilot program.

Table 5.2. **Recommended Pilot Initiatives for UN-REDD**

|  |  |  |  |
| --- | --- | --- | --- |
| **PAMs Package** | **PAMs Project** | **Component** | **Comment** |
| **Bundle 1** | | | |
| **Sustainable Supply of Alternate Energy for Fuelwood** | Emergency supply of improved cooking devices for households and small businesses (tea stalls, restaurants, etc.) | Survey of demand for improved cooking devices (ICS, solar cooker, LPG, LNG, briquette, charcoal, etc.) including market research | * While the survey should include all forest regions, priority geographic areas should be covered (e.g., CHT) with already involved development partners (e.g., IOM at Teknaf) for the pilot intervention. * Should simultaneously work on energy subsidy issues. |
| Training of local service providers for manufacturing and marketing of appropriate improved cooking devices | * Once the popular preference(s) is identified, organize training programs |
| Energy efficient, sustainable supply of alternate technology for replacing traditional brick for construction | 1 Survey of potentially affected brickfields around forest areas  2 Establish linkages for conversion of the brick manufacturer to take up alternate | * The opportunity of the GoB’s decision to completely replace bricks with concrete block should be seized. A small project should be designed on a priority basis. * A survey should be designed to assess the situation from the angles of partnership(s) development. |
| Energy efficient, sustainable supply of alternate fuel for tobacco curing and paddy boiling | Survey of demand for efficient fuel (briquette, coal, etc.) including market research | * The gravity of the issue makes it a popular intervention area. * UN-REDD is at an advantage to take up a small project (combining both brick manufacturing and paddy boiling) immediately. |
| **Bundle 2** | | | |
| **Afforestation of Degraded Forests and Marginal Land for Sustained Fuelwood Supply** | Develop nursery for fuelwood species | 1. Encourage private nursery owners to grow fuelwood species. 2. Impart Training on Nursery Techniques. 3. Assist marketing of fuelwood seedlings. | * With the launching of the SUFAL project, there will always be a demand for nurseries, both traditional and laboratory-based. * The UN-REDD NP should emerge as a quick-starter in helping the BFD and the SUFAL project. |
| Expand and strengthen tissue culture facilities to enhance supply of fuelwood seedlings | 1. Encourage and support tissue culture labs for growing fuelwood seedlings. 2. Assist marketing of tissue culture seedlings in test tubes to private nurseries. |
| **Bundle 5** | | | |
| **Implementation of Land Use Policy for Improved Monitoring of Carbon Stock in Forests by Resolving Land Tenure Problems** | Secure land tenures, forest boundary demarcation, digitization of land records and public access to forestland records. | Develop a Data Management System for keeping of land records under BFD. | * UN-REDD NP is committed to keep working on the MRV process. While working on the entire depth and breadth of the land use policy issues is beyond the scope and manageable interest, UN-REDD activities may act as a precursor and building block. * This activity will combine with institutional capacity building efforts. |
| Capacity building of BFD, especially RIMS |
| **Bundle 6** | | | |
| **Improving the Enabling Environment for Increasing Carbon Stocks** | Introduce subsidy for alternate energy devices for forest dependent population in target areas | 1. Survey and identification 2. Motivation 3. Provide financial assistance | * The UN-REDD NP is rightly poised to take up this activity on a priority basis since this is out of mainstream BFD activities. |
| PLR Review and suggest revision of Transit Rules for CHT and Sundarban | 1. Engage consultants to prepare the document. 2. Vetting of the consultant’s output. 3. BFD to get processed and notified. | * The issue of Transit Rules, especially at the CHT, is a sore one but the issue deserves priority attention in addressing some of the drivers of D&D. * The UN-REDD NP should design a study and begin a consultative process to help BFD. |
| Promote synthetic pole manufacturing for betel leaf cultivation through incentives | 1. Identification of willing entrepreneurs. 2. Provide Financial Assistance. | * A major threat to regeneration and new plantation is the use of small saplings as poles in betel leaf cultivation in the south. An alternate source has not been explored. The UN-REDD NP can effectively and quickly mobilize efforts to address the issue with a pilot initiative that can be scaled up by BFD through larger initiatives, for instance, SUFAL. |
| **Bundle 7** | | | |
| **Improving Institutional Capacity of Stakeholders for Addressing Deforestation and Forest Degradation** | Establish a full-fledged Monitoring, Evaluation and Learning (MEL) Division at CCF’s Office, BFD | Establish a web-based MEL system from BFD HQ down to all Range Offices | * The UN-REDD NP is proposing to establish a REDD+ Unit at BFD. Instead of establishing a small, narrowly focused Unit, the effort should aim at contributing to a more inclusive MEL Division at the BFD that will be permanent and well equipped with properly skilled human resources. * The current initiatives (MRV, NFI, etc.) that use RIMS should be harmonized. |
| **Bundle 8** | | | |
| **Developing a Communications Protocol for Mass Awareness Generation** | Establish a Communication Cell at BFD HQ. | 1. Develop a Communication Strategy 2. Prepare an Organogram and ToR for the Communication Cell and its personnel | * Developing a Communication Strategy for the forestry sector should be a prime priority of the UN-REDD NP. * Helping the BFD with the Organogram and ToR will contribute enormously to the overall capacity building efforts. * The UN-REDD NP may examine options in consultation with the BFD and develop an effective coordination mechanism. |

* 1. **Implementation Approach**

**Coordination**: Lack of coordination among stakeholders has been repeatedly cited as a major factor that results in the failure of attempts to combat D&D and attempts to legally challenge forest offenses in inaction. While inter-ministerial collaboration is a desirable goal, despite reasonable efforts, the past and ongoing forestry projects have had limited success in national level inter-ministerial collaboration. The National REDD+ Steering Committee has been formed. However, the committee is yet to hold its first meeting. The UN-REDD NP should immediately organize a launching meeting. Once up and running, the committee can take up the leading role in stimulating a functional cooperation among the ministries and agencies particularly those whose action or inaction has consequences in forest protection. The development partners funding and implementing conservation programs need to coordinate their efforts not only to avoid duplication but also to promote a unified conservation strategy. The Local Consultative Group (LCG) Environment and Climate Change Subgroup, which has been utilized sub-optimally so far, is the appropriate forum to trigger this coordination effort.

**Inclusive and Shared Governance**: The principle of “shared governance” will be the driver of actions at the community and local government level with a focused connection with the central government.[[12]](#footnote-12) This principle recognizes that local people and government must work together in order to conserve the natural resource base. Each has a role to play in improved management; each must take responsibility for their actions; and there must be accountability on both sides. Co-management has been practiced in Bangladesh for two decades now. There is recognized challenge in this approach as co-management has not worked in some areas around the world and has not resulted in improved natural resources management. This is mainly because of inadequate project design, which did not fully appreciate the temporal, social and policy challenges of co-management. The governance structure of the pilot REDD+ projects, wherever appropriate, must be necessarily inclusive across gender, class, status, economic, and ethnic divides. Consensual and pluralistic group processes for decision making enable the best compromises to be reached and ultimately result in improved collaboration.

**Mainstreaming**: Implementation of the UN-REDD+ Pilot Program will not be a standalone effort. The entire program will be part of the BFD’s overall SFM and conservation initiatives. Part of the pilot program, of course, may be a new beginning of a newer effort, e.g., initiating non-forest solutions to meet the growing demand for fuelwood or developing a communication strategy. These will, eventually, constitute part of the BFD’s regular program.

**Ensuring Safeguards and Equitable Growth**: The REDD+ social safeguards framework was developed as a result of rights-based movements because REDD+ has the potential to result in “the biggest land grab of all time… threatening the very survival of indigenous peoples and local communities”. The ‘No Rights No REDD’ movement has arisen primarily in response to the failure of climate negotiations to guarantee a binding commitment to indigenous rights and safeguards for indigenous and other forest people (Larson et al., 2013). Land tenure in Bangladesh is very complicated. The situation is more complex in the CHT, where forests cover one-third of the total land. Bangladesh’s engagement in REDD+ necessitates a better understanding of the complexities of the tenure situation in the country. In implementing REDD+ activities, new ideas should emerge for improving forest governance and contributing to the effectiveness of national REDD+ objectives. Bangladesh has the PA and SF Rules that have the provisions for benefit sharing by the communities. It must be ensured that these provisions are adhered to in project design to ensure equitable growth. IUCN is working with a range of partners in Cameroon to enable and sustain multi-stakeholder participation as a mechanism for fostering rights-based REDD+ in seven REDD+ countries: Cameroon, Guatemala, Indonesia, Peru, Uganda, Mexico and Ghana. The approach can be examined.

Women’s participation in forestry activities, including functioning of women-only CPGs, has become quite widespread practice in last two decades. Review of 17 studies in natural resources management (Sharmin, 2018) demonstrated that increased participation by women leads to improvements in local natural resource governance and forest conservation efforts. Enhancing women’s engagement as decision-makers can lead to improved outcomes relevant to REDD+, such as increased regeneration and forest growth, and increased carbon stock. The UN-REDD NP complemented the environmental safeguards for the REDD+ program. These safeguards must be followed throughout REDD+ implementation practices.

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**Annex A**

**Attendance in Public Consultations**

**Rangamati**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
|  | Subarna Chakma | Executive Officer, C.H.T.R.C | subarnactg@yahoo.com | 01716409697 |
|  | Md. Murad Rana | Asstt. Commissioner & Executive Magistrate, Khagrachari | msdrana97@gmail.com | 01551816497 |
|  | Tridbi Kanti Das | Member, R.H.D.C |  | 01814200134 |
|  | Sobir Kumar Chakma | Member, R.H.D.C |  | 01818430037 |
|  | Dr. Debaraj Chakma | Veterinary Surgeon, Livestock officer, Rangamati |  | 01818815334 |
|  | Md. Sydur Rahman | Upozila Fisheries Officer-Rangamati |  | 01829911355 |
|  | Abdul Latif | Chairman, Kaptai |  | 01811610288 |
|  | Mong Chaimarma | VCF Member, Kaptai |  | 01813523712 |
|  | Biddyalal Tanchargya | Chairman, Farua Upozila |  | 01828806333 |
|  | Jagat Jyoti Dewan | USF Organization-FD |  | 01556701453 |
|  | Basharn Chakma | UP Member |  | 01828850241 |
|  | Sham Farid | G.S Hill Tracts Foundation |  | 01837835715 |
|  | Bibartan Bikarth Chakma | Forester |  | 01820348003 |
|  | Md. Shahansha Naushad | Forester, Bandarban Range |  | 01833268728 |
|  | Md. Kabir Hossain | CMC Member, Kaptai |  | 01924912164 |
|  | Kazi Maqshudur Rahman | President Kaptai CMC |  | 01823459371 |
|  | Sk. Md. Faruque Ahmed | Forester CHT South Division |  | 01862770300 |
|  | Kishalay Chakma | Forester Sublong Range |  | 01862044099 |
|  | Masud Rana | Forester, North Div |  | 01882765505 |
|  | Dipon Chakma | Forester Twi Chongma Range |  | 01836252909 |
|  | Haji Md. Mostafizur Wadud Chowdhury | FG South Division |  | 01610302393 |
|  | Sumitra Chakma | UP Member, Range Sadar |  | 01820350114 |
|  | Namita Chakma | UP Member |  | 01833266240 |
|  | Md. Kamal Uddin | Daily Purbodesh |  | 01556611307 |
|  | Sushil Prashad Chakma | Dist. Correspondent, Daily Jugantor | sushil.chakma@gmail.com | 01550608201 |
|  | Hosna Ara Begum | District Women Affairs Officer |  | 01716021464 |
|  | Md. Masud Alam | DCF, Rangamati, Forest Range | maksud038@gamil.com | 01811599880 |
|  | Md. Golam Rabbqui | Forest Ranger |  | 01711700038 |
|  | Dr. Nilo Kumar Tanchangya | CHTRC Counselor |  | 01819675793 |
|  | Azharul Mazumder | UN-REDD Consultant |  | 01715103309 |
|  | Junaid K. Chowdhury | UN-REDD Consultant |  | 01711270739 |
|  | Md. Towfiqul Islam | DFO South (Rangamati) |  | 01999003300 |
|  | Md. Rubul Amin | DFO Pulpwood Plantation, Kaptai |  | 01720177184 |
|  | Md. Nurul Islam | ACF Ctg. Hill Tract |  | 01871360914 |
|  | Shafiul Alam Khokan | CMC Kaptai |  | 01811674801 |
|  | Noor Begum Mita | CMC Member |  | 01824771540 |
|  | Mino Zora | CMC Member, Kaptai |  | 01822273195 |
|  | Hosna Begum | CMC Member, Kaptai |  |  |
|  | Most. Maksuda Khan | CMC Member, Kaptai |  | 01823459371 |
|  | Jusna Begum | CMC Member, Kaptai |  | 01553791713 |
|  | Thui Aong Marma | Vice President, Karnafuli CMC |  | 01819616045 |
|  | Nirupa Dewan | Former membr NHRC | nirupadewan2010@gmail.com | 01552554806 |
|  | Dr. MA Quader | Managing Director, KPML |  | 01827704850 |
|  | Md. Shadid Ullah | Manager KMP Ltd |  | 01818697764 |
|  | Md. Saidur Rahman | FG South Forest |  | 01855248150 |
|  | Mohammad Ali | ED Shining Hill |  | 01554335373 |
|  | R. Dolion Pangkhua | Karbary Horinchara |  | 01556636211 |
|  | Umas Miama | CMC Member |  | 01553791713 |
|  | Thui Aong Marma | CMC Member |  | 01819616045 |
|  | Md. Ssyedul Alam | Range Officer |  | 01829403010 |
|  | Md. Shariful Alam | Range Officer, Kapti |  | 01712787871 |
|  | Md. Haroon-Or-Rashid | Forest Ranger Ctg hill |  | 01812342494 |
|  | Md. Zohirul Islam | Forest Ranger |  | 01858932563 |
|  | Md. Golam Kibria | Range Officer | mgkhhd@yahoo.com | 01999003200 |
|  | Md. Sayedar Islam | DFO, Jhum Control Division | suyedar.islam@gmail.com | 01712221004 |
|  | Md. Rakibul Hasan Mukul | NPD, UN-REDD |  | 01711438032 |
|  | Md. Khairul Kabir Chowdhury | National Consultant, UN-REDD |  |  |
|  | Md. Mosharof Hossain | Forest Ranger |  | 01726731989 |
|  | Md. Shahidul Isam | DFO, Rangamati |  | 01840663365 |
|  | Md. Mizanur Rahman | DFO, Khagrachari |  | 01917015948 |
|  | Mozammel Hoque Shah Chowdhury | DFO, Rangamati, USF Division |  | 01716075616 |

**Chittagong**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
|  | Debashis Dutta | Draftsman, CTG, North Division, FD | denashisbd@gmail.com | 01716306306 |
|  | Kazi Alauddin | Range Officer, Padua Range |  | 01712784668 |
|  | Arun Bavan Chowdhury | Range Officer, Harikhil Rnage |  | 01819617224 |
|  | Md. Rezaul Alam | Range Officer, Town range |  | 01845768711 |
|  | Md. Bashir Ahmed | Range Officer, Barindlola Range |  | 01731769884 |
|  | Md. Abdul Farid | Forester Sitakunda Beat |  | 01729544891 |
|  | Md. Jamal Uddin | Forest Guard |  | 01814996436 |
|  | Md. Nurul Huda | Forest Ranger |  | 01819177388 |
|  | Dr. Shormin Akter | Than Livestock Officer |  | 01746338668 |
|  | Ismat Ara Nur | Wildlife Officer, CTG |  | 01631966184 |
|  | Noor Jahn | Wildlife Officer, CTG North | noorjahan\_milky@yahoo.com | 01757003350 |
|  | Dipannita Bhattachaerjee | Wildlife Officer, CTG North | dipannitacu10@gmail.com | 01557449414 |
|  | ANM Yasin Newaz | Director, FSTI, CTG | [newaz.yasin@gmail.com](mailto:newaz.yasin@gmail.com) | 01711447161 |
|  | Md. Tanjimul Alam Arif | SMC Officer, USAID | tanjimul.creal@gmail.com | 01855966993 |
|  | Moh. Shahid Ullah | Divisional Officer, RFRI |  | 01914229525 |
|  | Dr Md. Mohiddin Uddin | Chief Research Officer, CTG | uddin59@gmail.com |  |
|  | Narayan Das | Regional Co-ordinator, CODEC-CREL | nedasoo@yahoo.com |  |
|  | Shital Kumar Nath | Climate change Officer, CREL | smati71@yahoo.com |  |
|  | Iqbal Hossoin Chowdhury | Chairman, Patichari Upz |  | 01748445518 |
|  | Md. Kamal Uddin | Treasurer, Dhopchari CMC |  | 01740882288 |
|  | Abdul Jabbar | Chairman , Dhopchari CMC |  | 01814234716 |
|  | Md. Jashim Uddin | Chairman, HajariKhil committee |  | 01822868486 |
|  | Md. Abdul Hossain | Beat Officer, HajariKhil committee |  | 01836819663 |
|  | Md. Manna | Chairman, HajariKhil CMC |  | 01815382431 |
|  | Swapan Kumar Nath | Member, HajariKhil CMC |  | 01840250870 |
|  | Md. Mubark Hossain | Chairman, Chairman, HajariKhil Committee |  | 01819028661 |
|  | Ashis Kumar Nath | Member, HajariKhil CMC |  | 0181727340 |
|  | Rashida Kamal | UP Member, Fotiquechari |  | 01818145355 |
|  | Ishrat Shamin | Consultant, UN-REDD | [cwcs.bd@gmail.com](mailto:cwcs.bd@gmail.com) |  |
|  | Md. Shams Uddin | Consultant, UN-REDD | [shams.uddin@undp.org](mailto:shams.uddin@undp.org) |  |
|  | Md. Azad | Sr. Coordinator, SWCS | cwcs.bd@gamil.com |  |
|  | Dr. Jashim Uddin | Professor, CTG | mjashimuddin2001@gmail.com |  |
|  | Dr Khairul Chowdhury | Consultant, UN-REDD | [khairul2002@gmail.com](mailto:khairul2002@gmail.com) |  |
|  | Junaid Kabir Chowdhury | Consultant, UN-REDD | junaidkh@gmail.com |  |
|  | Md. Shahi Newaz | Asstt Director | [newaz.usso@gamil.com](mailto:newaz.usso@gamil.com) |  |
|  | Shajahan | Chairman |  |  |
|  | Md. Sarwar Uddin | President, Baroiyadhola CMC | sarwarm150@gmail.com |  |
|  | AJM Alamgir | President Baroiyadhola BIT |  | 01815407141 |
|  | Nazma Akther | UP Sadar |  | 01761704206 |
|  | Md. AB Siddique | President, Baroiyadhola CMC |  | 01740806368 |
|  | Md. Feroz Ali | Forest Ranger |  | 01823727039 |
|  | Md. Gazi Bahar Uddin | Beat Officer, CTG |  | 01817204571 |
|  | Md. Iftekher Hossain | Monitoring Officer, CREL | iftienv@yahoo.com |  |
|  | Abu Naeem Md. Shohidul Alam | Wildlife Division-FD |  | 01816859318 |
|  | Soykat Chowdhury | Forester-FD |  | 01816060572 |
|  | Saifuddin Md Farhad | Instructor (Sociology) PSTI, CTG |  | 01764655664 |
|  | Haishirglhing Marma | FD |  | 01848360413 |
|  | Anwar Hossain Khan | Range Officer, Coastal Division, CTG |  | 01818212946 |
|  | Md. Nizam Uddin | Range Officer, Coastal Division, CTG |  | 01813959114 |
|  | Md. Motlubur Rahman | Director, Botanical Garden Eco Park, CTG | mrahman10169@gmail.com | 01712627900 |
|  | Kajal Talukder | ACF, CTG, South-FD |  | 01711953992 |
|  | Md. Humayun Kabir | DFO, Coastal Forest, CTG |  | 01819655811 |
|  | Mohammed Hosssain | ACF, Coastal Forest, CTG |  | 01711138044 |
|  | Md. Abdul Kalam Azad | Fisheries Surves Officer |  | 01814324062 |
|  | ANM Abdul Wadud | DFO, CTG North Forest Div. |  | 01882053000 |
|  | GM Mohammad Kabir | DCF, CTG Circle |  | 01612140210 |
|  | Md. Humaun Kabir | ACF-FD |  | 01712083886 |
|  | Md. Anisul Haque Chowdhury | Deputy Director, DS |  | 01812041501 |
|  | Md. Rakibul Hasan Mukul | CF-Rangamati |  | 01711438032 |
|  | Azharul Mazumder | Consultant, UN-REDD |  | 965-1175 |
|  | Dr. Khurshid Akhter | Director, BFRI |  | 01818141615 |
|  | Dr Md. Zoglul HossainMd. | CF, CTG Circle | cfctgbfd@gmail.com | 01711279529 |
|  | Md. Jahangir Alam | FG North |  | 01782700600 |
|  | Md. Jashim Uddin | FG, CTG North |  | 01711025566 |
|  | Abul Kalam | Floy Ctg North Div. |  | 01628216809 |
|  | Sakib Ahmed Tamal | F/G |  | 01869299299 |
|  | Anjele Nath |  |  | 01725752085 |

**Cox’s Bazaar**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
|  | Md. Alam khan | Regional Coordinator, CREL | alamkhan972@yahoo.com |  |
|  | Md. Monirul Islam PPM | OC, DB, Cox’s Bazar |  |  |
|  | Abdul Kuddus Rana | Staff Reporter, daily prothom Alo | [ranacox05@gmail.com](mailto:ranacox05@gmail.com) |  |
|  | Ayasur Rahman Adv | President CMC, Himchari | ayasurhaman@gmail.com |  |
|  | Md. Yakub Bhuiyan | Asstt Professor, Cox’s Bazaar Govt. College |  | 01556541780 |
|  | Sayed Abu Zakaria | Forester B/O Madhakchopia |  | 01711010913 |
|  | Luffonnisa | HCMC |  | 01812800514 |
|  | Jusna | HCMC |  | 01812980207 |
|  | Parvin Aktr | CMC Fashiyakhali |  | 01837844379 |
|  | Almuna Nahar Munne | CMC |  | 01772394712 |
|  | SM Abul Hossain | President CMC |  | 01710106828 |
|  | Tipu Sultan | Chairman, Cox’s Bazar |  | 01819330318 |
|  | Golam Mostafa | NRM, CREL |  | 01912017075 |
|  | Babul Akter | Member CMC |  | 01840878227 |
|  | Kulsom | Member CMC |  | 01838971212 |
|  | Md. Haroon-Or-Rashid | Forest Ranger |  | 01850131650 |
|  | Md. Hannan Jaman | Forester |  | 01853128530 |
|  | Md. Azad | Sr. Programme Coordinator, CWCS |  | 01712765655 |
|  | Morshida Begum | President CMC |  | 01851352474 |
|  | Md. Sohel Rana | Asstt. Eng. Zila Parishad, Cox’s Bazar |  | 01871050152 |
|  | Rasheda Begum | UP Member |  | 0187879132 |
|  | Md. Abdur Razzak | Range Officer, Fulchari, North FD |  | 01712808875 |
|  | Kazi Iftekhar Uddin | Data Entry Operator, Environment Dept. Cox’s | iftekardoe@gmail.com | 01977535359 |
|  | SM Enamul Haque | Beat Officer, Famiyakhali Beat |  | 01711572099 |
|  | Tapan Kanti Pall | Beat Officer, Kutupdia Beat |  | 01835379019 |
|  | Md. Monjorul Alam | Computer Operator |  | 01708892900 |
|  | Md. Ataur Rahman | FG, Cox’s Bazar, FD |  | 01819976391 |
|  | Selim Uddin | Beneficiary, Fulchari |  | 01818125400 |
|  | Md. Mehidi Hasan | Forester, Cox’s Bazar forest Dept | mdhasan988@gmail.com | 01859046948 |
|  | Zalilur Rahman | Forester, forest Dept |  | 01711012348 |
|  | Md. Mazharul Islam | Range Officer, Idgaon Range |  | 01818432546 |
|  | AKM Ata Elahi | Range Officer, Baghkhali, FD |  | 01851241635 |
|  | Jashim Uddin | Range Officer, Shilkhali Range |  | 01716636893 |
|  | Saiful Islam | Range Officer, Dopalong Range |  | 01712815219 |
|  | Md. Abdul Mannan | Range Officer, Pancgari Range |  | 01999004012 |
|  | Abdul Aziz | ETV Bangla |  | 017129045067 |
|  | Rotab Chowdhury | BTV Camera man |  | 01876722710 |
|  | Aminul Hoque Amin | Bangla TV, Correspondent |  | 01815858840 |
|  | Nurul Azim |  |  | 01869637035 |
|  | Arafa Begum | CMC Member |  | 01812609220 |
|  | Jafar Alam |  |  | 01812600922 |
|  | Sajeda Begum | CMC Member |  |  |
|  | AKM Shahriar | Deputy Director, DAE | [deputy.og@yahoo.com](mailto:deputy.og@yahoo.com) |  |
|  | Dewan Md. Abdul Hai Azad | ACF, South, FD, Cox’s Bazar |  | 01999004001 |
|  | Md. Belayet Hossoin | ACF, North, FD, Cox’s Bazar |  | 01999003667 |
|  | Abu Murshed Chowdhury | Member Secretary |  | 0111624610 |
|  | Dr. Md. Abul Alim | Head of Fisheries |  | 0178157730 |
|  | Dr. Md. Nazrul Islam Chowdhury | Director, Livestock of Officer |  | 01718484351 |
|  | Jahed Sarwar | Reporter BTV |  | 01819832390 |
|  | Md. Alamgir Chowdhury | CMC Member |  | 01869628360 |
|  | Hoq Mahbub Morshed | DFO, North, Cox’s Bazar |  | 01711386634 |
|  | Md. Rakibul Hasan Mukul | NPD, UN-REDD |  | 01711438032 |
|  | Md. Shams Uddin | Consultant, UN-REDD | shams.uddin@undp.org |  |
|  | Md. Junaid Kabir Chowdhury | Consultant, UN-REDD |  |  |
|  | Dr. Khairul Kabir Chowdhury | Consultant, UN-REDD |  |  |
|  | Mrs. Ishrat Shamim | Consultant, UN-REDD |  |  |
|  | Farid Uddin Chowdhury | President, Fhasiakali, CMC |  | 01819173530 |
|  | Md. Matin | Forest Ranger, Fhasiakali |  | 01814999225 |
|  | Md. Monirul Islam | Forest Ranger, Ukhiya Range |  | 01999004015 |
|  | M. Abu Sarwar | FS PFACM |  | 01840003884 |
|  | Tapash Kr. Deb | Forest Ranger, Teknuf Range |  | 01715033302 |
|  | Md. Ali Jinnat | Staff Correspondent, The Daily Star | jinnatcox@gmail.com | 01818369697 |
|  | Md. Ibrahim Hossain | Forest Ranger, Inani Range |  | 01718003984 |
|  | Syful Asrab | Asstt. Director, DAE |  | 01712168503 |
|  | Khurshida | CMC Member |  | 01852884923 |
|  | Junaid Kabir Chowdhury | Consultant, UN-REDD |  | 01711270734 |
|  | Azharul Mazumdar | Consultant, UN-REDD |  | (646)965-1175 |
|  | Abdul Mahbub | Chairman |  | 01818626550 |
|  | Shah Md. Zulfiker Ali | Forester |  | 01726046261 |
|  | Md. Abu Taher | President, Cox’s Bazar Union of Journalist | abutahercox@gmail.com | 01711315186 |
|  | Md. Ali Kabir | DFO, Cox’s Bazar | kabirfd@gmail.com | 01999004000 |
|  | Md. Akbor |  |  | 01734003350 |
|  | Md. Ali |  |  | 01919719036 |

**Tangail**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
|  | Abu Kaies | Health Assistant |  | 01720083236 |
|  | Nopur Akter | Student |  | 01747439471 |
|  | Thamina Akter | Housewife |  | 01786039241 |
|  | Moklesa Akter | UP member |  | 01751654091 |
|  | Renu Akter | UP Member |  | 01716202385 |
|  | Hirendra Chandra Sarker | Senior Assistant Director, District Fisheries Office, Tangail |  | 01718754294 |
|  | Md. Rezaul Matin | Rang Officer |  | 01790739000 |
|  | Abu Yousuf | ACF, Tangail Forest Division |  | 01713415673 |
|  | Md. Sajjaduzzaman | ACF, Tangail Forest Division |  | 01720658107 |
|  | Dr. Prantosh Chandra Roy | ACF, Mymensing Forest Division |  | 01712224429 |
|  | Md. Kamrul Mozahid | Forest Ranger |  | 01713085574 |
|  | Md. Ataul Majid | Forest Ranger |  | 01828869847 |
|  | Mohammad Mohsin | Forest Ranger |  | 01915689474 |
|  | Neser Ahmed Bhuiyan | Forester |  | 01775614455 |
|  | Md. Amran Ali | Forester |  | 01748923172 |
|  | Md. Alauddin | Forester |  | 01712258294 |
|  | Rana Swarma | CMC, Modhupur |  | 01716636136 |
|  | Md. Ershad Ali | Forest guard |  | 01718543976 |
|  | Md. Sukur Ali | Community Forest Worker |  | 01722001960 |
|  | Mrs. Minara Begum | CMC Modhupur |  | 01712355544 |
|  | Zakaria Ahmed | Forest Ranger, Mymensing |  | 01717422307 |
|  | Nazneen Sultana | Distict Women Affairs Officer, DWA, Tangail |  | 01715609176 |
|  | M. Ashraful Alam Khan | Forester, Mymensing Dist |  | 01716172968 |
|  | SM Habibullah | Forester, Mymensing Dist |  | 01716254679 |
|  | Ashaduzzaman | Forester, Tangail Forest Division |  | 01753777782 |
|  | Md. Ruhul Amin | Forest Guard, Mymensing Forest Depertment |  | 01712920067 |
|  | Muhammad Mujahidul Islam | Deputy Director, DoE, Tangail Dist |  | 01818602544 |
|  | Akter Hossain | Chairman-11 No Uninon Parisahd., Madhupur |  | 01757803370 |
|  | Joynal Abedin | Assistant profesor, Modhupur college |  | 01714042004 |
|  | Prof. Dr. Kamruzzaman | Former principal, Govt Sadat College |  | 01817501636 |
|  | M A Hassan | ACF(N) Tangail Forest Div |  | 01711248556 |
|  | Md. Saidur Rashid | Divisional Forest Officer, Mymensing | [rsaidsaidur@gmail.com](mailto:rsaidsaidur@gmail.com) |  |
|  | Hossain Mohammad Nishad | DFO, Tangail Forest Division | [hmnishad@gmail.com](mailto:hmnishad@gmail.com) |  |
|  | Azharul Mazumder | Consultant-UN REDD | [azharulm@gmail.com](mailto:azharulm@gmail.com) |  |
|  | Junaid K Chowdhury | Consultant-UN REDD |  |  |
|  | Dr. Kairul Chowdhury | Consultant-UN REDD | [khairul2002@gmail.com](mailto:khairul2002@gmail.com) |  |
|  | Prof Israt Jahan | Consultant-UN REDD |  | 01753166718 |
|  | Md. Azad | Senior Programme Coordinator, CWCS |  | 01712765655 |
|  | Jahid Hassan | Student |  | 01832606762 |
|  | Dewan Jahagir | FG |  | 017120123775 |
|  | Eugin Nobrek | JAUP |  | 01735487520 |
|  | Mollika Ritchil | Dhokla CMC |  | 01736430314 |
|  | Sopna Chisim | CNRS-CREL, NRM-FO |  | 01726951088 |
|  | Shafaly Begum | Hornidhara VCF |  |  |
|  | Jesmin Mankhin | Sataria VCF |  | 0197507232 |
|  | Shanti Sangma | JAUS-CMC |  | 017959161838 |
|  | Nasir Uddin | JAUS-CMC |  | 01724736267 |
|  | Maria D Costa | CMC-Member, Dokla Modhupur |  | 01716845802 |
|  | Tariqul Islam | Chairman, kakdanga, Tangail |  | 01791251313 |
|  | Md. Roushon Alam | Additional Deputy Director |  | 01822851133 |
|  | MD. Shams Uddin | National Consultant, Forest Governence-UN REDD |  | 01936907500 |
|  | Ratan Siddque | Journalist, dainik Loko kotha | [alfamedia1900@gmail.com](mailto:alfamedia1900@gmail.com) |  |
|  | Asif Ahmed | Journalist, dainik Gono Jagaron | [sonic96ahmed@gmail.com](mailto:sonic96ahmed@gmail.com) |  |
|  | Abdul Hamid | DD, Department of Social Service |  | 01745980510 |
|  | Md. Masudur Rahman Manir | Sr. ASP, Kalihati Circle, Tangail |  | 01769692378 |

**Khulna**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
| 1. র্ | Azharul Mazumdar | International Consultant, UN-REDD |  |  |
|  | Junaid K. Chowdhury | Consultant, UN-REDD |  |  |
|  | Bhabothosh Kumar | President, Satkhira CMC |  | 01719505792 |
|  | Sk. Mahenul Haque | Deputy Director, DSS, Khulna |  | 01718445597 |
|  | Abu Musa Shamsul Muhit Chowdhury | ACF, Sundarban Forest Division |  | 01818205241 |
|  | Mostofa Omar Sharif | Co-Mangt. Admin SMP |  | 01711248214 |
|  | Md. Mijanur Rahman | PA Mangt. Advisior, SMP |  | 01711236182 |
|  | Panchanon Kumar Dhali | Team Leader, GOPA SMP |  | 01713409497 |
|  | Nirmal Kumar Paul | DFO, Mgt Plan Div. Khulna |  | 01712744223 |
|  | Mohd. Hossain | ACF, Sundarban Forest Division |  | 01770989188 |
|  | Sharmila Sarkar | Kailashgong VCF |  | 01770989189 |
|  | Rezina Majhee | Chandpai, CMC |  | 01749186302 |
|  | Md. Monirul Hoque | Sundarban west |  | 01961978150 |
|  | Suroiya Siddiqua | UP Women Affairs Officer |  | 01713917618 |
|  | Prof. Dr Mahmood Hossain | Prof. Khulna University | [mahmoodhossain@hotmail.com](mailto:mahmoodhossain@hotmail.com) |  |
|  | Md. Amir Hossain Chowdhury | CF Khulna Circle | [amirdfo@yahoo.com](mailto:amirdfo@yahoo.com) |  |
|  | Md. Rakibul Hasan Mukul | CF Central Circle | lalpiprey@gmail.com |  |
|  | Miss Morjena | PF Shorankhola |  | 01792448241 |
|  | SM Mahbub Hossain | Member |  | 01713423425 |
|  | SM Shoaid Khan | ACF Khulna Range |  | 01999005892 |
|  | Khaleda Aktar | UP member Dacop |  | 01716673894 |
|  | Bijoy Kumar Sardar | Chairman CMC, Dacop, Koyra |  | 01989444000 |
|  | Shahin Rahman | Sundarban west |  | 01711826331 |
|  | Md. Shahin Kabir | ACF Chandpai Range |  | 01741520030 |
|  | Humayun Kabir | Forester, Station Officer |  | 01999005221 |
|  | Md. Abdul Latif | DD DAF |  | 01922629564 |
|  | Md. Tariqul Islam | Forester Range Officer |  | 01731858536 |
|  | Amal Kanti Roy | Senior Asstt. Director, District Fisheries Officer, Khulna |  | 01913890545 |
|  | Howlader Azad Kobir | Forester |  | 01999005218 |
|  | Md. Alamgir Hossain | Forester |  | 01721975431 |
|  | Sulatal Sarder | UP Member |  | 01755838412 |
|  | Ratan Kumar Devnath | Forester |  | 01734122415 |
|  | Md. Joherul Islam | Forester |  | 01705247283 |
|  | SM Musa Sama | Tiger Project |  | 01712562731 |
|  | Sita Nath Roy | Forest Ranger |  | 01951754520 |
|  | Khairul Chowdhury | National Consultant, UN-REDD |  | 01710868875 |
|  | Md. Mahedi ZZaman | ACF Sundarban East Forest Div. |  | 01819751874 |
|  | KM Alamgir Kabir | Forester Sundarban WDK |  | 01716448436 |
|  | Md. Jakaria Hossain | VTRT |  | 01713908011 |
|  | Md. Wadud Akram | Vice President, Sharankhola CMC |  | 01717411885 |
|  | Md. Touhidur Rahman | Co-coordinator, CREEL CODFC |  | 01730004533 |
|  | Md. Malek Howlader | VTRT |  | 01925689180 |
|  | Md. Shahidul Molla | CPG |  | 01925213836 |
|  | Kowshik Mollik | Chilla Panel Chairman |  | 01911965116 |
|  | Swapan Kabiraj | VTRT |  | 01917480403 |
|  | Md. Nazrul Islam | FM 71 |  | 01712560494 |
|  | Masuma Begum | CMC |  | 01744652026 |
|  | Gazi Jahurul | President Chanmolpal CMC |  | 017113088710 |
|  | Shahab Uddin Gazi | VCF Member |  | 01936266982 |
|  | Ashit Kumar Mandal | Vice President Dacop CMC |  | 01728281249 |
|  | Mosharaf Mollah | Fisherman |  | 01918441332 |
|  | Debashish Mistry | Fisherman |  | 01947839594 |
|  | Khokon Gazi | CPG |  | 01797074085 |
|  | Rudra Biswas | CPG |  | 01962012405 |
|  | Sabina Begum | CPG |  | 01953363937 |
|  | Abul Mia | CPG |  | 0175241108 |
|  | Md. Rezaul Karim Chowdhury | PM- EPASHAEP |  | 01711388222 |
|  | Md. Habibul Haque Khan | Director Dept. of Environment |  | 01716916327 |
|  | Shahin Rahman |  |  | 01711826331 |
|  | Rhitwik Roy Chowdhury | PA-UNDP |  | 01715756898 |
|  | Sk Harun-or Rashid | Chairman, |  | 01711065429 |
|  | Hossain Ahmed |  |  | 01716517183 |
|  | Dahashis Kar | CMC Member |  |  |
|  | Omar Faruque | CMC Member |  |  |
|  | James D’ Rozario | Administrative Assistant, UN-REDD |  | 01713257683 |
|  | Md. Shams Uddin | Consultant, UN-REDD |  | 0193690500 |

**Dinajpur**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
| 1. র্ | Md. Mozahed Hossain | Additional Secretary, Ministry of Environment and Forests | [mozahedh@gmail.com](mailto:mozahedh@gmail.com) | 01711119718 |
|  | Md. Rakibul Hasan Mukul | Conservator of Forest, BFD | pd-unredd@bforest.gov.bd | 01711433032 |
|  | Azharul Mazumder | UN-REDD consultant | [azharul@gmail.com](mailto:azharul@gmail.com) |  |
|  | Md. Abdul Awal sarkar | Conservator of Forest, Social Forest Circle, Bogra | [awal.bfd@gmail.com](mailto:awal.bfd@gmail.com) | 01712638606 |
|  | Md. Sarwar Sarkar | General Secretary, District Krishok ligue |  | 01715803841 |
|  | Md. Abdur Rahman | DFO, Dinajpur |  | 01711064519 |
|  | Md. Wahed Ali | Advocate, Dinajpur |  | 01740955161 |
|  | Md. Kabir Hossain | Forest Ranger, Social Foresty, Dinajpur |  | 01713942451 |
|  | AK. S. Abdus Salam | Caretaker, Ramsagor, Dinajpur |  | 01712023011 |
|  | Kamal Uddin | Beneficiary |  | 0193292039 |
|  | Md. Ezhar Uddin | Inspector, Investigation, Panchagor |  | 01750151697 |
|  | Md. Abu Sayem | Inspector, Investigation, Boda, Panchagor |  | 01713569798 |
|  | Md. Tawhid Dullah Lopous | ASP (Sadar)Panchogar |  | 01713373996 |
|  | Md. Akbar Hossain | SI (Debnagor PS) |  | 01718787934 |
|  | Mrs. Jebunnahar | Beneficiary |  |  |
|  | Tapan Kumar Shaha | Programme Manager, Field Coordination, RDRS, Dinajpur |  | 01730328017 |
|  | Polash Hasda | Benefit Receiver, Sal Forest |  | 01737462818 |
|  | Robert brun | Beneficiary, Singra Forest |  | 01725428056 |
|  | Md. Anowarul Islam | Range officer, Debigonj Forest, Panchogar |  | 01718408878 |
|  | Hari Pada Debnath | Range |Officer, Takurgaon |  | 01718543752 |
|  | Dr. Ashika Akbar Trisha | ADLO, Dinajpur | [trishavet@gmail.com](mailto:trishavet@gmail.com) |  |
|  | M. Amjal Hossain | Charman UP, Dinajpur |  | 01757990782 |
|  | Amdadul Hoque Milon | Daily kaler Kantho |  | 01718157901 |
|  | Md. Abul Kalam Azad | Forester, Dinajpur |  | 01731018822 |
|  | Tariqueen Begum Labun | Chairmen, Jatiya mahila Sangstha |  | 01715614440 |
|  | Junaid K Chowdhury | Consultant, UN-REDD |  | 01711270739 |
|  | Kazi Mahabub Ullah | Businesman |  | 01719542128 |
|  | Kazi Md Ullah | Service, Dinajpur |  | 01760981389 |
|  | Arif |  |  | 01784900222 |
|  | Md. Shams Uddin | Consultant, UN-REDD | [shams.uddin@undp.org](mailto:shams.uddin@undp.org) |  |
|  | Md. Ronjibul Amin | Forest Ranger |  |  |
|  | Md. Rafiquzzaman Shah | Divisional Forest officer, Social Forest Division, Rangpur |  |  |
|  | Dr. Md. Shoaibur Rahman | Professor and Chairman, Agri Forest Dept, Dinajpur | [shoaib\_for@yahoo.com](mailto:shoaib_for@yahoo.com) |  |
|  | Mostafizur Rahman | ACF, Social Forest Divison, Dinajpur | [mostafiz.acf@gmail.com](mailto:mostafiz.acf@gmail.com) |  |
|  | Md. Ekramul Haque | Forest ranger, sdar Range, Dinajpur | [ekramfdfr61@gmail.com](mailto:ekramfdfr61@gmail.com) |  |
|  | Nishe Kantho Malakar | Forest beat Officer, Social Forest Deparment, Dinajpur | [n.malakar1@gmail.com](mailto:n.malakar1@gmail.com) |  |
|  | Md. Enamul Haque | Assistant Commisoner, Land, Birampur, Dinajpur | [enam.bd2014@gmail.com](mailto:enam.bd2014@gmail.com) |  |
|  | Md. Arafat Hossain | Asst Commisioner (Land), Nawabgonj, Dinajpur | [hossainmd944@gmail.com](mailto:hossainmd944@gmail.com) |  |
|  | Gazi Moniruzzaman | Forest Ranger, Chorkai Range |  |  |
|  | Sadia Jahan | Assistant Teacher | [sadiajahan2000@yahoo.com](mailto:sadiajahan2000@yahoo.com) |  |
|  | Md. Mahbubur Rahman | ADC (R), Dinajpur | [adcrevenuedinajpur@mopa.gov.bd](mailto:adcrevenuedinajpur@mopa.gov.bd) |  |
|  | Md. Shafiqul Islam | ADC (Rev), Thakurgaon |  | 01715281323 |
|  | M A Mannan | UNO, Balia Dingi, Thakurgaon |  | 01700609393 |
|  | Md. Nabirul Islam | Assistant Commisioner (Land), Panchogaor sadar |  | 01721516221 |
|  | Md. Shah Alam | Beneficiary |  | 01723996136 |
|  | Md. Arman Hossain | Channel i |  | 01718220466 |
|  | Papri | Beneficiary |  | 01756271472 |
|  | Rasina | Beneficiary |  | 01773222306 |
|  | Jwel | Beneficiary |  | 01745501886 |
|  | Md. Johirul Haque | Secretary, Bangladesh Scout, Dinajpur |  | 01794838433 |
|  | Md. Shahabuddin Shaha | Beneficiary, Moddyapara Range |  | 01736137361 |
|  | Md. Anower Hoque | Freedom Fighter |  | 01739240017 |
|  | Sabina Kisku | Beneficiary |  | 01797890430 |
|  | Ms. Rukshana | Beneficiary |  | 01728255652 |
|  | Md. Masudur Rahaman Shah | Chairmen, Union Parishad |  | 01710368900 |
|  | Md. Matiur Rahman | President, Dinajpur Press Club |  | 0172222616 |
|  | Md. Mohsin Ali | District Representatives, BRAC |  | 01730347767 |
|  | Nikhil Ch. Biswas | DDAE, Dinajpur |  | 01938826855 |
|  | Md. Shahab Uddin | UN-REDD, UNDP |  | 01763389218 |

**Noakhali**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. #** | **Name of Participants** | **Designation/Organization** | **E-mail address/Contact Phone** |
| 01 | Mr. Azharul Mazumder | Team Leader, UNREDD Consultant | azharulm@gmail.com |
| 02 | Mr. A.S.M Ferdoush | Deputy Secretary, Ministry of Environment and Forests | asmferdoush@yahoo.com |
| 03 | Mr. Md. Tohidul Islam | DFO, Noakhali Coastal Forest Division | tohidfd@yahoo.com |
| 04 | Mr. Md. Mizanur Rahman Bhuiyan | CDO, ICBA, AR Project, Noakhali Coastal Forest Division | 01712513220 |
| 05 | Mr. Nuruddin | SFG Member, Noler Char Charbata Range | 01822164877 |
| 06 | Mr. Pranab Kumar Mitra | Forester, Patuakhali Forest Division | 01759199116 |
| 07 | Mr. Md. Masud Raihan | Forester, Bhola Forest Division | 01711449454 |
| 08 | Mr. Md. Saiful Islam Dewan | Forester, Charbata Range, Coastal Forests Division | 01856413383 |
| 09 | Mr. Md. Abdul Mannan | Range Officer, Doulatkhan Range, Bhola | 01715674858 |
| 10 | Mr. Md. Nur-A-Alam Hafiz | Forester, Range Officer, Laskhmipur Sadar Range | 01714463828 |
| 11 | Mr. Md. Faiz Ahmed | F.G. Sadar Range, Noakhali | 01715531772 |
| 12 | Mr. Md. Yousuf | O.A Coastal Forest Division, Noakhali | 01857654017 |
| 13 | Mr. Md. Main Uddin Sardar | Deputy Director, Zela Social Service Office | 01748875511 |
| 14 | Mr. Md. Abu Tarique Khondoker | Range Officer, Social Forest Division, Feni | 01713435143 |
| 15 | Mr. Md. Abdul Malek Mia | Assistant Director, Department of Environment, Noakhali | 01712086466 |
| 16 | Mr. Firoz Alam Chowdhury | Forest Ranger | 01826121673 |
| 17 | Mr. Md. Idris Miah | Range Officer, Patuakhali Coastal Division | 01716081764 |
| 18 | Mr. Sukumar Chadra Shill | Forest Ranger, Monpura Range, Bhola | 017331352512 |
| 19 | Mr. Advocate Shihab Uddin Shaheen | Chairman, Noakhali Sadar Upazila Parishad | 01711386600 |
| 20 | Mr. Md. Gias Uddin | Member of Bbeneficiarirs | 01877626737 |
| 21 | Mr. Md. Abduzzaher | Union Parishad Chairman | 01711263475 |
| 22 | Mr. Md. Lutfar Rahman | In charge, SFNTC, Bhola | 01876428856 |
| 23 | Mr. Kalam | Social Forestry Beneficiary | 01823586587 |
| 24 | Ms. Kamrun Nahar | Social Forestry Beneficiary | 01711286691 |
| 25 | Md. Taslima Begum | Social Forestry Beneficiary | 01768234215 |
| 26 | Mr. Moniruzzaman Chowdhury | President, Beneficiary Group | 01552-465431 |
| 27 | Ms. Salina Akter | District Women Affairs Officer, Noakhali | 01716-768090 |
| 28 | Mr. Md. Abu Tarek Khandoker | Range Officer, Dagonbhuiyan Social Forest Disivion, Feni | 01713435143 |
| 29 | Mr. Md. Yasin Khandakar | F.G, Coastal Forest Division, Noakhali | 017163331195 |
| 30 | Mr. Dr. Mohammad Zakir Hossain | District Livestock Officer | dlanoakhalidls@gmail.com |
| 31 | Mr. Arun Ch. Mazumder | Fisheries Survey Officer, District Fisheries Office | arunmazumder61@gmail.com |
| 32 | Mr. Md. Jalal Uddin | District Training Officer, Department of Agraculture | uddinmd.jalal65@gmail.com |
| 33 | Mr. Md. Ruhul M. Ali | ED-SSUS | 01711380864 |
| 34 | Ms. Mamata Begum | Member, Union Parishad | 01714370154 |
| 35 | Ms. Mamtaz Begum | Member, Union Parishad | 01775613772 |
| 36 | Mr. Md. Abul Kalam Azad | Cab, Noakhali | 01726045434 |
| 37 | Ms. Taslima Akter | Social Forestry Beneficiary | 0182549160 |
| 38 | Ms. Khota Moni | Social Forestry Beneficiary | 01832626217 |
| 39 | Mr. Md Sharif Ullah | FG. FD | 0187681166 |
| 40 | Mr. Rajib Barua | FG, Coastal Forest Division, Noakhali | 01815321453 |
| 41 | Mr. S.M. Kaisar | DFO, Feni | 01711481253 |
| 42 | Mr. Md. Abul Kalam | DFO, Barisal | 01716785208 |
| 43 | Mr. Md. Abdul Karim | Deputy Conservator of Forest, Coastal Circle, Barisal | 01715053422 |
| 44 | Mr. Mahfuzur Rahman | Forest Ranger | 01711245380 |
| 45 | Mr. Md. Nurul Islam Patwary | Forest Ranger, Noakhali | 01710800686 |
| 46 | Mr. Jahirul Islam | Social Foresty Coordinator, CDSP-iv | 01717301366 |
| 47 | Mr. Md. Shahed Uddin | Officer In charge, Investigation, Sudaram, Police Station | 017169690670 |
| 48 | Mr. Md. Abdur Rouf Mondal | ADC, Vebenue, Noakhali | 01705401002 |
| 49 | Mr. Mohammad Sahab Uddin | PS, UNREDD | 017163389218 |
| 50 | Mr. Abdul Wahab Sheikh | Range Officer, Char Abdullah Range | 01716011422 |
| 51 | Mr. Mozammel Haque Bhuiyan | Forester | 01712119228 |
| 52 | Mr. Giyas Uddin | BIT Officer, Nizumdip National Park | 01825497775 |
| 53 | Mr. Md. Mosharrof Hossain | Forester, Coastal Forest Division, Hatiya, Noakhali | 01712801449 |
| 54 | Mr. Md. Nahi Hasan | Range Officer, Sadar Range | 01717276065 |
| 55 | Mr. Mesbahul Haque Mithu | District Correspondence, Channel-24 | 01712862740 |
| 56 | Mr. A.S.M. Shamsuddin Ahmed | Forester, Begumgonj, | 01711738677 |
| 57 | Mr. Md. Shafiqul Islam | Surveyor | 01916520523 |
| 58 | Mr. Md. Sham Uddin | Consultant, UN-REDD | 01936907500 |
| 59 | Mr. Junaid Kabir Chowdhury | Consultant, UN-REDD | 01711-270739 |

**Sreemongal**

| **Sl** | **Name** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
| 1. র্ | A Z M Hasanur Rahman | ACF/ Sylhet | [sdfohobigonj@yahoo.com](mailto:sdfohobigonj@yahoo.com) |  |
|  | G.M. Abu Bakar Siddque | ACF/ Sylhet FD |  | 01718848759 |
|  | Md. Tabibur Rahman | ACF (wildlife) Moulvibazar | [tabibacf@gmail.com](mailto:tabibacf@gmail.com) |  |
|  | Md. Abu Abdullah | DD. NSI, Moulvibazar | [abuforestry@gmail.com](mailto:abuforestry@gmail.com) |  |
|  | Muhammad Abdul Quddus Akondha | District Fisheries officer | [dfomoulavibazar@fisheries.gov.bd](mailto:dfomoulavibazar@fisheries.gov.bd) |  |
|  | Dr. A.B.M Saifuzzaman | DLO, Moulvibazar |  | 01819828662 |
|  | Md. Shahjahan | DD/DAE | [Shahjahan367@gmail.com](mailto:Shahjahan367@gmail.com) | 01788594302 |
|  | Palash Sarkar | Regional Coordinator, CNRS-CREL, Sreemongal | [ptlucky7@yahoo.com](mailto:ptlucky7@yahoo.com) | 01717217620 |
|  | Abdullah Al Mamun | ACF, Sylhet Forest Division | [almamun.0022@gmail.com](mailto:almamun.0022@gmail.com) |  |
|  | Mozzafar Chowdhury | Lawachara |  | 01718476944 |
|  | Md. Mizanur Rahman | Forester, Boro kalachara, Wildlife Range |  | 01736928068 |
|  | Md. Imran Hossain Rahim | CMC member, Lawachara |  | 01711012729 |
|  | Md. Anower Hossain | Bit Officer |  | 01712327445 |
|  | Md. Imam Uddin | Range Officer, Sreemongal |  | 01710942543 |
|  | Oveidul Hasan | LF-CNRS-CREL |  | 01712393603 |
|  | Salek Mia | CPG-member-LNP |  | 01715721546 |
|  | Kholilur Rahman | CPG-member-LNP |  | 01762549893 |
|  | Mohammad Mahmudul Haque | UNO-Kamalgong |  | 01730331073 |
|  | Md. Darud Mia | Member-Forest Guard, Lawachara |  | 01613889974 |
|  | Md. Zakir | CPG-Kalachara |  | 01712353824 |
|  | Azizur Rahman | Chairman , Zilla Parshad, Moulvibazar |  |  |
|  | Md. Altaf Hossain | Deputy Director, Dept of Environment, Sylhet Division |  |  |
|  | Azharul mazumder | UN-REDD Internatinal Consultant | [azharul@gmail.com](mailto:azharul@gmail.com) |  |
|  | Rakibul Hassan | NPD, UN-REDD |  |  |
|  | Mihir Kumar | DFO (WL), Moulvibazar | [mihir-fd@yahoo.com](mailto:mihir-fd@yahoo.com) |  |
|  | R.S.M Munirul Islam | DFO, Sylhet Forest Division | [munir.bfd@gmail.com](mailto:munir.bfd@gmail.com) |  |
|  | Junaid K Chowdhury | FD | [Junaid\_Chh@bd-online.com](mailto:Junaid_Chh@bd-online.com) |  |
|  | AFM Zakaria | Assistant Professor | [afmmp@gamail.com](mailto:afmmp@gamail.com) |  |
|  | Dr. Kahirul Chowdhury | Consultant,UN-REDD | [khairul@du.ac.bd](mailto:khairul@du.ac.bd) |  |
|  | Dr. Md. Saifur Rahman | Senior Assistant Chief |  |  |
|  | Biswazit Bhattacharjee Bapon | Senior Reporter, Banglanews | [biswazit.bapon@gmail.com](mailto:biswazit.bapon@gmail.com) | 01712854959 |
|  | Amdadul Haque | Editor, PhotonewsBD.com | [amdadpress@gmail.com](mailto:amdadpress@gmail.com) | 01711272350 |
|  | Syed Mashin Parvej | ATN Bangla |  | 01715172106 |
|  | Nurul Muhaimun Milton | Correspondent, Ittefaq | [miltonpress@gmail.com](mailto:miltonpress@gmail.com) | 01718034416 |
|  | Md. Abdul Basit Madhu | President, Social Forestry, Kamalgonj |  | 01711397579 |
|  | Omar Faruk Naim | Dialy Protidiner Sangbad | [omerfaruknaim@gmail.com](mailto:omerfaruknaim@gmail.com) | 01706624632 |
|  | Hasan Ahmed Jabed | Panel Chairman, Zila Parishad, Molvibazar | [hajaved@gmail.com](mailto:hajaved@gmail.com) | 01715003000 |
|  | Md. abdul Khalik | Businessman, Sreemongal |  | 01711905085 |
|  | Mohammad Ali (Taher) | F.G |  | 01711859321 |
|  | Md. Nazir Uddin Talukder | F.G |  | 01711167898 |
|  | Mrs. Khotfun Begum | CPG Member |  | 0174443776 |
|  | Mynamoti Kaham | CMC Member |  | 01752338957 |
|  | Molika Debbarma | CMC Member |  |  |
|  | Amina Akter | Member of People's Forum |  | 01726745513 |
|  | Mitu Roy | CMC member |  | 01703530563 |
|  | Julakha Khatun | Beneficiaries |  | 0171445669 |
|  | Md. Abdul Kuddus | VCF |  | 01756375061 |
|  | Md. Azizur Rahman | FG, Forest Division |  | 01731888271 |
|  | Sheikh Shariar Shata | FG, Jankichara Camp, Lawyachara National Park |  | 01709144383 |
|  | Abu Supian Chowdhury | Chairman, Union Parishod |  | 01711669840 |
|  | Gulam Kibria Chowdhury | Businessman | [gkchowdhury@gmail.com](mailto:gkchowdhury@gmail.com) |  |
|  | Md. Jahirul Islam | Bit Officer, Kurma Bit |  | 01709231978 |
|  | Md. Abu Taher | Range Officer, Molvibazar Range |  | 01716564340 |
|  | Md. Abdul Mannan | Ranger Officer, Juri Range |  | 01784338090 |
|  | Md. Abul Kasher bhuiyan | Range Officer, Kulaura Range |  | 01788346951 |
|  | Shyamal Roy | Forester |  | 01712651049 |
|  | Md. Riaz Uddin | Bit Officer/Forester |  | 01712035583 |
|  | Ratan Chandra Das | Forester |  | 01716545967 |
|  | Md. Ahmed Ali | Forest Guard |  | 01712280817 |
|  | Plilah Potinny | Mynti, Lawachara | [lawachara@gmail.com](mailto:lawachara@gmail.com) | 01715718636 |
|  | Md. Masud Parves Majumder | Senior Assistant Secretary, DC Office, Molvibazar | [bappyjbleo169@gmail.com](mailto:bappyjbleo169@gmail.com) | 01715404848 |
|  | Mohammad Mobassherul Islam | UNO, Sreemongal | [unosreemongal@mopa.gov.bd](mailto:unosreemongal@mopa.gov.bd) | 01730331072 |
|  | Md. Salim Uddin | Businessman, Sawmill owner |  | 0171144499 |
|  | Md. Shams Uddin | Consultant, UN-REDD | [shams.uddin@undp.org](mailto:shams.uddin@undp.org) |  |

**Expert Consultation in Dhaka**

| **Sl** | **Name of Participants** | **Designation & Organization** | **Email Address** | **Phone/Mobile** |
| --- | --- | --- | --- | --- |
| 1. র্ | Md. Shamsul Azam | DCCF, Forest Dept. | [shamsforest@gmail.com](mailto:shamsforest@gmail.com) |  |
|  | Md. Rakibul Hasan Mukul | CF, Central Circle | [lalpiprey@gmil.com](mailto:lalpiprey@gmil.com) |  |
|  | Junaid K. Chowdhury | Consultant, UN-REDD |  | 01711270739 |
|  | Dr. Khairul Chowdhury | Consultant, UN-REDD |  | 01710868875 |
|  | Quamrul Islam Chowdhury | Chairman, FEJB | [Quamrul2030@gmail.com](mailto:Quamrul2030@gmail.com) | 01552397643 |
|  | Ishtiaqu U. Ahmed | CCF (Rtd.) | [Iuahmad55@gmail.com](mailto:Iuahmad55@gmail.com) | 01712085944 |
|  | Md. Shalod Mahahub Chowdhury | National Coordinator, MFF, IUCN | [Shalod.mahabub@iucn.org](mailto:Shalod.mahabub@iucn.org) | 01776999017 |
|  | Raquibul Amin | Country Representative, IUCN | [raquibul.amin@iucn.org](mailto:raquibul.amin@iucn.org) |  |
|  | M. Mokulesur Rahman | ED, CNRS |  | 01711549460 |
|  | Nasim Aziz | PM, UN-REDD |  | 0171503275 |
|  | Mohiuddin Al Faroque | RG & GIS Analyst, BCAS | [Amemohiu13@gmail.com](mailto:Amemohiu13@gmail.com) | 01818416372 |
|  | Shahajadi Begum | Asstt. With Prof. | [shahajadibegum@gmail.com](mailto:shahajadibegum@gmail.com) |  |
|  | Prof. Ishrat Sharmin | Consultant, UN-REDD , Gender | [Cwcs.bd@gmail.com](mailto:Cwcs.bd@gmail.com) |  |
|  | Dr. Sharif A. Mukul | Asstt. Prof. Independent University | [smukul@ivb.du.bd](mailto:smukul@ivb.du.bd) |  |
|  | Niaz A. Khan | Prof. Dhaka University |  |  |
|  | Farid Uddin Ahmed | ED, Arannoya Foundation | [farid@arannayak.org](mailto:farid@arannayak.org) | 01713040583 |
|  | Shahadat Shakil | Project Management Specialist, US AID/ Bangladesh | [sshakil@usaid.gov](mailto:sshakil@usaid.gov) | 01755648969 |
|  | Kerry Reeves | Deputy Director-Environment US AID/ Bangladesh | [kreeves@usadi.gov](mailto:kreeves@usadi.gov) |  |
|  | Md. Shams Uddin | Consultant, UN-REDD | [Shams.uddin@undp.org](mailto:Shams.uddin@undp.org) |  |
|  | Mihir Biswa | J.S -BAPA | mihirburiganga@yahoo.com | 01700678233 |
|  | Azharul Mazumdar | Consultant, UN-REDD |  | 01715103303 |
|  | Anatoli Paultoochipou | FAO-Consultant | [Anatoli.apeltoechidoe@fao.org](mailto:Anatoli.apeltoechidoe@fao.org) |  |
|  | James D’ Rozario | UN-REDD |  | 01713257683 |
|  | Md. Moniruzzaman | UN-REDD | [md.moniruzzaman@undp.org](mailto:md.moniruzzaman@undp.org) |  |

**Annex B**

**PAMs Suggested by Regional Stakeholders**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Drivers of D&D** | **Rangamati** | **Chittagong** | **Cox’s Bazaar** | **Tangail** | **Khulna** | **Dinajpur** | **Noakhali** | **Sreemongal** |
| **Fuelwood Demand** | \*Promote and intensify use of alternate fuel sources  > Improved Cooking Stoves (ICS)  > Ease the availability of LP gas particularly for forest adjoining communities and beneficiaries  > Biogas (provide incentives for adoption)  > Buffalo dung, poultry excreta, human excreta  > Briquette from rice husk, saw dust, straw, etc. (needs motivation)  > Introduce and popularize solar power/cooker  > Dung stick burning be prohibited  \*Tobacco burning kiln control  > Stop expansion of tobacco plantation  > Introduce efficient drying technology  \*Enforce use of coal for Brickfields  > Stop using wood for brick burning  > Introduce brick burning technology wherein wood cannot be put to use at all  > Introduce improved technology  \*Increase vigilance to stop immature tree felling  \*Encourage using branches/stems of trees harvested under “jot” permit  \*Allow the branches of the jot trees be transported legally  \*Promote fuelwood plantations both in forest and private land  \*Improve intermenstrual coordination  \*Decentralization is required since everything is basically Dhaka based  \*Stop overuse/misuse of fuelwood  > Encourage research to develop alternate fuel source | \*Ensure alternate fuel use  > Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities.  > Promote briquette manufacturing from sawdust, rice husk, etc. and ensure its supply to the forest adjoining communities  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  >Promote use of biogas by providing incentives.  > Encourage electric heaters for cooking.  > Introduce and encourage solar cookers and provide forest dependent people with incentives for using them.  > Use of fuel wood in local hotels and tea stalls should be prohibited by law.  > Use of fuel-wood in paddy boiling mills, bakery, etc. should be prohibited by law.  > Use of fuel-wood in tobacco curing must be prohibited by law and that law must be strictly enforced.  > Stop using fuelwood in brick burning. Heavy punishments be imposed for establishing brick burning kilns, near the forest violating the Brick Burning Act. Minor change in the Act should be done in this regard. Ensure supply of coal for brick burning.  > Not only food staff, but also non wood cooking fuel must be given to the Rohingya refugees.  \*Fuelwood plantation fast-growing species in homesteads and outside forest (railway, embankment)  >Alternate for betel leaf stick (may be plastic pipes)  \*Introduction and expansion of electric and solar cookers and offer subsidies.  \*Enhance AIG  \*Change food habit  \*Enforcement of law  > Introduce Co-management  > Awareness raising  > Encourage research on alternate efficient fuel source. | \*Ensure alternate fuel use  > Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities.  > Promote charcoal manufacturing and use from sawdust, rice husk, briquette, etc.  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  > Promote use of biogas by providing incentives.  > Encourage electric heaters for cooking.  > Encourage solar cookers and provide forest dependent people with incentives for using them.  Fuelwood plantation with fast-growing species must be established  >Hardwood species should be made mandatory in social forestry plantations  > Special zone in buffer area for firewood may be established following proper needs assessment and surveying the landscape area  > In homesteads and areas outside forest (e.g., railway tracks)  > Special fast growing species such Dhaincha (Sesbania spp.) and raintree may be encouraged  > Pruning of trees may be encouraged  \*Betel leaf stick alternative  > Use PVC pipes and live fence  \*Use of fuel-wood in tobacco curing must be prohibited by law and that law must be strictly enforced.  \*Evict brickfields from the periphery of the forests. Stop using fuelwood in brick burning. \*Heavily punish brick burning kilns established near the forest violating the Brick Burning Act. \*Ensure supply of coal for brick burning.  \*Not only rice and other food, but alternative cooking fuel must also be given to the Rohingya refugees.  \*Expansion of electricity, kerosene and solar cooker  \*Awareness generation  \*Address population pressure by promoting family planning. | \*Ensure alternate fuel use  > Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  > Promote use of biogas by providing incentives.  > Encourage electric heaters for cooking.  > Encourage solar cookers and provide forest dependent people with incentives for using them.  > Stop using fuelwood in brick burning.  \*Fuelwood plantation with fast-growing species in homesteads should be encouraged  \*Increase use of electricity, solar cooker  \*Introduce alternate income generating (AIG) activities, particularly for women  \*Change food habit  \*Conduct awareness raising campaigns | \*Promote and intensify use of alternate fuel sources  > Improved Cooking Stoves (ICS)  > Ease the availability of LP gas particularly for forest adjoining communities and beneficiaries  > Biogas (provide incentives for adoption)  > Buffalo dung, poultry excreta, human excreta  > Briquette from rice husk, saw dust, straw, etc. (needs motivation)  > Introduce and popularize solar power/cooker  > Dung stick burning be prohibited  \*Tobacco burning kiln control  > Stop expansion of tobacco plantation  > Introduce efficient drying technology  \*Enforce use of coal for Brickfields  > Stop using wood for brick burning  > Introduce brick burning technology wherein wood cannot be put to use at all  > Introduce improved technology  \*Increase vigilance to stop immature tree felling  \*Encourage using branches/stems of trees harvested under “jot” permit  > Allow the branches of the jot trees be transported legally  > Promote fuelwood plantations both in forest and private land  > Improve intermenstrual coordination  \*Decentralization is required since everything is basically Dhaka based  \*Stop overuse/misuse of fuelwood  \*Encourage research to develop alternate fuel source | \* Ensure alternate fuel use  >Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities.  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  > Promote use of biogas by providing incentives.  >Encourage electric heaters for cooking.  >Introduce and encourage solar cookers and provide forest dependent people with incentives for using them.  > Fuelwood plantation with fast-growing species must be established  > Provide FD with adequate manpower to ensure proper patrolling  >Stop using wood in brickfields. Ensure supply of coal for brick burning. Introduce and enforce use of improved brick burning technology.  > Increase awareness raising campaigns  > Introduce alternate income generating (AIG) activities, especially for women  \*Ensure enforcement of law | \*Ensure alternate fuel use  > Ensure use of renewable energy  > Promote use of biogas by providing incentives  >Promote charcoal use  >Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities  > Promote use of cowdung, agricultural waste, etc.  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  > Encourage electric heaters and solar cooker for cooking.  \*Use of fuel wood in local hotels and tea stalls should be prohibited by law.  \*Fuelwood plantation with fast-growing species must be established at homesteads  \*Stop using fuelwood in brick burning.  \*Increase awareness raising campaigns  Address population pressure by promoting family planning  \*Ensure enforcement of law | \*Ensure alternate/renewable fuel use  > Improved Cooking Stove (ICS) should be supplied at low costs to the forest adjoining communities.  > Promote charcoal manufacturing and use from sawdust, furniture waste, rice husk, briquette, etc.  >Encourage use of coal (in brick kilns)  > Pressure cooker, microwave open, auto cooker  >Promote charcoal and briquette manufacturing from sawdust, rice husk, etc. and ensure its supply to the forest adjoining communities  > Retail price of LPG cylinders must be subsidized for communities living in and around forests.  > Promote use of biogas by providing incentives.  > Encourage electric heaters for cooking.  > Introduce and encourage solar cookers and provide forest dependent people with incentives for using them.  \*Use of fuel wood in local hotels and tea stalls should be prohibited by law.  \*Use of fuel-wood in brick kilns, hotels, tea stalls, paddy boiling mills, bakery, etc. should be prohibited by law.  \*Fuelwood plantation with fast-growing species must be established  >Special zone in core/buffer area for firewood may be established following proper needs assessment  >In homesteads  >Encourage Social forestry, village forestry  \*Ensure expansion of electricity and kerosene and solar cooker  \*Increase awareness raising campaigns  \*Address population pressure by promoting family planning  \*Introduce employment generation, alternate income generating (AIG) activities, especially for women – small business, small farm, agriculture, verme-compost, nursery  \*Bring poor forest users under the Government’s Safety Net Program |
| **Illegal Timber Harvest** | \*Treatment of timber for longer durability  \*Revision/flexibility/modernization of law  > Modernize 1900 Regulation, Transit rule  > Empower check-posts, Quick unloading & loading, Spp identification, authority to verify source, etc.  > Stop DC’s permit for furniture export from CHT  > FD to be authorized to issue furniture transit with source verification  >Furniture marts cannot be established without the permission of the FD  > Depositing of fees along with the application of the saw mill permission should be stopped.  \*Increase awareness campaign and motivational programs  \*Make jot permit process flexible  \*Encourage developing community forests and Village Common Forests (VCF)  \*Introduce co-management  \*Enforce greater scrutiny prior to giving permits for sawmill and brickfield establishment  \*Encourage plantation on private land  \*Introduce greater scrutiny on furniture manufacturers  > Legalization of furniture manufacturing  \*Introduce institutional afforestation rules in consultation with HDC and CHTRC  \*Make laws people oriented in a consultative fashion  >Forest Act  > Wildlife Act, etc.  \*Complete delineation and demarcation of forest land and regular monitoring  \*Introduce AIG  Ensure women’s empowerment through income generation (textiles, sewing machine, etc.)  \*Make forest resource availability easier  \*Increase Motivation and awareness  \*Enhance NTFP development, marketing, etc. | \*Address population pressure by promoting family planning.  Promote ownership  >Awareness and motivation  Find alternatives of wood  >Promote biogas, ICS, etc.  \*Promote use of technology  > Promote treatment of timber before using them for furniture making or construction to increase durability. BFRI has the technology.  > Promote research on alternate of timber, construction materials; reduce use of solid wood.  \*Encourage bamboo and cane furniture  \*Heavy taxes may be imposed on luxury wooded furniture.  \*Intensify poverty alleviation programs for the dependent communities  > Create jobs and other alternate income generating activities (AIG) activities for dependent population.  Promote effective coordination among agencies  \*Ensure Upazila Forest and Environment Committees are effective and functional  > Enhance coordination among all local government agencies and other stakeholders  \*Political commitment  \*Strictly enforce existing laws  \*Ensure law enforcement with the help of law enforcing agencies such as police, coast guard, Border Guard Bangladesh (BGB), etc.  > Make people aware of the existing laws through information dissemination  > FD and other stakeholders must have adequate manpower and capacity  > Hire the required manpower at the FD  > Make Co-management functional and implement the Forest Protected Areas (PA) Rules, 2017  > Introduce Smart Patrolling system involving communities  > Build capacity of the Community Patrol Groups (CPG)  > Ensure remunerations for the members of the community patrol groups  \*Increase the number of PAs  \*Intensify awareness raising campaign | Address population pressure by promoting family planning.  Create jobs and other alternate income generating activities (AIG) activities for dependent population.  Promote effective coordination among agencies  Enhance political commitment  Strictly enforce existing laws  FD and other stakeholders must have adequate manpower and capacity  Build capacity of the Community Patrol Groups (CPG)  Intensify awareness raising and sensitizing campaign  Expand the Social Forestry program  Address the threats from the influx of the Rohingya refugees  Stop jhum cultivation  Those identified as encroachers should be barred to participate in any public election.  Introduce financial incentives for contributing to conservation. | \*Find alternate of wood  > Promote biogas, ICS, etc.  \*Intensify poverty alleviation programs for the dependent communities  >Create jobs and other alternate income generating activities (AIG) activities for dependent population, particularly women.  > Promote effective coordination among agencies  > Enhance political commitment  > Strictly enforce existing laws  \*FD and other stakeholders must have adequate manpower and capacity  > Hire the required manpower at the FD  \*Intensify awareness generation campaign | \*Treatment of timber for longer durability  \*Revision/flexibility/modernization of law  > Modernize 1900 Regulation, Transit rule  > Empower check-posts, Quick unloading & loading, Spp identification, authority to verify source, etc.  > Stop DC’s permit for furniture export from CHT  > FD to be authorized to issue furniture transit with source verification  >Furniture marts cannot be established without the permission of the FD  > Depositing of fees along with the application of the saw mill permission should be stopped.  > Increase awareness campaign and motivational programs  > Make jot permit process flexible  > Encourage developing community forests and Village Common Forests (VCF)  > Introduce co-management  > Enforce greater scrutiny prior to giving permits for sawmill and brickfield establishment  > Encourage plantation on private land  > Introduce greater scrutiny on furniture manufacturers  > Legalization of furniture manufacturing  > Introduce institutional afforestation rules in consultation with HDC and CHTRC  > Make laws people oriented in a consultative fashion  > Forest Act  > Wildlife Act, etc.  > Complete delineation and demarcation of forest land and regular monitoring  > Introduce AIG  > Ensure women’s empowerment through income generation (textiles, sewing machine, etc.)  > Make forest resource availability easier  > Increase Motivation and awareness  > NTFP development, marketing, etc. | \*Strictly enforce existing laws and modernize laws  > Establish special tribunal  \*Increase awareness campaign and motivational programs  \*Complete delineation and demarcation of forest land and regular monitoring  \*Create jobs and other alternate income generating activities (AIG) activities for dependent population  \*Enhance political commitment to stop/reduce illegal timber harvest  \*FD and other stakeholders must have adequate manpower and capacity | \*Strictly enforce existing laws and modernize laws  \*Heavy taxes may be imposed on timber  \*Increase awareness campaign and motivational programs  \*Stop extracting non-timber forest products and forest floor to help build up humus  \*Introduce co-management  \*Establish homestead plantations  \*Promote alternatives of timber such as plywood, hardboard, steel (including unused pipes from tubewells) and RCC  \*Create jobs and other alternate income generating activities (AIG) activities for dependent population.  \*FD and other stakeholders must have adequate manpower and capacity | \*Strictly enforce existing laws and modernize laws  > Cancel license of the vehicles carrying illegal timber  \*Alternate furniture materials - Encourage bamboo and cane furniture, NTFP development and marketing, etc.  \*Encourage fuelwood plantation on homesteads  \*Discourage saw mills  \*Increase awareness campaign and motivational programs  \*Hired laborer  \*Enhance political commitment and reduce political influence to stop/reduce illegal timber harvest  \*FD and other stakeholders must have adequate manpower and capacity  >Hire the required manpower at the FD  > Make Co-management functional and implement the Forest Protected Areas (PA) Rules, 2017  > Introduce Smart Patrolling system involving communities  > Build capacity of the Community Patrol Groups (CPG) and ensure remuneration for CPG members  > Increase the number of PAs  > Expand the Social Forestry program  \*Introduce financial incentives for contributing to conservation. |
| **Agriculture** | \*Improve marketing, preservation of horticultural products  > Establish cold storage  \*Provide training on improved agriculture  > Introduce HYV crops and multiple cropping systems  > Ensure control on tobacco expansion.  > Introduce research for new technology – modernize jhum  \*Encourage afforestation in marginal land by marginalized population  \*Expand horticulture, apiculture, etc.  \*Encourage not harvesting of jhum in erosion prone areas  \*Establish fire-line/ break  \*Ensure land survey  \*Establish social forests | \*Stop encroachment through agricultural expansion into forest land  Coordinate with civil administration  Ensure proper land use planning under existing laws  >Demarcate and delineate forest boundaries physically and monitor regularly  > Encourage Planned housing  \*Adopt improved agricultural technology  > Instead of horizontal expansion of agriculture, vertical expansion by high yielding variety should be done.  > Introduce and expand agroforestry especially on encroached forest lands  > Plantation technique systems may be made more environment friendly such as not to grow pineapple along the slope, use of terrace, etc.  > Discourage root crops in forest land  > Introduce diverse cropping in rotation and use high yielding varieties  > Introduce cooperative farming systems instead of land fragmentation  Shifting cultivation (Jhum) should be totally prohibited in plain districts  Promote organic fertilizer | \*Stop building houses in agricultural land  \*Coordinate with civil administration  \*Ensure proper land use planning under existing laws  \*Adopt improved agricultural technology  > Introduce improved plantation/cropping techniques/systems.  > Introduce crop rotation/intensification systems and use high yielding variety crops  \*Control tobacco cultivation  \*Stop removing topsoil from agricultural land  \*Promote organic fertilizer  \*Introduce AIG activities and ‘ekti bari ekti khamar’ program  \*Abolish/revise forest villager system | \*Stop encroachment through agricultural expansion into forest land  > Coordinate with civil administration  > Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  > Adopt improved agricultural technology  \*Shifting cultivation (Jhum) should be prohibited in hills | \*Improve marketing, preservation of horticultural products  > Establish cold storage  > Provide training on improved agriculture  > Introduce HYV crops and multiple cropping systems  > Ensure control on tobacco expansion.  >Introduce research for new technology – modernize jhum  > Encourage afforestation in marginal land by marginalized population  > Expand horticulture, apiculture, etc.  > Encourage not harvesting of jhum in erosion prone areas  > Establish fire-line/ break  > Ensure land survey  \*Establish social forests | \*Coordination among different agencies must be ensured  \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically and monitor regularly  \*Adopt improved agricultural technology  > Introduce improved plantation/cropping techniques/systems  > Introduce HYV crops, diverse cropping pattern in rotation and use high yielding varieties  > Improve marketing, preservation of horticultural products  > Provide training on improved agriculture  \*Introduce AIG activities and ‘ekti bari ekti khamar’ program  \*Expand horticulture, apiculture, etc. | \*Ensure proper land use planning under existing laws  > Stop leasing out forest land for other uses  > Stop using char land indiscriminately as pastures  > Stop converting forests into agricultural land  > Stop encroachment through agricultural expansion into forest land  \*Ensure interest-free loans for farmers, especially marginal farmers  \*Adopt improved agricultural technology  > Increase crop intensity  > Introduce improved plantation/cropping techniques/systems to reduce pressure on forest  > Develop modern agricultural technology and ensure technology transfer  > Introduce and expand agroforestry especially on encroached forest lands  > Introduce HYV crops, diverse cropping pattern in rotation and use high yielding varieties  >Introduce cooperative farming systems instead of land fragmentation  \*Encourage afforestation in marginal land by marginalized population  > Expand horticulture, apiculture, etc. at homesteads  \*Establish forest along railway tracks, roads, etc. | \*Ensure sustainable land use planning under existing laws  > Demarcate and delineate forest boundaries physically and monitor regularly  > Make changing the “class” of land difficult  Fencing  Re-acquire encroached ‘khas’ land  >Stop encroachment through agricultural expansion into forest land  Enforce land law  Rehabilitation program for encroached villagers should be introduced  \*Adopt improved agricultural technology  \*Introduce improved plantation/cropping techniques/systems  > Reduce pesticide use  > Provide more subsidy  > Shifting cultivation (Jhum) should be totally prohibited in plain districts. Encourage no harvesting of jhum in erosion prone areas.  > Provide training on improved agriculture  \*Introduce AIG activities and ‘ekti bari ekti khamar’ program  \*Encourage afforestation in marginal land by marginalized population  \*Expand fisheries, horticulture, apiculture, etc. |
| **Encroachment** | \*Make land ownership laws clearer or stronger  \*Ensure land demarcation/delineation  Introduce participatory forestry  >Involve local population in afforestation  > Introduce ‘eviction and rehabilitation’ programs  Control illegal establishment of > infrastructure/houses in forest land | \*Population pressure of the forest adjoining communities should be reduced through family planning.  \*Political commitments need to be secured to enforce laws and improve governance.  > Stop political influence especially in land grabbing.  >Take up special & well-coordinated eviction drives along with rehabilitation programs.  > Stop leasing of forest land for industrial or any other use and, if needed, retrieve the existing leases.  > Forest land grabbers and encroachers should be given exemplary punishment, if required by promulgating new laws.  > Those identified as encroachers should be barred to participate in any public election in next 10 years.  > Declaration of PAs and, for that matter, the slow and cumbersome forest reservation must be made faster.  Massive afforestation on forest land must be ensured  >Through assisted natural regeneration (ANR) programs  > By taking new plantation programs  Ensure proper land use planning under existing laws  >Demarcate and delineate forest boundaries physically  > Introduce a monitoring system and ensure regular monitoring of the forest boundaries.  > Enhance coordination with civil administration.  \*Adopt improved agricultural technology  > Instead of horizontal expansion of agriculture, vertical expansion by high yielding variety should be done.  > Introduce agroforestry  > Improve agricultural techniques  > Discourage root crops in forest land  Introduce crop rotation systems and use high yielding variety crops. | \*Population pressure of the forest adjoining communities should be reduced.  \*Political commitments need to be secured to enforce laws and improve governance.  > Stop political influence.  > Stop hill cutting in the forest areas.  > Stop the ‘headman’ system in the forest areas.  > Take up eviction drives along with rehabilitation programs under FD supervision.  > Identify and punish the forest encroachers.  > Establish Conservation and Protection Task Force.  > Ensure public participation in decision making process.  > Ensure transparency of every work.  > Introduce complain drop box system at offices  \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  > No permit for constructing roads, highways or industrial units can be given without FD’s permission.  > Empower the CPGs  > Socially boycott encroachers and keep them out of social safety network. | \*Political commitments need to be secured to enforce laws and improve governance.  > Take up eviction drives along with rehabilitation programs.  > Stop leasing of forest land for industrial or any other use and, if needed, retrieve the existing leases.  > Forest reservation is a cumbersome and slow process. Make it faster.  > Massive afforestation on forest land must be ensured by taking new plantation programs  \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  \*Coordinate with civil administration. | \*Make land ownership laws clearer or stronger  > Ensure land demarcation/delineation  > Introduce participatory forestry  > Involve local population in afforestation  > Introduce ‘eviction and rehabilitation’ programs  \*Control illegal establishment of infrastructure/houses in forest land | \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  > Introduce a monitoring system and ensure regular monitoring of the forest boundaries.  > Enhance coordination with civil administration.  > Make land ownership laws clearer or stronger  \*Political commitments need to be secured to enforce laws and improve governance.  > Stop political influence especially in land grabbing.  > Stop illegal establishment of infrastructure/houses in forest land  > Take up special and well-coordinated eviction drives along with rehabilitation programs under FD supervision.  >Identify and punish the forest encroachers. Forest land grabbers and encroachers should be given exemplary punishment, if required by promulgating new laws. Those identified as encroachers should be barred to participate in any public election in next 10 years.  > No permit for constructing roads, highways or industrial units can be given without FD’s permission.  \*Adopt improved agricultural technology  \*Introduce agroforestry | \*Ensure proper land use planning under existing laws  > Establish dedicated industrial zones  > Do not allocate forested land for development activities  > Establish pastures  > Integrate shrimp firming with afforestation  > Afforestation programs must get priority in newly accreted land (it’s the law by the way)  > Establish cluster villages and multistoried buildings  \*Improve ethical conduct  \*Political commitments need to be secured to enforce laws and improve governance.  > Take up special and well-coordinated eviction drives along with well-planned rehabilitation programs  > Identify and punish the forest encroachers under existing laws and, if required, by introducing new laws  > No permit for constructing roads, highways or industrial units can be given without FD’s permission and without a coordinated decision taken by the Land Directorate, Department of Environment (DoE) and FD.  > Reduce unplanned allocation of forest land for other uses  \*Adopt improved river training technology, e.g., establish groans  \*Increase the number of wildlife sanctuaries  \*Socially boycott encroachers and raise civic resistance against encroachers | \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  \*Massive afforestation on deforested forest land must be ensured  \*Stop political influence especially in land grabbing.  \*Take up special and well-coordinated eviction drives along with rehabilitation programs under FD supervision.  \*Forest land grabbers and encroachers should be given exemplary punishment, if required by promulgating new laws.  \*Train foresters on legal knowledge  \*Stop leasing of forest land (without FD clearance) for industrial or any other use and, if needed, retrieve the existing leases. |
| **Governance** | \*Modernize laws  > Moratorium  > Land ownership  > Acquisition, etc.  \*Ensure effective enforcement of law  \*Provide adequate manpower to the FD  Strengthen local governance  \*Empower women  \*Improve FD, DC, traditional leadership coordination  \*Address land dispute issues  \*Increase agroforestry  \*Avoid taking plantation projects without consulting the headmen  Introduce capacity/incentive building programs for headmen and traditional leaders  \*Transfer forests except RF lands to HDCs  \*Modernize VCF management  \*Improve grassroots level awareness  \*Increase vigilance, monitoring | \*Coordination among the government departments must be enhanced.  \*Relevant Acts and Rules should be updated immediately.  > Implement forest policy  Corrupt practices must be stopped.  >Punishment for corrupt practices should be enhanced  > Increase accountability  Remove barriers to the recruitment rule  >Adequate and skilled manpower must be provided to the FD  > Increase budget allocation for adequately addressing degradation  Develop ownership among stakeholders and increase participation  >Provide communities with benefit sharing from forest revenue  > Co-management approach should be expanded to all forest areas  >Address gender issues  \*Construction of roads, railways, etc. through the forest areas should be strictly prohibited by law if required by formulating new laws or by improvement of prevailing laws & rules.  \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  > Introduce a monitoring system and ensure regular monitoring.  > Coordinate with civil administration.  Improve communication  \*People must know, for example, the difference between protected forest and protected area, vested forest, etc. | \*Coordination among the government departments, including law enforcers, must be enhanced.  \*Relevant Acts and Rules should be updated immediately.  \*Corrupt practices must be stopped accountability increased  \*Remove barriers to the recruitment rule  > Adequate and skilled manpower must be provided to the FD  > Speed up the resolution of the forest cases  \*Enhance skill-based training programs.  Revise BS \*Documents and return the forest land taken under the jurisdiction of the civil administration (official encroachment)  \*Village Forest, Protected Forest and Acquired Forest must be returned to the FD | \*Coordination among the government departments must be enhanced.  \*Relevant Acts and Rules should be updated immediately.  > Adequate and skilled manpower must be provided to the FD  > Increase budget allocation for FD.  > Construction of roads, railways, etc. through the forest areas should be strictly prohibited  \*Ensure proper land use planning under existing laws and demarcate and delineate forest boundaries. | \*Modernize laws  > Moratorium  > Land ownership  > Acquisition, etc.  > Ensure effective enforcement of law  > Provide adequate manpower to the FD  > Strengthen local governance  > Empower women  > Improve FD, DC, traditional leadership coordination  > Address land dispute issues  > Increase agroforestry  > Avoid taking plantation projects without consulting the headmen  > Introduce capacity/incentive building programs for headmen and traditional leaders  > Transfer forests except RF lands to HDCs  > Modernize VCF management  > Improve grassroots level awareness  \*Increase vigilance, monitoring | \*Coordination among the government departments, including law enforcers, must be enhanced.  \*Relevant Acts and Rules should be updated immediately and enforcement must be ensured  > Construction of roads, railways, etc. through the forest areas should be strictly prohibited by law if required by formulating new laws or by improvement of prevailing laws & rules.  > Speed up the resolution of the forest cases  \*Corrupt practices must be stopped.  > Punishment for corrupt practices should be enhanced  > Increase accountability  \*Remove barriers to the recruitment rule  > Adequate and skilled manpower must be provided to the FD  \*Develop ownership among stakeholders and increase participation  \*Ensure proper land use planning under existing laws  > Demarcate and delineate forest boundaries physically  \*Properly maintain land records | \*Coordination among the government departments, including law enforcers, must be enhanced.  \*Increase political commitment and enhance political stability and stop political influence/interference  \*Raise awareness among the highest policymakers about FD and importance of forests  \*Make upazila forest committees more functional  \*Relevant Laws, Acts and Rules should be updated immediately and enforcement must be ensured  > Raise awareness among people about the importance of forests and forest laws  > Forest cases must be resolved on a priority basis  > Speed up the resolution of the forest cases  \*Corrupt practices must be stopped and transparency must be increased, particularly of the government officials  > Bring every offender under the rule of law  > Introduce massive media campaign on the importance of forests and conservation  >Increase accountability  \*Adequate and skilled manpower must be provided to the FD  \*Develop ownership among stakeholders and increase people’s participation  > Increase capacity to select beneficiaries and distribution of benefits  \*Co-management approach should be expanded to all forest areas | \*Coordination among the government departments, including law enforcers, must be enhanced.  >Ensure participatory decision-making  \*Control population growth  \*Relevant Acts and Rules should be updated immediately and enforcement must be ensured  >Speed up the resolution of the forest cases  > Provide foresters with legal skills for proper follow-up of legal actions  > Adequate and skilled manpower must be provided to the FD  > Introduce risk allowance for foresters  > Award for foresters  > Rationing system for poor forest users  > Skilled law enforcers  > Enhance skill-based training programs to dependent communities  \*Increase PA |

1. The Consultant Team is comprised of three members: Dr. Azharul H. Mazumder, Mr. Junaid K. Choudhury and Dr. Khairul Chowdhury. [↑](#footnote-ref-1)
2. Estimated forest dependent households are about 1,325 Million. If given as low interest loan, this $265,000 million will not be necessary. A 10% SEED MONEY may do. [↑](#footnote-ref-2)
3. See Borini-FeFeyarabend, G. *et. al.*, 2004. Sharing Power. Learning by Doing in Co-management of Natural Resources throughout the World, IIED and IUCN/CEESP/CMWG, Cenesta, Tehran. [↑](#footnote-ref-3)
4. The Consultant Team is comprised of three members: Dr. Azharul H. Mazumder, Mr. Junaid K. Choudhury and Dr. Khairul Chowdhury. [↑](#footnote-ref-4)
5. <http://www.fao.org/tc/exact/ex-act-home/en/> [↑](#footnote-ref-5)
6. [XLVIII DLR, 1996, p.438, and XVII Bangladesh Legal Digest (BLD), 1996 (AD), pg. 1] [↑](#footnote-ref-6)
7. It should be noted the ICS of various models has been promoted in rural Bangladesh for over three decades now but the widespread use of the devices is still questionable. [↑](#footnote-ref-7)
8. Some initiatives, e.g., the USAID-funded Nishorgo Support Project (NSP) and IPAC project made lots of effort to popularize biogas – particularly for educational institutes such as madrassah hostels – from human wastes, particularly in the Cox’s Bazaar-Tekanf regions. Even though the initial response was great, the initiative did not sustain. [↑](#footnote-ref-8)
9. Source: The Daily Prothom Alo, April 4, 2018 [↑](#footnote-ref-9)
10. It should be noted the ICS of various models has been promoted in rural Bangladesh for over three decades now but the widespread use of the devices is still questionable. Some initiatives, e.g., the USAID-funded Nishorgo Support Project (NSP) and IPAC project made lots of effort to popularize biogas – particularly for educational institutes such as madrassah hostels – from human wastes, particularly in the Cox’s Bazaar-Tekanf regions. Even though the initial response was great, the initiative did not sustain. Biogas from livestock could be an alternate source of cooking fuel, as suggested by the regional workshops. However, the Consultant Team decided not to recommend this methane emission intensive measure. [↑](#footnote-ref-10)
11. Estimated forest dependent households are about 1,325 Million. If given as low interest loan, this $265,000 million will not be necessary. A 10% SEED MONEY may do. [↑](#footnote-ref-11)
12. See Borini-FeFeyarabend, G. *et. al.*, 2004. Sharing Power. Learning by Doing in Co-management of Natural Resources throughout the World, IIED and IUCN/CEESP/CMWG, Cenesta, Tehran. [↑](#footnote-ref-12)