



## Bangladesh REDD+ Readiness Roadmap

**UN-REDD** PROGRAMME

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## Introduction

## **Country Profile**

## Economy and Land Use

Bangladesh is predominantly an agricultural country in terms of land use, although only 18.6% of GDP originates from the agriculture sector. Urbanization is proceeding rapidly, and it is estimated that only 30% of the population entering the labour force in the future will be absorbed into agriculture, although many are likely to find other kinds of work in rural areas.

Land is a very scarce and important resource in Bangladesh. Figure 1 shows the pattern of land use in the country in 2006. About 75.8% of the total area of the country is under some form of agriculture or pasture. Forest land, concentrated mainly in the mangroves of the Sundarbans in the south-west and in the Chittagong Hill Tracts of the south-east, covers 17.1% (2.5 million ha) and the remaining 7.1% of land is



comprised of urban areas, water bodies and land which is regularly submerged according to tides or seasons (shrimp cultivation, salt beds and mudflats). Over the 30 years between 1975 and 2004, the area under agriculture expanded by 0.68 million ha, about 4.6% of the total land area. Population pressure is the major driving force determining land use and land use change in Bangladesh.

**Figure 1:** Bangladesh land use map, Source: Bangladesh National Forest and Tree Resources Assessment, Bangladesh Forest Department and FAO (2007).

## Bangladesh and Climate Change

Despite its relatively small area, Bangladesh's high population and high vulnerability to natural disasters, such as flooding and cyclones, gives it prominence in international climate change negotiations. Bangladesh is one of the most vulnerable countries to the impacts of global climate change, and these impacts are becoming ever more visible. Among the impacts observed are; increasing temperature, changes in patterns of natural disturbances such as flooding, changes in the frequency and intensity of rainfall and increasing frequency of storms of hurricane intensity, saline water intrusion and sea level rise.

#### Sources and sinks of greenhouse gases in Bangladesh

The last national Green House Gas (GHG) inventory reports that the majority of  $CO_2$  emissions are derived from the energy sector (63%) followed by 32% from the land-use change and forestry, or LULUCF, sector. Bangladesh is responsible for less than one-fifth of one percent of global GHG emissions, reflecting its extremely low consumption of energy per capita, according to the Ministry of Environment and Forests.

Climate change is likely to affect multiple sectors and economic activities in Bangladesh, with adaptation measures required to address and mitigate the potential adverse impacts. Forestry has been identified as a key sector to support national mitigation and adaptation efforts.

#### National strategy to tackle climate change in Bangladesh

The Government of Bangladesh (GoB) recognizes that tackling climate change requires an integrated approach involving a number of different ministries and agencies, civil society and the private sector. The GoB has made climate change an integral part of the new draft Poverty Reduction Strategy Paper, which outlines a strategy for the next three years and lays the foundations for continuing efforts to achieve the Millennium Development Goals (MDGs).

The GoB has recently established a Climate Change Trust Fund (CCTF), which will focus mainly on making resources available for adaptation efforts. Bangladesh is also looking beyond its borders to find common cause with neighbouring countries to manage climate change impacts through regional action plans. The National Adaptation Programme of Action (NAPA) was launched in 2005 and identified priority activities to provide a response to urgent and immediate adaptation needs.

The Bangladesh Climate Change Strategy and Action Plan (BCCSAP) is a 10-year programme (2009-2018) to build the capacity and resilience of the country to meet the challenge brought on by climate change. The needs of the poor and vulnerable, including women and children, will be mainstreamed in all activities under the Action Plan.

### **Bangladesh Forest Sector**

The history of forestry in Bangladesh is one of continuous depletion of forest resources both in terms of area and quality. Most deforestation in government forests has occurred due to the inadequacy of the bureaucratic custodian approach to forest management. Since the early 1980s, forestry in Bangladesh has witnessed a rapid succession of social forestry programmes in an attempt to redress public alienation and to allow for wider participation of local people in forest use and management. These programmes focus on the establishment of plantations on degraded and marginal forest lands. About 4.65 million ha of such land has been identified for future rehabilitation and restoration purposes through the current Social Forestry programme.

Bangladesh Forest Department (FD) manages 1.52 million hectares of forest land, or about 60% of the total. Not all forest land, however, is covered by forest and, according to Bangladesh's most recent Forest Assessment Report (FRA) to FAO, only 11% of the country is covered by forest. However, another 20%

(about 2.5 million ha) of the country is recorded under FRA categories 'other wooded land' or 'other land with trees'. The latter category alone, which includes farm woodlots and other agroforestry systems, accounts for more than half of the combined area under any sort of tree cover.

All other land with tree cover is either under private ownership or under the control of other departments within the GoB. There are currently no reliable figures on the classification of these areas according to forest type, legal status or management objectives. Some of these areas fall under the Social Forestry Rules but are not included under the definition of 'forest' adopted by the National forest Assessment (NFA). However, these areas, combined, sequester a considerable amount of carbon under the management and stewardship of local landowners and communities.

## Background: International Framework for REDD+ Implementation

**Reducing Emissions from Deforestation and forest Degradation** *[plus]* conservation of forest carbon stocks, sustainable management of forests and enhancement of forest carbon stocks, all now encompassed by the acronym **REDD+**, has become a prominent discussion track, in recent years, within negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). The objective of this discussion track is agreement on the design of a mechanism that rewards *developing countries* for their achievements in climate change mitigation through the forest sector. The topic was formally introduced to the Conference of Parties (COP) at its 11<sup>th</sup> session in Montreal in 2005 and was confirmed as an integral part of a future global climate change protocol at the 16<sup>th</sup> session in Cancun, Mexico in 2010; the Cancun Agreements.

At the national level, a REDD+ strategy can be expressed in terms of three **Elements**:

- A revised Forest Information System (FIS) which provides all the data required to accurately monitor changes in forest cover and condition through improved Measurement, Reporting and Verification (MRV) tools
- 2. The **Policies and Measures** required to achieve reductions in deforestation, forest degradation and enhancement of forest carbon stocks.
- 3. A system of **Benefit Distribution** to ensure that resources that flow into the forest sector are allocated in such a way as to induce sustained changes in behavior among actors which result in the desired long-term outcomes on the ground.

These three elements will only result in the long-term outcomes of reduced deforestation, reduced forest degradation and enhancement of forest carbon stocks if they are all interlinked. For example, a country with a first-class FIS but inappropriate Policies and Measures or inefficient Benefit Distribution will simply amass excellent records of continuing decline in forest area and condition.

Furthermore, because the forest sector affects the livelihoods and well-being of many people, and forest ecosystems are but one part of the biosphere, REDD+ mechanisms must be accompanied by a number of **Safeguards** against negative impacts. These safeguards are specific to national circumstances but will include:

• **Environmental:** Provisions to ensure that REDD+ measures do not result in conversion of natural vegetation, do not result in reduced biodiversity and do not merely displace environmentally unsustainable practices from one location to another

• **Social:** Provisions to ensure that REDD+ measures do not increase poverty, decrease equity or negatively affect the livelihoods of any vulnerable stakeholders. These safeguards will include full multi-stakeholder participation in decision-making processes, addressing corrupt practices, and commitment to the principle of obtaining the Free, Prior and Informed Consent (FPIC) of all directly-affected stakeholders at each stage of implementation of a national REDD+ strategy.

All these national-level elements and safeguards require a set of enabling frame conditions; including networks of institutions which are efficient, transparent and stable, and a conducive political environment in order to maintain sufficient support for REDD+ and awareness of the problems which it must address.

Finally, the international financial systems must be in place. If the national REDD+ strategy is successful, emission of GHGs (mainly  $CO_2$ ) will be reduced. Positive benefits for REDD+ will flow if the international community recognizes the value of these reductions and implements a transparent system to reward national-level performance.

## Background: Bangladesh REDD+ Readiness Roadmap

The Bangladesh REDD+ Readiness Roadmap describes a plan of activities which prepare the country fully for the second phase of a national REDD+ programme. The Roadmap leads towards the point at which the Government of Bangladesh is able to make a decision, on whether or not to implement REDD+ nationwide, and has the necessary resources and systems in place to act on that decision without delay.

The Roadmap is a **living document**. It is not intended to be a fixed and unchangeable set of instructions for REDD+ Readiness activities. It should be reviewed and updated on a regular basis to reflect the developing experience and capacity within Bangladesh and the progression of REDD+ approaches internationally.

The development of the Roadmap is the first step of the Bangladesh REDD+ Readiness process. The remaining steps will be in accordance with a *phased approach*, as follows:

**Phase 1:** Implementation of the Roadmap, Bangladesh will put in place the necessary capacity and institutions to implement REDD+ at the national level.

**Phase 2:** Field testing of candidate strategies may be done, through demonstration activities. This phase could also include further capacity building, and development of new policies and legislation.

**Phase 3:** Bangladesh can start to implement REDD+, through a national performance-based system of resource distribution or benefit sharing.

UNDP and FAO have provided technical and financial support for development of the Bangladesh REDD+ Roadmap. The Roadmap may be used as the basis for:

- 1. A Readiness Preparation Proposal (R-PP), if invited by the UN-REDD Policy Board.
- 2. Proposals for financial and technical assistance through other bilateral and multilateral agencies

Rationale: How REDD+ Readiness activities will be coordinated and managed in Bangladesh

Key parts:

Existing institutional arrangements (climate change and forests),

- Description of existing institutions relevant to climate change and forests e.g. BCCSAP, NAPA, national Climate Change Trust Fund, Resilience Fund, Steering Committee etc.
- Institutional networks, coordination and decision-making (existing legislative and procedural arrangements), roles and responsibilities of different line agencies
- Projects, programmes, NGOs and private sector involvement in forest sector (potential partners in REDD+ Roadmap),
- Gaps in existing institutional arrangements which REDD+ Readiness must address

Proposed REDD+ Readiness management arrangements:

- Proposed institutional setup for management arrangements,
- Adaptation of existing institutions, creation and justification of new institutions to fit the proposed arrangements
- Composition and ToRs for: Decision-making body (REDD+ Steering Committee), implementing body (REDD Cell), REDD+ Stakeholder Forum, Technical Working Groups; how will they be adapted, created, developed and managed?

## Section 1: Management of REDD+ Readiness

Output	Indicative activities		
Outcome 1: Management of REDD	Outcome 1: Management of REDD+ Readiness		
1.1 National REDD+ Readiness Coordination Mechanism established	<ul> <li>Review and validation of government institution roles and responsibilities in REDD+</li> <li>Review of current institutional mandates for National REDD+ management arrangements, including REDD+ Steering Committee and REDD Cell</li> <li>Review lessons of existing REDD pilot projects for REDD+ management structure</li> <li>Formal establishment of REDD+ Stakeholders Forum (RSF), with agreed structure, membership, roles and ToR</li> </ul>		
	<ul> <li>Three Technical Working Groups (TWGs) on MRV, Strategy and Safeguards, formally established and ToRs agreed</li> <li>Regular meetings of REDD+ SC, RSF and TWGs</li> <li>National REDD+ management structure formalised and mandated through MoEF policy statement</li> <li>Role of development partners in REDD+ structure revised and agreed</li> </ul>		

## Section 2: Stakeholder Consultation and Participation

**Rationale:** How stakeholders – Government agencies, local people, civil society – will be consulted and involved throughout implementation of the Roadmap. Engaging all stakeholders transparently and effectively is essential for the national REDD+ programme to achieve broad support.

**Background papers:** UN-REDD/FCPF Guidelines on Stakeholder Engagement, UN-REDD Draft Guidelines on Free, Prior and Informed Consent

#### Key parts:

Stakeholder mapping

Background to stakeholder consultation in the forest sector

Stakeholder consultation process to date:

Planned consultation processes

- Awareness raising strategy
- Framework for stakeholder engagement
- Consultation activities planned for Management structure and REDD+ strategy development

Gender inclusiveness

Compliance with principles of Free, Prior and Informed Consent (FPIC)

Grievance Mechanism

The process of consultation and multi-stakeholder participation in the implementation of the REDD+ Readiness Roadmap will support the building of capacity and trust through the development of communication networks between stakeholder groups (both formal and informal). The process will draw on past experience both within Bangladesh (the FRA and REDD+ Roadmap processes, as well as REDD+ activities under the USAID-funded Integrated Protected Area Co-management (IPAC) project) and from other countries (for instance UN REDD's efforts to develop a process for FPIC on REDD+ in Viet Nam).

Output	Indicative activities		
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Outcome 2: Effective and Equitable Stakeholder Participation and Consultation			
2.1 Awareness raising strategy – keep all groups abreast of Roadmap development	<ul> <li>Review available materials and recommend a selection for translation and adaptation to Bangladesh context, for distribution in country</li> <li>Develop materials specific to the Bangladesh REDD+ Roadmap</li> <li>Materials for use by local government extension workers, and appropriate training</li> <li>Explore opportunity for NGOs as extension agents</li> <li>Establish national REDD+ website.</li> <li>Assess opportunities for radio and TV broadcasts dealing with forest sector issues</li> </ul>		
2.2 Create framework for stakeholder engagement – ensuring that all opinions are reflected in REDD+ management structure and decision-making processes	<ul> <li>Detailed stakeholder analysis according to objective variables</li> <li>Validation of stakeholder analysis through a national-level consultation process</li> <li>Engage existing civil society networks to ensure that information circulates between RSF and all constituent groups</li> <li>Develop a strategy for mainstreaming gender issues within REDD+ activities</li> <li>Continuous review and revision of REDD+ Steering Committee and TWG membership to reflect changing stakeholder views and patterns</li> </ul>		
2.3 Continuous consultation programme	<ul> <li>National and regional workshops on REDD+ management structure</li> <li>National and regional workshops on drivers and candidate strategies</li> <li>Develop guidelines on methods for ensuring FPIC</li> <li>Commission studies into traditional decision-making systems and designing a system of negotiation and communication around them</li> <li>Training of extension workers as intermediaries in FPIC process</li> <li>Study to assess options for independent grievance mechanism for forestry issues</li> </ul>		

## Section 3: Development and Selection of REDD+ Strategies

**Rationale:** A logical process must be followed to, first, identify the direct and underlying causes (drivers) of deforestation and forest degradation and, second, to establish which of these drivers can be addressed by strategies based on one or more of the five REDD+ activities, as outlined in the Cancun Agreements

#### Key parts:

**Assessment of land use, forest policy and governance:** The effectiveness of the forest governance system, projects and programmes in achieving policy objectives.

*Initial assessment of drivers of deforestation and degradation:* Based on studies and consultations, and differentiated by forest type.

*Framework for ongoing assessment of drivers for REDD+:* Identifying the steps involved, the roles of the actors involved, and the consultation process to be employed.

*Feasibility assessment:* Methods to analyse the feasibility of potential REDD+ strategies, including cost-benefit analysis and the institutional capacity, infrastructure and potential livelihood and conflict-related impacts.

**Planning process for REDD+ strategy implementation:** A methodology for objective identification of potential sites for demonstration activities, development of site-specific activity packages and cost norms.

Output	Indicative activities		
Outcome 3: Development and Sele	Outcome 3: Development and Selection of REDD+ Strategies		
3.1 Consensus on drivers of deforestation and forest degradation	<ul> <li>Analyze results of national/regional consultation workshops on drivers</li> <li>Assess national forest governance systems for effectiveness against drivers</li> <li>Identify conflicts, and need for alignment, within existing land use policies</li> </ul>		
3.2 Preliminary options for REDD+ strategies defined	<ul> <li>Analyze results of national/regional consultation workshops on strategies</li> <li>Develop options for policy-based approaches to addressing drivers</li> <li>Develop locally-specific activity packages and governance measures for addressing drivers in CHT and other regions</li> <li>Feasibility of strategic options assessed against human and financial capacity and infrastructure needs</li> <li>Methodology developed for cost analysis of candidate strategies and activity packages</li> </ul>		
3.3 District planning process for phase 2 demonstration activities designed	<ul> <li>Select and justify target districts</li> <li>Design screening process for identifying suitable sites for REDD+ activities</li> <li>Produce district-level maps on land use change, Tier 1 carbon stock estimates, poverty indicators, using best information available</li> <li>Calculate district-specific cost norms for activity packages</li> </ul>		

## **Section 4: Implementation Framework and Safeguards**

**Rationale**: The frame conditions within which a national REDD+ programme must operate, the activities that must be implemented to optimize these conditions, and the measures (safeguards) that must be applied to prevent negative (and promote positive) net social and environmental impacts.

Key parts:

*Institutional Strengthening:* Measures required to make the REDD+ management structure operational in terms of governance systems, communication and administration

Capacity Building: A comprehensive and continuous process of learning for REDD+

Information Management: Developing communication and information networks for REDD+

Policy and Legal Alignment: Review policies and ensure alignment and clarity between sectors

Forest and Land Tenure Systems: Review statutory and customary land tenure systems for potential conflicts.

Carbon Rights: Identifying the meaning (and allocation) of carbon rights in the REDD+ context

*Financial framework and REDD+ resource distribution:* Management of REDD+ resources, potential sources of co-financing and methods of equitable resource distribution (benefit sharing)

**Social and Environmental Safeguards:** The national and international obligations of Bangladesh to comply with the safeguards according to Annex 1 of the Cancun Agreements.

The REDD+ Readiness process for Bangladesh must rely on conducive frame conditions in order for it to be successfully implemented. The implementation framework for REDD+ is therefore the sum of all the enabling frame conditions necessary for REDD+ to be operationalized in Bangladesh. In addition to appropriate and functioning institutions, this entails legal, policy and financial conditions, the potential for capacity development and effective, transparent communication networks. Crucially, the implementation framework for REDD+ includes the social and environmental frame conditions within which the programme operates, and therefore requires a system to assess how the programme affects these important aspects.

The activities under this section will contribute to:

- Enhanced knowledge on the policy, legal, financial and institutional adjustments necessary to support implementation of REDD+ strategies; and
- Development of a system for assessing Bangladesh's compliance with REDD+ Social and Environmental Safeguards, described in Cancun Agreements (UNFCCC CoP16).

These will constitute feedback mechanism whereby Bangladesh can continuously evaluate and improve the implementation framework for activities during REDD+ Readiness and a National REDD+ Programme, in line with national governance conditions and international obligations. These outcomes will be met through actions under the guidance of the Safeguards WG, including studies on issues such as land tenure, carbon rights, capacity building needs assessment and a nationally-appropriate system of standards for assessing compliance with REDD+ safeguards.

Output	Indicative activities		
Outcome 4: Frame Conditions for	Outcome 4: Frame Conditions for REDD+ Implementation in place		
4.1 Institutional and stakeholder capacities for REDD+ developed	<ul> <li>Analyse institutional strengthening requirements of key bodies in REDD+ management structure, including internal governance, communication and administration</li> <li>Develop a national competency framework for REDD+</li> <li>Undertake a full Capacity Building Needs Assessment for REDD+</li> <li>Design a national REDD+ Capacity Building Action Plan</li> <li>Develop a national REDD+ information management system</li> </ul>		
<ul> <li>4.2 Legal rights regarding land tenure and resource use clarified</li> <li>4.3 Transparent system for management of REDD+ finances in place</li> </ul>	<ul> <li>Assess clarity of land and forest tenure systems, analyse gaps in legislation</li> <li>Study on the meaning and application of 'carbon rights' in national context</li> <li>Incorporate forest and land rights issues into new Right to Information Act and Anti-corruption law</li> <li>Assess systems for securing customary land rights in CHT and at national level</li> <li>Conduct study on the design of a body for management of international transactions in carbon credits</li> <li>Analyse past 'best practice' in Bangladesh for implementing national-scale development projects</li> </ul>		
	<ul> <li>Analyse existing microfinance schemes for potential roles in resource distribution within REDD+</li> <li>Investigate options for lowering transaction costs for local forest managers</li> <li>Develop options for a performance-based payment mechanism for forest sector activities, accessible to private and non-government actors</li> </ul>		
4.4 Nationally-appropriate and internationally-compliant standards for social and environmental safeguards developed	<ul> <li>Review globally-available REDD+ safeguards tools</li> <li>Develop nationally-specific indicators to comply with international social and environmental principles and criteria</li> <li>Comprehensive multi-stakeholder validation process for social and environmental indicators</li> <li>Develop and test monitoring methodology against indicators</li> </ul>		

# Section 5: Development of a National Reference Emission Level (REL) or Reference Level (RL)

#### Rationale:

REDD+ is based on a continuous assessment of forest-based Greenhouse Gas emissions. This assessment must be compared against a 'no-REDD+' scenario in order to be meaningful. A participating country must determine its Reference Level (or Reference Emission Level) to be eligible.

#### Key parts:

Historical data availability on drivers of deforestation and degradation

Bangladesh socio-economic, political or environmental circumstances that may affect the development of a reference level or reference emission level

Assessment of feasibility of the REDD+ management structure to develop REL/RLs with regard to institutional and technical capacity

RELs/RLs will be the base against which the emissions by sources and removal by sinks of Bangladesh's REDD+ policies and interventions will be measured. Setting objective and correct reference levels will ensure that emission reductions or removals are real and verifiable.

At this stage, it is difficult to ascertain how Bangladesh's RELs/RLs will be developed; based on historical data only, or adjusted according to projected national circumstances. Development of REL/RLs will follow a stepwise approach enabling Bangladesh to incorporate better data, improved methodologies and, where appropriate, additional carbon pools, noting the importance of adequate and predictable support.

Establishing the REL/RLs involves five steps:

- Assessment of the historical forest area change (ha/yr)
- Assessment of the emission factors (tCO<sub>2</sub>e/ha)
- Assessment of the historic forest emission rates (tCO<sub>2</sub>e/yr)
- Assessment of the national circumstances and development of potential adjustment factors
- Development of the national REL/RLs (tCO<sub>2</sub>e/yr)

RELs/RLs will be designed to meet international standards and requirements under the REDD+ mechanism and, based on the decisions taken under the UNFCCC, the approach and methodology to develop the REL/RLs will be adapted.

Output	Indicative activities	
Outcome 5: Information for Developing national Reference Emission Levels (RELs) or Reference Levels (RLs) acquired		
5.1. Capacity needs assessment for	<ul> <li>A workshop will be held representing the various stakeholders involved in REDD+;</li> </ul>	
REL/RLs	The stakeholders for REL/RL development are identified;	
	<ul> <li>REL/RL human, technical and financial capacities will be assessed;</li> </ul>	
	Training on REL/RL will be provided;	
	The necessary institutional arrangements will be identified.	
5.2 Assessment of Bandladesh's	Eurther assessment of land use policy, forest policy and governance:	
national circumstances relevant to	<ul> <li>Further assessment of failu-use poincy, for est poincy and governance,</li> <li>Assessments undertaken as part of the REDD+ Strategy analysis:</li> </ul>	
RFI /RIs	<ul> <li>Assessments under taken as part of the REDD+ strategy analysis,</li> <li>Collection of historic data relevant to conservation goals and sustainable development priorities that will have a</li> </ul>	
	significant impact on the successful implementation of REDD+.	
5.3. Combining and harmonizing historical forest area changes	Comparison of existing historical data for deforestation, afforestation/reforestation, forest degradation, forest	
	management, national park management;	
	Harmonization of existing data where possible;	
	Recommendations on the use of historical data to develop REL/RL at national and sub-national levels.	
5.4. Methodology to assess past forest land area changes	<ul> <li>Assess the quality of past and currently available satellite imageries for the forest monitoring system;</li> </ul>	
	Assess past forest land area change in one demonstration site;	
	<ul> <li>Analysis of the compatibility of the past forest land area assessment with results obtained from the forest monitoring system.</li> </ul>	
	Test the method in one demonstration site:	
	<ul> <li>Propose methodology and recommendations.</li> </ul>	
5.5. Testing of different RELs/RLs and	Identifying and learning from REL/RL(s) methodologies in other countries:	
possibilities of sub-national RELs/RLs	• Identification of existing sub-national REL/RL(s) in Bangladesh;	
	• Developing and testing REL/RL(s) at sub-national scale with the objective of scaling up to national scale;	
	Workshop to discuss the development of RELs/RLs;	
	Propose recommendations and methodology to integrate sub-national actions into the national REDD+ strategy.	

# Section 6: Development of Monitoring and Measurement, Reporting and Verification (MRV) systems

**Rationale:** The REDD+ Readiness phase must put in place the capacities, infrastructure and systems necessary to conduct accurate national forest inventories, monitoring of forest condition, and Measurement, Reporting and Verification (MRV) of forest-based greenhouse gas (GHG) emissions.

### Key parts:

Description of existing national forest monitoring systems and the gaps that need to be filled during REDD+ Readiness

Measuring, reporting and verification (MRV) system for REDD+: what are the objectives of the MRV system and how would it be implemented?

National Forest Inventory: How can the MRV system be integrated into the NFI?

National Greenhouse Gas inventory: How can the MRV system be integrated with the GHG inventory?

A work plan for development of the MRV system

This section describes the necessary institutional arrangements for a functional MRV system. It describes the activities to be accomplished to attain the objectives of the document. The section sets out an action plan which will facilitate the development of institutional arrangements and capacity building needs for Monitoring and MRV for REDD+.

In Phase 1, Bangladesh will define the institutional structure for Monitoring REDD+ activities, initiate capacity building of all the institutions involved in MRV as well as for the development and implementation of an Information System and the monitoring of national level policies and measures. The objective is to operationalize these institutional arrangements in Phase 2. This section recommends the institutional arrangements of MRV for Bangladesh based on existing capacities and potential for enhanced capacity wherever necessary.

Output	Indicative activities	
output		
Outcome 6: Monitoring and MRV Procedures for REDD+ Developed		
6.1 Build capacity for GHG inventory in the forest sector	<ul> <li>Organize regular MRV meetings.</li> <li>Support Institutional Arrangements for GHG National Inventory System for the LULUCF sector supported;</li> <li>Technical capacity building for the GHG inventory for the LULUCF sector;</li> <li>Rationalize forest definition and establish a harmonized classification system for land representation;</li> <li>Identify the logistics, equipments and software needs for GHG inventory for the LULUCF sector and complete their procurement;</li> <li>Procure and establish a central database and archiving system;</li> <li>Methods and Data Documentation;</li> </ul>	
6.2 Develop a satellite forest monitoring system	<ul> <li>Support the development of the GHG inventory.</li> <li>Satellite image characterization for forest monitoring</li> <li>Support the establishment of the Forest Management Information System</li> <li>Capacity building on geospatial data processing and database management</li> <li>Forest boundary delineation in the field and GIS boundary generation for demonstration activities</li> <li>Develop a forest monitoring system</li> </ul>	
6.3 Design a national forest inventory	<ul> <li>Harmonize all existing inventory data and develop a robust database;</li> <li>Review of existing inventory designs and provide recommendations for NFI design;</li> <li>Strengthen the capability of forest inventory of the stakeholders to collect and analyze the needed information on forests;</li> <li>Design the multi-purpose National Forest Inventory.</li> </ul>	
6.4 Support scientific research on key issues for MRV	<ul> <li>Develop allometric equations for major existing tree species and forest types</li> <li>Explore development of participatory tools for forest monitoring and MRV</li> </ul>	