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Concept Paper and Roadmap

Integrating Pro-Poor Environment, Biodiversity and Climate Financing in Bhutan:

Innovations for scaling up Gross National Happiness and Sustainable Development Goals Financing

(July 2016)

UNDP Bhutan

The Concept Paper is based on an initial Scoping Study carried out by UNDP in December 2015. During the Scoping Study preliminary ideas to integrating various approaches were discussed with RGoB stakeholders and several experts on different processes including the Global BIOFIN Team, Regional Governance of Climate Finance Team. The Concept Paper is still evolving and being continuously improved.

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1. Summary

The Royal Government of Bhutan (RGoB) has prioritized three Sustainable Development Goals (SDGs): SDG 1 (End poverty), SDG 13 (Combat Climate Change.) and SDG 15 (Protect ecosystems and Biodiversity). At the same time, it is preparing the nation's 12th Five Year Development Plan. In this design phase the priority of the RGoB is to understand how to finance the implementation of the 12th Plan in a way that would result in the advancement of Gross National Happiness (GNH) while delivering SDG results, particularly through leveraging innovative and green financing solutions. RGoB has always considered sustainable development and environmental conservation as a centerpiece of the country's development strategy. In previous planning iterations, the process of mainstreaming environmental considerations into overall planning had been already initiated.

Bhutan fared well against most Millennium Development Goals (MDGs), having achieved or surpassed the targets in five out of eight Goals. Despite multiple development challenges, Bhutan has also made steady progress in graduating from Least Developed Country (LDC) status, meeting two of the three criteria (GNI per capita and the Human Asset Index). However, the Economic Vulnerability Index (EVI) ranking still poses a challenge for graduation. Similarly, multidimensional challenges remain in eradicating poverty, protecting biodiversity and dealing with the impact of climate change.

The Biodiversity Finance Initiative (BIOFIN), the Poverty and Environment Initiative (PEI) and the Governance of Climate Finance Programme's Climate Public Expenditure Review (CPEIR), implemented with UNDP support, provide a valuable entry point to link the new SDG prioritization and Bhutan's national Five Year Plans with financing instruments. This is particularly important in an era where national resource mobilization and private sector contributions need to be blended with Official Development Assistance (ODA) and climate finance, and where development partners and the public demand higher levels of resource and institutional efficiency.

Currently, however, there exists no integrated financing strategy or framework to ensure sustainable financing of environment, biodiversity and climate change needs in a pro-poor manner. Therefore, through this initiative, **Bhutan can pioneer an integrated approach to development financing.**

The substantive case to do so is sound: biodiversity and climate related policies and regulatory frameworks are mostly overlapping for Bhutan. The integrated review would provide a breakdown of poverty-related expenditure as it relates to climate change and biodiversity expenditures. This approach would help amplify the impacts of isolated interventions on biodiversity, climate change and poverty reduction. For example, climate-smart conservation of biodiversity and ecosystems can help people to escape from poverty as well as adapt to climate change. It would enhance the ambition and scope of Bhutan's resource mobilization horizon, leveraging common assets to attract new investors while reducing transaction costs by integrating the initiatives; and it would help ensure better linkages between GNH and SDG indicators, resulting in an integrated approach to delivering local, national and global-level development results. Overall, this initiative would reinforce Bhutan's political and technical leadership in the area of sustainable development.

The proposed integrated financing framework encompasses an analysis of current policies, institutions and processes; building partnerships and coalitions among sectors; and financing through a common resource mobilization plan. A combined methodology integrating various processes of CPEIR and BIOFIN has been proposed based on the stepwise approach that countries can adapt. The generic steps include:

- Review of the policies and institutional frameworks governing the national Environmental, climate change and poverty response.
- Public expenditure reviews over biodiversity and climate change

- Assessing financing needs and identifying finance gaps through Bhutan's NBSAP, poverty reduction strategy and NDC
- Identifying potential sources of funding Development of a Finance Plan that can identify, assess and prioritize a wide range of financing tools, mechanisms and strategies and provides a clear-cut institutional framework for implementation
- Initiating implementation of the Finance Plan through piloting financing solutions along selected sites and at the national level
- Developing a monitoring plan and related accountability mechanism for assessing the effectiveness of the financing framework in meeting the SDGs over time.

2. Introduction

The Royal Government of Bhutan (RGoB) has committed to advancing progress against Agenda 2030 as part of its pursuit of Gross National Happiness. RGoB has prioritized three of the 17 Sustainable Development Goals (SDGs): SDG 1 on Eradicating Poverty, SDG 13 on Climate Action, and SDG 15 on Life on Land. Synchronously, Bhutan has begun preparing the 12th Five Year Development Plan. It is therefore pressing for the RGOB to understand how to finance actions in the 12th plan that will help to reach the SDGs, particularly through leveraging new, innovative and green financing options, while in the process showcasing progress against SDGs 1, 13, and 15. This is a timely and fitting opportunity for Bhutan to defining a harmonized approach to financing priority elements of the 12th plan and beyond, following a set of evidence based steps such as assessing the current government spending in areas of poverty, climate change and biodiversity, studying how these flows are structured, and exploring future directions in an era of needed blended finance for development. Bhutan will be able to share this unique experience within South-South networks thereby reaffirming its global leadership on sustainable development and the conservation of nature.

The Biodiversity Finance Initiative (BIOFIN), the Poverty and Environment Imitative (PEI) and Climate Public Expenditure Review (CPEIR), implemented with UNDP support, already seek to define development finance needs and gaps through detailed national-level assessments, to determine challenges and opportunities for resource mobilization, and build a sound business case for increased investments. Incorporating and integrating these approaches can generate an innovative and compelling resource mobilization plan for the implementation of a prioritized set of actions of the 12th Plan connected to the three above mentioned SDGs chosen by the RGoB.

UNDP is uniquely positioned to support Bhutan in pioneering this development finance approach, given its technical expertise on in climate change and biodiversity, its experience supporting Environmental Public Expenditure Reviews in Bhutan, its large international network and capacity to leverage the experiences of other nations, and the ability to profile Bhutan's leadership in pioneering a new technical approach along established South-South networks.

The initiatives builds upon a set of milestones already achieved by Bhutan. The joint UNEP and UNDP Poverty Environment Initiative (PEI) has contributed to identifying the poverty-environment-climate nexus and the integration of pro-poor environment and climate issues into national and sub-national planning and budgeting. In 2015, the Biodiversity Finance Initiative (BIOFIN) conducted a scoping mission to assess interest and capacity of the RGoB to develop a national financing plan for biodiversity.

1.1. *From MDGs to SDGs in Bhutan: opportunities and challenges*

Bhutan has fared well in most Millennium Development Goals (MDGs), having achieved or surpassed targets of five out of the eight Goals. The World Bank's 2014 Poverty Assessment shows the share of the Bhutan's population living below the national poverty line was effectively cut in half between 2007

and 2012, from 23.2 to 12 percent. Bhutan has nearly ended extreme poverty within the living memory of a generation – to only 2 percent of Bhutanese living below $1.25 a day in 2012. In environmental conservation and climate change, the country has demonstrated its commitment through as articulated in Article 5 of its Constitution and the alignment of national policies with the Gross National Happiness (GNH) philosophy. Bhutan has set aside more than half (51.44 percent) of its total area under a network of protected area. Biodiversity conservation is also the core mandate of the renewable natural resource sector. As a carbon negative country, climate change considerations are already well integrated across main sectors including the agriculture, economic, disaster and climate information services.

At the same time, and despite the multiple development challenges, Bhutan has made steady progress towards graduating from Least Developed Country (LDC) status, meeting two of the three criteria (GNI per capita and the Human Asset Index). Bhutan surpassed the GNI per capita graduation threshold of US$ 1,242 with its impressive growth performance and a three-year average per capita GNI reaching US$ 2,277 for the 2011-2013 period. However, the Economic Vulnerability Index (EVI) ranking still highlight the vulnerability of the country to external shocks.

However, complex challenges remain for eradicating poverty, protecting biodiversity and adapting to climate change. The multi-dimensional poverty index reveals that 12.7 percent of Bhutanese still falls below the threshold. Regional disparities persist and poverty in rural areas, at 16.7 percent, is almost ten times higher than in urban areas. Rapid demographic changes and urbanization pose serious threats to country's biodiversity resulting into both direct and indirect pressures on natural resources. Large tracts of forest areas are either lost to fires or cleared in pursuing socio-economic development through roads, infrastructures, mining and quarrying. Developmental activities not only lead to loss of forest areas, but they also trigger habitat fragmentation and degradation, impacting negatively on biodiversity and often aggravating human-wildlife conflicts. Bhutan is part of the Eastern Himalayan region—an area where the impacts of climate change are often more severe than anywhere else in the world. The region's glaciers have been melting at alarming rates, and experiencing increasingly intense rainstorms that activate damaging floods and landslides.

One of the most significant differences between the MDGs and SDGs is the recognition that sector by sector policies and interventions will no longer be sufficient to achieve transformational results. An integrated approach will be fundamental to meet the ambition of Agenda 2030, hence the objective set out here to integrate climate, biodiversity and poverty related actions through coherent, aligned and when possible integrated measures to leverage investment in Bhutan's sustainable future.

Overall, the level of integration of poverty, environment and climate issues into policies and plans is high in Bhutan and a promising starting point for aligned and when possible integrated financing plans for SDG implementation. This is particularly evidenced by the Rapid Integration Assessment of the Policy Framework against the SDGs, in particular on SDGs 1, 13, and 15. SDG 1, Poverty is addressed in 12 out of 18 sectors. SDG 13, climate change is addressed in 4 sectors and SDG 15, Terrestrial (environment), is addressed in 3 sectors.

1.2. *Opportunities for Financing the Agenda 2030*

The Addis Ababa Action Agenda (AAAA)1, signed in July 2015 by Bhutan's Minister of Finance, forms along with the Paris Climate Agreement and the Sendai process the pillars of the agenda 2030. The AAAA set out a number of principles and milestones for financing this new, ambitious and universal agenda:

[1] https://sustainabledevelopment.un.org/frameworks/addisababaactionagenda

- The importance of international public finance, including Overseas Development Assistance (ODA), in complementing the efforts of nations to mobilize public resources domestically towards development results.
- The importance of efforts by countries to set nationally defined domestic targets and timelines for enhancing domestic revenue as part of their national sustainable development strategies, with a commitment to support developing countries in need in reaching these targets.
- The importance of engaging with the business community as partners towards achieving public results, leveraging their creativity and innovation and incentivizing their investment in sustainable practices.
- The commitment to strengthen international efforts to address financing gaps and low levels of direct investment faced by landlocked developing countries and many middle-income countries – both categories relevant to Bhutan;
- The importance of encouraging innovative mechanisms and partnerships to encourage greater international private financial participation in these economies.

Bhutan is an LDC and will for the time being continue to benefit from the special measures targeted for this grouping of countries. However, it is important to consider the potential impact of Graduation over the level and conditions of the international financial support received by. In particular, LDCs are accorded special support measures in the areas of official development assistance, international trade and general support that will be gradually phased out after graduation. With regard to ODA, graduation generally impacts conditions (e.g. grants versus loans) and sectoral composition more than the absolute amounts. Graduation also means losing the access to multilateral LDC-specific funds, such as the Enhanced Integrated Framework on trade-related technical assistance and the LDC Fund under the United Nations Framework Convention on Climate Change. In the area of trade, graduation can imply a loss of duty-free quota-free access to foreign markets, though bilateral agreements such as the India-Bhutan free trade agreement may not be directly affected.

Against this backdrop, in considering the opportunities and challenges around development financing and in the context of the AAAA and of LDC graduation, this initiative will support the development of an integrated national financing framework for SDGs with priority provisions on poverty, biodiversity and climate. It will help position RGoB to secure sufficient, efficient, predictable and effective funding to finance its priority national development needs and global environmental benefits. In addition, the approach can potentially cover a Development Finance Assessment (DFA) for the country to examine the changing finance scenario and assess sources of financing for overall SDGs in general and three prioritized SDGs in particular.

1.3. *Enabling Policies of RGOB*

The RGoB has always considered environmental conservation as a centerpiece of the country's development strategy and focused on mainstreaming environmental concerns into overall planning. Bhutan is one of the very few countries in the world to feature environmental conservation explicitly in its Constitution. The Constitution mandates the requirement for the maintenance of a minimum of 60 percent of the total land area under forest cover in perpetuity. Moreover, environmental conservation is one of the four pillars of the GNH, which underpins the country's long term vision and strategy. At the global level, Bhutan is signatory to all the three Rio Conventions, i.e., the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention on Biological Diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD). Keeping with Bhutan's strong environmental conservation history and commitment to the global process in addressing environmental concerns, it is now party to a total of 15 regional and international environment agreements and treaties.

Bhutan revised its NBSAP in 2014, the fourth of its series, by a multisector National Task Force through a rigorous consultation at all levels. The NBSAP is based on gaps of previous action plans, issues and opportunities in biodiversity, and the 20 National Targets are aligned to global Aichi Targets (See Annex 1). The NBSAP was adopted by the National Environment Commission Committee in September 2014, chaired by the Prime Minister and adopted as a national guiding document for effective biodiversity management in the country. The National Target 20 requires that the funding requirement for the implementation of NBSAP is identified and funds mobilized through a Resource Mobilization Plan and appropriate institutional mechanisms or required systemic changes.

As the country is guided by GNH as the overarching development goal, there strong focus on poverty with commitment to improving the quality of live through inclusive and sustainable economic growth. The country recognizes that the pillars of GNH are mutually reinforcing and contribute to each other. Conserving biodiversity and reducing poverty through enhanced livelihoods have been intricately inter-linked in various conservation programs of the country. Launched in 2007, the Poverty Environment Initiative of the UNDP Bhutan in partnership with RGoB ensures that environment, climate and poverty are integrated into country's plans and programmes to achieve a greener, more inclusive and sustainable development path.

Bhutan communicated its Intended Nationally Determined Contribution to the UNFCCC in September 2015. Bhutan's INDC reiterates the country's commitment to remain carbon neutral through its mitigation strategies and at the same time includes various adaptation strategies (See Annex 2).

1.4. *Understanding the approach pursued on biodiversity and climate finance: public expenditure reviews*

The overall objective of PEI, BIOFIN and the work on climate finance governance is to integrate environmental (and particularly climate and biodiversity considerations) in the national planning and budgeting processes as well as to identify effective ways and means to increase the financing envelop. These objectives are achieved through a number of assessments, studies and provisions for technical assistance, including public and private expenditure reviews, economic valuation of ecosystem services, cost-benefit analysis, costing of national policies, poverty-environment indicators, modelling tools, assessment of financing solutions and options, etc. The common element of all programmes is the conduction of expenditure reviews that assess and report Government - and when possible private sector – spending either on broader environment categories or more specifically on biodiversity and climate. The assessment of current expenditures and assets is the first step in the development of any finance plan and the starting point of this integrated initiative.

Poverty and Environment Expenditure Review (PEER)

The RGOB has conducted A Public Expenditure Review of spending on environmental initiatives (PEER) three times in the recent past, covering the 9th and 10th Five Year Plans, 2003-13. A PEER methodology was developed to assess PEE in Bhutan. The methodology was based on an environmental classification comprising of nine environmental clusters and 38 sub-clusters. The data was retrieved from the Public Expenditure Management System (PEMS) and the screening was carried out with reference to all the budget codes at activity and sub-activity levels for the autonomous agencies, ten ministries, 20 Dzongkhags and 205 Gewogs. Total PEE in the reports includes all the nine environmental clusters and represents the broad public environmental expenditures that are relevant for assessing GNH objectives. The narrow estimate, referred to as core PEE is based on the first four clusters of public environmental expenditures and conforms to the internationally accepted definition of environmental expenditures viz. 'pollution abatement and control (PAC) expenditure plus protection of biodiversity and landscape, and research and development (R&D) in environment'.

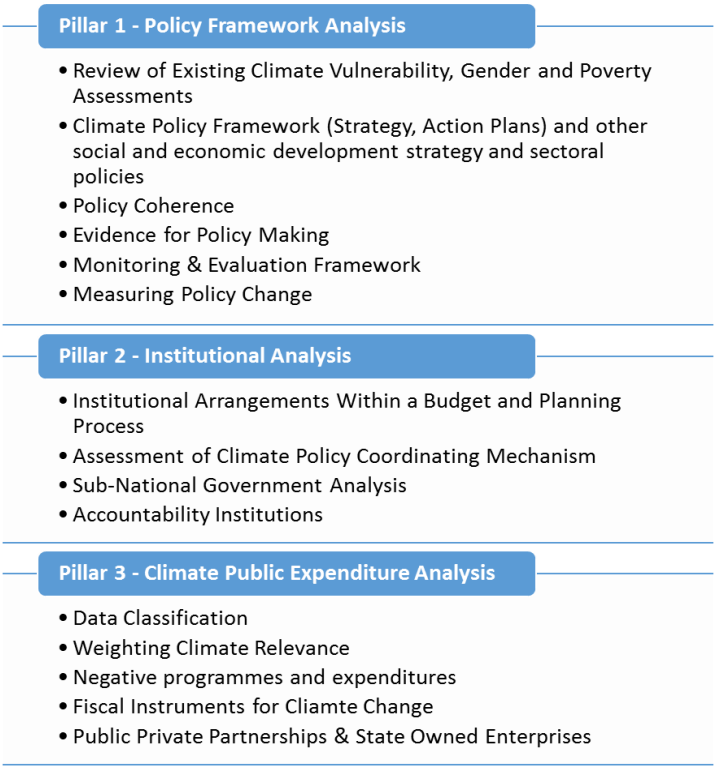
Climate Public Expenditure and Institutional Reviews (CPEIRs) and Climate Finance Governance

Through the Governance of Climate Finance programme, UNDP has been supporting efforts to strengthen country PFM systems to be able to effectively manage (track and monitor) how climate finance is utilized. This began with strong advocacy to get countries to recognize that the climate response was already being borne by domestic finance through the national budget where climate adaptation and mitigation is already taking place. The CPEIRs were a useful diagnostic tool to demonstrate this utilizing countries' own definition of climate relevant expenditure.

The CPEIR is a systematic qualitative and quantitative analysis of a country's public expenditures and how they relate to climate change. CPEIRs have been used to review policies, institutions and expenditures on climate change as means to establishing both a baseline of the current climate change response, as well as recommendations for how that response may be strengthened and climate related investment better managed. The CPEIR starts with an assessment of how climate change policy is formulated and integrated within national, sub-national and sector policy and planning instruments. It then focusses on understanding how public authorities are translating policies into budget allocations and expenditure. Finally, it produces a map of climate expenditures across the public sector. The analytical framework follows three steps of analysis is presented in the CPEIR Methodological Guidebook and reproduced below.

The Governance of Climate Finance Project has built on the CPEIRs and their recommendations which has evolved into a comprehensive package of support to strengthen national PFM systems including:

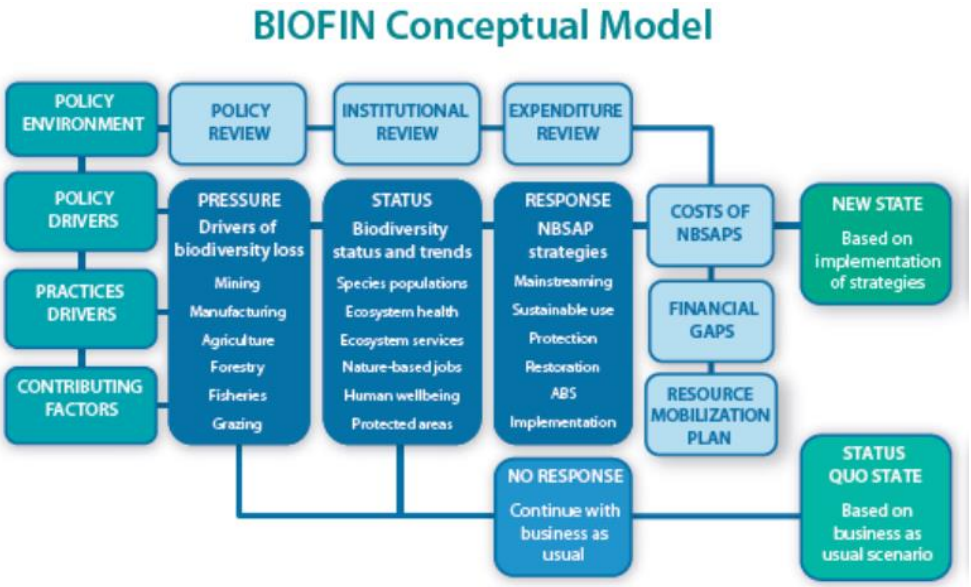
- Climate integration index – which complements the CPEIR with assessing the extent to which climate change has been integrated in the budgeting cycle
- Climate budget tagging – which provides a country relevant marker to easily track climate expenditures
- Support to sector ministries to develop climate responsive budget submissions to Ministries of finance – taking into account the cost benefit of sector investments in the context of climate change
- Climate change fiscal or financing frameworks – which help to guide governments (and particularly Ministries of finance) on how to finance the national climate response
- Budget Transparency initiatives - Climate change will affect the poorest and government accountability to its citizens is crucial. Many of the tools above provide the data required for governments and other stakeholders to be accountable to the public on how and where climate finance is being spent. UNDP is also working within wider national processes such as parliament and audit committees and is also supporting governments to partner with civil society on budget transparency initiatives. National budget transparency should eventually feedback up to global platforms such as the UNFCCC and tracking SDGs.



BIOFIN

Similar to CPEIR, BIOFIN seeks to address the biodiversity finance challenge in a comprehensive manner - to define biodiversity finance needs and gaps with greater precision through detailed national-level assessments, to determine challenges and opportunities for resource mobilization, and to build a sound business case for increased biodiversity investments. Through a globally-led methodological framework, countries adapt a step-wise approach of the BIOFIN Workbook which culminate in a comprehensive financial plan for biodiversity. Through these steps synergies with other national and international initiatives on financing and funding streams are also explored, including exploring additional revenue streams, coordination with bilateral and multilateral donors, engagement private sector, and local funding partners.

BIOFIN carries out a detailed policy and institutional review and expenditure review. In addition to CPEIR, BIOFIN takes a step further in assessing the financing gaps and exploring a suite of financing solutions that will be featured in a robust finance plan.



BIOFIN is a global partnership addressing the biodiversity finance challenge in a comprehensive manner. The Initiative provides an innovative methodology enabling countries to measure their current biodiversity expenditures, assess their financial needs in the medium term and identify the most suitable finance solutions to bridge their national biodiversity finance gaps. The BIOFIN methodology includes the following main steps:

- Policy and Institutional Review: Analysis of the policy and institutional architecture for biodiversity finance and existing finance solutions.
- Biodiversity Expenditure Review: Analysis of public and private expenditures affecting biodiversity.
- Finance Needs Assessment: Estimates the investment required to implement national biodiversity plans and achieve national biodiversity targets and results.
- Biodiversity Finance Plan: Analysis of options to optimize current and expand future investments (public, private, national, international, traditional and innovative) in biodiversity management.
- Implementing Finance Solutions: Support the implementation of policy recommendations emerging from BIOFIN, such as the improvement or creation of finance mechanisms and the integration of finance solutions into national planning cycles.

Other environment-related government initiatives

Further, the RGOB has developed indicators under its Gross National Happiness (GNH) Index[2] for ecological diversity (4 indicators), and living standards (3 indicators) which should also assist with the expenditure review in measuring the effectiveness of the expenditures. Given that these are measurable, the results of their measurement over the course of the 11th Plan (not yet available) can be used in assessing the impact of expenditures. Environmental data is also being collected by the National Statistics Bureau on Green Economy Indicators with data from 2010 to 2015 on 97 Green Economy Indicators. This data should be ready in 2016.

Assessment of expenditures related to poverty and social spending

Differently for the environment sector, there is less methodological clarity over the identification of poverty and social spending. Similarly, no comprehensive effort has been conducted to collect or review expenditure data. The initiative will discuss with stakeholders the scope and focus of this

[2] Eleventh Five Year Plan 2013-18, GNHC, RGOB, 2013

review (potentially selecting key economic sectors with highest poverty impacts) also based on the experience of other countries in assessing social spending for poverty reduction.

3. Defining an integrated approach for Bhutan

3.1 Synergies between the processes and methodological approaches

While thematically different on the scope of the activities covered, the work conducted in the PEER, biodiversity finance and CPEIR is bound to a similar methodological approach and shared principles. The PEER process provides a broader and more schematic representation of environmental, biodiversity and climate expenditures. Both CPEIRs and BIOFIN dig deeper into the respective sub-sectors. Both CPEIRs and BIOFIN are modelled on a conceptual framework that starts with a policy and institutional review which is followed by an expenditure review. The main difference between CPEIR and BIOFIN's first two assessments stand in the articulation of the reviews in one or two technical products. The BIOFIN methodology is broader in scope, given it also tries to record negative expenditures (i.e. harmful subsidies), revenues and private sector expenditures. On the latter, guidance on reviewing private sector climate expenditures has been also produced by UNDP.

The CPEIRs methodology provides a good snapshot of where government spending is currently going and provides recommendations for further work. Expected follow up work is not different from the BIOFIN cycle, which also covers the costing of public policies and the design of a comprehensive finance plan for biodiversity. The follow-up work on climate finance can be easily geared – as in Cambodia or Bangladesh - towards establishing a fiscal or financing framework, a product that is mostly aligned with the biodiversity finance plan. The more advanced work in the climate arena on introducing budget coding and tagging on the other side can be of inspiration for the BIOFIN process, which also aims to institutionalizing the results of the expenditure review and costing exercises. In the case of Bhutan, it is possible to envisage an alignment of the different processes that benefits from mutual learning and on the amount of data and classification previously conducted for the PEER. The inclusion of poverty-related themes, while underpinned through PEI, would require additional discussions with stakeholders and decision makers as to identify the scope of analysis.

3.2 The Case for an Integrated Approach

The prioritization of SDG1, SDG 13 and SDG 15 by the RGOB and the strong synergies between these SDGs, presents a unique opportunity to align and when possible integrate the approaches developed by BIOFIN and CPEIRs, thus upgrading the work previously done in the country on PEERs. **Bhutan can therefore, through this initiative pioneer an innovative an integrated approach** to fast track the implementation of the SDGs and the related indicators in the 12th development plan.

In Bhutan this work could prove useful in financing strategies for the 12th Plan as well as developing a policy debate on realigning expenditures to areas with greatest impact (and avoiding duplication and gaps), given the recent development of measurable KPIs during the 11th 5 Year Plan. The case for an integrated financing framework in Bhutan is compelling:

- The Agenda 2030 recognizes the importance of the interlinkages among the SDGs and the integrated and indivisible nature of its Goals and Targets. In Bhutan this approach is similarly described by the GNH with its mutually reinforcing pillars.
- The Addis Ababa Action Agenda calls countries to design "cohesive nationally owned sustainable development strategies, supported by integrated national financing frameworks, and that each country has primary responsibility for its own economic and social development while the role of national policies and development strategies cannot be overemphasized".

- Biodiversity, climate change and poverty are intricately interlinked. Investments to address these issues can have strong co-benefits.
- Due to not always aligned global processes serving the protection biodiversity and the battle against climate change has created the risk of silos approaches to complex development challenges, including duplication in the institutional set-up and donor fragmentation.
- BIOFIN and CPEIR are founded on similar principles, methodologies and are geared towards reaching similar objectives

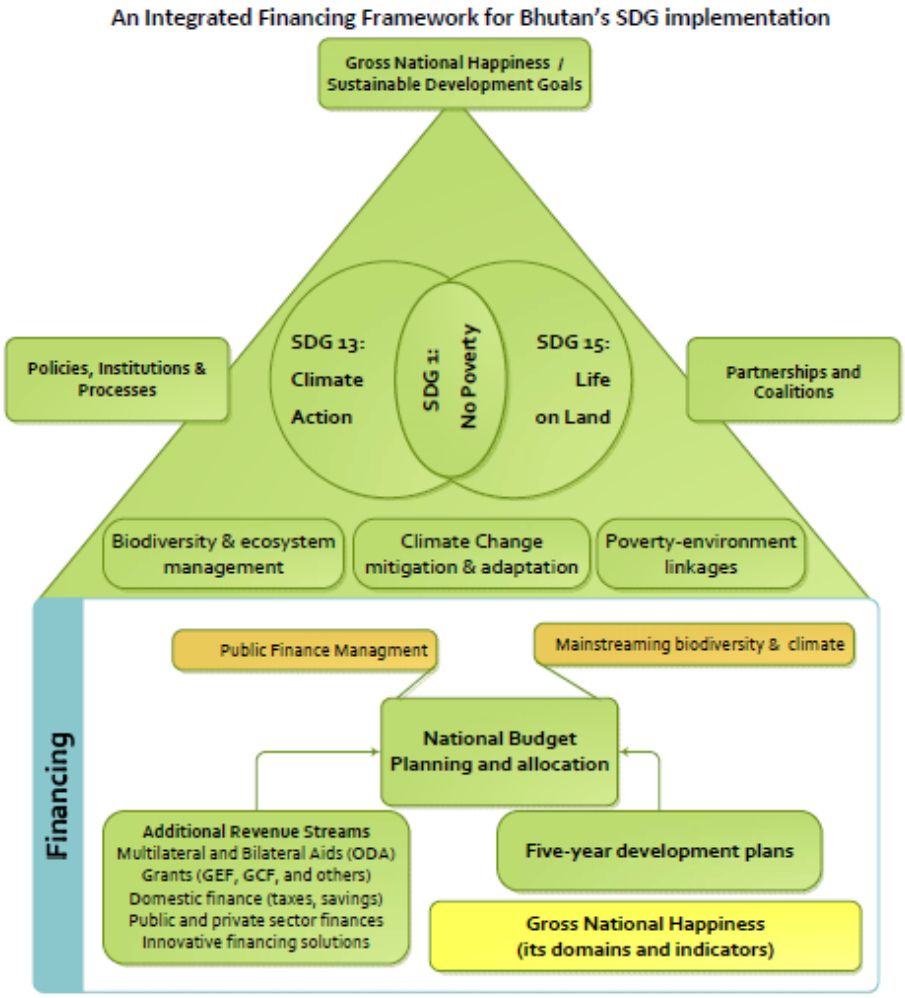
3.3 The Benefits of an Integrated Approach

Primarily, an integrated approach will provide RGOB with a stronger investment case for advancing the poverty, biodiversity and climate agendas. It will allow to achieve operational efficiency and reduce implementation costs while expanding the universe of options for attracting international, domestic and private capital. It will reduce transaction costs for RGOB, and make Bhutan a forerunner in the implementation of the SDGs, thus reinforcing the country's political and technical leadership in sustainable development.

The integrated approach will also ensure following benefits:

- Amplify the impacts of isolated interventions on biodiversity, climate change and poverty reduction. For example, climate-smart conservation of biodiversity and ecosystems can help people escape poverty as well as adapt to climate change; green infrastructure can help to provide basic services such as electricity and potable water while preserving the environment.
- Enhanced coordination among sectors through an integrated approach can enhance the ambition of resource mobilization and open the door attract additional funding from vertical funds (e.g. GEF and GCF), development partners and the private sector;
- Increased collaboration among implementing partners and stakeholders resulting in more coherent shared activities, national reporting and joint studies and assessments;
- Leverage common assets to attract private financing, attracting new forms of investors to support the implementation of Bhutan's 12th Plan;
- Ensure better linkages between GNH and SDG indicators leading to an integrated, balanced approach to national and sectorial key results areas which also demonstrate global level results.

3.4 Proposed process for an Integrated Financing Framework for Bhutan SDGs

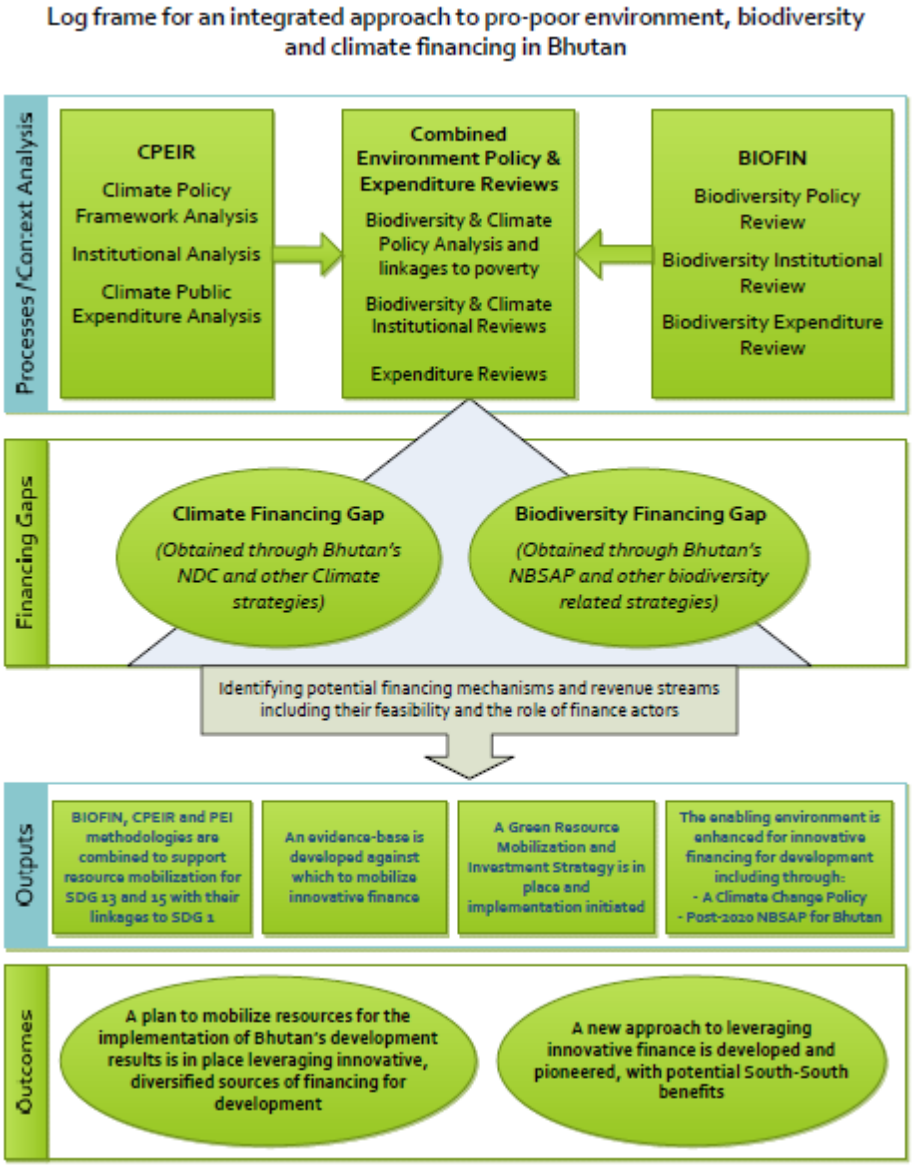


The proposed integrated financing framework will help Bhutan pioneer three early SDGs by combing BIOFIN and CPEIR processes through analysis of policies, institutions and processes; building partnerships and coalitions among sectors; and financing through a common resource mobilization plan. Specifically, it will provide for:

- Public Expenditure and Institutional Reviews on climate and biodiversity with the possibility of further integrating poverty-related expenditures and financing.
- Mainstreaming of climate-biodiversity-poverty to strengthen institutional mechanisms for enhanced policy coherence and stakeholder coordination to deliver financing for multiple SDGs.
- Efficiency, effectiveness and accountability including combined monitoring, tracking and reporting.
- Review of current public fiscal needs, assessing fiscal capacity at central and local levels to inform ways to shift public budgets towards more harmonized, coherent and efficient budgets for implementing the 12th Plan and SDGs
- A Common Platform for Environmental Economists to value the natural capital, biodiversity and climate finance body, and SDG policy makers
- A suite of financing options to enhance revenue streams
- An integrated Resource Mobilization and Investment Strategy for Bhutan prioritized SDGs.
- A White Paper for RGoB on Innovative Financing (including boosting domestic resources and private sector investments).

4. Development of Methodology

While CPEIR methodological guidebook and BIOFIN workbooks provide stepwise approach that countries can adapt and align. In the following figure, the main steps and outputs are presented (and details of steps further provided in the Roadmap). The details of the work and final products will be further adapted during an Inception Workshop attended by key stakeholders.



4.1 Environmental Policy and Institutional Review

Biodiversity and climate related policies and regulatory frameworks are mostly overlapping for Bhutan. The overlaps are even more prominent in the institutional set-ups. For example, the National Environment Commission act as focal points for both UNCBD and UNFCCC. Similarly, the Ministry of Agriculture and Forests implements major activities for biodiversity, climate change and poverty. These overlaps are evident as these components are embedded within the environmental pillar of Gross National Happiness. Therefore, the combination of policy, institutional and expenditure reviews on climate and biodiversity will be supported by the already existing governance architecture.

A core theme of the institutional analysis is to map how the national budget is managed and the role played by the Gross National Happiness Commission and Ministry of Finance. Where possible, the institutional analysis shall explore whether these organizational structures are effectively responding to the policy objectives set by government. An important question is whether there are resources identified within the national budget to allow these agencies to build the necessary capacity. An analysis of existing institutional effectiveness and/or gaps should identify critical capacity gaps in resource mobilization and monitoring of budget execution. For example, it may be necessary to strengthen the capacity of local government to absorb capital transfers from the Government, if resources are to be transferred to their budgets.

Increasingly, civil society organizations and private sector have become more engaged in financing poverty, biodiversity and climate activities as well as in executing a number of the same. These support interventions can be in the form of donations, adoption of voluntary standards or as investment of their own. The analysis will attempt to cover these sectors, when relevant.

4.2 Public expenditure reviews

Biodiversity and climate expenditures

As stated, biodiversity and climate policies and institutions overlap to a great extent. Based on the policy and institutional review, the objective of this second step is to identify poverty, climate and biodiversity public expenditures. By undertaking an integrated analysis across biodiversity, climate change and poverty it will also be possible to identify where there are investments that are delivering on all three policy areas. Both planned and actual expenditures will be analyzed. Weights will be allocated to all relevant expenditures (as outlined below in CPEIR and BIOFIN Methodologies) to arrive at reasonably accurate totals. This applies to both central and local government budgets. It should also be noted that Tax Policy will be analyzed and its impact quantified with regard to its impact on CC and Biodiversity, for example the high tax on petrol cars and incentives for electric vehicles.

Other sources of public expenditure that lie outside the national budget also need to be identified, such as Extra Budgetary Funds and Trust Funds. An analysis of international funding also should indicate whether these expenditures are on or off budget.

Finally, an assessment of the public finance management system *in toto* should be made, indicating the strength of financial controls and audit in particular. This may be assisted by reviewing relevant PFM Assessment documents such as the 2011 PEFA report.

The review of expenditures can provide inputs for the establishment of a tagging system on biodiversity and climate for the national budget and accounting The institutionalization of expenditure reviews through the development of tagging systems would dramatically reduce the cost of conducting these periodical exercises as well as build capacities within Bhutan on addressing environment budgeting. This work can be carried out by putting together a team composed by a biodiversity consultant and a Public Finance Management (PFM) consultant in association with the Ministry of Finance.

Many biodiversity expenditures will overlap with climate change expenditures, so that one expenditure may be highlighted under both headings. These should be highlighted as expenditures having a double impact – or even triple - if their impact on poverty can also be identified.

Poverty Analysis

The Integrated public expenditure is not intended to provide a breakdown of poverty related expenditure *in toto,* but only as it relates to climate change and biodiversity expenditures. A review of poverty related expenditures is a complicated undertaking that would require a dedicated analysis.

In this regard, there is already recognition that general livelihood and social protection programmes are beneficial in the CC context. This is because The 2014 Bhutan Poverty Assessment has mapped poverty levels in all regions of Bhutan. As a result, it is possible to weight expenditures in regions with greater poverty levels more highly than those with average or below average poverty levels. Exactly how this is carried out will require consultation between RGOB and consultants.

In addition, it would be possible to review expenditures for some targeted social protection programmes (e.g. Targeted Household Poverty Programme, Rural Economy Advancement Programme, Rural Livelihoods Programme, Rural Remote Community Development Programme, Market Access and Growth Intensification Project (MAGIP)) which are specifically designed to target poverty, rather than the majority of expenditures which may alleviate poverty but are not specifically designed to produce that output (e.g. rural electrification, rural roads).

Existing information from RGOB

PEERs 2011, 2012, 2013

RGOB has concrete experience in conducting cross-sectoral public expenditure reviews in the Environment sector. The capacity built up under this exercise is still retained within the Ministry of Finance and GNHC. However, it should be noted that the PEERs did not directly generate significant policy discussion or realignment of expenditures, according to discussions with the Ministry of Finance. The PEERs were mostly used more to showcase "headline" figures on total expenditure in the environment sector. Limited analysis of these expenditures was carried out

Green Economy Indicators

The National Statistics Bureau is currently finalising its Green Economy Indicators with data from 2010 to 2015 for 97 indicators many of which relate to climate and biodiversity. It is aimed to be finalised by the first quarter of 2016 and could provide rich information. The latest draft of these indicators is attached to this report as an annex. At one stage it was intended to introduce Environmental Accounting in Bhutan, but his was abandoned given the resources required for implementation.

National Key Result Areas (NKRAs)

NKRAs and Results Based Planning as well as ECP Mainstreaming should also provide an indication of expenditures and their level of relevance to climate, biodiversity and poverty. For the last 5 year plan the RGOB summarised its objective as "Self-Reliance and Inclusive Green Socio-Economic Development". It identified 16 NKRAs with 4 dedicated to Sustainable and Equitable Socio-Economic Development:

- Sustained Eco Growth
- Poverty Reduced and MDG Plus Achieved
- Food secure and Sustained
- Employment

In addition, 4 NKRAs were dedicated to Conservation and Sustainable Utilisation of Environment:

- Climate Neutral / Green & Climate Resilient Development
- Sustainable Utilisation and Management of Natural Resources
- Water Security
- Improved Disaster Resilience and Management Mainstreamed

Each NKRA has between 1 and 6 KPIs (apart from "Poverty Reduced and MDG Plus Achieved" which has 17 KPIs). These KPIs have been designed as SMART indicators and are therefore measurable over time. It is also possible to compare targets at the beginning of the plan to present progress. Such

information will be very useful in analysing the impact of expenditures on CC and Biodiversity, rather than relying on the traditional proxy of disbursement rates.

Environmental Impact Assessments

The NEC requires that all infrastructure projects should undertake EIAs. A study of these should reveal the percentage and amount of expenditure spent on projects relating to environmental concerns. EIA should contain important information on environment related expenditures in large projects.

Tagging Options

The Budget of the RGOB is organised as follows:

- Sub-Activity
- Activity
- Sub-Programme
- Programme
- Ministry, Department, Agency

The PEERs tagged expenditures at sub-activity and activity levels i.e. each item (travel, planting etc.) was deemed 100% eligible or not to contributing to environmental concerns. However, if we follow the weighting methodology of CPEIR we are ascribing a percentage to expenditures. For that reason, it should be possible to reduce the workload and ascribe percentages at a Sub-Programme level. This will reduce the number of expenditures to be analysed significantly from the 4,450 expenditures tagged during the last PEER exercise.

Estimating Expenditures outside the Budget

Expenditures impacting on climate change and biodiversity which lie outside of the budget include:

- Extra Budgetary Funds / Trust Funds
- Private Sector
- Civil Society Organisations / NGOs
- International Funding Sources which lie outside of the budget

It is important to draw up a list of all expenditures relating to climate and Biodiversity covered by the above sectors. RGOB has reasonably comprehensive information on all of the above. A similar classification method should be used as in with budgetary expenditures unless the nature of the expenditure delivery is significantly different in which case it can be estimated on a case by case basis.

4.3 Identifying the Financing Gaps

The public expenditure reviews will determine current levels of expenditure as well as project future expenditures according to a number of parameters, thus creating different scenarios. The Intended Nationally Determined Contributions (INDCs), the Low-Emission Development Strategy and NAMAs provide instead an estimate of future investment requirements in climate. With respect to biodiversity, it is required to cost the actions of the National Biodiversity Strategy and Action Plan (NBSAP) to come to similar conclusions.The difference between projected expenditures and the costing of the above mentioned national strategies will provide an indicative resource gap to guide resource mobilization efforts. A similar framework could also be refined to estimate future costs of meeting the SDG1, but additional information and background research is required to define the relevant financing gap.

4.4 Drafting a finance plan that capitalize on innovative and diverse solutions

Whilst the CPEIR methodology has focused on identifying the baseline of investment Climate Change Financing Frameworks which have been developed following CPEIRs in Indonesia and Cambodia for example have also implemented methodologies for the identification of potential sources of funding.[3] Therefore the BIOFIN and CPEIR work in Cambodia methodology will both be used to guide the approach in Bhutan.

Through the BIOFIN Workbook, planners review all of the costable action units identified in Workbook 2, and then identify potential political opportunities, potential finance opportunities, potential finance actors, potential finance mechanisms, potential annual revenue and/or potential cost savings, as well as priority next steps.

The BIOFIN excel spreadsheet reorganizes information into an action plan template, organized by both prioritized actions, and by prioritized finance mechanisms. This section requires planners to identify whether or not the mechanism is feasible, and identify a timeline for deployment. It also requires planners to think through key implications for implementing the finance mechanism, including identifying the responsible actors, social, economic and political implications, start-up and ongoing costs, staffing and capacity implications, and potential safeguards required.

The data collected helps planners identify and prioritize key political and financial opportunities for increasing finance for each of the strategies and actions in the NBSAP.

Upon completing of the spreadsheet, planners will be able to identify a) a prioritized list and analysis of finance mechanisms; b) a summary analysis of the potential revenue to be generated (or costs to be avoided) by new finance mechanisms; c) a summary of key implications for implementing new finance mechanisms; d) the basic elements of a resource mobilization plan, including timelines, key actors, next steps.

Through institutional, policies and expenditure reviews, synergies with other national and international initiatives on financing and funding streams will be explored for the 12th Plan, including exploring additional revenue streams, coordination with bilateral and multilateral donors, engagement private sector, and local funding partners. This single resource mobilization strategy initially targeted for the 12th Plan and three priority SDGs will help steer the country's socio-economic development. In particular, the strategy will focus on, but not limiting to;

- Policy and institutional coherence in public spending
- Addressing systemic issues in financing
- Assessing the financing gaps
- Diversifying among financing instruments
- Enhancing domestic public resources
- International trade and development

[3] See http://climatefinance-developmenteffectiveness.org/sites/default/files/documents/10_02_15/Cambodia_CCFF_Summary_as_27Oct2014_for_CRBWS.pdf and http://climatefinance-developmenteffectiveness.org/sites/default/files/documents/03_02_15/Indonesia_MFF_report.pdf

5. Roadmap with Implementation Timelines

5.1 Inception Phase (Up to June 2016)

During the **Inception Phase** a Project Steering Committee and a Technical Working Group comprising of high-level and key biodiversity/climate finance stakeholders are established to further guide the formation of the National Team. Once operational, the National Team carries out a first review of the national context, outlining available information, identifying cooperation modalities with related initiatives and organising the inception workshop, a first introduction to a wider group of stakeholders and a first moment of active engagement, with the underlying purpose to start building a national vision on biodiversity finance.

5.2 Recruitment of experts/consultants (July 2016 to March 2017)

A Project Team Leader, preferably Senior Finance Expert will be recruited by early June to provide overall technical guidance and project leadership at the national level. The Project Lead will work in close collaboration with the National Project Coordinator, the entire National BIOFIN Team, UNDP CO and the global BIOFIN Team to assure the high quality delivery of all reports and outcomes of BIOFIN. In addition, depending on the needs and recommendations of the PSC and TWG, following experts/consultants may be recruited to help various processes;

1. Policy and Institutional Expert
2. Environmental Finance Expert
3. Finance/Budget Specialist

The recruitment of the Project Team Leader will have to be done prior to the Inception and Methodological Workshop (see below). Other experts can be recruited on need basis and throughout the process as new insights from the integrated approach will demand.

5.3 Launch and Inception Workshop (July 2016)

To gain political support and stakeholder partnerships, a Minister (Finance or Agriculture) will launch the Bhutan BIOFIN and the Integrated approach at a high level event. This will be followed by the Inception Workshop which will discuss the refinement of the Integrated PEIR methodology. The Workshop will capture initial national level baseline information on biodiversity finance, describe recommendations from stakeholders made through the inception workshop, highlight adjustments made in national implementation arrangements and provide preliminary analysis for entry points to advance biodiversity finance in the country. The integrated PEIR will also cover the development of policy and the extent to which stakeholders are consulted, as this can influence subsequent implementation.

5.4 Methodological Workshop (December 2016)

Based on the recommendations of the Inception Workshop, Methodological Workshop will be organised by the Technical Advisory Group under the leadership of the Steering Committee. The purpose of the workshop is to enable the government officials to fully understand the methodology, data and documentation requirement. The workshop will also allow the PEIR consultancy team to obtain reference documents, information and knowledge regarding current policies, budgetary processes at both national and local level, and establish a list of interviewees. The list of interviewees will include key focal points with knowledge of gender, poverty and/or social issues, including consultations with affected communities.

5.5 Integrating biodiversity and ecosystem services and climate including poverty interface in sectoral and development policy, planning and budgeting (2016 Q3, Q4)

This first range of work will enable Bhutan to analyse current policies, institutions and expenditures affecting biodiversity and ecosystem services and climate both positively and negatively, in order to evaluate their impact and effectiveness, and to understand key opportunities for mainstreaming, for example, through the removal of perverse incentives. The methodology will combine the steps presented in the CPEIR Methodological Guidebook and the BIOFIN Workbook highlighting the overlaps and distilling the salient features in the individual methods. It will help Bhutan to establish a firm baseline of current biodiversity and climate expenditure levels and projections, while reviewing the underlying institutional and policy framework that directs expenditures from public, private, national and international source. Decades of development experience have taught us that it is important to mainstream biodiversity into national development plans, as well as into the policy, planning and financing frameworks of other key sectors. In the recent past there has been an accelerated focus on climate change and its impacts. It consists of 2 separate but interrelated activities:

I. **Policy Framework and Institutional Review (PIR) –** The latest basis for biodiversity and climate policies for Bhutan are the NBSAP and INDC (see annex 1 for potential synergies). The first step will include identifying the existing national vision and key trends for biodiversity and climate change linking them to sustainable development (specifically poverty), mapping sectoral interactions with biodiversity, ecosystems and ecosystem services, and climate change. The Review will then help to create a preliminary inventory of existing financing mechanisms used for biodiversity and climate and look into how existing subsidies affect biodiversity and climate, followed by an analysis of the main drivers of biodiversity loss, identifying relevant stakeholders and their specific mandates related to NBSAP, as well as institutional arrangements. Policy recommendations, particularly on harmful subsidies and other incentives that contribute to continued biodiversity loss and climate change impacts, can be incorporated in the NBSAP and climate change policies. Stakeholder engagement is ensured through a consultation workshop in the early stages and a validation workshop at the end to discuss the complete findings and recommendations.

II. **A Biodiversity and Climate Expenditure Review (BER) –** The expenditure review is based on the institutions identified under the PIR. For each relevant finance actor, both national and international, public and private, budget and expenditure data are collected for the past 5-7 years, identifying biodiversity and climate relevant budgets. For each main expenditure the percentage that can be attributed to biodiversity needs to be identified. The expenditures and their outcomes need to be briefly described and where possible tagged with the national budget code, indicating whether these are a one-time or recurring expenditures. Based on these figures, projections are developed for future expenditures, while harmful subsidies and biodiversity generated revenue are assessed more in detail. At the end the amounts are aggregated to produce multiple national biodiversity expenditure figures. The final report should provide very specific recommendations on (i) possible re-alignment of expenditures; (ii) identification of available sources of financing; and (iii) improvement of processes towards estimation of biodiversity expenditures. Stakeholder engagement is ensured through a consultation workshop in the early stages and a validation workshop at the end to discuss the complete findings and recommendations.

5.6 Assessing the financing needs for the management and conservation of biodiversity and ecosystem services and climate (2017):

This will involve an estimation of the financial needs for biodiversity management across all sectors of government, NGOs and the private sector. It primarily consists of a bottom-up financing needs assessment, developing projections of the costs required to reach a country's national biodiversity goals and climate strategies and successfully implement all activities of the National Biodiversity Strategy's Action Plan and INDC. BIOFIN Global will develop and pilot a workbook tool that enables countries to find answers to several fundamental questions in this regard, including: (a) what are the cost coefficients for the delivery of basic biodiversity management and climate functions against which cost-effectiveness can be assessed? What opportunities and barriers exist to improved cost-effectiveness? (b) How much would it cost to remove the above barriers? What other options are available? What are the costs of inaction? (c) What financing is hence required at a national level to meet national targets set in terms of the global biodiversity targets adopted under the new CBD Strategic Plan for the period 2011-2020 and the INDC? To address these questions in a comprehensive and rigorous manner, costed action plans will be developed for addressing the gaps and barriers, building on the pilot countries' development of their new NBSAPs and Climate policies, and providing useful data for use in the context of the CBD's Resource Mobilization Strategy. This starts out by reviewing which actions in the NBSAP and INDC, and other major policies require to be costed. For each of these costable actions specific cost elements and units are calculated. The cumulative figure represents the national finance needs for biodiversity and climate, and is compared with existing expenditure levels to measure the national biodiversity and climate finance gap. Stakeholder engagement is ensured through a consultation workshop in the early stages and a validation workshop at the end to discuss the complete findings and final recommendations.

5.7 Developing a Finance Plan including a vision for the future sustainable management of biodiversity and addressing climate, reviewing past expenditures and financing needs, and identifying and prioritising a wide range of financing solutions (2017):

Under this component, a national roadmap/plan is developed for future financing of biodiversity and climate, addressing all possible dimensions of finance, including additional resource mobilisation, improving effectiveness of expenditures, avoiding future expenditures and re-aligning expenditures towards biodiversity goals. The national experts will work closely with the global team to review a wide range of possible finance solutions, and establish an agreed upon approach to prioritise based on a variety of characteristics of each solution, including the financing potential, the legal context and socio-economic/gender impacts, while mapping barriers that currently prevent further financing. For a selected number of the most promising financing mechanisms a more detailed feasibility study will be carried out. A large national workshop involving a wide variety of stakeholders should be organised as a key element of the consultation process followed by a smaller workshop planned at the end to validate the strategy and its recommendations.

5.8 Initiate implementation of the Finance Plan at national level (2018)

Under this final component, the project will help to kick start the implement one or more priority components of the finance plan. Based on the process to develop the finance plan, the national BIOFIN team will prepare one or more proposals and submit these for review by the global team. The selected activities can include a wide range of finance-related areas, including the provision of technical or advocacy support for developing laws and regulations, revising taxes and fees, the identification of

legal thresholds, removal or reduction of biodiversity harmful incentives, certification processes, public-private-partnerships, voluntary agreements, awareness raising campaigns, behaviour change through education and training measures etc. For this component additional experts are to be recruited depending on the proposed activities.

6. Annexes

6.1 Global Biodiversity Targets and Bhutan's NBSAP (Biodiversity) targets

Global Biodiversity Aichi Targets			**Bhutan Biodiversity Targets 2020**
	By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.		By 2018, at least 60 percent of the population is aware of values of biodiversity and steps they can take to conserve and use it sustainably.
	By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.		By 2018, establish national capacity for valuation of biodiversity and ecosystem services to integrate into national development planning and policy making process & national accounting system, as appropriate
	By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.		By 2020 incentives harmful to biodiversity are reformed and positive incentives are enhanced.
	By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.		By 2020, relevant stakeholders adopt the principles of sustainable production and consumption of natural resources and have kept the impacts of use of natural resources well within safe ecological limits.
	By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.		By 2018, high-biodiversity value habitats are mapped, the rate of losses is accounted, trends monitored and overall loss and fragmentation reduced.
	By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.		By 2020, baseline for fish and key aquatic biodiversity established for implementation of sustainable management plans, as appropriate.
	By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.		Areas under agriculture and forestry are managed through the adoption of sustainable management practices, ensuring conservation of biological diversity.
	By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.		By 2020, pollution from different sources, including from use of fertilizers and agro-chemicals affecting biodiversity and ecosystem functions are maintained within the national environmental standards.
	By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.		By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
	By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.		By 2020, potential impacts of climate change on vulnerable ecosystems identified and adaptation measures strengthened

	By 2020, at least 17 per cent of terrestrial & inland water, and 10 per cent of coastal & marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative & well connected systems of protected areas & other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.		Maintain the current Protected Area System with enhanced management effectiveness and financial sustainability.
	By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.		By 2020, the information on conservation status of prioritized taxonomic groups available and actions are taken to improve the status of prioritized species.
	By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.		By 2018 genetic diversity of key cultivated plants and domesticated animals, including that of crop wild relatives are documented and conserved.
	By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.		By 2020, key ecosystems and ecosystem services are identified, assessed and safeguarded for human well-being.
	By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.		By 2020, priority degraded ecosystems and habitats are identified and rehabilitated.
	By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.		By 2015, the Nagoya protocol is implemented through Access and Benefit Sharing legislative, administrative and institutional frameworks, which are consistent with the Nagoya Protocol.
	By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.		By 2015, revised National Biodiversity Strategy and Action Plan (NBSAP) adopted for implementation as a national guiding document for conservation and sustainable use of biodiversity.
	By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.		By 2020, Traditional Knowledge and customary practices of communities, relevant to biodiversity conservation and sustainable use are documented and used, and where appropriate revived and protected.
	By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.		By 2020, science-based knowledge and technologies related to biodiversity are improved, made accessible and applied, where appropriate.
	By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, & in accordance with the consolidated & agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.		By 2016, funding requirement for implementation of NBSAP identified and funds mobilized.

6.2 Bhutan's Intended Nationally Determined Contribution to UNFCCC

Mitigation Strategies

1. Sustainable forest management and conservation of biodiversity to ensure sustained environmental services through:
    - Sustainable management of forest management units (FMUs), protected areas, community forests, forest areas outside FMUs, and private forests
    - Enhancing forest information and monitoring infrastructure through national forest inventories and carbon stock assessments
    - Forest fire management and rehabilitation of degraded and barren forest lands
2. Promotion of low carbon transport system by:
    - Improving mass transit and demand side management of personal modes of transport
    - Exploring alternative modes of transport to road transport such as rail, water and gravity ropeways
    - Improving efficiency in freight transport
    - Promoting non-motorized transport and non-fossil fuel powered transport such as electric and fuel cell vehicles
    - Improving efficiency and emissions from existing vehicles through standards and capacity building
    - Promoting use of appropriate intelligent transport systems
3. Minimize GHG emission through application of zero waste concept and sustainable waste management practices:
    - Enhancement of the three R principles including the conversion of waste to resources
    - Improving the current system and infrastructure for waste management
4. Promote a green and self-reliant economy towards carbon neutral and sustainable development through:
    - Improvement of manufacturing processes in existing industries through investments and adoption of cleaner technology, energy efficiency and environmental management
    - Enhance and strengthen environmental compliance monitoring system
    - Promote investment in new industries that are at higher levels in the value chain, and green industries and services.
    - Promote industrial estate development and management in line with efficient, clean and green industry development objectives
5. Promote clean renewable energy generation:
    - Pursue sustainable and clean hydropower development with support from CDM or other climate market mechanisms to reduce emissions within Bhutan and the region by exporting surplus electricity

6. Promote climate smart livestock farming practices to contribute towards poverty alleviation and self-sufficiency through:
    - Organic livestock farming and eco-friendly farm designs • Improvement of livestock breeds, including conservation of native genetic gene pool/diversity
    - Expansion of biogas production with stall feeding
    - Agro-forestry or agro-silvo pastoral systems for fodder production
7. Promote climate smart agriculture to contribute towards achieving food and nutrition security through:
    - Organic farming and conservation agriculture
    - Development and promotion of sustainable agricultural practices

- Integration of sustainable soil and land management technologies and approaches

8. Energy demand side management by promoting energy efficiency in appliances, buildings and industrial processes and technologies.
9. Integration of low emission strategies in urban and rural settlements through green buildings, sustainable construction methods and climate smart cities.

Adaptation Strategies

1. Increase resilience to the impacts of climate change on water security through Integrated Water Resource Management (IWRM) approaches including: •
    - Water resources monitoring, assessment, and mapping Adoption and diffusion of appropriate technologies for water harvesting and efficient use
    - Climate proofing water distribution systems
    - Integrated watershed and wetland management
2. Promote climate resilient agriculture to contribute towards achieving food and nutrition security through:
    - Developing and introducing climate resilient crop varieties and conservation of plant genetic resources
    - Developing and institutionalizing surveillance of crop pests and diseases
    - Enhancement of national capacity to develop and implement emergency response to agricultural pest and disease outbreaks/epidemics
    - Establishment of cold storage facilities at sub-national regions
    - Improving and increasing investment in irrigation systems and management
    - Initiating crop insurance programs against climate induced extremes
    - Promotion of sustainable soil and land management technologies and approaches
3. Sustainable forest management and conservation of biodiversity to ensure sustained environmental services through:
    - Sustainable management of forest management units (FMUs), protected areas, community forests, forest areas outside FMUs, and private forests
4. Strengthen resilience to climate change induced hazards through:
    - Improved monitoring and detection of hydromet extremes using remote sensing and satellite-based technologies and approaches
    - Continual assessment of potentially dangerous glacial lakes and improvement of early warning system for GLOFs
    - Develop a monitoring, assessment, and warning systems for flash flood and landslide hazards and risks
    - Forest fire risk assessment and management
    - Assessment and management of risk and damage from windstorms on agricultural crops and human settlements.
    - Enhancement of emergency medical services and public health management to respond to climate change induced disasters
    - Enhancing preparedness and response to climate change induced disasters at the national and local levels
5. Minimize climate-related health risks through:
    - Strengthening integrated risk monitoring and early warning systems and response for climate sensitive diseases
    - Promotion of climate resilient household water supply and sanitation
6. Climate proof transport infrastructure against landslides and flash floods, particularly for critical roads, bridges, tunnel and trails

7. Promote climate resilient livestock farming practices to contribute towards poverty alleviation and self-sufficiency through:
    - Climate change resilient farm designs and practices
    - Livestock insurance against climate induced extremes
8. Enhancing climate information services for vulnerability and adaptation assessment and planning through:
    - Improvement of hydro meteorological network and weather and flood forecasting to adequate levels of temporal and spatial scales
    - Development of climate change scenarios for Bhutan with appropriate resolution for mountainous situation
9. Promote clean renewable and climate resilient energy generation by:
    - Diversifying energy supply mix through promotion of renewable energy (solar, wind, small hydro, biomass) other than large hydro and creating investment opportunities
    - Ensuring energy security during the lean dry season through water storage and reservoirs
    - Protecting catchment areas for hydropower through watershed and sustainable land management approaches
10. Integrate climate resilient and low emission strategies in urban and rural settlements through:
    - Promotion of climate smart cities
    - Improvement of storm water management and sewer systems
    - Environmental management and safeguards of development activities