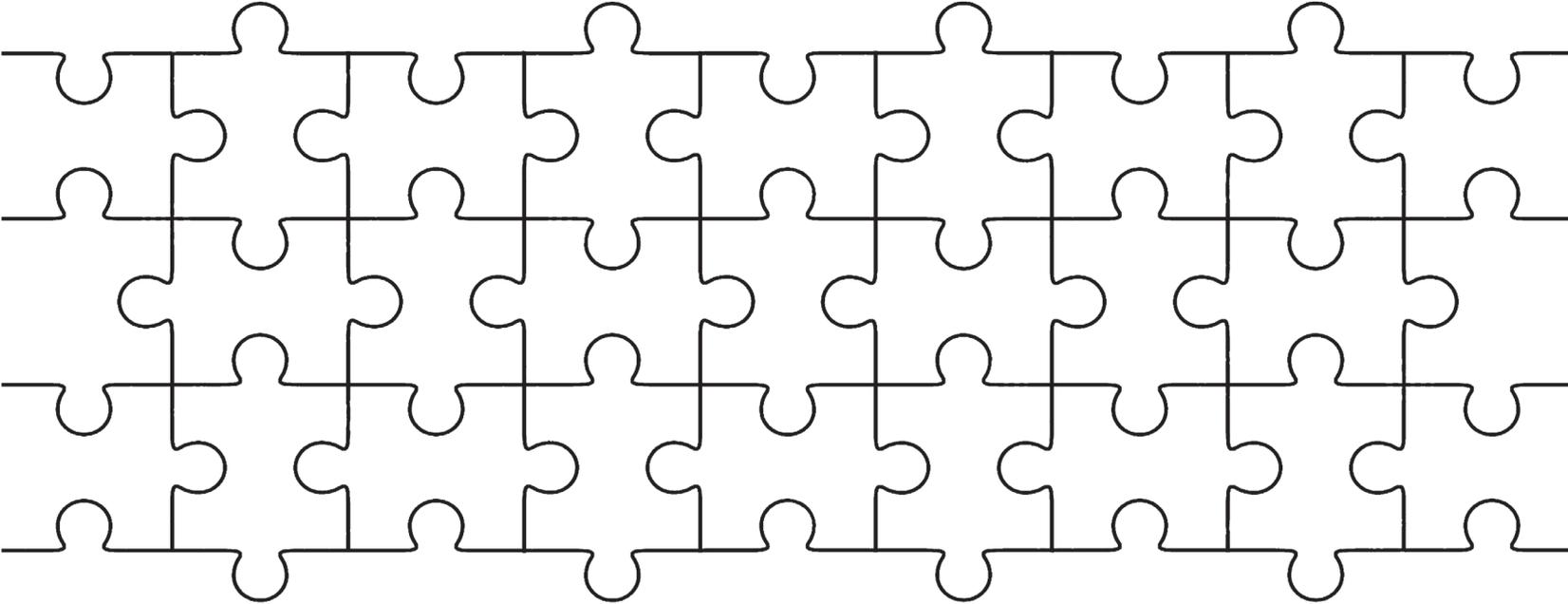




ANALYTICAL FRAMEWORK FOR INTEGRATING RIO CONVENTIONS INTO NATIONAL PLANNING



Department of Environment

Ministry of Environment, Forest and Climate Change
Government of the People's Republic of Bangladesh

May 2019



Analytical Framework for Integrating Rio Conventions into National Planning

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Foreword

The UN Convention on Biological Diversity (UNCBD), UN Framework Convention on Climate Change (UNFCCC) and UN Convention to Combat Desertification (UNCCD) are intrinsically linked and directly contribute to the sustainable development goals. The Rio Conventions are operating in the same ecosystem and addressing interdependent issues of environment at global and national levels. Bangladesh signed and ratified the Rio Conventions during 1992-1996. The Rio Conventions also facilitates the planning for development balancing environment.

An 'Analytical Framework for Integrating Rio Conventions into National Planning' is conceptualised and designed to guide the national planning objectives and goals of relevant sectors. Specifically, the scope of this framework is to sensitise and transform the national planning process towards integrating the obligations of biodiversity, climate change, land degradation and desertification Conventions. The analytical framework appropriately suggested three intervention levels: Systemic, Institutional and Project level to integrate the obligations into national development planning and budgeting systems. Integrating Rio Conventions obligations at these levels will enable mainstreaming of these issues into the national planning and implementation.

I would sincerely commend Rio project for taking this initiative to prepare an analytical framework for integrating the obligations of three Rio Conventions into the national planning of Bangladesh. I am pleased to announce that the framework is ready for dissemination. I hope that this document will be useful for decision makers, development planners and environmental experts as a ready tool to mainstream the Rio Conventions, and also to design and develop new interventions. The analytical framework is available in the website of rio.doe.gov.bd and library of Department of Environment (DoE).

I am thankful and grateful to Global Environment Facility (GEF) and United Nations Development Programme (UNDP) for their kind support. I would thank Mr Md Ziaul Haque, Director, DoE and National Project Director and Rio project team for a successful completion of this important document.



Dr Sultan Ahmed

Director General

Department of Environment

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The project titled ‘National Capacity Development for Implementing Rio Conventions through Environmental Governance (Rio Project)’ conducted a series of workshop and consultation to prepare the ‘Analytical Framework for Integrating Rio Conventions into National Planning’. Department of Environment (DoE) under Ministry of Environment, Forest and Climate Change (MoEFCC) is implementing the Rio project. Numbers of key government officials and planning experts provided invaluable guidance and inputs in preparing this important document. At the outset, I would like to express my gratitude to the Secretary of MOEFCC, Mr. Abdullah Al Mohsin Chowdhury for his able and effective leadership. Thanks are also due to Mr. Md. Raisul Alam Mondal, Secretary, Ministry of Fisheries and Livestock for his wise guidance in preparing the analytical framework.

I would like to convey my sincere gratitude to Dr. Sultan Ahmed, Director General, DoE for his continuous guidance and support in the preparation. I must also thank the Global Environmental Facility (GEF) and the United Nations Development Programme (UNDP) Bangladesh for their financial and technical assistance.

Finally, I would like to gratefully acknowledge the contributions of all conveners and members of Project Steering Committee, Project Implementation Committee, Technical Expert Group for providing guidance and suggestions in preparing the final version of the ‘Analytical Framework for Integrating Rio Conventions into National Planning’. My gratefulness extends to the National Consultants and Rio project team for relentless efforts in documenting and finalizing the analytical framework.



Md. Ziaul Haque

Director, Department of Environment &
National Project Director, Rio Project &
Member, Government of Bangladesh Delegation to UNFCCC (COP12 – COP 24)

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Executive Summary

This analytic framework is conceptualized and designed to guide the mainstreaming the obligations of Rio Conventions. The scope of this analytical framework is to sensitize and transform the national development process towards integration of biodiversity conservation, climate change and combating land degradation. Such an analytical framework will have following broad purposes in the development process:

- Screening the development proposals for Annual Development Programme (ADP);
- Mainstreaming the obligations of Rio Conventions into development planning;
- Monitoring and evaluation of results of integration;
- Reporting and accountability.

Preparation of this framework is based mainly on review of pertinent literatures on Rio Conventions, sustainable development goals, conceptual views on framework development; related policies, planning documents and selected good practices from Bangladesh. The specific tools and approaches used in the Analytical Framework are a) desk review, b) expert consultations, c) key informant interview, d) fact findings and e) timeline and trend analysis.

There exist some gaps or barriers in mainstreaming the obligations of Rio Conventions at the national level. Some identified gaps/ barriers and challenges are as follows:

United Nations Convention on Biological Diversity (UNCBD)

- The Biological Diversity Act has been enacted in 2017 but associated Rules have not yet been framed, also Committees are yet to institutionalize.
- Though the seventh five-year plan (2016-2020) included implementation of NBSAP, however, no clear financial provision.

- Benchmark indicators for awareness, guideline for continuous capacity development and alternative livelihood options to reduce pressure on existing biodiversity are not clearly defined in the DPP/TAPP.
- Measurable indicators of mainstreaming effectiveness like area of land under improved management, sustainably managed habitats for threatened species, effective incentives for biodiversity sensitive livelihoods are not included in the DPP/ TAPP.
- The existing formats of analyzing development projects in IMED have very limited scope for tracking biodiversity conservation issues. There is no indicator for assessing the impact on biodiversity in the monitoring documents.
- Systemic integration mechanism is lacking in the NBSAP.
- No devoted financial mechanism for the implementation of NBSAP. Conservation activities are carried out sporadically by the country's Annual Development Program (ADP), Non-development expenditures, Non-ADP program and development partner-driven activities.
- Annual Performance Agreements (APA) is a good analytic tool to measure the achievements of annual development program of respective department and ministry. Review of APA, 2017 - 2018 of the MOEF shows that physical targets over performance indicators are included in the APA. However, there is limited scope to measure the biodiversity conservation from the indicator/ targets included in APA.
- Department of Environment has no dedicated Cell for providing the technical (implementation and progress monitoring) and secretarial support to the National Committee on Biodiversity.

- Review of good practices reveals that co-management committees have been institutionalized to manage the Protected Areas. However, the elite/political leaders influence community member selection. Poor resource dependent people are either not selected or if selected cannot influence the decision of the committee.
- The awareness, sensitization and capacity development activities regarding biodiversity conservation in the project implementation are provided only one time and as such do not sustain the learning for long.
- The implementing agencies do not have adequate skilled manpower to implement policy and plans regarding climate change.
- There is no regular on the job training to educate and enhance the skill of the professionals in the implementing agencies.
- Approach and mechanisms for awareness building or sensitization on the climate change is lacking in the respective and relevant institutions.

United Nations Framework Convention on Climate Change (UNFCCC)

- There is a huge gap in institutional coordination and coherence in exiting climate change policy and institutional structures. Coordination among the involved ministries and departments and the integration of the climate change issues with the development persuasion are not yet functional to the extent necessary. MoEFCC, Planning Commission and Finance Ministry do not coordinate effectively regarding project approval and finance focusing climate change.
- The guidance from the central planning processes is not adequate to the relevant sectors in developing sectoral planning. There are no formal legislations, policies, plans, and institutional mandates for climate change risk screening within the broader perspective of the integration and mainstreaming climate change in development planning.
- There is also lack of specific mechanisms and systems to integrate issues like climate change in the development plan preparation.
- There are limited institutional and policy approaches currently existing in Bangladesh for reporting, monitoring, transparency and accountability.
- The organogram of the implementing agencies does not have positions for the climate change professionals.

United Nations Convention to Combat Desertification (UNCCD)

- Bangladesh Developed the National Land Use Policy in 2001 that is the key policy document of the country developed with a view to have sustainable land uses. However, the policy does not include the provisions to address drought and land degradation. Moreover, there is no plan of action for implementing the National Land Use Policy. Development of a plan of action of the National Land Use Policy is highly important to reveal the efficacy of the instrument in achieving Sustainable Land Management (SLM) of the country.
- The Economic Zone Act 2010 is a milestone instrument to protect agricultural land of the country. The Act provides legal basis for the establishment of economic zones in all potential areas including backward and underdeveloped regions with a view to encouraging rapid economic development through industrialization. It promotes setting industries in cluster and ensure maximize use of land for industrial purpose. Conversion of agricultural land is a key threat to the existing agricultural land. Indiscriminate setting of industries and rural settlement is the main cause of the conversion of agriculture land. This Act will help to concentrate the industries in designated zones and reduce the conversion of agricultural land to other uses.

- There is no coordinating platform among the land-owning ministries and departments in Bangladesh which could play harmonized role for SLM. Thus, several aspects of the obligations to the UNCCD are addressed by different organizations, without having a common field of interest on the Convention.
- Review of previous implementations showed that land management is critical area of implementation at local level. Lack of policy awareness, influences of local politics, weak governance are major barriers for sustainable land management.
- Institutional arrangements for dealing with CCD obligations in Bangladesh are complex and unclear to a certain extent. The DoE under MoEFCC is the focal point for the UNCCD, oversees the environmental aspects of land of the country. Soil Resource Development Institute (SRDI) under Ministry of Agriculture is the key research organization on soil resources of the country. Bangladesh Agricultural Research Council (BARC) acts as the apex body for agriculture related research organizations. Ministry of Land is the administrative authority of land system of the country, whereas, land ownership and legal aspects are managed by the Ministry of Law.
- Knowledge, awareness and capacity development activities regarding sustainable land use and management are significantly lacking in the project design and development process.

This analytical framework includes integrations at the following levels to mitigate the gaps and barriers. *Systemic integrations* to (a) to enactment of the legislative instruments including framing the Rules, forming of committees at different levels (from national to villages) and operationalizing the process; (b) establish a permanent coordination cell within the focal ministry to coordinate actions as identified in different action plans; and (c) to include biodiversity, climate change and land degradation valuation process and indicators in the Annual Performance Agreement (APA), DPP, and IMED forms.

Institutional integrations include the establishment of Rio Conventions Cell along with development wing in each ministry for screening the obligations of Conventions in the DPP during project formulation process and monitoring the success during the implementation process. Inclusion of monitoring indicators in the APA process.

Project level integrations include intervention from project design to impact assessment stage. (a) Project design stage may identify a range of opportunities and incorporate those in the project. This framework is to ensure integration of Rio Conventions and sustainable development comprehensively to the DPP in responding clause 23 and clause 28 of revised DPP and ensure compliance of the Convention's obligations; (b) Project implementation stage: Rio Conventions and its linkages with sustainable development is of different nature from many physical and infrastructure development projects. It is a cross-sectoral approach, needs some flexibility. So, flexible project duration, financial sustainability, and adaptive management approaches are essential; (c) Project evaluation/ impact assessment stage: the existing formats of analyzing the development projects in IMED have very little scope for tracking Rio Conventions obligations (Annex I). The project completion report is the only format with an option for post implementation situation and result analysis. In this regard, a set of outcome indicators e.g. changes in vegetation cover, land use change, adoption of alternative livelihoods, awareness rising, capacity building can be inserted.

There is no single way to choose entry points for mainstreaming the Rio Conventions, and no one factor that promises success in an entry point. Three key entry points identified in this Analytical Framework are i) Establishing an Enabling Environment, ii) Planning and Delivering on Commitments, and iii) Tracking Progress and Reporting.

Section 1: Introduction

1.1 Rationale

The global community is structuring the governance mechanisms to achieve environmental sustainability for the last 25 years, and to make sure the long run of this agenda, international policy instruments also adopted relating to biodiversity conservation, climate change and desertification in June 1992 known as the Earth Summit or Rio Conventions. The UN Sustainable Development Agenda (UNSDA) also sets forth the Goal 13: Climate action, Goal 14: Life below Water and Goal 15: Life on Land, which urges to take urgent action to combat environmental degradation and its impacts. The Government of Bangladesh (GoB) is actively involved with the developing processes of the international policies, Conventions and other negotiations. At the same time, Bangladesh is taking efforts to develop the national legislations, policies, plans and programs aligning the international Conventions on biodiversity, climate change and land degradation to protect vulnerable communities and ensure the equal benefit sharing of the environmental resources.

However, international policy frameworks on environment and development have been evolving

and the Aichi Target 2020, Paris Agreement, 2015 and Land Degradation Neutrality (LDN) Targets are providing new dimensions of policy frameworks at national and international levels. Government of Bangladesh is shaping its policy and institutional frameworks aligning international policy instruments and their obligations as to the Parties of these international Conventions and instruments. This Analytical Framework identifies the international policies, institutions and activities related to Rio Conventions to understand the national obligations and actions under these instruments and examines the existing policies and institutions of Bangladesh with a view to provide further policy guidance to mainstream the Conventions in national policies, institutions and development planning processes.

The project titled 'National Capacity Development for Implementing Rio Conventions through Environmental Governance' intends to strengthen the capacities of the Government of Bangladesh (GoB) to implement and comply with the obligations of Rio Convention. To reach the set goals, the project has developed a Training Manual that includes good

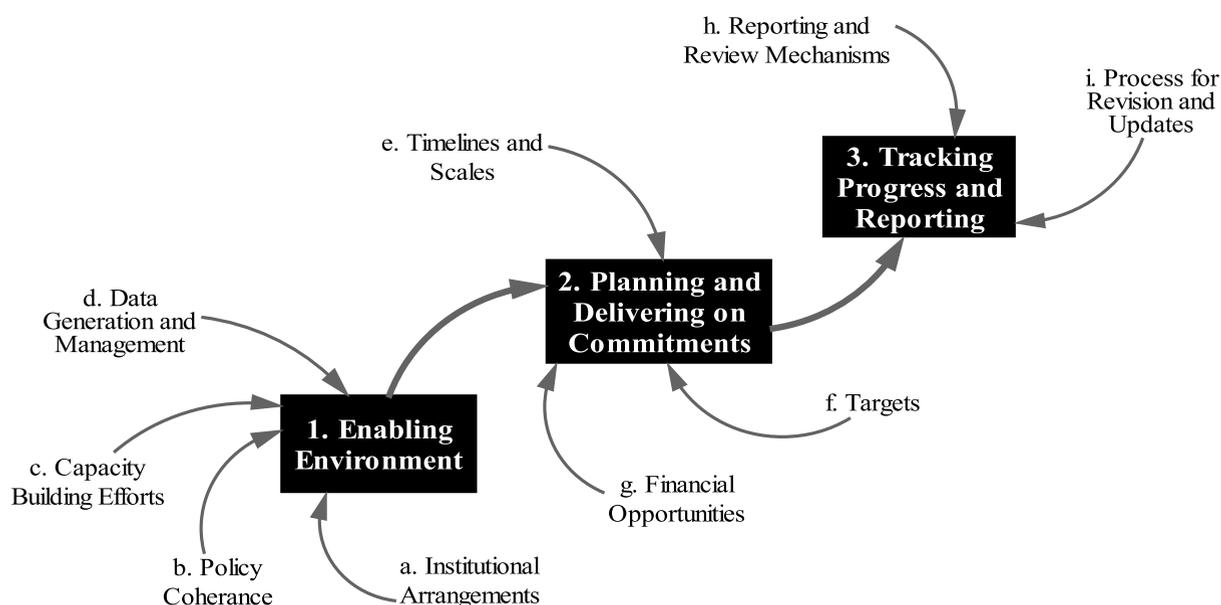


Figure 1: Entry points and sub-sections have been identified as the key areas of the analysis

practices, and developed and enhanced human and institutional capacity and strengthened the technical capacities of a wide cross-section of social actors. This Analytical Framework also provides guidance for developing a sectoral plan and an implementation framework.

1.2 Objectives and Scope

Objectives

Bangladesh has multidirectional obligations for implementing the Rio Conventions at national level. The specific objective of this analytical framework is to understand the implied national obligations under the Rio Conventions and other international instruments adopted and to examine the existing policies, institutions and planning processes with a view to provide further policy guidance to mainstream the Conventions into national policies, institutions and development planning frameworks of Bangladesh. The key objectives of the analytical framework are to:

- a) Understand the national obligations under the Rio Conventions
- b) Explore enabling environment for the implementation of Rio Conventions in the national planning process;
- c) Analyze institutional settings and gaps on mainstreaming efforts of Rio Conventions;
- d) Analyze related legal and policy instruments,
- e) Develop a framework for mainstreaming the Rio Conventions into national development planning process;

Scope

The analytical framework is focused towards wide range of obligations of the Rio Conventions. Many sector development agencies including ministries, departments and NGOs are involved in implementing activities on climate change vulnerabilities, biodiversity conservation and sustainable land management. The Perspective Plan 2010-2021 and 7FYP 2016-2021 have set the development aspirations towards vision 2021. The 7FYP, in addition to capturing the development visions, targeted achieving the SDGs. Loopholes

in policy settings and development practices are causing environment degradation including soils and biodiversity. To cope with the environmental degradation and meet the obligations (Annex I) of the Rio Conventions strategy and action plans are in place.

The National Biodiversity Strategy and Action Plan (NBSAP) provide guidance for development in biodiversity conservation and promotes resilience of the community and ecosystem. The National Climate Change Strategy and Action Plan 2009 in addition to promoting resilience strategize low carbon path to achieve resilience. The National Plan for Disaster Management (NPDMD) 2010-2015 guides the reduction of disaster risks and response to the emergency situations. The Government of Bangladesh has prepared National Action Programme (NAP) on UNCCD 2015 -2024.

The country needs to comply commitments to the Rio Conventions. Government of Bangladesh performs its activities through a total of 45 Ministries. However, all ministries are not relevant to these Conventions. Likewise, all legal instruments do not have the similar bearing to comply the obligations of the Conventions. This analytical Framework explores the institutional setting and policy coherence, commitment position and reporting status of Bangladesh in regard to Rio Conventions.

This framework intends to identify the gaps, scopes and constraints of the existing policies, institutions and planning processes in Bangladesh, to provide further policy guidance to mainstream the climate change, biodiversity conservation and sustainable land management into development planning frameworks in Bangladesh. Specifically, the scope is to sensitize and transform the national development process towards biodiversity conservation, climate resilience and sustainable land management.

Resource allocation for the annual development plan should be guided by the vision and aspirations laid out in the perspective and macro plans and strategies. The political commitment is a driving force for budget allocation along with the emerging concerns and issues before the policy makers and national level planners.

This framework will support the resource allocation process, screening of Development Project Proforma (DPP) and monitoring and evaluation of development interventions.

1.3 Process of Developing the Analytical Framework

In developing this analytical framework, different tools and approaches are taken to review and assess the gaps, scopes and constraints of the existing policies, institutions and planning processes in Bangladesh, to comply with the national obligations under the Rio Conventions. This study used Desk Review, Key Informant Interviews (KIIs), Consultations, and Analysis. In addition, UNDP (2017) developed 'practical guiding point' for planning, implementation and monitoring of activities towards achieving Sustainable Development Goals (SDGs) has been used.

Desk Review

Reviewed the related literatures, national and international legislations, policies, plans and development planning frameworks, project approaches, outcomes, policy recommendations, and policy advocacy strategies to understand the followings:

- The national obligations under the UNCBD, UNFCCC, UNCCD and other international instruments adopted related to environment and development
- Impacts and vulnerabilities of biodiversity conservation, climate change and land degradation in Bangladesh with sectoral approaches
- The status of mainstreaming Rio Convention's obligations and other international instruments adopted
- Monitoring and transparency mechanisms towards the implementation of the obligations of Rio Conventions and other international instruments adopted
- Entry points and indicators aimed at the integration of Rio Conventions into the key stages

of Annual Development Programme (ADP)

- Reviewed, analyzed and synthesized the data and information collected from KIIs, and Fact Findings

Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs)

Key Informant Interviews (KIIs) were conducted considering the expertise of international and national policy and institutions to cross check the data and information accumulated.

Fact Findings

Fact findings efforts through further consultations and document review were used in developing this framework to find and check authenticity of the data and information.

Expert Consultation Meeting

This framework is shared with a panel of experts on international and national policy and institutions on climate change, biodiversity conservation and land degradation.

Timeline and Trend Analysis

Structured recalled history and timeline analysis was performed in developing this analytical framework. From timeline and trend analysis, adoption period of UNFCCC, 1992 and NAPA, in 2005 in Bangladesh are considered and analysis examined further development in policies, institutions, plans, legislations and policy discourse in Bangladesh.

Practical Guiding Points of UNDP (2017)

UNDP (2017) has developed a practical guiding point for planning, implementation and monitoring of activities towards achieving Sustainable Development Goals (SDGs). A mentionable scale of time (over 25 years) has already gone since the formulation of Rio Conventions. However, accomplishments against the obligations of the parties is far behind commitments. On the other hand, countries are more attentive in planning activities for the successful achievement of the SDGs. Hence, linking the Rio obligations with SDGs and planning to analyze it in line with the

guideline by UNDP (2017) offers a scope of putting Rio agenda in the top list of priority work targets. Three Entry Points and nine sub-sections have been identified by UNDP as the key areas of the analysis, as indicated in Figure 1.

1.4 Structures and Contents of the Analytical Framework

The Analytical Framework initially identifies the objectives and scopes of the Framework and provides methodological overview in section one. Section two of the analytical framework introduces the conceptual understanding on Rio Conventions: cause and consequences, identifies policy and institutional contexts at national and international levels and national planning process. Section three analyzes the status of mainstreaming obligations of Rio Convention's in Bangladesh and the limitations and challenges as findings. Section four of the analytical framework provides some policy guidance for integrating the Rio Convention's obligations in Bangladesh.

The framework initially identified national obligations under the Rio Conventions and thereafter it assessed the current status of mainstreaming of Rio Conventions obligations with specific indicators include Establishing an Enabling Environment (institutional arrangements, policy coherence, capacity building efforts, data generation and management), Planning and Delivering on Commitments (timelines and scales, Targets, Financing Opportunities), Tracking Progress and Reporting (reporting and review mechanisms, process for revision and updates). The framework proposed Systemic Level, Institutional Level, and Project Level interventions. The framework thereafter identified relevant policies and planning documents for integrating Rio Conventions obligations and result indicators for each Convention

Section 2: Conceptual Understanding

2.1 Biodiversity Conservation, Climate Change and Land Degradation in Bangladesh

Biodiversity Conservation

The theme of mainstreaming biodiversity is supported by Article 6, subsection b of the UNCBD, which states that each Party “integrate, as far as possible and as appropriate, the conservation and sustainable use of biodiversity in plans, programs and sectoral and intersectoral policies; as well as in Article 10, subsection a, it calls on the parties to “integrate, as far as possible and as appropriate the conservation and sustainable use of biological resources into national decision-making.”

The 10th Conference of Parties to the Convention on Biological Diversity (CBD) urged Parties to revise and update their National Biodiversity Strategies and Action Plans (NBSAP) in line with the new Strategic Plan for Biodiversity 2011-2020 and to “use the revised and updated national biodiversity strategies and action plans as effective instruments for the integration of biodiversity targets into national development and poverty reduction policies and strategies”.

In 2010, the need for mainstreaming biodiversity was recognized by the Convention on Biological Diversity (CBD) – captured explicitly in two of the five strategic goals in the Strategic Plan for Biodiversity 2010–2020: (CBD, 2010) (COP Decision X/2).

Strategic Goal A: address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.

Strategic Goal B: reduce the direct pressures on biodiversity and promote sustainable use. Mainstreaming became a central theme at several of CBD’s Conferences of the Parties (COP) hereafter.

COP Decisions VII/23, X/6 and XI/22 call for integration of biodiversity into poverty eradication and development, and XII/5 call for integration biodiversity for poverty eradication and sustainable development. COP13 adopted Decision XIII/3, to include as a central theme of the meeting the integration of conservation and sustainable use of biodiversity within and across the sectors with emphasis on agriculture, forestry, fisheries and tourism sectors.

This integration implies that biodiversity must be considered part of the functioning of the productive sectors, which seek to reduce, avoid and mitigate negative impacts, and generate positive effects on biodiversity and ecosystem services. In this way it contributes to sustainable development and the provision of essential services for human well-being is assured. The Mainstreaming Biodiversity is the key to meeting the objectives of the Convention element, the Strategic Plan 2011-2020 and the Aichi goals.

“Mainstreaming” means: the integration of the conservation and sustainable use of biodiversity in both cross-sectoral plans such as sustainable development, poverty reduction, climate change adaptation/mitigation, trade and international cooperation, and in sector-specific plans such as agriculture, fisheries, forestry, mining, energy, tourism, transport and others. It implies changes in development models, strategies and paradigms. Mainstreaming is not about creating parallel and artificial processes and systems, but about integrating biodiversity into existing and/or new sectoral and cross-sectoral structures, processes and systems. Biodiversity mainstreaming is the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors that impact or rely on biodiversity, so that it is conserved and sustainably used both locally and globally (Huntley and Redford, 2014).

Climate Change

There is now no serious scientific dispute about the basic cause and consequence of climate change. The newest evidences on climate change was revealed by the Intergovernmental Panel on Climate Change (IPCC), within the framework of its recently published Fifth Assessment Report (AR5). Based on different scientific studies and observations, Working Group I (WG1) of the IPCC confirmed that the “warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia”. The aforesaid AR5 report of the IPCC, also confirmed that “human influence has been the dominant cause of the observed warming since the mid-20th century”, while also impacting other observed changes due to climate change are *inter alia*, increasing concentration of greenhouse gases (GHGs) in the atmosphere, the warming of the atmosphere and the oceans, rising sea levels, and diminishing snow and ice cover (IPCC AR5, WG1, 2013).

The consequences of climate change impacts and vulnerabilities including sudden onset events (frequency and intensity of hazards like cyclones) and the slow onset processes (like sea-level rise and saline water intrusion) will be most severe for the developing world¹. Bangladesh is one of the most climate vulnerable countries in the world. It experiences frequent natural hazards, which cause loss of life, damage to infrastructure and economic assets, and adversely impacts on lives and livelihoods, especially of poor people. Climate change will exacerbate the vulnerability; increasing frequent and severe tropical cyclones, heavier and more erratic rainfall, higher river flows, increased river bank erosion, increased sedimentation, melting of the Himalayan glaciers, lower and more erratic rainfall, sea level rise, warmer and more humid weather, etc. These changes caused reduction of agricultural production, increasing salinity in the coastal belt, shortage of safe drinking water, severe drought, threaten food security, livelihoods and health of the poor and caused forced migration. Climate change will relentlessly challenge

the country’s ability to achieve continuous higher economic growth to eradicate poverty at an expected pace.²

Climate change impacts and vulnerabilities of various sectors in Bangladesh are briefly outlined below.

- **Agriculture and Food Security:** Due to Climate change there will be significant changes in land categories that are widely used for crop production. Floods are very likely to increase in the monsoon regions especially in the Ganges, Brahmaputra and Meghna basins (IPCC, 2007b). Erratic rainfall and temperature rise can also increase possibility of droughts which are detrimental to both Aus and Aman rice crops. Rice and wheat yield in Bangladesh are projected to drop by 8% and 32% respectively by the year 2050 (Faisal and Parveen, 2004). Soil salinization in coastal Bangladesh is a major risk from climate change (Dasgupta et al., 2015). Coastal inundation, soil salination, cyclonic storm surges and water logging will decrease agricultural lands in the coastal regions. The food security of this region will be threatened as the total cultivable land would be less than that of present time and soil and water quality decline will also reduce crop productivity.
- **Water Resources:** Water sector in Bangladesh will be highly vulnerable to sea level rise, changes in temperature, precipitation and frequency, intensity and magnitude of extreme events. Human interventions in the large shared river basins may lead to further complexity. Climate change impacts may cause more water during the wet season and less water during the dry season. Groundwater recharge would likely be reduced. Shortage of fresh water is expected to affect the coastal areas and the drought prone areas severely. This will bring hardship to women and children, who are responsible for collecting drinking water for their families. Drinking of saline water may result in health hazards especially for pregnant women.

¹ Stern Review on the Economics of Climate Change, 2006; IPCC Fourth Assessment Report, 2007

² Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009

- **Health:** The changes in exposure to heat waves, winter cold, increases in floods, cyclones, storm surges, droughts, increased productions of air pollutants and aeroallergens are all considered to have more direct impacts on health sector of Bangladesh in terms of lives lost, injuries, and disease outbreaks. Global warming would enhance the vector borne and water borne disease in the tropics. In addition, the heat stress and heat waves would cause more health problems and the morbidity and mortality would increase especially in the least developed countries like Bangladesh. Changes in temperature and prolonging the monsoon might lead to increase in potential transmission of vector-borne diseases such as dengue fever, malaria, Kala-zar and a few others. Protozoa, bacteria, flukes and are projected to become more prevalent in the coming decades in Bangladesh. Childhood infections i.e. diarrhea, malaria, pneumonia, measles, are the reasons behind high child mortality rate and may lead to higher number with higher climate risk (MoEF, 2018).
 - **Livestock:** is the second largest sector after the fishery sector to meet the national animal protein demand in Bangladesh. The most detrimental impacts of climate change in the livestock sector are reduced grazing areas, fodder crisis, reduced growth and decrease in production of milk, meat and egg. The livestock sector of Bangladesh is dominated by homestead rearing and livestock are exposed to natural hazards like cyclone, surge, storm, floods etc. Consequently, livestock are the first victim of natural disaster. Both high and low temperature has direct physiological impact on livestock. The direct threat includes the death of the animals and birds due to seasonal variation, nor 'wester, tornado and cyclone, thunder, heat stroke and cold wave. The indirect threat is creating a huge stress condition to the animals and birds as a result productivity and immunity is decreasing rapidly. The lowering of immunity is indirectly helping the disease vector to attack the birds and animals. Heat stress can also reduce fertility, milk production and reproduction.
- High temperature increases body metabolism rate of poultry. This will result in less egg and meat production. Besides disease prevalence may occur. Due to the synergistic effect of hot spell, cold wave, emerging and re-emerging diseases like Avian Influenza, the poultry sector has lost its upward trend in Bangladesh since 2007 and sustainability of the sector is becoming fragile.
- **Fisheries:** Climate change is likely to affect freshwater fisheries adversely except floodplain fisheries. Due to climate change capture fish production, especially from floodplain fisheries, may increase due to expansion of flooded area while culture fish production (pond fish) may fall due to overtopping of floodwater and increase of temperature in the dry period. Sea level rise could also push saline water further into the Ganges-Brahmaputra-Meghna delta reducing habitat for freshwater fish (MoEF, 2012).
 - **Industries and Infrastructure Sector:** Textile industries located in cluster use large volume of ground water for required washing, dyeing and finishing. It has already been identified that aquifer level in these areas are falling, which may create water shortages in the future. The problem may be exasperated by climate change which will adversely impact on recharging of the ground water. Increased flood frequency, sea level rise, salinity intrusion increases the vulnerabilities of the industries of the coastal cities by damaging the machinery equipment, stopping power generator, disruption of communication, shortage of raw materials for a certain period, thus loss of production. Climatic disasters such as cyclone and flood of increasing frequency and intensity would reduce durability or damage partially or fully the existing infrastructure including roads, highways, railways, ports, embankments, polders, godowns, silos, cyclone shelters, electricity and telecommunication network etc. Damages to infrastructure could disrupt transport and communication systems with a chain effect on the overall economic activity and livelihood of the large population.

- **Education:** Providing education to children living in the disaster-prone locations has always remained a challenge. Children of the river islands, coastal and haor areas are extremely vulnerable and insecure due to uncertainties in their basic needs and livelihood. As a result, despite the enrolment rate being high attendance rate is low accompanied by the high dropout rate. In addition to that, during floods many schools remain closed for months and are used as shelters and relief camps.
- **Livelihood:** Agriculture is still largely dependent on the nature despite a growing trend of mechanization in the sector over the past few decades. Agriculture and nonfarm sectors, however, are strongly interlinked and mutually dependent. Increased frequency and intensity of different climatic events will jeopardize the livelihoods, especially of the poor who are mostly dependent on natural resources. Shortfall in production of rice due to climatic events often causes the price of rice to rise intensifying the hardship of the low-income group. The incidence of transitory poverty rises, forcing many non-poor to live below the poverty line. The fishing community will suffer as a result of loss of production and livelihood opportunities, especially coastal fishers will suffer losses as the fishermen cannot go for fishing as often as now to the sea which gets rough more frequently due to the impact of the changing climate. All these may threaten the achievements Bangladesh has so far gained in relation to poverty reduction and improvement in living standards. (MoEF 2018).
- **Forest, Biodiversity and Ecosystems:** Increase in temperature, precipitation, salinity and extreme weather events such as floods, cyclones and droughts in a tropical country like Bangladesh will create negative impacts on the forests (MOEF, 2016). The IPCC forecast that 75% of the Sundarbans mangroves will be destroyed due sea level rise combined with the other forms of anthropogenic stress on Sundarbans. Suitable area of Sundri and Gewa trees will decrease 45% and 7% successively by 2100. Rapid soil erosion resulting from higher water runoff rate due to

increased rainfall is causing nutrient leaching and destruction of micro-organism reducing soil quality, which are adversely affecting forest growth in Chittagong, Chittagong Hill Tracts, Sylhet and Cox's Bazar (Baten, 2008). Higher water flow adversely affects the creepers and softer vegetation. During dry season, high or moderate level water demanding plants and organisms will extinct locally. Increased water turbidity may affect the soil texture at some locations and will create a negative impact on aquatic population and its composition.

Land Degradation

Land is a very scarce and important resource of Bangladesh. Bangladesh is predominantly an agrarian economy and land resource is the major asset contributing wealth and livelihood. Growing population resulting into decreasing per-capita land availability. Land-person ratios in Bangladesh is 0.12 acres (World Bank 2019). Major degraded land area is about 1.06 million ha caused by salinity, fertility declined soil is 8.0 m ha, 1.7 m ha area in hilly areas that more susceptible to degradation (Solaiman 2014). Every year the country is losing 0.15-1% arable land for settlement, industries and other infrastructure development. Main causes of land degradation in Bangladesh are:

- hill cutting
- tobacco cultivation
- forest degradation
- soil salinity
- flood and water logging
- shifting cultivation (jhum cultivation)
- ecosystem destruction
- brickfields in agriculture land
- irrespective development infrastructures
- Drought
- climate change
- soil acidification
- stone and sand extraction

2.2. Policy, Legislation and Institutional Contexts in Bangladesh

Highest law of this land is the constitution. Biodiversity and Environment was not explicit in the Bangladesh Constitution, originally adopted in 1972. The 15th amendment, took the initiative to amend the constitution inserting the text in Article I 18A (Protection and improvement of environment and biodiversity) of the Constitution of the People's Republic of Bangladesh that describes environment and biodiversity conservation and development as one of the principles of state government. The article states: "The state shall endeavor to protect and improve the environment and preserve and safeguard the natural resources, biodiversity, wetlands, forests and wild life for the present and future citizens". This article, in a broad way accommodates aspirations of three Rio Conventions implementation in the context of Bangladesh. The constitutional obligations are to be interpreted in terms of policy. Acts and Rules are required to support the implementation of the policy. Strategies, Action plans, guidelines are the tools and instruments applied to implement the policies.

Policy

There are many relevant policies to implement the constitutional obligations in this regard. Implementing the constitutional obligations will also realize the aspiration of the three Rio conventions. Following are the relevant policies:

- National Environment Policy 2018
- National Forest Policy, 2018 (submitted for approval)
- National Water Policy, 1999
- National Agriculture Policy, 2013
- National Land Use Policy, 2001
- Coastal Zone Policy, 2005
- National Jalmohal Management Policy, 2009
- National Urban Sector Policy, 2011
- National Livestock Development Policy, 2007
- National Poultry Development Policy, 2008
- National Breeding Policy

Legislations

Legislations provide the legal basis in implementing the policy. Following Acts and Rules are relevant to implementation of the obligations of the Rio Conventions:

- East Bengal Conservation of Fish Act, 1950 (amended in 1963, 1970, 1982, 1995, and 2002)
- The Environmental Conservation Act (ECA), 1995 (Amendments 2010, Revised 2012)
- The Wildlife (Conservation and Security) Act, 2012
- The Bangladesh Biological Diversity Act, 2017
- Biosafety Guidelines of Bangladesh, 2007
- The Bangladesh Biosafety Rules, 2012
- The Ecologically Critical Area Management Rules, 2016
- Bangladesh enacted the Climate Change Trust Fund Act, 2010
- Bangladesh Climate Change Trust Fund (BCCTF) 2010

Strategies and Plans

It becomes necessary to take strategic decisions and actions to implement policies. Following strategies and plans are relevant to implementation of the obligations of the Rio Conventions:

- National Sustainable Development Strategy (NSDS) 2010-2021
- Bangladesh National Conservation Strategy (2016- 2031)
- Bangladesh Climate Change and Gender Action Plan (CCGAP), 2013
- Bangladesh Environment, Forestry and Climate Change Country Investment Plan (EFCC CIP)
- Bangladesh Delta Plan 2100
- National Plan for Disaster Management for 2016-2020
- Plan of Action to Implement SFDRR 2015-2030

- Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009
- Perspective Plan of Bangladesh (2010-2021) (Vision 2021)
- Seventh Five Year Plan (2016-2021)
- Bangladesh Capacity Development Action Plan (CDPA) for Environmental Governance
- National Biodiversity Strategy and Action Plan (NBSAP)
- National Adaptation Programme of Action (NAPA) in 2005
- Climate Change Strategy and Action Plan (BCCSAP, 2009)
- Climate Fiscal Framework, 2014
- Nationally Determined Contribution (NDC)
- REDD+ Road Map
- National Disaster Management Plan 2010-2015
- National Environment Management Action Plan 1992
- National Action Programme (NAP) for Combating Desertification, 2005
- Haor Master Plan 2012
- Master Plan for Agricultural Development in Southern Region of Bangladesh, 2013
- Bangladesh National Action Programme for Combating Desertification, Land Degradation and Drought 2015-2024
- Ministry of Environment, Forest and Climate Change
- Ministry of Disaster Management and Relief
- Ministry of Fisheries and Livestock
- Ministry of Water Resources
- Ministry of Rural Development and Cooperatives
- Ministry of Agriculture
- Ministry of Planning
- Ministry of Finance
- Ministry of Power, Energy and Mineral Resources
- Power Division
- Ministry of Road Transport and Bridges
- Road Transport and Highways Division

Following are key departments and agencies involved in the implementation of the Rio Conventions:

Department of Environment (DoE) is the focal agency of the country that reports the position of Bangladesh to UNCCD, UNCBD, UNFCCC. Following are associated agencies:

- Planning Commission
- Forest Department
- Department of Agricultural Extension
- Department of Fisheries
- Department of Livestock Services
- Bangladesh Agricultural Research Council (BARC)
- Soil Resource Development Institute (SRDI)
- Barind Multipurpose Development Authority (BMDA)
- Local Government Engineering Department (LGED)
- Bangladesh Water Development Board (BWDB)
- Bangladesh Institute of Development Studies (BIDS)
- Chittagong Hill Tracts Development Board (CHTDB)
- Bangladesh Forest Research Institute
- Bangladesh Fisheries Research Institutes
- Bangladesh Livestock Research Institute
- Agricultural Universities

Institutions

Impacts vulnerabilities of the climate change is very wide and, in a way, encompass almost every sphere of life and livelihood. The biodiversity is impacted by the development activities and climate change. The drought is dealt with specific institutions; however land degradation is a result of actions of many ministries, agencies and communities. Following the key ministries relevant to the implementation of the Rio Conventions in the national development planning and implementation:

2.3 National Planning Process in Bangladesh

The central planning authorities of Bangladesh are:

National Economic Council (NEC): The NEC is headed by the honorable Prime Minister.

Executive Committee of NEC (ECNEC): The ECNEC is headed by the honorable Prime Minister.

Planning Commission (PC): The Planning Commission is headed by the honorable Prime Minister. It functions under 6 divisions, which are Programming Division, General Economic Division, Socio-economic Infrastructure Division, Physical infrastructure Division, Industries and Energy Division and Agriculture, Water Resource & Rural Institution Division (figure 2).

Planning Steps

The Planning Commission approves the development projects from different ministries. The Annual Development Programme (ADP) is the main tool for

achieving the sectoral economic objectives and targets in line with the economic development strategies outlined in the Perspective Plan (2010-2021) and the Five-Year Plans. The Programming Division issues the guidelines for ADP formulation and allocation of funds as a first step in the ADP formulation process. Among the criteria for prioritization, climate change risks and disaster risk reduction are also included as priority issues. The Programming Division is the sole government organization responsible for preparing the ADP and the Revised ADP (RADP) and for their monitoring in each financial year, in close coordination with the sector divisions, GED, and the line Ministries.

The Programming Division screens and prepares the list of pipeline projects proposed by different ministries in alignment of the ADP Guidelines for inclusion in the ADP (figure 3). The proposed new projects are prepared into a list of projects which are not assessed in climate change aspects. The high-level Programming Committee receives a list of proposed projects for approval. Concerned government

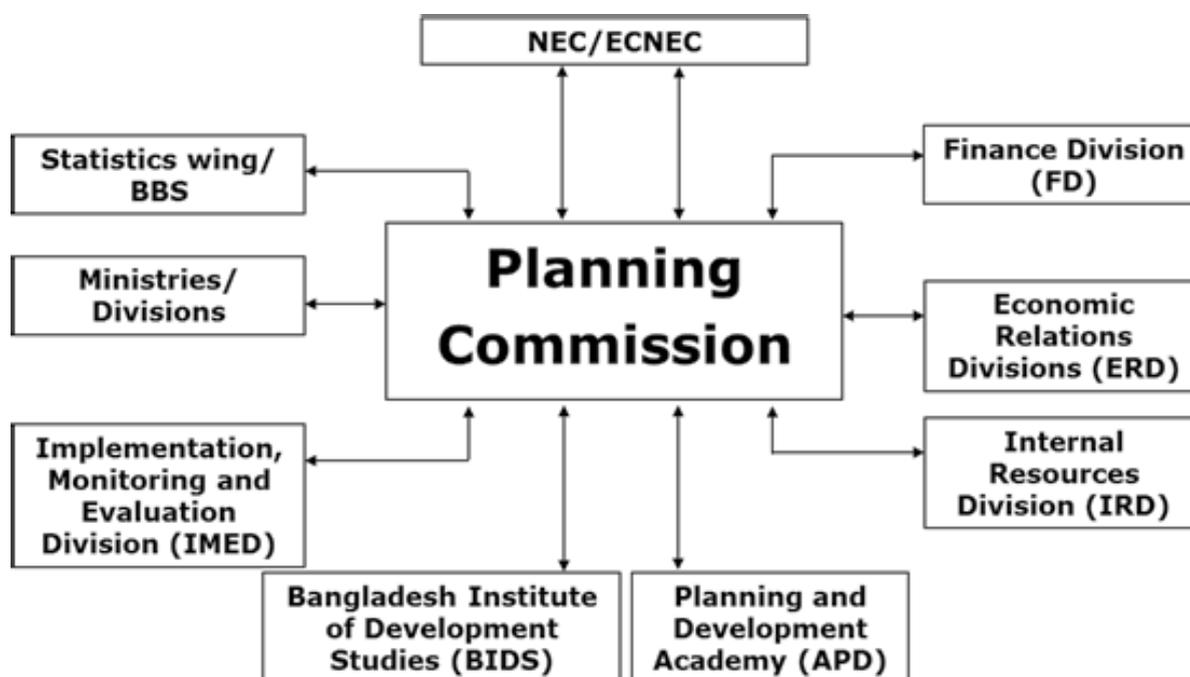


Figure 2: Institutional Linkage at the Planning Commission.

agencies/ departments prepare the approved projects which are submitted to the line ministries later for technical and financial assessment and to Sector Division and Planning Commission for more review and endorsement. Approved projects are then sent to the Programming Division for budget allocation. Approved projects are then screened and integrated as climate smart decisions. The Programming Division and Sector Divisions are enabled by the screening system to more efficiently understand how these approved and endorsed projects can be affected by climate and disaster risk. Nevertheless, the Planning Commission requires assistance in building capacity to integrate climate change concerns from a resource allocation perspective.

Project Approval

Project approval authority varies depending on nature and funding requirements. Investment Project having funding requirements upto BDT 50 Crore can be

approved by the Minister of Planning. If the funding requirement exceeds BDT 50 Crore, it goes to ECNEC for the approval. A Technical Assistance (TA) project having funding requirements upto BDT 07 Crore can be approved by the Minister of the sponsoring Ministry. If funding requirements of a TA Project exceeds 07 Crore, it is approved by the Minister of the Ministry of Planning.

Self financed projects are approved by the sponsoring Ministries. If a project is financed by own fund of an Organization, it is approved by respective ministry and is irrespective of cost (figure 4). However, the project proposal is developed using the DPP format. It is listed in a separate list of the Annual Development Programme. In order to see the project impact, monitoring and evaluation, the progress of the project is monitored and evaluated by IMED. Additionally, if the project requires a piece of land with an area >20 acres, approval of ECNEC is required.

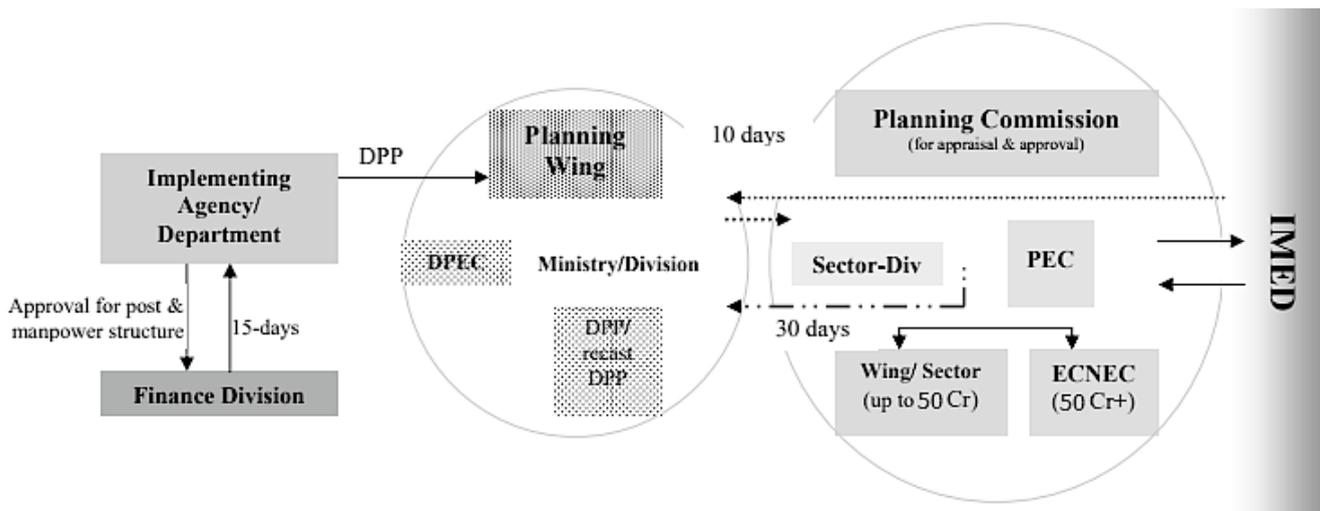


Figure 3: Development Project Formulation and Approval Process (After ERD 2010)

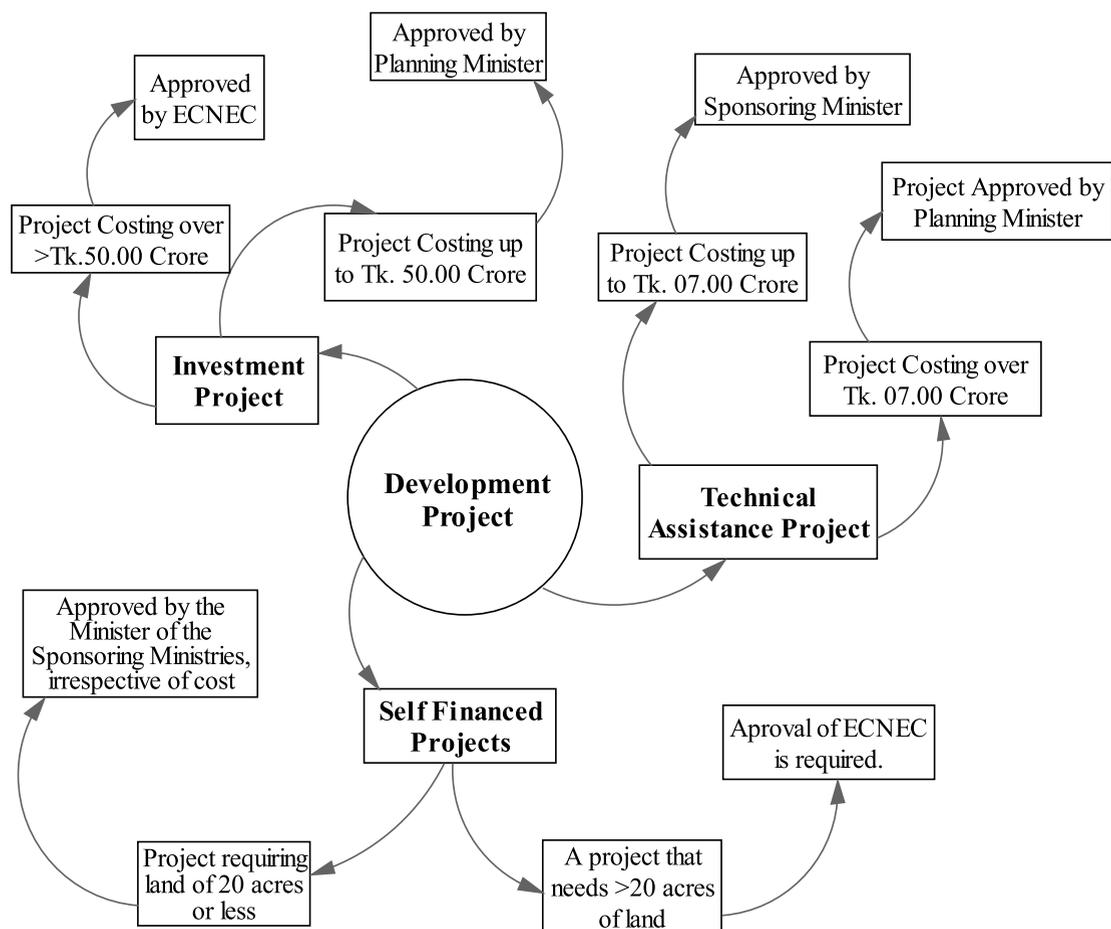


Figure 4: Project Approval Process in Bangladesh

Project Evaluation Committee: Composition of the project Evaluation Committee has been shown below:

- | | |
|--|-------------|
| 1. Member of the concerned Sector Division of the PC | Chairperson |
| 2. Chief of the concerned Sector Division of the PC | Member |
| 3. Representative of the sponsoring Ministry/Division | Member |
| 4. Representative of Finance Division | Member |
| 5. Representative of Economic Relations Division | Member |
| 6. Representative of Ministry of Public Administration | Member |
| 7. Representative of concerned Sector/sub-sector of IMED | Member |
| 8. Representative of M/O. Environment and Forest | Member |
| 9. Representative of M/O Women and Children Affairs | Member |
| 10. Representative of Programming Division of PC | Member |
| 11. Representative of GED of PC | Member |
| 12. Head of the concerned Executive Agency | Member |

Departmental Project Evaluation Committee (DPEC): The Departmental Project Evaluation Committee is formed of following members.

| | |
|--|-------------|
| 1. Secretary of concerned Ministry/Division | Chairperson |
| 2. Representative of concerned Sector Division/Wing of PC | Member |
| 3. Representative of GED of PC | Member |
| 4. Joint Chief/Deputy chief of concerned Ministry/Division | Member |
| 5. Representative of Programming Division of PC | Member |
| 6. Representative of Finance Division | Member |
| 7. Representative of Economic Relations Division | Member |
| 8. Representative of M/o Public Administration | Member |
| 9. Representative of concerned Sector/sub-sector of IMED | Member |
| 10. Representative of M/o. Environment and Forest | Member |
| 11. Representative of M/o Women and Children Affairs | Member |
| 12. Head of the concerned Executive Agency | Member |

2.4 Annual Development Programme (ADP) in Bangladesh

ADP is the tool of the Government through which resources are allocated to different development projects under different ministries/divisions with a view to achieve the national goals specified in the planning documents of the country. The purpose of ADP is to achieve goals according to government priority in a fiscal year align with country's planning documents like Perspective Plan or Five-Year Plan and International Development Agenda, e.g. Sustainable Development Goals (SDGs). Bangladesh focuses to achieve the following targets through the implementation of ADP:

- Accelerate GDP growth,
- Increase Agricultural production,
- Rural & Urban infrastructure Development,
- Employment generation,
- Fulfill basic needs (education, health),
- Expansion of Information & Communication Technology (ICT),
- Women participation in development,
- Any other targets as per Government priority.

ADP is formulated with a start of Work Plan (Figure 5) and the development of a guidelines. Inter-Ministerial Programming Committee Meeting decides about the sectoral programme and resources are allocated accordingly by the Finance Division. After having the distribution of resources, extended meeting of the planning commission places the ADP to the National Economic Council for the Approval which is then sent to the Parliament.

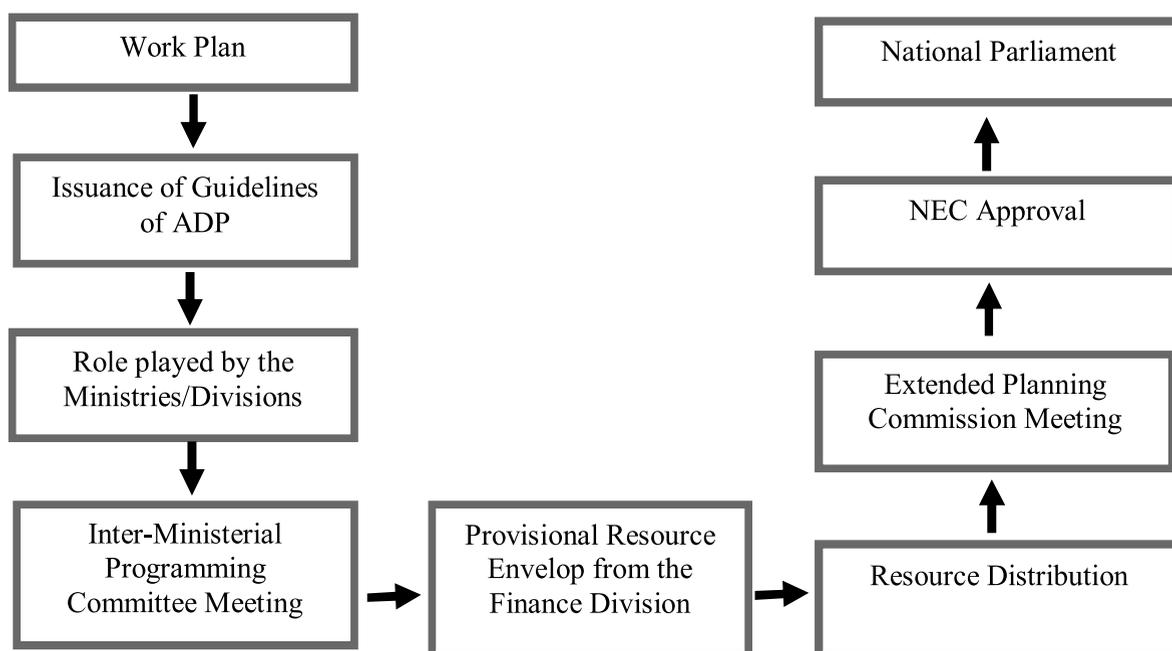


Figure 5: ADP formulation process in Bangladesh

ADP is an organized list of projects in various sectors and allocations for them for a year out of a five-year plan period for implementation of the government's development policies, programmes and investments in the plan (figure 6). The ADP is prepared based on the year's development budget approved by the parliament. ADP is an integral part of the planning process. The practice of formulating ADP is by splitting a Five-Year Plan. The PC formulates the ADP of the government of Bangladesh in the light of basic objectives and goals stated in a Five-Year Plan. Both internal (domestic) and external (aid) funds are used to finance projects.

At the initiative of the programming division of the Planning Commission, the Inter-ministerial "Resource Committee" at the Finance Division estimates the resources availability for the ADP

Programming Division of Planning Commission prepares the sector/project wise ADP allocation in consultation with the Sector Divisions and GED of the Planning Commission and sponsoring Ministries and agencies.

Programming Division place the draft ADP at the Planning Commission Meeting for finalization

Planning Division Submit the final ADP to NEC for formal Approval

Figure 6: Approval process of annual development programme

Section 3: Analysis

3.1 United Nations Convention on Biological Conservation (UNCBD)

As per constitutional obligation biodiversity conservation is the responsibility of every citizen of the country. All the government machineries should keep in mind the issue of conservation of environment and biodiversity in taking up any development undertakings (Article 18A). Analysis of existing national policies and practices indicates that these instruments are supportive to implementation of UNCBD obligations, however, the established terms of the biodiversity conservation arena like conservation, sustainable use, access and equitable sharing of benefits, integrating the values of biodiversity etc. are not mentioned in these policy documents. Analysis of related plans and reports shows that Bangladesh has embarked on mainstreaming biodiversity at national, sectoral and inter-sectoral levels. However, there remains considerable gaps or barriers which can be categorized as follows:

At Systemic Level

- The Biological Diversity Act has been enacted in 2017 but associated Rules have not yet been framed, also Committees are yet to institutionalize.
- Though the seventh five-year plan (2016-2020) included implementation of NBSAP, however, no clear financial provision.
- Benchmark indicators for awareness, guideline for continuous capacity development and alternative livelihood options to reduce pressure on existing biodiversity are not clearly defined in the DPP/TAPP.
- Measurable indicators of mainstreaming effectiveness like area of land under improved management, sustainably managed habitats for threatened species, effective incentives for biodiversity sensitive livelihoods are not included in the DPP/ TAPP.

- The existing formats of analyzing development projects in IMED have very limited scope for tracking biodiversity conservation issues. There is no indicator for assessing the impact on biodiversity in the monitoring documents.
- Systemic integration mechanism is lacking in the NBSAP.
- No devoted financial mechanism for the implementation of NBSAP. Conservation activities are carried out sporadically by the country's Annual Development Plan (ADP), Non-development expenditures, Non-ADP program and development partner-driven activities.
- Annual Performance Agreements (APA) is a good analytic tool to measure the achievements of annual development plans of respective department and ministry. Review of APA, 2017 - 2018 of the MOEF shows that physical targets over performance indicators are included in the APA. However, there is limited scope to measure the biodiversity conservation from the indicator/targets included in APA.

At Institutional Level

- Department of Environment has no dedicated Cell for providing the technical (implementation and progress monitoring) and secretarial support to the National Committee on Biodiversity.

At Project Level

- Review of good practices reveals that co-management committees have been institutionalized to manage the Protected Areas. However, the elite/political leaders influence community member selection. Poor resource dependent people are either not selected or if selected cannot influence the decision of the committee.

perspective of the integration and mainstreaming climate change in development planning.

- There is also lack of specific mechanisms and systems to integrate issues like climate change in the development plan preparation
- There are limited institutional and policy approaches currently existing in Bangladesh for reporting, monitoring, transparency and accountability.

At Institutional Level

- The organogram of the implementing agencies does not have positions for the climate change professionals.
- The implementing agencies do not have adequate skilled manpower to implement policy and plans regarding climate change.
- There is no regular on the job training to educate and enhance the skill of the professionals in the implementing agencies.
- Approach and mechanisms for awareness building or sensitization on the climate change is lacking in the respective and relevant institutions.

At Project Level

The provisions and resources in the projects are either minimal or lacking for the followings:

- Access to appropriate and adequate scientific knowledge regarding climate change adaptation and resilience.
- Access to relevant technology for climate change adaptation.
- Information and awareness level of available adaptation options for sector.
- Human resources with technical expertise .

Moreover, the General Economics Division (GED 2017) has mapped out the ministries and agencies to address targets and indicators of SDGs. A total of 05 targets and 07 Indicators are identified globally for combating climate change presented in Annex II.

3.3 United Nations Convention to Combat Desertification (UNCCD)

Due to increasing trend of population growth and social-economic conditions, alteration in agricultural pattern, climatic changes impact and adaptation, the land utilization of Bangladesh is changing very rapidly. Analysis of policies, associated strategies, action plans and implementations revealed that Bangladesh, still, is yet to manage its land sustainably. Though there are several policies and a short-term adaptation programme of action for combating land degradation and desertification, but long-lasting shortcomings are retarding the success of LDN targets. Following are some findings from the analysis in addition to above:

At Systemic Level

- Bangladesh Developed the National Land Use Policy in 2001 that is the key policy document of the country developed with a view to have sustainable land uses. However, the policy does not include the provisions to address drought and land degradation. Moreover, there is no plan of action for implementing the National Land Use Policy. Development of a plan of action of the National Land Use Policy is highly important to reveal the efficacy of the instrument in achieving Sustainable Land Management (SLM) of the country.
- The Economic Zone Act 2010 is a milestone instrument to protect agricultural land of the country. The Act provides legal basis for the establishment of economic zones in all potential areas including backward and underdeveloped regions with a view to encouraging rapid economic development through industrialization. It promotes setting industries in cluster and ensure maximize use of land for industrial purpose. Conversion of agricultural land is a key threat to the existing agricultural land. Indiscriminate setting of industries and rural settlement is the main cause of the conversion of agriculture land. This Act will help to concentrate the industries in designated zones and reduce the conversion of agricultural land to other uses.

- There is no coordinating platform among the land-owning ministries and departments in Bangladesh which could play harmonized role for SLM. Thus, several aspects of the obligations to the UNCCD are addressed by different organizations, without having a common field of interest on the Convention.
- Insufficient budget spending for the implementation of the NSDS (2008).
- Insufficient data gathering on land degradation and SLM and environment.
- Land developing policy is missing or weakly enforced the existing regulations (e.g. Brick Kiln Act 2013, ECA, ECR, etc.).
- Industries show negligence in maintaining routine compliance with the SLM regulations because of the lack of economic mechanisms and legislative framework.
- Inadequate tax rates used to evaluate compensation for damage caused by the breach of the environmental legislation and ecosystem integrity provisions of the UNCCD.
- Lack of legislative framework for implementing the provisions of the UNCCD.
- Lack of regular monitoring of soil quality and fertility.
- Lack of economic assessment of land degradation.
- Insufficient economic assessment entailed in improving the environmental situation.
- Inadequate legislations on maintaining the natural resource inventories.
- Delay in the implementation of National Land Use Policy 2001.
- Absence of sustainable land use Acts, Rules and policies.
- Absence of National Drought Management Policy.

At Institutional Level

Institutional arrangements for dealing with CCD obligations in Bangladesh are complex and unclear to a certain extent. The DoE under MoEFCC is the focal point for the UNCCD, oversees the environmental aspects of land of the country. Soil Resource Development Institute (SRDI) under Ministry of Agriculture is the key research organization on soil resources of the country. Bangladesh Agricultural Research Council (BARC) acts as the apex body for agriculture related research organizations. Ministry of Land is the administrative authority of land system of the country, whereas, land ownership and legal aspects are managed by the Ministry of Law.

At Project Level

- Review of previous implementations showed that land management is critical area of implementation at local level. Lack of policy awareness influences of local politics, weak governance are major barriers for sustainable land management.
- Knowledge, awareness and capacity development activities regarding sustainable land use and management are significantly lacking in the project design and development process.

General Economics Division (GED 2017) has mapped ministries and agencies to address targets and indicators of SDGs. A total of 10 Indicators are related to Sustainable Land Management (SLM) and/or CCD. The indicators have been listed in Annex II.

Section 4: Proposed Framework

The scope of the analytic framework encompasses current and future national development planning and implementation. It is evident from the analysis that there exist some gaps and barriers in mainstreaming biodiversity, Land degradation and climate change in national development planning and implementation. This framework includes integrations at the following levels to mitigate the gaps and barriers. To track the success of the integrations it needs some indicators to measure the progress and impacts. The obligations of Bangladesh to the Rio Conventions need to be integrated through multi-layer intervention:

- a) Systemic Integration
- b) Institutional Integration
- c) Project level Integration

The systemic integrations will be guided by a framework to adopt and to review and update the necessary policies and plans. Institutional integrations will ensure adequate institutional mandates, and coordination and coherence in policy implementation. project level integrations will ensure the successful

interventions of relevant measures related to biodiversity, land degradation and climate change.

The integrations may be at multiple points from systemic to project impact evaluation stage. In doing so, it needs identification and prioritization of “**entry points**”, that will provide an opportunity for inclusion of biodiversity and ecosystem services, land degradation and drought and GHG emission/sequestration and climate resiliency into plans, policies, and operating processes. Following figure 8 shows the cycle of framework integrations and entry points.

From organizing point of view there are two dimensions of integrations, the **vertical dimension** and the **horizontal dimension**. The vertical dimension concerns the extent to which a government sector pursues the integration, and the horizontal dimension lies above and concerns the extent to which a central authority is developed for a cross sectoral policy integration. The development agencies including ministries and its concerned departments occupy the

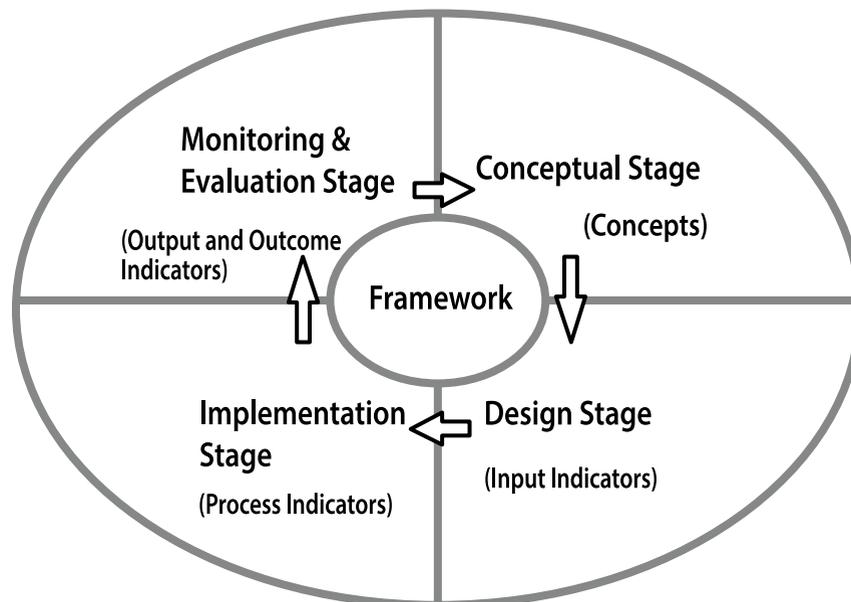


Figure 8: Stages of integration cycle and entry points

vertical positions, and the planning commission is in horizontal position. Again, the biodiversity, land degradation and climate change issues intersect more than one sectors where there are cross linkages in vertical dimensions. In achieving the development goals, the cross linkages should be recognized, the lead ministry should be given the responsibility of coordination. In such cases, one sector/ministry may have the vertical and horizontal positions, e.g. the MoEFCC holds the vertical position in case of NBSAP, BCCSAP and NAP implementation and at the same time the ministry is at horizontal position because of its coordinating role.

4.1 Systemic Integrations: UNCBD, UNFCCC and UNCCD

Following are necessary for systemic integration of the UNCBD:

- Framing of Rules under the Biodiversity Conservation Act 2017 and formation of committees at different levels (from national to villages) and operationalize the process;
- Establish a permanent coordination cell within the MoEFCC to coordinate actions as identified in the NBSAP by different agencies to achieve the NBSAP biodiversity conservation targets
- Ensure provisions and resources of DoE to provide secretarial support to the national biodiversity committee
- Include biodiversity and ecosystem valuation process and indicators in Annual Performance Agreement (APA), DPP, and IMED forms.

Following are necessary for systemic integration of the UNFCCC:

- Science and policy guidance are necessary considering the IPCC Assessment Reports, and the recent multilateral agreements including the Paris Agreement, in 2015, The UN Sustainable Development Agenda (UNSDA), in 2015, and the Sendai Framework for Disaster Risk Reduction, also in 2015.

- A Climate Change Policy can be adopted to provide coordinated and integrated policy guidance to adopt sectoral policy frameworks for emerging issues such as climate change induced migration, loss and damage, etc. It should also consider vulnerability assessment, capacity building, finance, technology development and transfer, market mechanisms, transparency and compliance mechanism.
- MoEFCC needs to develop more specific policies and plans to provide guidance to develop sectoral policies and plans. Vulnerable sectors should review their existing policies and plans in consistent with central documents and with international instruments.
- Central planning processes need to provide adequate guidance to relevant sectors and relevant sectors need to consider those guidance's in developing relevant sectoral planning processes. Five Year Plan needs to provide policy guidance for central and sectoral planning and implementation processes.
- There is a need for formal legislations, policies, plans, and institutional mandates for climate change risk screening within the broader perspective of the integration and mainstreaming climate change in development planning.
- It needs to develop an integrated approach to develop reporting, monitoring and transparency frameworks in consistent with UNFCCC, Paris Agreement and the Rulebook developed under the Paris Agreement for the actions taken related to meet the commitments made and to utilize the support receives from international and bilateral cooperation.

Following are necessary for systemic integration of the UNCCD:

The scope of systemic integration start with the creation of inventory of the 'Must Do' list from the UNCCD and integrating that list of works in the Government Systems. After having the list in hand, planning and implementation arrangement in the system needs to be reviewed. Systemic integration includes-

- Scanning the UNCCD along with Bangladesh country context and prepare a priority list.
- Implementation the National Action Programme (NAP) for combating desertification in Bangladesh.
- Implementation of the ECA 1995 and the 1997 (Amendment in 2010 and 2017).
- Implementation of Brick Manufacturing and Brick Kilns Establishment (Control) Act, 2013.
- Developing and implementing National Drought Plan.

4.2 Institutional Integrations: UNCBD, UNFCCC and UNCCD

Institutional integration includes the establishment of environment cell along with development wing in the respective ministries and agencies to screen the biodiversity conservation issues, climate change issues, land degradation and drought issues in the DPP during project formulation process and monitoring the success during the implementation process. Inclusion of monitoring indicators in the APA process. Following are necessary

- There is a need for an innovative and functional institutional mechanism for inter-ministerial and inter-institutional coordination at various levels of the Government for implementing climate change, biodiversity conservation, land degradation and drought related activities.
- There is a need to have a coordinated and integrated approach by responsible agencies. MoEFCC, Planning Commission and Finance Ministry need to work in an integrated manner to ensure technical, financial and policy coordination.
- There is need for a coordinated institutional structure for receiving and utilization of supports including financial, technical and human resources to take appropriate measures.
- There is a need for institutional approaches to enhance the awareness, knowledge and capacities among all relevant stakeholders and project implementers.

4.3 Project Level Integrations: UNCBD, UNFCCC and UNCCD

Integration of Rio Conventions at project level include the interventions from project design to impact assessment stage.

Project Development and implementation stage: The most important aspect of integrating the obligations of the UNCCD, UNCBD and UNFCCC is to address them through project planning and implementation. To integrate these obligations in Development and Technical Assistance (TA) projects, it needs to be incorporated in the Development Project Proforma (DPP)/ Technical Assistance Project Proforma (TAPP) of upcoming projects. Incorporating clauses in the DPP/TAPP would ensure sensitivity of development proposals. Benchmark indicators, target groups; awareness development; guideline for continuous capacity development; alternative livelihood options; measurable indicators of mainstreaming effectiveness like area of land under improved management, habitats that are sustainably managed for threatened species, amount of GHG emission/sequestration from a proposed intervention, extension of stress tolerant seeds and others need to be incorporated in the DPP/TAPP at the project design stage. Biodiversity conservation and land management in the changing climate requires longer period to achieve results. On the other hand, these issues are cross sectoral, as such, longer duration of project and adaptive management is essential. Provision for institutional and human capacity building, education, and awareness building is needed for implementation of projects and programmes. Provisions for the assessment of impact of the project on biodiversity, land degradation and climate change must be included in the DPP/TAPP. Impact of climate change on the project implementation, achievements and sustainability must be assessed before the project is awarded.

Project evaluation/impact assessment stage: The monitoring and evaluation of the development projects are the responsibility of the Implementation Monitoring and Evaluation Division (IMED). The existing formats of analyzing development projects in IMED have very little scope for tracking biodiversity,

land degradation and climate change issues. The project completion report is the only format with an option for post implementation situation and results analysis. In this regard, a set of outcome level visible indicators like, changes in vegetation cover, land use change, adoption of alternative livelihoods could be used.

Additionally, committees/ authorities responsible in the approval process of DPP and the members of the IMED involved in monitoring should be sensitized in line with UNCBD, UNCCD and UNFCCC and the obligations of Bangladesh towards these Conventions.

4.4 Analytical Framework for Mainstreaming the Rio Conventions

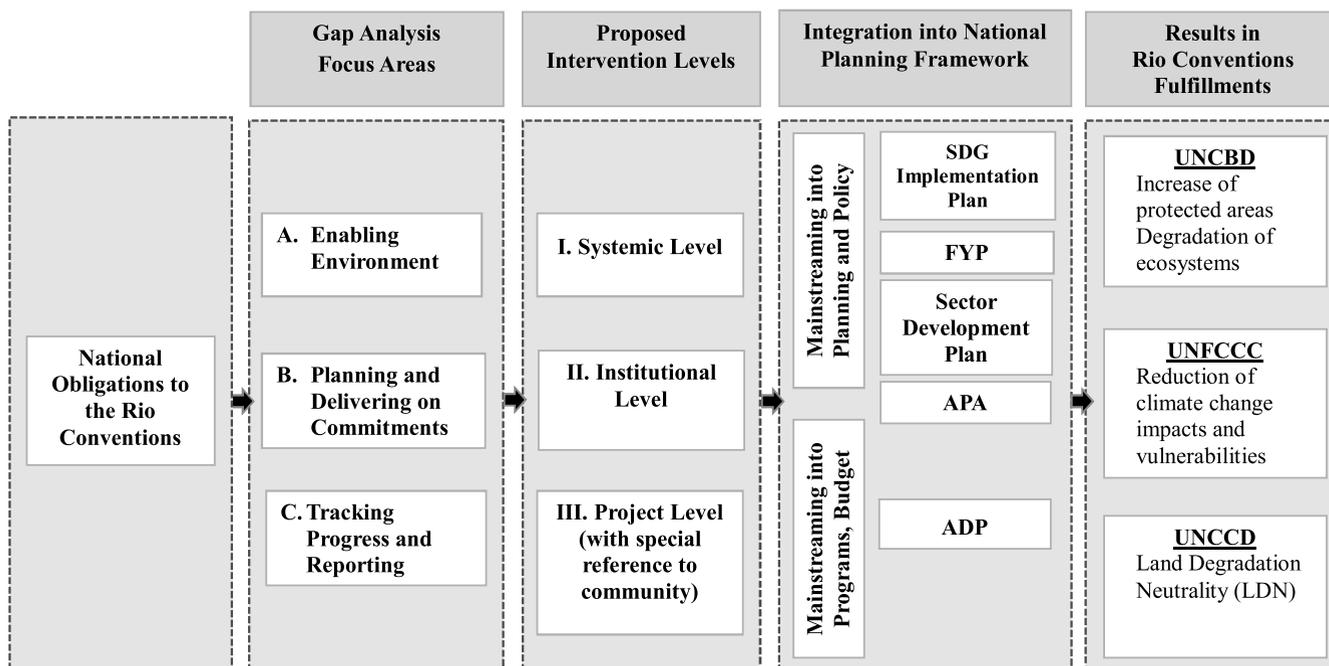


Figure 9: Analytical Framework for Mainstreaming the Rio Conventions in Bangladesh

The analytical framework suggests concentrating on three focus areas: a) Enabling environment; b) Planning and delivering on commitments; and c) Tracking progress and Reporting. To address these focus areas, three intervention levels are suggested: i) Systemic intervention; ii) Institutional intervention; and iii) Project level intervention. The intervention at project level may be undertaken with community participation. These interventions should be integrated into the national development planning and budgeting

systems. Formation of Annual Performance Agreement (APA), Sector Development Plan (SDP), Five Year Plan, etc should keep a focus on the obligation to Rio Conventions. By incorporating the obligations into the annual development plan, the integration into the national budgeting system thus, be ensured.

The abovementioned Analytical Framework (Figure 9) explains the steps and tools can be used for mainstreaming the obligations of Rio Conventions.

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Annexures

ANNEX I: Obligations of Three Rio Conventions

United Nations Convention on Biological Diversity (UNCBD)

The Convention constitutes a framework for actions that take place mainly at the national level. It places few precise binding obligations upon Parties, as encompassed in Articles 6 –15 and Article 26 of the Convention. The Articles are outlined in the following box.

CBD Articles and National Obligations

| | |
|-------------|--|
| Article 6: | National strategies and plans |
| Article 7: | Identification and monitoring of biodiversity |
| Article 8: | Conservation of biodiversity <i>in-situ</i> |
| Article 9: | Conservation of biodiversity <i>ex-situ</i> |
| Article 10: | Sustainable use |
| Article 11: | Incentive Measures |
| Article 12: | Research and Training |
| Article 13: | Public Education and Awareness |
| Article 14: | Impact Assessment and Minimizing Adverse Impacts |
| Article 15: | Access to Genetic Resources |
| Article 26: | Reports |

The major commitments to the Convention include:

- To develop national strategies, plans, etc., for conservation and sustainable use of biodiversity; and to integrate, as far as possible and appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans (Art. 6);
- To identify and monitor the components of biodiversity (Art. 7);
- To establish protected areas or areas where special measures are needed and to regulate or manage biological resources important to biodiversity; to promote the protection of ecosystems and natural habitats (Art. 8);
- To adopt measures for the ex-situ conservation of components of biodiversity (Art. 9);
- To integrate consideration of the conservation and sustainable use of biodiversity resources into national decision-making process (Art. 10);
- To adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity (Art. 11);
- To establish programs for scientific and technical education and training (Art. 12);
- To promote programs for public education and awareness (Art. 13);
- To require an EIA that addresses impacts on biodiversity (Art. 14);
- To create conditions to facilitate access to genetic resources on mutually agreed terms, recognizing sovereign rights of States over their natural resources (Art. 15);
- Each contracting Party is obliged to report regularly on the measures taken to implement the Convention (Art. 26).

United Nations Framework Convention on Climate Change (UNFCCC)

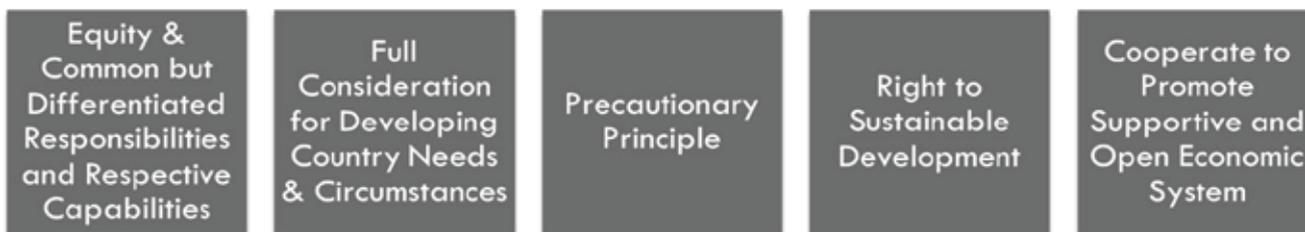
Objective, Principles and Commitments of the Convention

According to Article 2, the Convention's ultimate objective is *"to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic [originating in human activity] interference with the climate system"*.

This objective is qualified in that it "should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner". To achieve this objective, all Parties to the Convention –

those countries that have ratified, accepted, approved, or acceded to, the treaty – are subject to an important set of general commitments based on some common principles which place a fundamental obligation on both industrialized and developing countries to respond to climate change.

The principles of the Convention are stipulated in Article 3, which also states that these principles inter alia shall guide the actions of Parties, and thus do not constitute an exhaustive list. Article 3.1 stresses the principles of Equity, Common but Differentiated Responsibilities (CBDR) and Respective Capacities (RC). The Principles stipulated in Article 3 are as follows:



The principle of equity guides Parties to protect the climate system for both present generations (intra-generational equity) and future generations (inter-generational equity.) At the same time the Convention puts forward the principle of common but differentiated responsibilities which reflects the idea that Parties’ responsibility towards responding to climate change should be shared based on both the historical and current contributions to the problem, as well as their capacity to respond to the problem. This principle has several applications in the Convention and developed countries are to take the lead in responding to climate change (UNFCCC, 1992).

Similarly, Article 3 sets out that full consideration should be given to the special needs and circumstances of developing countries. In accordance with the *precautionary principle*, the lack of scientific certainty should not prevent Parties from taking cautionary measures if the likelihood of serious damage to the environment exists. Other guiding principles focus on the importance of the right to *sustainable development* and the duty of Parties to the Convention to cooperate

to promote a supportive and open international economic system that will lead to sustainable growth and development in all Parties, particularly developing country Parties (UNFCCC, 1992).

United Nations Convention to Combat Desertification (UNCCD)

All countries are not equally affected by desertification or land degradation. So, the roles and responsibility may vary based on level of affect or geographic location of a country. On the other hand, all countries do not have similar level of technical or financial capacity. Variation in country capacity may offer them various level of obligations. Different countries have different level or type of obligations to the UNCCD.

• **General Obligations**

General obligations of the countries that have ratified the UNCCD shall adopt an integrated approach to address the physical, biological and socio-economic aspects of the processes of desertification and drought. A major component of developing such a strategy is to give due attention to the situation of countries facing desertification with regard to international trade, marketing arrangements and debt with a view to establishing an enabling international economic environment conducive to the promotion of sustainable development.

In order to accomplish this goal, parties will need to promote poverty eradication, cooperate with countries affected by desertification, strengthen international cooperation through intergovernmental organizations and enhance foreign assistance. Affected developing country Parties are eligible for assistance in the implementation of the Convention. These general obligations are applicable to all parties of the UNCCD.

- **Obligations of Affected Countries Parties**

In addition to the general obligations, affected countries need to be obliged to the obligations mentioned in Article 5, as mentioned below:

Affected country Parties undertake to:

- a. give due priority to combating desertification and mitigating the effects of drought, and allocate adequate resources in accordance with their circumstances and capabilities;
- b. establish strategies and priorities, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought;
- c. address the underlying causes of desertification and pay special attention to the socioeconomic factors contributing to desertification processes;
- d. promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of nongovernmental organizations, in efforts to combat desertification and mitigate the effects of drought; and
- e. provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes.

- **Other Obligations**

In addition to General Obligations and those mentioned in the list of affected countries parties, there are some obligations mentioned in other articles:

a) National Action Programmes: Article 10-

- i. to identify the factors contributing to desertification and practical measures necessary to combat desertification and mitigate the effects of drought;
- ii. to specify the respective roles of government, local communities and land users and the resources available and needed;

b) Research and Development: Article 17

to promote technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought through appropriate national, subregional, regional and international institutions. Research priorities for particular regions and subregions, reflecting different local conditions, should be included in action programmes.

c) Capacity building, education and public awareness: Article 19

- i. to take initiatives for capacity building -- that is to say, institution building, training and development of relevant local and national capacities -- in efforts to combat desertification and mitigate the effects of drought;
- ii. to review national capacity and facilities regarding handling land degradation at the local and national levels, and the potential for strengthening them.
- iii. to cooperate with each other and through competent intergovernmental organizations, as well as with non-governmental organizations, in undertaking and supporting public awareness and educational programmes in both affected and, where relevant, unaffected country Parties to promote understanding of the causes and effects of desertification and drought.

d) Communication of information: Article 26

to communicate to the Conference of the Parties for consideration at its ordinary sessions, through the Permanent Secretariat, reports on the measures which it has taken for the implementation of the Convention.

ANNEX II: Identified Goals and Targets of SDGs relating to UNCBD, UNFCCC and UNCCD

| United Nations Convention on Biological Diversity (UNCBD) | | |
|---|---|---|
| SDGs and associated Targets | Proposed Global Indicators for Performance Measurement | Responsible Ministries |
| 6.6 By 2020, protect and restore water- related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes | 6.6.1 Change in the extent of water related ecosystems over time | MoWR; CD; MoCHTA; MoEFCC; MoFL; MoFA |
| 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements | 15.1.1 Forest area as a proportion of total land area | MoEFCC; MoA; MoCHTA; MoL; MoWR; MoFL; MoS |
| | 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type | |
| 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally | 15.2.1 Progress towards sustainable forest management | MoEFCC; MoL; LGD; CD; MoInf |
| 15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development | 15.4.1 Coverage by protected areas of important sites for mountain biodiversity | MoEFCC; MoA; MoCHTA; MoCAT; MoL; LGD |
| | 15.4.2 Mountain Green Cover Index | MoEFCC; MoCHTA; |
| 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species | 15.5.1 Red List Index | MoEFCC; MoFL; MoA; MoInf |
| 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed | 15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits | MoEFCC; MoA; MoFL; MoST |

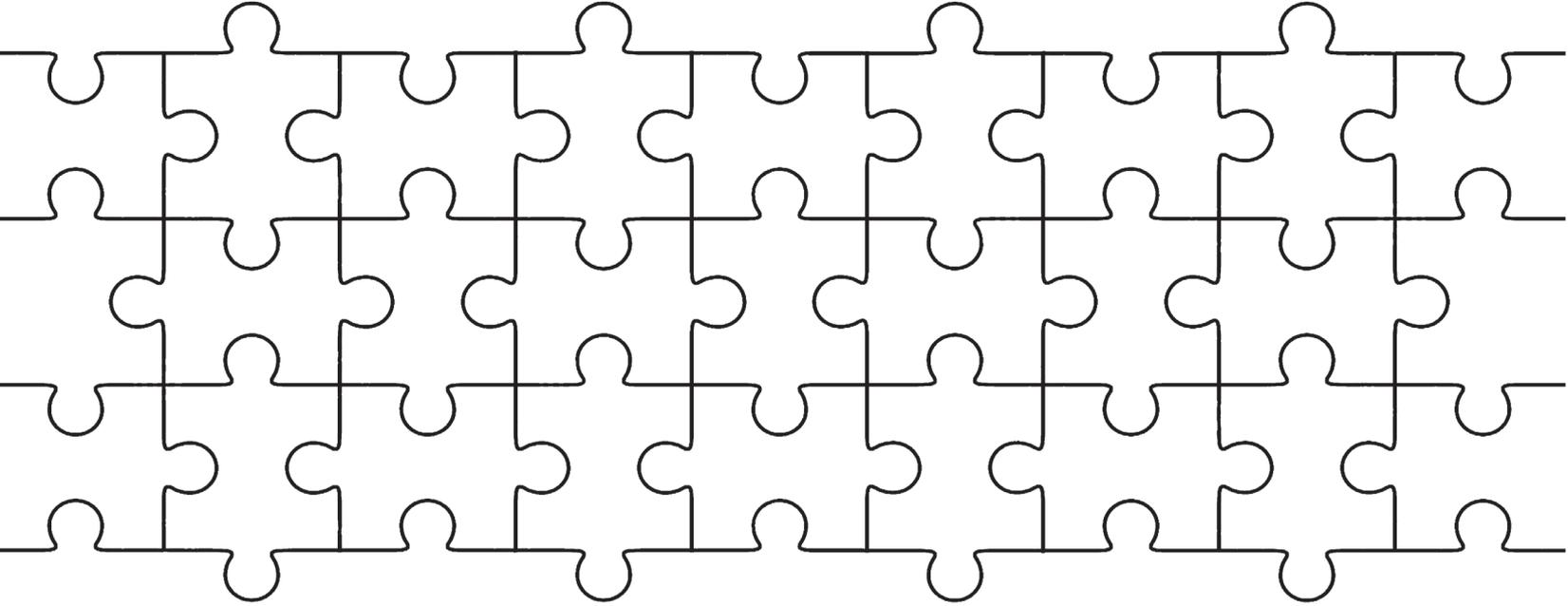
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| 15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products | 15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked | MoEFCC, LJD, MoFL; MoHA |
| 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species | 15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species | MoEFCC; MoA; MoFL |
| 15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts | 15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011- 2020 | MoEFCC; GED; LGD; SID |
| 15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems | 15.a.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems | ERD; FD; MoFA; MoEF |
| 15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation | 15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems | ERD; FD; MoEFCC; MoFA |
| 15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities | 15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked | MoEFCC; MoFA; LGD; MoHA; MoD |

| United Nations Framework Convention on Climate Change (UNFCCC) | | |
|---|--|--|
| SDG and Associate Targets | Proposed Indicators | Responsible Ministries |
| 6.6 By 2020, protect and restore water- related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes | 6.6.1 Change in the extent of water related ecosystems over time | MoWR; CD; MoCHTA; MoEFCC; MoFL; MoFA |
| 11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels | 11.b.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 | LGD; MoDMR; AWRRID; MoEFCC; MoHA; MoFA; MoHPW |
| 13.1. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. | 13.1.2: Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 | MoDMR; MoEFCC; MoHA FSCD; LGD, MoPA, MoD. |
| | 13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies | |
| 13.2. Integrate climate change measures into national policies, strategies and planning | 13.2.1: Number of countries that have communicated the establishment or operationalization of an integrated policy/ strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other) | GED; MoEFCC; MoDMR; MoFA; Prog. Div. |

| | | |
|--|--|---|
| 13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning | 13.3.1: Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula | MoDMR, MoEFCC, MoE; MoPME; MoHA; MoInf; MoInd (BIM); MoD; LGD |
| 13.a. Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible | 13.3.2: Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions | |
| 13.a. Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible | 13.a.1: Mobilized amount of United States dollars per year between 2020 and 2025 accountable towards the \$100 billion commitment | MoEFCC; ERD; MoFA; BFID; (BB) |
| 13.b. Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities | 13.b.1: Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities | MoEFCC; ERD; GED; MoInd |

| United Nations Convention to Combat Desertification (UNCCD) | | |
|--|---|---|
| Sustainable Development Goals followed by Targets | Proposed Global Indicators for Performance Measurement | Responsible Ministries |
| 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality. | 2.4.1 Percentage of agricultural area under sustainable agricultural practices. | MoA; MoEF; MoL; MoWR; MoDMR; MoInd; MoF; LGD; SID |
| 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. | 9.4.1 CO ₂ emission per unit of value added. | MoInd; MoLE; MoC; MoTJ; BD; LGD; MoS; RTHD; MoR; MoA; MoFA |
| 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums. | 11.1.1 Proportion of urban population living in slums, informal settlement or inadequate housing. | MoHPW; LJD; LPAD; LGD; SID |
| 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries. | 11.3.1 Ratio of land consumption rate to population growth rate. | MoHPW; LGD; MoL |
| 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. | 13.1.1 Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people. | MoDMR; MoEF; MoHA; (FSCD); LGD, MoPA, MoD |
| 13.2 Integrate climate change measures into national policies, strategies and planning. | 13.2.1 Number of countries that have formally communicated the establishment of integrated low-carbon, climate-resilient, disaster risk reduction development strategies (e.g. a national adaptation plan process, national policies and measures to promote the transition to environmentally-friendly substances and technologies). | GED; MoEF; MoDMR; MoFA; Prog. Div. |

| | | |
|--|--|---|
| 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning. | 13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula. | MoEFCC; MoDMR; MoE; MoPME; MoHA; MoInf; MoInd (BIM); MoD; LGD |
| 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information. | 14.5.1 Coverage of protected areas in relation to marine areas. | MoEFCC; MoFL; MoD (BN); MoFA; MoHA; MoS |
| 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements. | 15.1.1 Forest area as a percentage of total land area. | MoEFCC; MoA; MoCHTA; MoL; MoWR; MoFL; MoS |
| 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world. | 15.3.1 Percentage of land that is degraded over total land area. | MoEFCC; MoL; MoA; MoWR; LGD, MoDMR |



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