



Strengthening institutional and technical capacities for enhanced transparency in implementation and monitoring of Bhutan's Nationally Determined Contribution (NDC)

Part I: Project Information

GEF ID

10669

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **Yes**

NGI **No**

Project Title

Strengthening institutional and technical capacities for enhanced transparency in implementation and monitoring of Bhutan's Nationally Determined Contribution (NDC)

Countries

Bhutan

Agency(ies)

FAO

Other Executing Partner(s)

National Environment Commission (NEC)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Capacity Building Initiative for Transparency, United Nations Framework Convention on Climate Change, Climate Change, Focal Areas, Climate Change Mitigation, Financing, Nationally Determined Contribution,

Climate Change Adaptation, Climate finance, Influencing models, Strengthen institutional capacity and decision-making, Stakeholders, Type of Engagement, Partnership, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Learning, Adaptive management, Capacity Development

Sector

Mixed & Others

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

9/15/2020

Expected Implementation Start

3/1/2022

Expected Completion Date

2/28/2025

Duration

36In Months

Agency Fee(\$)

168,766.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-3-8	Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through the Capacity Building Initiative for Transparency	GET	1,776,484.00	1,895,600.00
Total Project Cost(\$)			1,776,484.00	1,895,600.00

B. Project description summary

Project Objective

By 2024, Bhutan is submitting reports consistent with the requirements of the Paris Agreement’s Enhanced Transparency Framework (ETF), including more up-to-date inventories of emission sources and sinks using advanced IPCC guidance and information necessary to track progress against priority actions identified in Bhutan’s NDC.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 1. Enhancing institutional frameworks, knowledge and capacities for the preparation, reporting and use of transparency information	Technical Assistance	<p>Outcome 1.1</p> <p>Strengthened institutional frameworks to enable the preparation and reporting of transparency information.</p> <p>Outcome 1.2</p> <p>Strengthened knowledge and capacities for the generation and use of transparency information in policy processes.</p>	<p>Output 1.1.1:</p> <p>Institutional arrangements and procedures reviewed and formalized, including for NDC tracking (mitigation and adaptation), GHG inventory and climate financing support.</p> <p>Output 1.1.2:</p> <p>Partnerships with key research and training institute(s) identified and established to support capacity building and knowledge creation on a continuous basis.</p> <p>Output 1.1.3:</p> <p>National Environment Information Management System (EIMS) and sectoral information systems upgraded in line with ETF requirements, including alignment between various sector information systems.</p> <p>Output 1.2.1:</p> <p>Priority areas of the LEDS/LTS[1] and other policy processes supported through the use of data and information generated under Components 1 and 2.</p> <p>Output 1.2.2:</p> <p>Gender data and information generated, analysed and framework to mainstream gender aspects into ETF reporting and future NDC updates developed.</p>	GET	834,836.00	805,600.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 2. Establishing system to monitor and report on NDC mitigation targets, including strengthening of MRV system	Technical Assistance	<p>Outcome 2.1</p> <p>System in place to monitor and report on NDC mitigation targets and support continuous improvements to GHG[1] inventories and data quality.</p> <p>[1] Greenhouse gas.</p>	<p>Output 2.1.1:</p> <p>Gaps in the GHG inventory report identified, including identifying new sources of emissions, data collection mechanisms that need to be established, and country-specific emission factors.</p> <p>Output 2.1.2:</p> <p>Sector specific inventory guidelines and protocols developed, including national level emission factors for selected sector(s).</p> <p>Output 2.1.3:</p> <p>System established to track implementation and progress in achieving NDC mitigation targets.</p> <p>Output 2.1.4:</p> <p>Relevant institutions and stakeholders trained on the inventory guidelines and protocols, and on the NDC tracking system, in view of the preparation of ETF reports.</p> <p>Output 2.1.5:</p> <p>Data collected by national and local stakeholders from public and private sectors in preparation of the biennial transparency report (BTR).</p>	GE T	593,050.00	183,273.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Component 3. Strengthening capacity to monitor and report on NDC adaptation actions.	Technical Assistance	Outcome 3.1 Technical capacities for monitoring and reporting progress in the implementation of NDC adaptation actions developed.	Output 3.1.1: Framework and indicators for monitoring and reporting on NDC priority adaptation actions under the ETF developed in line with the NAP[1] process. Output 3.1.2: Relevant institutions trained on monitoring and reporting on NDC priority adaptation actions, in view of the preparation of ETF reports consistent with latest UNFCCC guidance.	GET	88,050.00	614,400.00
Monitoring & Evaluation (M&E)		Outcome: Project monitoring and evaluation	Outputs: Project M&E is conducted regularly including mid-term and final evaluations?	GET	99,050.00	100,000.00
Sub Total (\$)					1,614,986.00	1,703,273.00
Project Management Cost (PMC)						
GET			161,498.00		192,327.00	
Sub Total(\$)			161,498.00		192,327.00	
Total Project Cost(\$)			1,776,484.00		1,895,600.00	

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	National Environment Commission (NEC)	In-kind	Recurrent expenditures	345,600.00
Donor Agency	Green Climate Fund (GCF) via NEC	Grant	Investment mobilized	1,500,000.00
GEF Agency	Food and Agriculture Organization of the United Nations (FAO)	In-kind	Recurrent expenditures	50,000.00
Total Co-Financing(\$)				1,895,600.00

Describe how any "Investment Mobilized" was identified

The investment mobilized was identified during the project preparation phase (May-September 2021) through consultations with partners and key stakeholders. It includes namely, USD 1.5 million in financing from the GCF-funded National Adaptation Plan (NAP) project. This amount does not include any recurrent expenditures. The co-financing under "recurrent expenditures" includes USD 345,600 in in-kind co-financing in staff and Project Management Costs related to NEC's and other government agencies' involvement in the project, including provision of office space.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Bhutan	Climate Change	CBIT Set-Aside	1,776,484	168,766	1,945,250.00
Total Grant Resources(\$)					1,776,484.00	168,766.00	1,945,250.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)
PPG Required **true**

PPG Amount (\$)
50,000

PPG Agency Fee (\$)
4,750

Agenc y	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Bhutan	Climate Change	CBIT Set-Aside	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	60	60		
Male	140	140		
Total	200	200	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

- ?1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

A. Background

1. *Geography and territory:* Bhutan is a landlocked country bordered with China in the north and India surrounds the remaining borders. The country has a total area of 38,394 km² and 70.46% of the area is forested.[1]¹ The geographical feature of Bhutan is mountainous lying on the slopes of eastern Himalaya. Geopolitically located in South Asia, the country is characterised with rugged mountains, glaciers and moraines, deep valleys, ravines, waterbodies, drainage basins, and waterfalls. The southern plain is the extension of the Bengal-Assam plains of India, with the Duar plains referred to as the northern plain of Bengal-Assam, extending 12 to 16 kilometres into Bhutan's territory. The inner part of Bhutan or middle ranges from watersheds between the principal rivers. These ranges extend from northwest to southeast in western Bhutan and northwest to southwest in eastern Bhutan. The northern frontier of Bhutan lays the chains of high peaks, with Kula Kangri as the principal summit (7,497 meters).

2. *Climate:* Climate in Bhutan differs substantially across the geographical zones determined by topography, altitude, and elevation. The southern plain, at the foothills of the Himalayas, is influenced by subtropical climate with heavy rain and high humidity. It is influenced by monsoon with 70% of precipitation falling during the summer (June-September). This zone is at the altitude of 200-2,000 meters and has temperatures of around 15 to 30 degree Celsius all year round. The central valleys possess hot summer and cold winter. This region ranges from 2,000 to 4,000 meters in altitude and is characterized by temperatures of 15 to 26 degree Celsius during the monsoon season (June through September) and -4 to 15 degree Celsius in the winter season. The mountainous Himalaya is described by severe winter and cool summer.

3. *Demography:* Bhutan's population is estimated at 727,145 in 2017 with a population density of 19 persons per km², making the country one of the least populated countries in Asia.[2]² Although the country has vast natural resources available such as forests, rapid urbanization and limited land available to support such increase are one of problems faced by the country. The country has made sustainable development a priority, in line with its philosophy of 'Gross National Happiness'. Bhutan opened up to the world for international visitors in the 1970s, and tourism in the country is founded on the principle of high-value, low-volume.

4. *Agriculture:* Due to its geographical features, Bhutan has limited arable land. Cultivated agricultural land and meadows account for 2.9% and 4.1% respectively. Nevertheless, agriculture is the

dominant sector in Bhutan providing livelihood, income and employment to 69% of the population.[3]³ Agriculture, livestock rearing, and forestry accounted for 17.37% of GDP in 2017.[4]⁴ Agriculture in Bhutan commonly applies subsistence farming encompassing 1-4 acre (0.4-1.6 hectares) of landholding in average. Main commodities of the country are cereal produce such as maize, buckwheat, and rice. Despite a large diversity of carbohydrate options, rice remains the highest of preference among Bhutanese.

5. Having a unique landscape, farming system in Bhutan varies greatly depending on the topography, agroecological zone (AEZ), and variety of crops produced in the country. For instance, strip cropping is applied following the topography of a landscape. In some cases, agroforestry is carried out in purpose of producing crop yield and providing fodder for livestock. Various approaches in agriculture have been implemented to align with the sustainability principle such as climate-smart agriculture (CSA), sustainable land management (SLM) technologies and organic agriculture. However, the country faces challenges to cope with the climate variability due to a lack of climate monitoring and advisories capacities. These restrict the country to fully predict the threats, impacts and possible solutions to better manage agricultural production, such as understanding the pest and disease cycle, crop sowing and crop yield stability. Some factors that have direct impacts include the loss of land fertility due to erosion and runoff, erratic rainfall, and landslide. Other challenges faced by the sector for planning and investment in agriculture include limited capacities at the institution level especially in commercial marketing, rural infrastructure, farm input supply, post-harvest services, research and extension support, road infrastructure, and policy and planning issues. Encroachment of agriculture lands by infrastructure development and crop depredation by wild animals are also considered as main factors that hamper productivity and food security.

6. *Biodiversity and Forests:* Bhutan's biodiversity includes 300 species of medicinal and aromatic plants including 105 endemic species, 46 species of Rhododendrons, and 200 species of mammals. Twenty-seven mammals are globally threatened, including the Snow Leopard, Bengal Tiger, Takin, and Asian Elephant.[5]⁵ The protected area system in the country is more popularly known as the Bhutan Biological Conservation Complex (B2C2). In a nutshell, the conservational landscape comprises of all protected areas (including buffer zones) and its connecting biological corridors. Presently, there are five national parks, four wildlife sanctuaries, one nature reserve and nine biological corridors. The B2C2 covers almost 20,000 sq km which corresponds to 51.32% of the country's area. The protected area management system in Bhutan permits humans to co-exist with nature through different zonations and considers people's participation as one of the key components for sustainable management of protected areas in the country.

7. *Energy:* Energy is one of the main drivers of Bhutan's economy. The country's terrain enables large-scale generation of hydropower, the main source of energy in the country. Hydropower accounts for a third of Bhutan's exports, primarily to neighbouring India.[6]⁶ The availability of fast-flowing rivers and the abundance of sunshine, biomass, wind etc. offer tremendous opportunities for hydropower and renewable energy development. Bhutan has one of the largest repositories of

hydropower in Asia with a theoretical potential of 30,000 MW. The total installed electricity-generating capacity in Bhutan as of 2019 is 2,335 MW. About 70% of the electricity is exported to India[7]⁷; however, during the lean season (winter months), power is imported from India. Other sources of energy constitute coal, biomass, fossil fuels and other renewable energy sources. Biomass from the forest is still widely used for space heating and fodder cooking in rural areas. The hydropower sector depends on the flow of the rivers, making it susceptible to the impacts of climate change.[8]⁸

8. *Land degradation:* The main causes of land degradation in Bhutan have been identified as forest fires, excessive use of forest resources, overgrazing, unsustainable agricultural practices, poor irrigation management system, infrastructure development without proper environmental measures, mining, industrial development, and urbanization. Bhutan's per capita fuel wood consumption is one of the highest in the world. Forest management units (FMU) have been established to ensure sustainable timber harvesting based on management plans that take account of growing stock and annual harvest.[9]⁹ Another important cause of land degradation is loss of topsoil due to soil erosion. Studies suggest carbon flux of 0.84 tC ha⁻¹ y⁻¹ in arable land that negatively impacts the environment and contributes to climate change.[10]¹⁰

B. Climate Change Impacts

9. Climate projections for Bhutan indicate increases in temperature and monsoonal rainfall, as well as extreme temperatures and increasing frequencies of extreme rainfall. Changes in the seasonal distribution are also projected, with a decrease in winter and an increase in monsoon rainfall. Observations show that annual average temperatures have been increasing between 1996 and 2018 and are expected to continue to increase. IPCC's fifth assessment report states that over the mid-term (2046-2065), an increase of 2-4°C is projected for the South Asia region with the warmest temperatures concentrated in amongst others Bhutan. Mean annual temperature in Bhutan is expected to increase by 0.8-1.0°C before 2039 and by 2.0-2.4°C before 2069. Rainfall, as the basis for water resources for agriculture during the winter to summer period, is becoming scarcer. In the future, mean annual precipitation in Bhutan is projected to increase by ~6% in the 2010-2039 period, with an increasing amount of rainfall during the monsoon season. The upward trend and projected increase for monsoon rainfall are significantly more pronounced when compared to winter and annual rainfall trends, indicating that the majority of the increased precipitation will occur during the monsoon season.[11]¹¹

10. These changes are expected to lead to an increase in the occurrence and magnitude of extreme events such as windstorms, flash floods and landslides. In addition, increasing temperatures lead to the formation of supra-glacial lakes due to the accelerated retreat of glaciers, resulting in high risks of Glacial Lake Outburst Floods (GLOF), to more frequent outbreaks of pests and diseases, drying up of water sources, shift in vegetation and increasing forest fire outbreaks.

11. Bhutan's mostly rainfed agriculture is also impacted by climate change. Observed changes are already affecting water availability and agricultural productivity for smallholders. Increasing temperatures and declining rainfall and longer dry periods contribute to crop failures and/or decreased yields, as well as more land being left fallow. Only 18% of the arable area is under assured irrigation and the remaining is dependent on monsoon rains, with total crop production therefore almost entirely dependent on rainfall variability. In 2007, Gray Leaf Spot disease in maize caused a maize harvest loss of over 50% for farmers above 1800m, and in 1996 farmers in high altitude areas lost between 80-90% of rice to rice blast epidemic. These diseases were recorded for the first time in high altitude areas, which is attributed to unprecedented favourable conditions triggered by increases in seasonal temperatures and humidity.[12]¹²

12. Furthermore, Bhutan's forests and biodiversity are expected to be impacted by climate change. Bhutan's forests are vulnerable to moisture stress, rising temperatures, and human disturbances which could lead to habitat loss for important plant species like *Taxus*, *Magnolia*, *Tetracentron* and endangered bird species such as hornbills. Other threats to biodiversity that could be exacerbated due to climate change include loss of agrobiodiversity, invasive alien species (IAS), forest fires and bio-cultural loss.[13]¹³ Finally, the significant role that hydropower plays in the overall economic development of the country increases its exposure to climate change and its vulnerability.

C. Greenhouse Gas (GHG) Emissions and Sinks

13. According to the second national GHG inventory and third national GHG inventory, Bhutan is and continues to be a net sink for greenhouse gases due to its significant forest cover and low level of economic activities. According to Bhutan's Third National Communication (2020), the total GHG emissions for 2015 are estimated at 3,814.09 Gg of CO₂ equivalent including the emissions from forestry and other land uses and excluding removals by forest. This represents a 120.75% increase from the 1994 level and a 0.92% increase from the 2000 level. However, this figure is dwarfed by the carbon sequestration capacity of Bhutan, estimated at 9,386.59 Gg of CO₂e, which is the total sink capacity of Bhutan's forest. These removals from forestry activities are showing an increase of 2.47% and 4.57% from the years 2000 and 1994, respectively. Removals from non-forest lands are not estimated in the inventory due to lack of data. The total national net emissions for Bhutan are, therefore, estimated at 5,572.50 Gg (or 5.57 million tonnes) of CO₂e for inventory year 2015, which is the net balance carbon budget of the country. This represents a decrease of 23.11% from 1994 levels and an increase of 3.55% from 2000 levels.[14]¹⁴

14. In general, emissions and removals from all sectors increased in 2015 compared to the base year. Figure 1 shows the percentage contribution of each of the GHG inventory sectors as per the third national GHG inventory. Agriculture, Forestry, and Other Land Use (AFOLU) (without removals) accounts for 57.24% of national emissions (of which 42.75% from LULUCF[15]¹⁵ and 14.5% from Agriculture), followed by Industrial Processes and Product Use (IPPU) 20.88%, Energy 18.56% and Waste 3.32%. Bhutan's national net emission has remained almost constant over the period, with inter-annual fluctuations at an aggregated level below 20%. Within the LULUCF sector, emission from

forest (wood removal, fuelwood and disturbance) accounts to 73.9%; non-CO₂ emission from biomass burning in forest land represents 13.6%; and emission from deforestation (conversion of forest land to cropland, grassland, settlements and other land) accounts to 12.5% in 2015. In the agriculture and livestock sector, the majority of emissions were from livestock, with enteric fermentation representing 63%. In comparison, manure management contributed only 7.41%, and rice cultivation 9.58% of the sector's emissions. N₂O emission from managed soils and manure management accounted for 18.62% and 1.15% respectively.

Please see separate uploaded document

Figure 1: GHG Emissions and Sequestration (1994-2015) (Gg of CO₂e) (*Source: Third National Communication*)

15. Although Bhutan's national net emissions have remained almost constant, emissions from energy and industrial processes and product use are showing a rapidly increasing trend. According to the first NDC, during the period 2000-2013, emissions from the energy sector increased by 191.6% from 0.270 to 0.79 million tons of CO₂e. During the same period, emissions from industrial processes increased by 154.3% from 0.24 to 0.6 million tons of CO₂e. Emissions from waste management also increased by 247.54% from 0.047 to 0.16 million tons of CO₂e. As shown in Figure 2, percentage contribution of energy, waste and IPPU sectors increased while the contribution of the LULUCF has been fluctuating based on the sector's level of activities. Percentage contribution from the agriculture sector has been decreasing gradually over the same period. This pattern indicates that emissions associated with development and industrialization increased over time while the emissions associated with subsistence agriculture and livestock remained relatively stable.

Please see separate uploaded document

Figure 2: Sectoral % contribution of GHG emissions to national net emissions excluding removals by forest (1994, 2000 & 2015) (*Source: Third National Communication*)

16. As explained in the Third National Communication (TNC), in the High Economic Growth (HG) scenario, Bhutan's carbon neutrality pledge is at risk. Energy (Transport, Industry and Air Transport), IPPU (heavy industries) and Waste sectors heavily contribute to GHG emissions. The TNC outlines mitigation options that would ensure that Bhutan remains carbon-neutral until 2050. The estimated GHG mitigation potentials are highest for the IPPU sector, followed by the AFOLU and Waste sectors. Additionally, the NDC highlighted that Bhutan has the potential to offset up to 22.4 million tons of CO₂e per year by 2025 through the export of electricity from clean hydropower projects.^{[16]¹⁶}

17. Bhutan's Nationally Determined Contribution (NDC) under the Paris Agreement sets forth a clear framework for action to address both the impacts and drivers of climate change. Under its first and second NDC, Bhutan has committed to remaining carbon neutral. Meeting this commitment will require strengthened monitoring and reporting systems and processes pursuant to the requirements of the Enhanced Transparency Framework (ETF).

D. Enhanced Transparency Framework (ETF)

18. The Paris Agreement was adopted at the 21st Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in December 2015 and entered into force on 4 November 2016. The landmark agreement aims to strengthen the global response to the threat of climate change by limiting a global temperature rise in the 21st century to a maximum of 2°C above pre-industrial levels and to try to limit the temperature increase to 1.5°C. Additionally, the Paris Agreement aims to strengthen the ability of countries to respond and adapt to climate change. The agreement requires all parties to communicate associated national commitments via Nationally Determined Contributions (NDCs). A country's NDC establishes targets for sector-specific greenhouse gas (GHG) emissions and sinks, as well as intended efforts to achieve those targets. NDCs are submitted at least 5 years prior to the start of the 5-year period covered by an NDC. Under the agreement, all parties commit to providing information on mitigation targets and efforts via national communications (NCs), with interim updates submitted via biennial update reports (BURs).

19. Article 13 of the Paris Agreement describes a planned Enhanced Transparency Framework (ETF) for measurement, reporting, and verification (MRV) associated with UNFCCC commitments. The Intergovernmental Panel on Climate Change (IPCC) has issued *Guidelines for National Greenhouse Gas Inventories* (2006) and their *2019 Refinement*, which explain standards and good practices related to MRV for climate change, particularly under UNFCCC. Also, detailed modalities, procedures and guidelines (MPGs) for the ETF have been established.^[17]¹⁷ The MPGs apply to all Parties, while allowing flexibility for developing countries that do not have the capacity to comply with the full requirements. To some extent, the information required under the ETF has already been provided in Bhutan's National Communications (NCs) and the ongoing BUR report. However, compared to the current reporting framework requirements, the MPGs provide more detailed guidance on the information to report on.^[18]¹⁸

20. Under the ETF, BUR reporting will be superseded by reporting of the biennial transparency report (BTR). BTRs will be submitted by all Parties every two years. First BTRs must be submitted by 31 December 2024. Information submitted as part of the BTR will be subject to a two-step process. This review process will include an international technical expert review and a facilitative, multilateral consideration of efforts to implement and achieve NDC targets. For developing countries, this review process will apply only to the mandatory elements of the BTR. The content of the BTRs will include the following mandatory and optional information:

Box 1: Reporting elements of the BTR

Mandatory elements (for developing countries)

- o National inventory report on anthropogenic emissions by sources and removals by sinks of GHGs;
- o Information necessary to track progress made in implementing and achieving NDCs;

Other elements

- o Information related to climate change impacts and adaptation (with clear linkages to the adaptation communications, which may be submitted as a component of or in conjunction with a BTR);
- o Information on financial support, technology development and transfer as well as capacity building support needed and received as well as provided or mobilized; and
- o Flexibility options chosen, relevant capacity constraints and improvement timeframes (for Least Developed Countries (LDCs) and Small Island Developing States (SIDS)).

21. With the ETF and MPGs, regular reporting requirements to the UNFCCC have increased to ensure the transparency and contribution of Parties to the Paris Agreement. Bhutan will be required, with some flexibility due to its current status as an LDC, to undertake regular periodic GHG inventory and prepare MRV associated with climate change mitigation (CCM) activities included as part of its NDC. In order to facilitate international aggregation of information and periodic global GHG stocktaking, country-level mitigation-related MRV entails reporting on (i) carbon stocks and GHG fluxes (GHG emissions and removals); and (ii) progress on mitigation-related actions established in a country's NDC. In addition, Bhutan will also be encouraged to prepare regular assessments of climate change and climate change impacts as well conduct measurement and reporting (M&R) associated with climate change adaptation (CCA) priorities identified in the NDC. The types of information that may be relevant to the mitigation and adaptation elements of the BTR are provided in Table 1 below.

Table 1: Information Collected and Reported for Climate Change Mitigation and Adaptation

	Mitigation (committed under Paris Agreement)	Adaptation (encouraged under Paris Agreement)
Status	? Carbon stocks ? GHG fluxes	? Climatic vulnerabilities ? Climate change impacts
Progress	? Actions to conserve or increase carbon stocks ? Actions to reduce GHG emissions and to increase GHG removals	? Actions to reduce exposure and vulnerability ? Actions to increase adaptive capacities

22. For tracking mitigation contributions under the NDC, the process of MRV helps countries to understand their key sources and sinks of emissions, report on their national and international

mitigation commitments, design effective mitigation strategies, monitor emissions trends, and unlock new sources of finance to tackle climate change by demonstrating impact and good governance practices.^[19]¹⁹ Mitigation-related MRV is conducted for four standard sectors: (i) Agriculture, Forestry and Other Land Use (AFOLU), which comprises both Agriculture as well as Land Use, Land Use Change and Forestry (LULUCF), (ii) Industrial Processes and Product Use (IPPU), (iii) Energy, and (iv) Waste. Each sector encompasses standard categories and sub-categories, though parties are encouraged to identify and conduct MRV on nationally relevant and appropriate sub-categories. Within each category, emissions and removals are estimated for each relevant GHG (e.g., CO₂, CH₄, N₂O). An overview of the key elements of the MRV framework under the Paris Agreement's ETF is shown below.

Please see separate uploaded document

Figure 3: Key elements of the MRV framework: Existing UNFCCC MRV System and the Paris Agreement's Enhanced Transparency Framework. Source: WRI (2019).^[20]²⁰

23. Generally, the process of monitoring and reporting adaptation actions in a systematic way is not as commonly practiced as MRV of mitigation activities. While reporting on adaptation is not a mandatory element of the ETF and the MPGs at this stage, there may be benefits for countries such as Bhutan to start building capacity for these types of monitoring and reporting activities. Defining a national monitoring framework for adaptation helps to clarify the overall purpose of adaptation and the types of indicators to understand whether adaptation actions are leading to improved resilience over time in a given country context. Monitoring and evaluating adaptation actions to address needs or priorities identified in the NDC also helps to understand whether and to what extent adaptation activities are effective relative to other possible actions and allows for improvement of adaptation policies and measures over time. Finally, reporting actions taken by government and partners to adapt to changes in climate and associated technical, capacity and financial gaps and needs provide a strong basis to improve adaptation efforts over time and appeal for resources from the UNFCCC financial mechanism and other sources.

Linkages between IPCC and the System of Environmental-Economic Accounting (SEEA)

24. There are close parallels in the accounting for air emissions as described in the SEEA. The main adjustments required to create a bridge between SEEA air emissions accounts and data required for the Framework Convention are described in the SEEA Central Framework.[21]²¹

25. The SEEA for Agriculture, Forestry and Fisheries (AFF)[22]²² provides a mapping of the SEEA AFF to IPCC categories, in particular ISIC[23]²³ A to the Agriculture, Forestry and Other Land Use (AFOLU) sector of IPCC. This mapping is intended to facilitate the use of SEEA analyses in support of the UNFCCC process. It provides guidance to SEEA AFF compilers towards the estimation of greenhouse gas emissions from ISIC A activities by using the internationally established IPCC methodologies. The key differences between the two accounting frameworks are described below.

26. The SEEA AFF follows the residence principle, i.e., reports emissions from national economic activities regardless of where these activities occur. The IPCC follows the territorial principle, i.e. recording of emissions that are generated within the national territory, regardless of who is causing the emissions. In practice, these differences may result in significant accounting differences in emissions accounting for international shipping and transport activities.

27. While the SEEA AFF account links the greenhouse gas emissions to relevant economic activities, the IPCC categories are focused on the underlying biophysical processes and on the type of greenhouse gas emissions. For example, emissions from the same ISIC A activity of crop cultivation may be recorded under IPCC in at least two categories, distinguishing between its carbon dioxide (CO₂) and non-CO₂ emissions. (FAO and UN, 2020)

E. Bhutan's first and second NDC

28. Bhutan submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC in 2015, which was ratified by the National Assembly in 2016. Bhutan's first NDC reiterated the commitment to remain carbon neutral on the pledges made at the 2009 Conference of the Parties at Copenhagen, Denmark. The Government of Bhutan pledged to remain carbon-neutral by ensuring that its forests sequester more carbon than is emitted through other actions.

29. Bhutan's first NDC identified the following nine priority actions for low GHG emission development.

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

6. Promote climate smart livestock farming practices to contribute towards poverty alleviation and self sufficiency. ? 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	Agriculture (Livestock)
7. Promote climate smart agriculture to contribute towards achieving food and nutrition security. ? Organic farming and conservation agriculture ? Development and promotion of sustainable agricultural practices ? Integration of sustainable soil and land management technologies and approaches	Agriculture (Crops)
8. Energy demand side management by promoting energy efficiency in appliances, buildings and industrial processes and technologies.	Energy, IPPU
9. Integration of low emission strategies in urban and rural settlements through green buildings, sustainable construction methods and climate smart cities.	Energy, IPPU

30. Furthermore, the NDC identified ten priority adaptation needs. These priority areas were based on the 2006 National Adaptation Programme of Action (NAPA), as well as the vulnerability assessment of the Second National Communication (2011).

NDC priority adaptation needs	Primary sector
1. Increase resilience to the impacts of climate change on water security through Integrated Water Resource Management (IWRM) approaches. ? 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	Water

<p>2. Promote climate resilient agriculture to contribute towards achieving food and nutrition security.</p> <ul style="list-style-type: none"> ? Developing and introducing climate resilient crop varieties and conservation of plant genetic resources ? Developing and institutionalising 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 	Agriculture (Crops)
<p>3. Sustainable forest management and conservation of biodiversity to ensure sustained environmental services.</p> <ul style="list-style-type: none"> ? Sustainable management of forest management units (FMUs), protected areas, community forests, forest areas outside FMUs, and private forests 	Forestry
<p>4. Strengthen resilience to climate change induced hazards.</p> <ul style="list-style-type: none"> ? 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 	Various, Disaster Risk Reduction (DRR)
<p>5. Minimize climate-related health risks.</p> <ul style="list-style-type: none"> ? Strengthening integrated risk monitoring and early warning systems and response for climate sensitive diseases ? Promotion of climate resilient household water supply and sanitation 	Health, Water
<p>6. Climate proof transport infrastructure against landslides and flash floods, particularly for critical roads, bridges, tunnel and trails.</p>	Transport

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

31. Bhutan's first NDC calls on international support to ensure success in implementing the strategies, plans and actions for low GHG development. International support will also be needed to address the adverse impacts of climate change that are already starting to take place in the country, given the scale of funding required to address both development needs and the additional burden of mitigation and adaptation. Furthermore, in 2021, Bhutan finalized its Second Nationally Determined Contribution (second NDC). Compared to the initial NDC, the second NDC was enhanced with both targets and programmatic priorities based on preparatory work carried out in various sectors over the past years. In the second NDC, Bhutan maintains the commitment to remain carbon-neutral where emission of greenhouse gases will not exceed carbon sequestration by its forests and sinks as first pledged in 2009 and reaffirmed in the first NDC. At the same time, Bhutan calls on the international community to continue and enhance the support for Bhutan's efforts to mitigate and adapt to climate change.

32. The NEC also started the process to prepare Bhutan's Long-Term Strategy (LTS) for low GHG emission development in line with Article 4 of the Paris Agreement. The LTS will provide the overall direction and guidance for Bhutan in the long-term efforts for remaining carbon neutral. The development of the LTS has been hampered by the COVID-19 pandemic and is expected to be

completed in 2022.[24]²⁴ In order to inform the preparation of the second NDC, a new Low-Emission Development Strategy (LEDS) was developed for Food Security and the existing LEDS for Human Settlements (2017) and Transport Sector (2016) and Industries (2016) were revised and updated. The new and updated LEDS also integrate synergies and cross-cutting issues such as gender considerations, accessibility, and green recovery from COVID-19.[25]²⁵

33. The second NDC outlines the priority mitigation actions in the form of LEDS, roadmaps and strategies, to be implemented from the year 2021 to 2030, as follows:

- a) Forest conservation and management under the National REDD+ Strategy
- b) Low Emission Development Strategy for Food security (Agriculture and Livestock sectors)
- c) Low Emission Development Strategy for Human Settlement (includes energy in buildings, transport infrastructure, waste management, land-use in urban areas, and information communication and technology)
- d) Low Emission Development Strategy for Industries (manufacturing, energy efficiency)[26]²⁶
- e) Low Emission Development Strategy for Surface Transport
- f) Waste Management
- g) Sustainable Hydropower Development
- h) Alternative Renewable Energy (mini hydro, solar, wind and waste-to-energy technologies, including with the aim to reduce deforestation in rural communities and diversify the energy portfolio)
- i) Green Hydrogen Roadmap
- j) National Energy Efficiency & Conservation Policy 2019 and Energy Efficiency Roadmap 2019 (appliances, buildings, and industrial processes and technologies)
- k) Cooperative mechanisms to achieve sustainable development and mitigation ambitions.

34. A study on Gender and Climate Change in Bhutan with a focus on three NDC sectors of Agriculture, Energy and Waste was undertaken to analyse the gender-climate nexus, gender roles and gender-differentiated impacts of climate change. The study has been instrumental in informing gender mainstreaming opportunities in the preparation of the LEDS and the second NDC.[27]²⁷

35. With regards to mitigation action, Bhutan's second NDC states that the country has been relatively successful in developing strategies and plans in key sectors but faces challenges in raising adequate support for implementation of the LEDS, NAMAs and other mitigation programs.[28]²⁸

F. Low Emission Development Strategies (LEDS)

36. *Agriculture/Food Security LEDS*. [29]²⁹ The mitigation actions of the Food Security LEDS include switching from synthetic to organic fertilizers, improving agricultural practices, increasing biomass through increased perennial crop production, producing domestic biogas, reducing continuous rice flooding, and improving dairy cattle production. The REDD+ strategy is aligned with the mitigation actions considered under the LEDS for Food Security which aim to reduce pressure on

natural resources by increasing productivity. The cumulative total mitigation potential (High Ambition Scenario) of the LEDS for Food Security are 266.28 ktCO₂e for 2025, 710.09 ktCO₂e for 2030, and 3,563.19 ktCO₂e for 2050. The LEDS also recognizes that further work must be undertaken to be able to refine mitigation options, prioritize them, and develop a more detailed mitigation plan. For this to be achieved, the MoAF needs to undertake certain activities which includes the building of internal capacities and addressing information and data needs that currently exist. Data gaps highlighted in the LEDS refer to the uncertainty on calculating current areas under cultivation, information on the fuel use for farm machinery, as well as the identification of proper combination of Total Mixed Ration (TMR) concentrate and pasture vis-a-vis breed improvement that is needed to reduce emissions in the sector.

37. *LEDS for Human Settlement.*^[30]³⁰ The LEDS 2017 covered buildings, transport for freight and passengers and waste management. The scope for transport is now changed given the transport sector is covered by the LEDS for Surface Transport 2021. A total of eight mitigation activities are considered for the short and medium-term scenario: energy efficient and green building design, rollout of energy efficient appliances, replacement of LPG and firewood by electricity, rollout of solar PV on buildings, solar water heaters, energy efficient street lighting, increase in composting and recycling, and wastewater management. The short and medium-term prioritized mitigation measures are estimated to lead to a cumulative mitigation potential of up to 4,122 Gg CO₂e.

38. *LEDS for Surface Transport.*^[31]³¹ The interventions which have been prioritized for implementation in the short-term by this LEDS are the promotion of electric vehicles, shared mobility, enhancing fuel efficiency and emission standards, introducing public bicycle sharing system, improving and expanding pedestrian footpaths, rationalizing personal vehicle ownership through restriction on the import of fossil-fuel vehicles. The mitigation measures have a cumulative mitigation potential of 5,283 Gg CO₂e and are a mix of investments from relatively inexpensive low hanging interventions to large infrastructure investments up to an overall total investment requirement of USD 3,233 million till 2030. The LEDS also includes specific recommendations for gender equality in the transport sector, such as to introduce gender-friendly public transport services through an inclusive transport policy (by understanding gender mobility pattern, inequities, affordability).

39. *LEDS for Industries.*^[32]³² The LEDS for industries identifies and prioritises a suite of measures that have been agreed in close consultation with the private sector. Implementing the identified mitigation measures across the manufacturing sector results in mitigation of up to 1,137 Kt CO₂e per annum. About 10% to 20% of GHG emissions can be reduced through readily available technical measures, mainly in the ferroalloy and the cement sector, while economic diversification away from heavy industries will reduce the overall emissions intensity of the sector.

G. Barriers, needs and gaps related to ETF reporting in Bhutan

40. Currently, Bhutan's experience with the types of reporting required under the ETF is still limited, and MRV-related activities in Bhutan are primarily conducted as part of the reporting to UNFCCC as well as measurement of forest-related emissions and sinks under the UN-REDD program. Bhutan lacks a comprehensive MRV system needed to fulfil their obligations under the Paris

Agreement. The barriers to an effective implementation of ETF requirements in Bhutan include the following.

o *Barrier 1: Absence of systematic and comprehensive coordination and information sharing mechanism for ETF reporting.* Bhutan currently lacks systematic coordination among relevant ministries and other stakeholders at national and local levels that would enable collection and sharing of data in line with the ETF requirements. Existing climate change institutions and coordination mechanisms lack a clear definition of roles and responsibilities and protocols for regular and systematic collection and sharing information. The past experiences of developing the National Communications have shown a primary gap in the institutional arrangements in GHG inventory system and a lack of continuity in the working group members as they frequently assume new roles or are transferred to different institutes. There is also limited sharing of climate change information and research among Bhutan's research institutions and universities.

Furthermore, there is currently no formal partnership with key training and research institutes on a continuous basis. Trainings are organized on a needs basis. There is a need to have continued capacity building and research program to align with the changing rules/guidelines, and to strengthen the institutional memory and data generation.

The National Statistics Bureau (NSB) is the clearinghouse of statistical data in Bhutan. The NSB publications provided the background and some activity data for the Third National Communication (TNC) GHG inventory. While data are sourced from the sectoral agencies, there is no formal linkage between the NSB and the sectoral agencies and there is often limited QA/QC on the data submitted to the NSB. (TNC, 2020)

o *Barrier 2: Data deficiencies and the lack of adequate information management system and data quality standards for GHG inventory and monitoring mitigation and adaptation actions.* Although the different sectors have put in place data management systems as part of previous GHG inventories, these systems are not yet integrated, nor do they follow common data protocols. These limitations have been recognized by stakeholders from all sectors consulted during the project development. The main reason for this is the absence of clear, formalized systems, procedures, and protocols as well as frameworks for the sustainable creation of knowledge and capacities. Data is collected by different sectoral agencies and projects based on the needs for national and international reporting, but is not systematically updated and managed in a shared database. The TNC (2020) highlighted that the current data collection systems are inadequate, particularly when it comes to data accuracy and consistency. This can be improved if regular data collection from the sectoral agencies through climate reporting obligations is built into the current compliance reporting regime. During preparation of the TNC, sampling of activity data sources was carried out and crosschecked with the reports compiled by the NEC. Although data quality was given high priority, there is still the possibility of data inconsistency and inaccuracy due to the lack of human and financial resources both with the data sources and the compilation team.

The Environment Information Management System (EIMS) developed and housed at NEC is still in its early stages. It is currently mainly focused on data related to the State of the Environment report. The EIMS needs to be further developed and integrated to include additional information, in particular the GHG inventory. Sectoral information systems need to be upgraded in line with ETF requirements,

including sector specific GHG inventory requirements. Climate change data and information remain limited in the country, in particular with regard to the agriculture and livestock sectors. There is limited data and information to provide robust analysis of land use issues; including gender-disaggregated data. This is evident in the fact that adaptation and mitigation targets in the NDC and relevant national policies are still stated in general terms and not yet as specific indicators and targets; and by the absence of gender-sensitive/responsive indicators and targets. With better data collection and integration, there is an opportunity not only for meeting the ETF requirements, but for more informed and evidence-based planning and decision-making, which will help the country track progress against and meet its NDC targets.[33]³³ There is also potential to use the forestry sector experience in MRV and GHG inventory to inform and develop capacity of other sectors.

o *Barrier 3: Limited experience with and knowledge of inventory preparation and measuring, reporting and verification (MRV) systems for emissions from all GHG emitting sectors.* As identified during the development of the TNC, Bhutan lacks capacity and experience in inventory compilation, and this was found to be a critical constraint in all the processes related to the National Communications. While the IPCC GHG Inventory Software is user-friendly, it is important to understand the processes involved in the estimation of GHG emissions and removals. Bhutan has a limited number of professionals with experience and knowledge of MRV systems. The country does not currently have an established system of generating reports that can be adequate to meet the frequency and content of the reporting obligation under the Paris Agreement. Data collected by the different sectors does not always meet the required quality and standards for GHG inventory. Collection, compilation and development of GHG inventory reports have been mostly project-based and rely on external consultants. Only a limited number of national experts could be engaged in MRV activities related to UNFCCC reporting, and only few were trained on the 2006 IPCC Guidelines. Capacity building needs to be extended to a wider group of professionals beyond the NTWG members; and capacity needs to be developed to be able to prepare reports without the support of outside consultants. Currently, national experts in the technical working groups mostly provide or validate specific, ad hoc information, without going into detail. Also, Bhutan does not yet have a solid quality assurance and quality control (QA/QC) process in place outside the ad hoc technical working groups and validation workshops. Furthermore, for all sectors except forestry, reporting is currently done using Tier 1 (non-country specific) emission factors. Additionally, more detailed activity data is required to support refinement of inventory estimates and enhance the quality and accuracy of future emission inventories. Lastly, national stakeholders and institutions have not yet been trained on and prepared for the additional reporting requirements under the MPGs, such as reporting on climate finance, institutional arrangements, uncertainty assessment, technical expert review process, and tracking progress against NDC targets.

In Bhutan, uncertainties are associated with data access/constraints, potential unsuitability of generic emission factors, and an incomplete understanding of emission processes. Improving the accuracy of some emission factors to calculate emissions from various sources is vital. Secondly, the availability of detailed activity data will support the refinement of inventory estimates. Bhutan's GHG inventory has been prepared using data from national statistics, surveys and activity data provided by different

sectors. The data and information often come from national aggregated levels, although some are collected from point or direct sources. That makes the use of higher-tier methods difficult. (TNC, 2020)

In the energy sector, the choice of electricity grid emission factor factors for Bhutan was comprehensively discussed within relevant agencies (LEDS Industries). The discussions were primarily limited to generic impacts of grid emission factors, highlighting the lack of technical capacity to assess the technical aspect of the grid emission factors.

In the livestock sector, the current GHG emissions are estimated based on IPCC guidelines and references/default values. In the absence of empirically generated information, coupled by changing livestock production systems triggered by high demand for livestock products, these values are either over- or under-estimated. There is a need to review and generate scientific data/information on the different livestock production systems (manure management, feeding, livestock rearing system, quantification of production and reproductive parameters), and the nutrient content of different livestock feed types and fodder to improve transparency and quality of data in the country.

o *Barrier 4: Limited capacity to monitor, evaluate and report on adaptation actions outlined in the NDC.* The country's institutions and agency staff still have limited capacity for systematic monitoring and reporting of adaptation actions in line with the ETF. As highlighted in Bhutan's GCF National Adaptation Plan (NAP) proposal, a comprehensive inventory of existing adaptation initiatives and practices would enable departments and ministries not only to meet their reporting obligations under the ETF but also to incorporate adaptation into their planning and investment decisions and, potentially, access additional international climate finance. While adaptation/resilience indicators will be developed by the GCF NAP Readiness project, there is a need for more specific work on NDC adaptation indicators and linking these with the NAP. The NAP indicators are anticipated to be broad and covering all sectors. The CBIT project will be able to focus on specific sectors that need strengthening, such as with regard to specific indicators and targets and monitoring capacity for the AFOLU sector. There is also a need to integrate the adaptation platform developed by the GCF NAP project with other sectoral information systems for both adaptation and mitigation, as well as with the EIMS.

41. In line with the above, the Technology Needs Assessment (TNA)^[34] and the National Capacity Self-Assessment (NCSA)^[35] highlighted the following barriers and issues regarding the implementation of the UNFCCC.

Table 2: Bhutan TNA and NCSA barriers and issues that can be addressed by CBIT

Description of barriers	How this can be addressed by CBIT	Relevant project outputs in alternate CBIT scenario
<i>Barriers to adaptation identified in the TNA</i>		

Description of barriers	How this can be addressed by CBIT	Relevant project outputs in alternate CBIT scenario
<p>Information and technology barriers:</p> <p>? General lack of awareness, education and information disseminated on new available technologies and their benefits to the farmers, which hinders its uptake.</p> <p>? Lack of information on better water management techniques, including drip and sprinkler.</p>	<p>? Improve information sharing and data management regarding adaptation interventions, to support dissemination and uptake of adaptation technologies.</p>	<p>Outputs 1.1.1, 1.2.1 and 1.2.2</p>
<p>Institutional barriers:</p> <p>? Poor coordination and line of communication between the Department of Agriculture and the Dzongkhag Administrations.</p>	<p>? Enhance institutional arrangements and coordination among sectors and agencies at different levels.</p>	<p>Outputs 1.1.1, 1.2.1, 1.2.2 and 1.2.3</p>
<p>Financing barriers:</p> <p>? Limited funding for technology development and technology transfer.</p>	<p>? Enhance data and information management related to adaptation to support planning and decision-making and attract additional investment.</p>	<p>Outputs 1.1.1, 1.2.1, 1.2.3, 2.1.5-6, 3.1.1-3</p>
<p><i>Issues and challenges in implementation of Rio Conventions identified in the NCSA</i></p>		

Description of barriers	How this can be addressed by CBIT	Relevant project outputs in alternate CBIT scenario
<p>Issues and challenges identified in the NCSA:</p> <p>? Coordination in environmental management systems both at national and local levels.</p> <p>? Inadequate capacities of relevant environment agencies and mechanisms.</p> <p>? Lack of data and information on environment, such as air and water quality.</p> <p>? Maintaining the level of high environmental quality while achieving growth.</p>	<p>? Strengthen institutional mechanisms for environmental management.</p> <p>? Enhance implementation capacity of NEC, MoAF and other sectoral agencies to effectively function as national focal agencies.</p> <p>? Strengthen information and monitoring systems.</p> <p>? Strengthen environmental financing mechanisms by supporting enhanced information management, planning and decision-making.</p>	<p>Outputs 1.1.1, 2.1.1, 2.1.3, 2.1.5-6, 3.1.1, 3.1.3</p>

42. An assessment of existing institutional capacity of the RNR sectors conducted under the UNDP-GEF/LDCF project made the following recommendations.[36]³⁶ Technical capacity needs to be strengthened as follows: (i) temperature-increase projections, (ii) meteorological data, (iii) vulnerability assessment, and (iv) customization, and dissemination of technologies. Regarding institutional capacity, the recommendations for the sector were, among others: (i) formulating new policy, (ii) strengthening policy implementation, (iii) sectoral planning frameworks, (iv) climate change impact awareness, and (v) research and extension program improvement.

43. Addressing these barriers and capacity gaps will enable Bhutan to produce more timely and accurate reports for UNFCCC processes and particularly the reporting requirements under the Paris Agreement ETF. In turn, the findings of these reports will support the country to monitor activities efficiently and to make timely decisions with regard to mitigation and adaptation planning.

2) Baseline scenario and any associated baseline projects

National plans and policies

44. Bhutan has made various high-level commitments for climate change adaptation and mitigation both domestically and internationally. In 2009, the Royal Government of Bhutan committed to remaining carbon-neutral by ensuring that its forests sequester more carbon than is emitted through other actions. As explained above, this commitment was reiterated in 2015 in the country's NDC.

45. The Climate Change Policy of the Kingdom of Bhutan 2020 envisages to provide strategic guidance to ensure that Bhutan remains carbon neutral and protects the wellbeing of the people of Bhutan by adapting to climate change in an efficient and effective manner. Additionally, the policy also aims to address challenges and opportunities such as international support in the form of finance, technology, capacity building, research and awareness arising from recent developments in national and international arena of climate change, which will be critical in implementing climate actions.

46. In its 12th Five Year Plan (2018-2023), Bhutan prioritizes climate change and sustainable development. Bhutan's commitment to climate action has been integrated into development planning by identifying 'carbon-neutral and climate-resilient development' as one of the national key result areas in the 12th Five Year Plan. Under the plan's National Key Result Area 6 (Carbon Neutrality, Climate and Disaster Resilience), the following programmes are to be implemented under the lead of the National Environment Commission (NEC):

- ? Climate smart and disaster resilient development
- ? Strengthening waste prevention and management
- ? Strengthening water security and enhancing management
- ? Implementation of bilateral and multilateral environment programmes
- ? Enhancement of disaster risk reduction and management
- ? Weather and climate services for building climate resilience
- ? Hydrology, cryosphere and water resources information and early warning services
- ? Promote use of alternative renewable energy
- ? Safe, reliable eco-friendly and sustainable surface transport
- ? Local Government programme on carbon neutral, climate and disaster resilient development

47. The National Energy Efficiency & Conservation Policy, and the Energy Efficiency Roadmap 2030 covering the sectors of buildings, transport and industry were launched in 2019. The policy and roadmap aim to facilitate improvements in productivity and energy efficiency while contributing to Bhutan's efforts to remain carbon neutral. Few of the measures are now being implemented while support is required for full implementation.^{[37]³⁷}

48. To implement the priority programs in the NDC, several Low Emission Development Strategies (LEDS) were developed to prioritise mitigation actions in key sectors of Agriculture, Human Settlement, Industry and Transport (see above). These LEDS will serve as the basis for the sectors to

integrate low carbon measures into development priorities. Further support for implementation is required to realise the identified priority programs and actions in the various LEDS.[38]³⁸

49. Other plans and policies related to climate change are summarized below.

Policy or plan	Relevant aspects for NDC implementation
? Economic Development Policy (2010, updated in 2016)	Includes several measures to promote ?green growth? for industrial development. In order to enhance green growth and employment, the Economic Development Policy includes fiscal and tax measures for increasing energy efficiencies and pollution control in industries, transport and other sectors.
? The National Food and Nutrition Security Policy of the Kingdom of Bhutan, 2014	The stability of food and nutrition security is undermined by climate change induced disasters like flash floods, GLOF, forest fires, etc. The National Food and Nutrition Security Policy promotes improved irrigation technology, such as piped irrigation rather than open irrigation channels. It gives importance to organic and nature farming over chemical-induced production. Furthermore, it promotes pasture development and sedentary livestock management instead of free-grazing and over grazing.
? National Strategy and Action Plan for Low Carbon Development (2012)	<p>This long-term national strategy comprises various scenarios analysing development paths from 2005 until 2040. Based on these scenarios, the action plan articulates short and medium-term interventions for various development sectors to achieve sustainable economic growth through green and low-carbon growth.</p> <p>The strategy identifies Low-Emission Development Strategies (LEDS) in the areas of Waste management, Green economy, Renewable energy, and Agriculture, such as: zero waste concept; improving manufacturing processes; enhancing environmental compliance monitoring system; integrating emission cutback schemes in urban and rural establishments; green/sustainable buildings; developing mass hydropower capacity by having support from Clean Development Mechanism (CDM) and other international climate markets to reduce emissions within Bhutan and across borders by exporting surplus electricity; climate-smart livestock farming practices; organic livestock farming; expanding the production of biogas; and sustainable soil and land management technologies.[39]³⁹</p>
? The National Environment Protection Act (NEPA) (2007)	NEPA enshrines that the country?s interventions ? policies and programs ? are within the principles of sustainability, middle path, polluters pay, precautionary, etc. NEPA empowers institutions such as NEC to monitor the implementation on the ground, advise management accordingly.
? National Forest Policy (2011)	The revised Forest Policy of 2011 serves as the main guiding policy framework for forest management and nature conservation in Bhutan. It recognizes the important role of people and community in the sustainable forest management and climate change mitigation and adaptation.

? Bhutan Transport 2040: Integrated Strategic Vision	Developed in 2013 with support from ADB, the Bhutan Transport 2040 Vision has the overall goal to provide the entire population with a safe, reliable, affordable, convenient, cost-effective, and environment-friendly transport system in support of strategies for socioeconomic development.
? Renewable Natural Resources (RNR) Strategy 2040	The RNR Strategy 2040 development is at its initial stages. FAO is the key partner supporting the development of the Strategy 2040. The focus will be on the importance of informed decisions ? there should be adequate information systems (generation and dissemination), based on good science; use of technology in the food system to be more efficient and effective; and all food related interventions must be demand-driven ? markets should be considered for any interventions proposed.
? National Waste Management Strategy (2019)	The National Waste Management Strategy was adopted in 2019, and the Waste Management and Stray Dog Population Control flagship program launched on January 23, 2020. The overall goal is to achieve Zero Waste Bhutan where the current trend of disposing over 80% of solid waste to the landfill is reversed to less than 20% by the year 2030 based on the principles of circular economy. [40] ⁴⁰
? National Environment Strategy (NES) (1998)	First published in 1998, the NES identifies and describes the main approaches for sustainable development in Bhutan. The strategy is currently under review. The revised NES will, among others, focus on low-carbon and climate resilient development. [41] ⁴¹
? Bhutan Water Vision and Policy (2003)	Establishes Bhutan's water vision and describes the approach and context of water resources management from a broad, multi-sectoral perspective with recognition of the responsibility of the various sectors in policy implementation. The policy advocates for integrated water resources management (IWRM) to address existing and emerging water issues, including those related to climate change.
? 12th Five Year Plan of Bhutan (2018-2023)	<p>The plan elaborates a range of issues in relation to NDC. The national key result areas that are identified having a direct relation to NDC are:</p> <ul style="list-style-type: none"> ? Carbon neutrality, climate and disaster resilient which includes enhancing climate change mitigation and adaptation, strengthening preparedness and responses to both natural and man-made disasters ? Food and nutrition security which include expansion and strengthening of irrigation system, establishing network of post-production and marketing facilities, strengthening research and extension service, encouraging cultivation of fallow land ? Infrastructure, communication, public service which include leveraging ICT as an enabler and an industry ? Gender equality to mainstream gender

Green Finance Roadmap	The Green Finance Roadmap is being developed in line with the 21 st Economic Century Roadmap and aims to mainstream and bring about transformative changes in financing economic investments and sustainable development in Bhutan for the 21 st Century. The initiative aims to (i) make the financial system of Bhutan more robust and resilient to external vulnerabilities in the wake of the COVID-19 pandemic, (ii) channel lending towards products and services that can deliver both investible returns and environmentally positive outcomes, (iii) ensure green investments are prioritised over business-as-usual investment and to mobilise additional investments in Bhutan's green sectors, (iv) accelerate the financial sector's contribution towards transitioning to a low carbon economy by leveraging on modern technology and innovations. ^[42] ⁴²
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Institutional mechanisms

50. The Gross National Happiness Commission (GNHC) is responsible for the formulation and implementation of the country's Five-Year Plan and for formulating relevant policies. It is comprised of the Prime Minister as the Chairperson, Secretaries of each of the government ministries, and the Secretary of the GNHC as the members. The GNHC is also the National Designated Authority (NDA) for the GCF and hosts the Operational Focal Point for GEF.

51. The National Environment Commission (NEC), chaired by the Honourable Prime Minister or Minister designated by the Prime Minister, was established as the main high-level, multi-sector coordinating body on environmental issues. It also acts as the National Climate Change Committee (NCCC) and is responsible for the overall coordination of climate change matters in the country. The NEC (NEC) plays a key role in promoting sound environmental policies and investments. In addition, a Climate Change Coordination Committee (C4) was established in 2016 (after revamping the Multi-Sectoral Technical Committee on Climate Change) as a forum to discuss and coordinate action on climate change in Bhutan and make recommendations to the NEC/NCCC. It has 15 senior executive level members, representing governmental agencies, private sector, and civil society organizations, and is chaired by the Secretary of NEC.^[43]⁴³ The NEC is the national focal point for the UNFCCC. As part of its mandate to produce Bhutan's National Communications (NCs) and Biennial Update Reports (BURs), the NEC also reports on Bhutan's REDD+ actions to the UNFCCC. The NEC is the overall national GHG coordinating agency, and each sector provides the required data to the NEC for national and international reporting.

52. The Ministry of Agriculture and Forests (MoAF) is the agency responsible for collecting agriculture, livestock and forest related data for UNFCCC reporting. MoAF is responsible for developing policies, strategies and programs of the sector, implemented by its technical departments. The Constitution states that, for all times to come, the country must maintain 60% of the area under forest cover; every citizen is responsible but institutionally MoAF is the lead agency. MoAF has established a protected areas system linked by biological corridors for the free movement of wildlife; it is responsible for the national forestry inventory, wildlife research, and developing Forest Management Units (FMU) for harvesting scientifically; it calculates the annual allowable cut; it is responsible for forest fires, rangeland management, improved irrigation technology, etc. The sector engages with over 60% of the population who are directly engaged in farming.

53. The Ministry of Economic Affairs (MoEA) is the ministry of Bhutan responsible for the management of the economy in the country. Among others, it is responsible for industry and trade, geology and mining, renewable energy, and hydropower.
54. The Ministry of Information and Communication (MoIC) is responsible for promoting the development of reliable and sustainable information, communications and transport networks and systems and facilitating the provision of affordable and easier access to associated services. It hosts, among others, the Department of Civil Aviation and the Road Safety and Transport Authority (RSTA).
55. The National Center for Hydrology and Meteorology (NCHM) is an autonomous scientific and technical organization of the Royal Government of Bhutan responsible for understanding the behaviours of atmosphere, its interaction with cryosphere and water bodies, the weather and climate and distribution of country's water resources. It is the nodal agency responsible for the generation of information and delivery of products and services related to weather, climate, cryosphere and water resources in Bhutan.
56. The central Mainstreaming Reference Group (MRG) was formed, under the lead of NEC and GNHC, to institutionalize the mainstreaming of environment, climate and poverty concerns into planning. The group is multi-sectoral in nature with representation from policy, planners, environment specialists, finance experts and NGOs and is seen as a relevant body to provide expertise on policy making, advocate cross-cutting issues at all levels of planning and implementation. As of June 2016, 20 local MRGs have been established in all 20 districts to facilitate mainstreaming of cross-cutting issues in the local development plans and programmes.^[44]⁴⁴

UNFCCC reporting

57. Bhutan submitted its First Greenhouse Gas Inventory to the UNFCCC in 2000. In 2011, it submitted the **Second National Communication (SNC)**. The preparation of the GHG inventory for the SNC in 2011 was a consultative process among analysts within relevant sectors and agencies in Bhutan and coordinated by the NEC. A National GHG Inventory Team was formed and trained on the use of the Revised 1996 IPCC GHG Guidelines and UNFCCC Software. Subsequently the sectoral working groups of the inventory team collected activity data from national sources, other secondary sources, such as published research, statistical reports, and related studies as necessary. Emission factors were based on IPCC default values and conversion coefficients, and adjusted to reflect local conditions, where necessary and possible. The SNC also included preliminary climate change scenarios and a vulnerability assessment, assessing the impact of climate change on the five key sectors water, agriculture, energy, forestry and biodiversity, and health.^[45]⁴⁵
58. In 2020, NEC coordinated the preparation of the **Third National Communication (TNC)** to the UNFCCC. The process of TNC preparation was akin to the SNC as both were prepared in a consultative manner involving all the relevant sectors and agencies from government, private sector and civil society. A National Thematic Working Group (NTWG) was constituted for GHG inventory, mitigation and vulnerability and adaptation (V&A) assessment. Bhutan's third GHG inventory contains
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information on emissions from sources including Energy, IPPU, AFOLU and Waste and removals by sink for the inventory year 2015 for the three main gases carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) using the 2006 IPCC Guidelines and associated Good Practice Guidance. Carbon monoxide (CO) and nitrogen oxides (NO_x) was calculated for forestry and other land uses only. All the methodologies and tools used for GHG inventory reporting followed the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC, 2006) and the Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (IPCC, 2000). The methodologies used were from Tier 1 using the default emission factor except for Forestry and Other Land Use where higher-tier method and country specific emission was applied to estimate the emissions.

59. The NTWG collected, analysed and managed the data as well as estimated the emissions and removals of GHGs. Sectoral and Sub-Category Leads were identified for the inventory preparation. Each Sub-Category Lead coordinates, compiles, assesses and computes the activity data for their respective sector and reports to Sectoral Lead. The Sectoral Lead validates and reports to the National Inventory Report (NIR) Coordinator who coordinates and reports to the National Coordinator. The National Coordinator reports to the Climate Change Division that further reports to Climate Change Coordination Committee and finally to NEC for endorsement and approval.

60. The preparation of the NIR for the TNC was based on a quality assurance and quality control (QA/QC) plan starting from the activity data collection to the estimation of emissions and removals and involved internal as well as external reviews. The implementation of this QA/ QC plan followed the TNC schedule, where the National Project Coordinator of the TNC Project took the primary responsibility of coordinating the activities. The activity data collection was based on questionnaires sent to the responsible agencies including the private sector and the data thus submitted were verified with available national statistics. Several data sources were identified and used in the preparation of the GHG inventory and were mostly based on the published information from National Statistics Bureau (NSB). The estimates were subject to several rounds of external validation workshops where the Technical Working Group presented the findings to a wider stakeholder group comprising government agencies, non-government organizations and private sector. Additionally, the NTWG also has a member representation from NSB.

61. IPCC GHG inventory software was used in the TNC to estimate the emissions from sources and removals by sinks. All the activity data are archived and maintained with NEC in a dedicated server and in hard copy published by NEC.

Please see separate uploaded document

Figure 4: QA/QC flow chart for the GHG inventory of the Third National Communication (TNC, 2020)

62. The current institutional arrangements for GHG reporting in Bhutan are summarized in Figure 5. The NTWG is formed each time before the commencement of National Communication works. Members of this body nominated by the respective agencies are mostly new with limited experience and no institutional memory from the last exercise.

Please see separate uploaded document

Figure 5: Institutional arrangements for GHG inventory in Bhutan (prepared by PPG team)

63. During the transition to the 2006 IPCC Guidelines, several challenges were encountered and more detailed capacity building is needed for the various groups and sectors involved. In particular, training on the 2006 IPCC Guidelines needs to be extended to a wider group of professionals beyond the NTWG members. In the INC, SNC and the TNC (and the BUR), Bhutan has relied on IPCC default conversion factors, emission factors and default uncertainty figures in the estimation of GHG emissions and removals. Bhutan has also generally used Tier 1 methodologies due to the lack of accurate and reliable country specific information. While this is accepted in the IPCC Guidelines, to improve accuracy and comparability, it is felt important to develop country specific emission factors and uncertainty data and use higher tier approaches in the next inventory period. Of particular importance are developing country specific emission factors for enteric fermentation, updating Land Use/Land Cover maps on an annual basis, develop country-specific soil carbon estimates based on soil types, climatic zones, etc., build on experiences from Forest and Non-forest soil C content, etc. Additionally, the availability of detailed activity data would support refinement of inventory estimates. Addressing these areas through additional capacity strengthening and development of dedicated observation networks will enhance the quality and accuracy of future emission inventories.

64. Under the UN-REDD Program, a **National Forest Monitoring System and National Forest Inventory** were developed. The process was led by the Department of Forests and Park Services of MoAF with key support from UNDP, FAO and the Forest Carbon Partnership Facility (FCPF) of the World Bank. A National REDD+ Taskforce was established with three distinct Technical Working Groups (TWGs), consisting of all key stakeholders, with representation of all technical agencies and governmental and non-governmental entities. The national REDD+ readiness process involved setting up national institutional arrangements, carrying out local stakeholder consultations, capacity building, designing MRV and national carbon accounting systems, developing reference emission levels, and benefit sharing, safeguards and grievance mechanisms. An Action Plan for Bhutan's National Forest Monitoring System (NFMS) was drafted in 2015 during the early implementation of the REDD Readiness Phase. The NFMS consists of the National Forest Inventory (NFI), the Satellite Land Monitoring System (SLMS), and the GHG inventory. More capacity building on the use of the open-source tool 'Open Foris' is necessary to effectively analyze the NFI field data to generate the precise forestry parameters. Besides, currently all the NFI data is stored on a local computer, which entails a risk of losing the NFI data. Thus, there is a need to build a robust NFI database having analytical capability through simple user interface. For the SLMS, there is a small unit in DoFPS looking after this system. Professional capacity of this unit needs to be upgraded in following areas:

- a. Monitoring of forest degradation through satellite image; and
- b. Canopy cover mapping to monitor the density of forest stand structure and deforestation.

65. With technical support from FAO, Bhutan submitted its **National Forest Reference Emission Level (FREL) and National Forest Reference Level (FRL)** to UNFCCC in 2019. The main aim of the FREL/FRL was to take stock of emissions and removals from the forest sector and set a baseline to measure future (additional) performances. Necessary documentation including standard operating procedures (SOP) for field measurements were prepared. Moreover, Bhutan received support from FAO and the UN-REDD Programme to work with Collect Earth, a tool that enables data

collection through Google Earth. This has enabled Bhutan to assess IPCC LULUCF and REDD+ reporting while supporting the development of the National Forest Inventory (NFI) in carrying out field measurements.[46]⁴⁶ A national NFI data management system and quality assurance and control protocols were developed. Bhutan also worked with SEPAL, the cloud based remote sensing data processing platform of FAO, which allowed them to generate maps and outputs for the FREL/FRL. The proposed FREL for Bhutan is 0.55 million tonnes of CO₂e per year. The total annual net sequestration from sustainable forest management, conservation and enhancement is 8.76 million tonnes of CO₂e and, therefore, the proposed FRL for Bhutan is 8.76 million tonnes of CO₂e per year.[47]⁴⁷ A second NFI is currently being undertaken with the involvement of respective field divisions and parks. The data will be collected in the field through Open Foris (Collect Mobile), shared real-time to the respective data managers, who in turn will verify, cleanse and submit the data to the main data center in the Forest Resources Management Division (FRMD) for analysis. The staff members and data managers of all field divisions and parks were thoroughly trained by FRMD before they started the field work.

66. Through this process, Bhutan has developed important technical in-country capacity for MRV, remote sensing and data analysis in the forestry sector, with capable and motivated staff in the Department of Forests and Park Services. Due to its historically low deforestation, it is unlikely that Bhutan will be able to benefit from results-based payments for forestry-related activities under UNFCCC. However, by establishing a strong registry, the country could target private investments and other market-based mechanisms to channel funding to maintain and enhance its forest management performance. A national, web-based monitoring system that ensures availability of high-quality, reliable and frequently updated data on forests has been developed with support from FAO and capacity building and knowledge transfer has been taken place. The first version has been released with the country <http://bhutanforestportal.org/> and it would be beneficial to establish a permanent process of updating this forest data as a transparency tool for Bhutan. Currently, this portal has only visualization capability. There is a need to upgrade this system to enable analytical capability to enhance the utility of the portal.

67. The National Soil Services Centre under the Department of Agriculture is currently updating the **National Soil Map**, which is expected to be published by the end of 2022. To date stakeholders have mostly used site-specific soil maps and global soil map information of the International Soil Reference and Information Centre (ISRIC).

68. Finally, the NEC is in the process of developing Bhutan's first **Biennial Update Report (BUR)** due for submission in 2021, through a consultative process. To institutionalize the National Inventory Report (NIR) of the BUR, the NTWG and its members constituted under the TNC continues to serve as NTWG for the BUR as well. The NIR will use 2019 as the inventory year. Like for the TNC, the development of GHG inventory report for the BUR mostly relies on external consultants. Only a limited number of national experts have been engaged and mostly provide *ad hoc* inputs. Furthermore, for all sectors except forestry, reporting is done using Tier 1 (non-country specific) emission factors.

Adaptation planning

69. The country prepared a National Adaptation Programme of Action (NAPA) under the UNFCCC in 2006, which it updated in 2012. Alongside Glacier Lake Outburst Floods, windstorms and cyclones were identified as the main climate hazards. Priority actions were identified, which were then implemented through three UNDP GEF NAPA projects (see Section 6. Coordination).

70. In 2016, the Global Climate Change Alliance (GCCA) supported the development of the State of Climate Change Report for the Renewable Natural Resources (RNR) sector, based on secondary data and information. GCCA also supported the development of Sector Adaptation Programme of Action (SAPA), which was endorsed in 2014. The RNR Sector Adaptation Plan of Action (SAPA) identified two key priorities: (i) Data and knowledge management covering areas of research to assess the impacts of climate change on agriculture and food security, water resources and biodiversity; and (ii) Capacity in addressing climate change: There is a lack of national capacity in terms of institutional, infrastructure, human, and technical capacity in dealing with climate change and its effects on forest and biological diversity, food security and water resources. Furthermore, the GCCA supported the development of a Data Centre to provide an overview of the impacts of climate change on the RNR sector based on a landscape as a complex system with multiple interacting sectors.^{[48]⁴⁸}

71. Based on the assessment in the SNC, the TNC further prioritized human health, water resources, sustainable agriculture, forest & biodiversity, and energy as part of the V&A assessment. The climate projections for the country have been assessed for two future time periods, a short-term period (2021-2050) and a long-term period (2070-2099). The projections consider two socioeconomic scenario representing trends ? Representative Concentration Pathways (RCP) of high emission (RCP 8.5) and intermediate emission (RCP 4.5) of the IPCC fifth assessment report (2014). The climate baseline and projections for Bhutan is based on CMIP 5 GCMs^{[49]⁴⁹} for 2030-2050 and 2070-2099. For climate modelling, NCHM used temperature and rainfall data from Climatic Research Unit (CRU), University of East Anglia, United Kingdom as a proxy for tracing historical climate change in Bhutan. The CRU data was validated against the available observed data from the 15 climate stations of the available period. This is the best alternative in case of lack of historical observed data.

72. The ongoing work on developing a National Adaptation Plan (NAP) is summarized in the following section on Donor-funded initiatives. Bhutan's first NAP is expected to be completed and submitted in 2021 and will be the basis of Bhutan's Adaptation Communication to convey the country's priorities, plans, actions, and support needs for adaptation. The NAP will cover priority needs and actions in the areas of water, agriculture, forests and biodiversity, and health.^{[50]⁵⁰}

Existing information and data management systems

73. NEC, MoAF and the National Statistics Bureau (NSB) all host some relevant climate change information on their websites. In addition, climate related data is available with the National Centre for Hydrology and Meteorology (NCHM).^{[51]⁵¹}

74. The National Environment Protection Act (NEPA), 2007 establishes the legal requirement to periodically produce a status report on the environmental condition in the country and to establish an environmental information system at the national level. The NEPA authorizes NEC to produce periodic environmental status reports and to manage the environmental information system. The current EIMS housed at NEC is built on the driver-pressure-state-impact-response framework used in developing State of the Environment reports to assess the state and trend of the environment in the thematic areas of land, water, air and biodiversity. Climate change and waste management are considered as cross cutting issues. Additionally, a Climate Change Portal is being set up with support from the NAP project to help coordinate multi-stakeholder dialogue to develop and implement climate related work in Bhutan, with the aim to improve coordination between the different climate-sensitive sectors, enhance knowledge management and improve reporting and monitoring of all climate actions in Bhutan.^[52]⁵²

75. The different sector agencies have developed data and information management systems. These systems are still in their early stages and need to be further developed and integrated. Through the CBIT project, these systems will be developed to meet multiple requirements, including sector-specific and GHG inventory specific requirements. Some of the relevant information systems are:

- a. Forest Information Reporting and Monitoring System (FIRMS) maintained by the Department of Forest and Park Services (DoFPS)
- b. Power Data Management System, Department of Hydropower and Power Systems
- c. Energy Data Directory / Energy Information System
- d. Hydromet Database Management System, National Center for Hydrology and Meteorology
- e. CountrySTAT-Bhutan, Ministry of Agriculture and Forests
- f. Agriculture and Livestock Information System
- g. Industrial Information System
- h. Waste Inventory

76. The Department of Renewable Energy (DRE) is planning to develop the Energy Information System (EIS) in the FY 2021-22. The EIS will digitalize the erstwhile developed Bhutan Energy Data Directory 2015, which had the energy balance for the year 2014. The energy data directory covers all forms of energy produced/used in the country and also the sectoral consumption of energy. The EIS will help in availing the data periodically (quarterly/bi-annually) which will help in publishing the annual energy balance. The energy balance will also play a major role in updating the GHG inventory. There is a strong need to build the capacity of the working group in data collection/management and enhance the system performance once it is developed.

COVID-19 Recovery

77. As one of the least developed countries, Bhutan has been hugely impacted by the COVID-19 pandemic. Stringent pandemic containment measures, prolonged nationwide lockdowns, and lengthy quarantine requirements (14-21 days) stifled economic activities across all sectors. As per the Asian Development Outlook (ADO) report 2021, Bhutan economic growth is projected to decline by 3.4% in FY2021 compared to 0.9% in FY2020. However, with strong policy plans, supported by successful completion of full COVID-19 vaccinations for 90% of the eligible population, Bhutan's economic growth is expected to increase to 3.7% in FY2022 (ADO, 2021).

78. As a response to the economic repercussions of the COVID-19 pandemic, the government presented an Economic Contingency Plan (ECP) to mitigate and address the impacts on the sectors most affected by the pandemic: tourism and allied sectors, construction, and agricultural sector. The ECP of the agricultural sector on food self-sufficiency and nutrition security aims to boost agriculture and livestock production, bring back potential fallow lands under cultivation, provide alternative employment for displaced people, and improve and enhance market access. The LEDS for Food Security is aligned with the targets of increasing food production and increasing the use of fallow lands.

79. In 2020, UN agencies in collaboration with the Government of Bhutan developed a joint COVID-19 response, the "UN Bhutan COVID-19 Socio-Economic Response Plan" (SERP). This framework included both short-term measures to mitigate negative social and economic consequences and medium-to long-term investments to strengthen the re-build and resilience to future crises. Further, UNDP Bhutan also institutionalized the UN COVID-19 Response and Recovery Multi-Partner Trust Fund (UN COVID-19 MPTF) in April 2020 with the primary objectives to protect livelihoods by reinforcing the tourism and agriculture sectors in Bhutan. Bhutan is also currently finalizing its 21st Century Economic Roadmap, which includes plans for Bhutan's economic recovery from COVID-19. A fundamental aim of Bhutan's COVID-19 recovery is to help ensure a sustainable future for Bhutan. This includes recovery efforts anchored in climate change mitigation and adaptation, environmental protection, and strengthening the green and circular economy.

80. It is increasingly evident that the COVID-19 pandemic is unlikely to disappear anytime soon and will continue to have adverse impacts on socio-economic activities/progress of Bhutan. Likewise, it will also impact the effective implementation of the CBIT project activities in Bhutan, particularly in terms of carrying out capacity building activities that need resources and inputs of international expertise, if current international travel restrictions are not relaxed. Virtual training and workshops are alternatives as demonstrated in other CBIT countries. Developing appropriate mechanisms to ensure effectiveness of any virtual training will be essential.

Donor-funded initiatives

81. In the baseline, a number of donor-funded projects are planned or are being implemented to support Bhutan's commitment to climate change adaptation and mitigation as outlined in the NDC. The most relevant baseline projects are described in the table below. Coordination with GEF-funded and other additional initiatives is described in Section 6. Coordination.

Project or initiative	Linkages with the CBIT project
<i>FAO</i>	

<p>The FAO Representation in Bhutan is providing technical assistance to the Royal Government of Bhutan in several areas, in particular with regard to improving food security and nutrition and implementing carbon-neutral and climate-resilient agricultural practices. FAO has also provided technical assistance to the Renewable Natural Resources (RNR) Census 2018 (2017-2019, USD 51,000). In addition to the technical assistance for the development of the REDD+ FRL and National Forest Monitoring System described above, FAO has implemented a project on Strengthening the Role of Communities in Climate Change Mitigation through Participatory Forest Management in Bhutan, providing valuable lessons on community-based forest management (2014-2016, USD 175,000).</p> <p>FAO is supporting the preparation of a project proposal to the GCF on Enhancing Climate Resilience of Water Sources in Bhutan (see below).</p> <p>In addition, FAO is leading several GEF CBIT projects globally and in the region, including the CBIT Global AFOLU Project and country projects in Afghanistan, Bangladesh, Cambodia, Mongolia, PNG, and Sri Lanka.</p>	<p>The proposed CBIT project will build on lessons and experiences from the CBIT Global AFOLU Project and other CBIT projects implemented in the region that have already started detailed project preparation or implementation. Opportunities for exchange and joint capacity building will be sought with these projects.</p> <p>Data and coordination mechanisms from the RNR census will be taken into account.</p> <p>Lessons learned and experiences from the REDD+ activities will also be taken into account.</p>
<p>UNDP</p>	

Building on the achievements of the LECB Programme, UNDP is currently implementing the **NDC Support Programme** (?Gender Responsive NDC Implementation in Bhutan?).

This programme, implemented from January 2019 to June 2021 (USD 802,500), is assisting Bhutan in evidence-based planning, design and implementation, integrated climate governance, developing capacities to design climate-friendly investment opportunities, as well as support public-private partnerships for NDC implementation.

The key focus areas include the following:

- ? Integrated Governance: Formalize and strengthen institutional frameworks, including gender-responsive approaches.
- ? Mitigation Actions: Conduct analysis of gender issues in relevant policies and strategies for priority NDC sectors; develop gender action plans; implement key recommendations/analyses identified in sectoral NDC roadmaps to address technical barriers to inclusive NDC implementation.
- ? Climate Finance: Design gender-responsive financial mechanisms to scale up NDC actions in support of economic diversification.
- ? Private Sector Engagement: Systematic engagement of private sector on inclusive NDC investment opportunities.

The CBIT project will build on the capacity developed under this programme for NDC implementation, in particular with regard to gender issues, and private sector engagement. It will complement this initiative by further developing capacity for MRV. The CBIT project will contribute to the dissemination of the NDC Support Programme's outcomes through the National Environment Information Management System (EIMS) and through its capacity development activities.

GCF

Adaptation Planning support for Bhutan (NAP readiness project)

GCF approved readiness proposal, through UNDP.

This USD 2.7 million GCF readiness project (implemented from 2019 to 2023) is coordinated by UNDP-Bhutan through NEC. The outcomes of this project include:

- ? Enhanced coordination, learning and knowledge management for an iterative NAP process.
- ? Technical capacity enhanced for the generation of climate scenarios and impact assessment.
- ? Vulnerability assessments undertaken and adaptation options appraised and prioritised.
- ? NAP formulated, and capacity for implementation and monitoring established.

The formulation and implementation of Bhutan's NAP is led by the NEC, through the Climate Change Division, in collaboration with the GNHC and other partners such as the Ministries of Agriculture and Forests, Economic Affairs, Health, Home and Culture Affairs, the National Centre for Hydrology and Meteorology, civil society organizations (CSOs), and academia.

Some of the outputs relevant to the CBIT project include:

- ? Institutional capacity and inter-sectoral coordination strengthened for adaptation planning and implementation.
- ? Knowledge management systems to strengthen climate responsive planning. A protocol for management of data and information will be developed to streamline and harmonize and standardize management of data and information. An adaptation platform for information and knowledge management will be developed to support climate responsive planning and the NAP process.
- ? A participatory and result-based M&E framework will be prepared to review and monitor the implementation of the NAP.
- ? Screening tools to facilitate the integration of climate change adaptation into development planning applied.
- ? Design and implementation of training for scientific and technical communities in partnership with national training institutes and universities.
- ? Appropriate tools applied for climate risk and impact assessment of key sectors at national level and interface with local level via ongoing initiatives.
- ? Comprehensive national inventory of water resources including contribution from ground water and wetlands/assessment of potential climate change impacts on urban water supply and sanitation system for major urban centres which include projections.

The CBIT project builds on the coordination mechanisms, capacity, knowledge management and M&E systems established under the NAP readiness project. In particular, it will closely coordinate with this project under its Component 3 in order to avoid overlap and fill relevant gaps. Through the CBIT project, knowledge management systems developed under the NAP project will be linked and integrated with the National Environment Information Management System (EIMS).

Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan

GCF approved funding proposal, through UNDP.

Gross National Happiness Commission (GNHC) as Executing Entity.

USD 18 million in GCF funding (2020-2025).

The project seeks to enhance the resilience of smallholder farms to climate change, especially variation in rainfall and frequent occurrence of extreme events, through three complementary outputs:

- ? Promote resilient agricultural practices in the face of changing climate patterns.
- ? Integrate climate change risks into water and land management practices that affect smallholders.
- ? Reduce the risk and impact of climate change induced landslides during extreme events that disrupt market access.

Among others, the project will include the following activities:

- ? Developing and integrating climate risk data into crop and livestock planning at the national and sub-national levels.
- ? Tailored climate information and related training to local government and farmers to interpret and apply climate risk data to local and household level agriculture planning.
- ? Scaling up climate-resilient agriculture practices, and training local entities in community seed production and multiplication and cultivation of climate-resilient crop alternatives.

The CBIT project builds on the capacity and knowledge on climate risk data and assessment, and climate-resilient practices in the agriculture sector, developed under this project.

World Bank

<p>Preparation of Strategic Program for Climate Resilience (SPCR)</p> <p>This USD 1.5 million World Bank grant (2017-2021) for the preparation of the Strategic Program for Climate Resilience (SPCR) supports Bhutan to formulate a long-term plan to improve climate resilience. The SPCR builds on ongoing initiatives and activities throughout Bhutan while providing a structure to incorporate climate resilience into development planning across sectors and stakeholder groups, putting in place a coordination mechanism and process of engagement on climate issues building on existing institutions, and developing a roadmap to build capacity and increase investment opportunities in the future.</p> <p>The project is supported through a preparatory grant fund provided by the Climate Investment Fund (CIF) through the Pilot Program for Climate Resilience Program (PPCR).</p>	<p>The CBIT project will engage with this project in order to build on the coordination mechanisms, capacity building, and monitoring developed by this project.</p>
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Universities

82. Tertiary education institutes under the Royal University of Bhutan, including the Royal Thimphu College, Sherubste College, and the College of Natural Resources, offer courses on climate change for undergraduate students. Other relevant institutes include the Renewable Natural Resources Research and Development Centres, Ugyen Wangchuck Institute for Conservation and Environmental Research, Khesar Gyalpo University of Medical Sciences of Bhutan. Under the NAP project, collaboration has been initiated with Sherubste College, the College of Natural Resources and the Wangchuck Institute to establish a Center of Excellence for Climate Change.

- 3) Proposed alternative scenario with a brief description of expected outcomes and components of the project and the project's Theory of Change

83. The GEF alternative scenario is to develop and implement a comprehensive capacity building program that ensures that, by 2024, Bhutan is submitting reports consistent with the requirements of the Paris Agreement's Enhanced Transparency Framework (ETF), including more up-to-date inventories of emission sources and sinks using advanced IPCC guidance and information necessary to track progress against priority actions identified in Bhutan's NDC. Capacity will be enhanced at various levels. Firstly, institutional coordination and information management systems will be enhanced to ensure consistent collaboration and data collection and reporting across various sectors. Secondly, capacity for data generation and verification will be enhanced through designing consistent data reporting formats, indicators and targets for NDC tracking, collecting data, enhancing data quality in order to move to higher tiers of inventory reporting, and quality assurance/quality control. Finally, technical capacity will be developed through training of national professional and sectoral staff on methodologies, software, models of GHG inventories, and reporting on NDC mitigation and adaptation targets.

84. The Theory of Change of the Bhutan CBIT project is shown below. It is anticipated that, if institutional frameworks, knowledge and capacities are strengthened (Outcomes 1.1 and 1.2), if a system is in place to monitor and report on NDC mitigation targets and improvements are made to the GHG inventories (Outcome 2.1), and if technical capacities to monitor implementation of NDC adaptation actions are in place (Outcome 3.1), then Bhutan will be able to submit reports consistent with the ETF requirements by 2024. In the long term, it is expected that this will lead to more effective planning, management and monitoring of climate change adaptation and mitigation related activities and investment decisions in Bhutan. The main assumptions of the Theory of Change are that (i) sufficient human and financial resources are available in the key agencies to sustain the project outcomes after the project ends; (ii) a robust succession plan is in place, particularly in sector and sub categorical levels, to avoid knowledge and capacity gaps in measurement and reporting for ETF; and (iii) that increased capacity in GHG inventory and tracking of NDC targets will lead to enhanced capacity in Bhutan to address climate change issues.

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85. The baseline levels of capacity and associated targets have been established using the indicators in the GEF CBIT Programming Directions^[53], as shown below.

Table 3: Baseline and Target Ratings for CBIT indicators (ranking from the PPG inception workshop)

Indicator	Scale	Baseline Rating	Target	Baseline description	Target description
1. Qualitative assessment of institutional capacity for transparency-related activities	1 ? 4	1.86	3	Designated transparency institution exists, but with limited staff and capacity to support and coordinate implementation of transparency activities under Article 13 of Paris Agreement. Institution needs to upgrade to coordinate transparency activities under Article 13.	Designated transparency institution has an organizational unit with standing staff with some capacity to coordinate and implement transparency activities under Article 13 of the Paris Agreement. Institution has authority or mandate to coordinate transparency activities under Article 13. Activities are integrated into national planning or budgeting activities to a certain extent.

2. Quality of MRV systems	1 ? 10	2.43	6.14	Measurement systems are in place for a few activities, improved data quality and methodologies, but not cost or time efficient; wider access to reporting is still limited and information is partial; verification is rudimentary/non-standardized	Measurement systems are strong and cover a greater percentage of activities ? feedback loops exist even if they are not fully functioning. Reporting is available through multiple pathways and formats but may not be complete/transparent. Verification is done through standard methodologies but only partially (i.e., not all data is verifiable).
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86. In line with the Theory of Change, the project will comprise the following components, outcomes, and outputs. The activities under each output are described in more detail in [Annex H](#) (work plan).

87. Under *Component 1. Enhancing institutional frameworks, knowledge and capacities for the preparation, reporting and use of transparency information*, the project will aim to strengthen institutional frameworks to enable the preparation and reporting of transparency information^[54] (*Outcome 1.1*). This will address some of the barriers highlighted in the NCSA and TNA with regard to the lack of environmental management systems, coordination and information management at national and local levels. First, the project will review and formalize institutional arrangements and procedures for ETF reporting in Bhutan, including for NDC tracking (mitigation and adaptation), GHG inventory and climate financing support (*Output 1.1.1*). This will be done through a gap analysis and in consultation with all stakeholders, including NSB, sectoral focal points, academia/civil society, and private sector. The analysis will cover institutional arrangements/procedures including in-house capacity and financial resources, mandates, coordination mechanisms, collaboration with research and training institutes, stakeholder engagement, and data sharing protocols and formats.^[55] Based on the analysis, enhanced institutional arrangements will then be formalized. **This will be done through inter-agency agreements/MOUs, procedures, and/or revised Terms of Reference that will be institutionalized to remain in place beyond the CBIT project duration.** This will build closely on the institutional arrangements developed under the TNC, BUR, and NAP processes, but with a broader view of the institutional frameworks required to fulfil the reporting obligations under the Paris Agreement. The National Thematic Working Group (NTWG) on climate change will be institutionalized and its membership expanded to academic institutions, independent experts, NGOs/CSOs, and the agencies representing the IPCC sectors. Representation from the existing sectors will be increased and previously missing sectors such as the Land Commission will be added. The institutional arrangements will include coordination among different ministries and sectors, and with all relevant stakeholders, including inter-sectoral/ministerial/non-state sectors cooperation mechanisms and technical support systems. Protocols for regular and systematic coordination and sharing of information, roles and

responsibilities will be defined. This may also include data sharing protocols and confidentiality pacts with the private sector (in particular, industry) for providing activity data. The project will ensure that ETF-related data sharing processes are integrated with broader inter-sectoral and national coordination for data sharing and management. Coordination with the ongoing BUR and GCF readiness processes will be ensured, to avoid duplication and enhance synergies with regard to institutional coordination mechanisms. In particular, the CBIT project will build on existing mechanisms such as the NTWG, the Sectoral Leads and the National Inventory Coordinator constituted under the TNC and BUR; but will aim to further strengthen their institutionalization and broader representation through a clear definition of procedures, roles and responsibilities.

88. To complement this, partnerships with key research and training institute(s) will be identified and established to support capacity building and knowledge creation on a continuous basis (*Output 1.1.2*). These partnerships with local research/academic institutions will support technical capacity and knowledge development in areas such as GHG inventory and NDC tracking. Under the NAP project, collaboration has been established with Sherubste College, the College of Natural Resources and the Wangchuck Institute to establish a Center of Excellence for Climate Change. The CBIT project will build on and further develop these established partnerships. This may also involve linking local universities with reputable institutes outside of Bhutan, **to learn from their experiences and expertise. The project will aim to establish a formal partnership with an institute outside of Bhutan (still to be determined)**. This output will be linked with the training activities under Components 2 and 3 and will contribute to the sustainable creation of knowledge and capacities in Bhutan.

89. Furthermore, the project will upgrade the National Environment Information Management System (EIMS) and sectoral information systems in line with ETF requirements, including alignment between various sector information systems (*Output 1.1.3*). Sectoral information systems include systems such as the Forest Information Management and Reporting System, Energy Information System, Industrial Information System, Waste Inventory, Agriculture and Livestock Information System, and Power Data Management System. These will be better aligned, upgraded and integrated with the EIMS at NEC, including through the development of relevant data protocols, interfaces, guidelines/manuals and standard operating procedures (SOPs) for data management and uploading. The CBIT project will build on existing data management systems and platforms and will aim to ensure a coherent approach to MRV between sectors. **Under the lead and ownership of NEC and relevant sectors/agencies, existing data management systems will be assessed, and requirements of the EIMS and sectoral systems will be identified.** The systems will be developed to meet multiple requirements, including sector-specific and GHG inventory specific requirements. **The EIMS will also incorporate the System for NDC tracking as elaborated and agreed to under Outputs 2.1.3 and 3.1.1.** A national GHG database will be established with an online data submission forms and automatic data archiving system.^[56]⁵⁶ The Climate Change Platform developed under the GCF NAP Readiness project will also be integrated with the EIMS and sectoral information systems. Common data sources and data collection processes between adaptation and mitigation will be identified in order to enhance synergies and reduce duplication. Relevant institutions will be provided with the equipment and software necessary for decentralized data collection, storage, and uploading in line with data protocols developed under Components 2 and 3. This output will be closely coordinated with the activities under Components 2 and 3, and will lay the foundations for integrated data collection and management in all key transparency areas (inventories, mitigation, adaptation, and support received) which will also inform future NDC targets. User guides and on-the-job training modules will be developed for the

information systems as necessary. The EIMS will serve as the central repository not only for MRV data, but also for the guidelines, procedures and protocols, and training materials developed by the project as well as other related initiatives.

90. Also under Component 1, the project will strengthen knowledge and capacities for the generation and use of transparency information in policy processes (**Outcome 1.2**). First, priority areas of the LEDS/LTS and other policy processes will be supported through the use of data and information generated under Components 1 and 2 (*Output 1.2.1*). Technical assistance and training will be provided to support implementation/further enhancement of priority areas/strategies under the LEDS/LTS. The interventions will be gender-sensitive, i.e., they will consider gender-differentiated impacts of policies and measures in line with the LEDS/LTS. Training may be provided on FAO's NDC Expert Tool (NEXT) and NDC Tracking Tool for the AFOLU sector (currently under development).[1] These tools enable countries to estimate GHG emissions reductions commitments in the NDCs, and to track annual progress made in implementing and achieving their NDCs. The Initiative for Climate Action Transparency (ICAT) has developed a series of guidance for countries to use in transparently measuring and assessing the impacts of climate policies and actions.[2] These methodologies will be used, as relevant.

[1] <http://www.fao.org/climate-change/our-work/what-we-do/transparency/tools-resource/en/>

[2] <https://climateactiontransparency.org/icat-guidance-final-public-consultation/>

91. Second, the project will generate and analyse gender data and information and will develop a framework to mainstream gender aspects into ETF reporting and future NDC updates (*Output 1.2.2*). This will build on previous assessments including the gender capacity assessment conducted under UNDP's Low Emission Capacity Building Programme. The project will further enhance ongoing efforts to incorporate gender aspects into Bhutan's second NDC under UNDP's NDC Support Programme. Current TNC and BUR processes have not yet incorporated gender considerations or gender-disaggregated data/indicators (such as gender-specific needs and priorities with regard to mitigation strategies). The outcomes of this analysis will be incorporated into the indicators and data protocols developed under Components 2 and 3; as well as the assessment of climate change policies and the climate financing tracking system under Outcome 1.2. Among others, the analysis will be guided by UNDP's Gender Responsive National Communications Toolkit.[1] In line with this toolkit, the analysis will assess how women and men are differentially engaged in supporting or reducing greenhouse gases; and how men and women are innovating and adopting both new and old technologies to mitigate climate change. It will identify key areas for sex-disaggregated data collection and establish framework/criteria to enhance gender-responsiveness in ETF processes.

[1] UNDP (2015). Gender Responsive National Communications Toolkit. https://www.transparency-partnership.net/system/files/document/UNDP%20Gender%20Responsive%20National%20Communications%20Toolkit_English.pdf

92. Furthermore, the existing system and guidelines to track/tag climate change financing in national budgetary framework will be strengthened to monitor, evaluate and report climate finance (*Output 1.2.3*). A gap analysis will first be conducted to identify the needs for strengthening existing

finance tracking systems and link them with ETF reporting. This output will be linked with the institutional frameworks developed under Outcome 1.1, as well as the NDC tracking system under Outcomes 2.1 and 3.1. It will build on e-PEMS, the existing electronic payment system of the Government of Bhutan, through which all Government finance must be routed.

93. Lastly, the project will contribute to regional and global efforts to share and scale up relevant ETF best practices and lessons learned. ETF reporting best practices will be prepared and shared with national and local stakeholders from public and private sectors as well as with other CBIT countries and the CBIT Global Coordination Platform (*Output 1.2.4*). A knowledge management and communications plan will be developed and implemented to ensure outreach and dissemination of project results. Information on the established ETF systems will be disseminated to relevant institutions and stakeholders in order not only to increase knowledge and awareness, but also to promote the use of ETF data for national and sub-national planning, policy and decision-making. This may be done through seminars, knowledge products and other means. The CBIT project will provide valuable lessons learned to other countries in Asia and globally, in particular through *Output 1.2.1 on priority areas of the LEDS/LTS*; *Output 2.1.3 on the NDC tracking system*; and *Output 1.2.3 on establishing a system to track/tag climate change financing in national budgetary framework*. These will be shared with other LDC and middle/upper income countries through various international fora such as the LDC Consortium in Asia, the regional CBIT network, and the global AFOLU ETF network. Bhutan has participated in several capacity building activities of the global CBIT projects (including CBIT-AFOLU and CBIT-Forest) and will continue to be engaged until their completion. The Bhutan CBIT project will build closely on the outcomes and lessons learned of the global CBIT projects, in particular with regard to knowledge products and training materials/ webinars produced under these projects.

94. Under *Component 2. Establishing a system to monitor and report on NDC mitigation targets, including strengthening of MRV system*, the project will aim to further develop capacity and establish comprehensive MRV systems for mitigation actions, ensuring accuracy of data and verification, and establish a system to monitor and report on NDC mitigation targets in line with UNFCCC guidelines. This will enable Bhutan to have a system in place to track implementation and progress in achieving NDC mitigation targets, and to implement continuous improvements to its GHG inventories and data quality (*Outcome 2.1*). The project will build on the data and methodologies developed under the TNC and REDD+, as well as the ongoing BUR and second NDC processes. The experience in the forestry sector in MRV and GHG inventory will be used to inform and develop capacity of other sectors. In particular, capacity will be developed further to fulfil Transparency, Accuracy, Consistency, Comparability and Completeness (TACCC) principles of GHG inventories in all sectors and establishing country and sector specific emission factors. Data protocols and standards (including quality-assurance and quality-control protocols) will be established, and field monitoring systems will be improved. This will lay the foundations for the future BTR reporting in 2024 and beyond. Activities under this outcome will draw from the IPCC guidelines, FAO's *Estimating Greenhouse Gas Emissions in Agriculture: A Manual to Address Data Requirements for Developing Countries* (2015), as well as other tools and resources available via FAO's Mitigation of Climate Change in Agriculture (MICCA) program and other sectoral guidelines.^{[60]⁵⁷}

95. In line with this, the project, with the participation of all sectors and building on the analysis conducted during the project design phase, will identify gaps in the GHG inventory report, including identifying new sources of emissions, data collection mechanisms that need to be established, and country-specific emission factors (*Output 2.1.1*). Capacity building needs will also be identified in line with the TNC.

96. Based on this gap analysis, sector-specific inventory guidelines and protocols will be developed to enhance the data collection process and ensure the data consistency and methodological approach (*Output 2.1.2*). This will include the scoping and development of national data collection and management protocols. This output will also include developing capacity towards establishing national level emission factors for selected sector(s) building on the IPCC good practice guidelines and existing practices. Where relevant, guidelines will incorporate the outcomes of the gender analysis and gender mainstreaming framework developed under *Output 1.2.2*. Templates and toolkits will be compiled/developed or updated for relevant actors from the public and private sectors, civil society and academia. Furthermore, recommendations will be made to improve data collection and management and develop a QA/QC plan. Quality-control (QC) protocols will be established for regular, systematic estimates of emissions, removals, and emission-reduction activities. This output will be closely linked with the upgrading of the EIMS and sectoral information systems under *Output 1.1.3*. As part of this process, a regular and systematic documentation and archiving process will be established to ensure sustainability of the inventory, including quality assurance and quality control. Protocols will be established to define how, when, where, and by whom required data will be collected. Methodological guidelines on data sampling and data handling will also be formulated. Collaboration between sectors will also be strengthened, where relevant, such as for soil sampling between the forestry and agriculture sectors. Finally, linkages with the SEEA air emissions accounts will be established where feasible.

97. Furthermore, a system or framework will be established to track implementation and progress in achieving NDC mitigation targets (*Output 2.1.3*), including the establishment of indicators in line with UNFCCC guidelines. This may also involve collaboration with local research/academic institutions based on the partnerships established under *Output 1.1.2*. An M&E system for tracking NDC implementation across sectors will be developed accordingly, building on experiences from other countries.

98. Based on the developed guidelines and protocols, the project will develop and implement a comprehensive capacity development program to train relevant institutions and stakeholders on the inventory guidelines and protocols (including on the use of the latest IPCC guidelines and its software), and on the NDC tracking system, in view of the preparation of ETF reports (*Output 2.1.4*). The trainings will build on the partnerships established under *Output 1.1.2* and will aim to reach a wide audience within government and research institutions to ensure that solid capacity is developed within these institutions. Focal points of relevant sectoral agencies, as well as private sector representatives, will be trained. Capacity building tools and materials will be made available for continuous improvement and capacity development even after the end of the CBIT project.

99. Based on the developed guidelines and protocols, data will then be collected by national and local stakeholders from public and private sectors, including local governments, on the inventory of emission sources and sinks and emission reduction activities consistent with latest IPCC guidance, to build capacity for future ETF reporting (*Output 2.1.5*). While this activity will not directly support the preparation of the biennial transparency report (BTR) (due for submission in 2024) as well as the

Fourth National Communication (due in 2025), it will help build capacity among national institutions to support ETF reporting in the future through enhanced data and data collection processes.

100. Lastly, under **Component 3. Strengthening capacity to monitor and report on NDC adaptation actions**, the project will collaborate closely with the GCF readiness projects to develop technical capacities for monitoring and reporting progress in the implementation of NDC adaptation actions (including disaster risk reduction and early warning) (**Outcome 3.1**). A framework and indicators for monitoring and reporting on NDC priority adaptation actions under the ETF will be developed in close coordination with the NAP process (*Output 3.1.1*). Nationally appropriate adaptation indicators will be established to monitor and report progress against NDC adaptation priorities. Where appropriate indicators will build on existing national indicators, including the SDGs and other relevant indicator frameworks such as FAO's *Tracking Adaptation in Agricultural Sectors: Climate Change Adaptation Indicators* as well as other existing frameworks indicated in Table 4. This may focus on specific sectors that need further strengthening as identified in the NAP process. The framework will be integrated with the information systems developed under Output 1.1.3, in close coordination with the GCF NAP project. Good practices from other countries will also be reviewed. In the energy sector, the framework shall also include indicators related to alternative renewable energy as these are not covered by the NAP.

101. Finally, relevant institutions will be trained on monitoring and reporting on NDC priority adaptation actions, in view of the preparation of ETF reports consistent with latest UNFCCC guidance (*Output 3.1.2*). The training will build on the partnerships established under Output 1.1.2 and will also involve aspects on data collection and the use of ETF data for national and sub-national planning and decision-making.

Table 4: References to inform the design of measurement frameworks for climate change adaptation^[61]⁵⁸

Reference	Topic(s)	Level	Sector (intended users)
Reporting Adaptation through the Biennial Transparency Report. A practical explanation of the guidance. ^[62] ⁵⁹ (UNEP DTU Partnership, 2020)	Adaptation reporting through the BTR	National	Multi-sectoral (practitioners and technical experts)

Reference	Topic(s)	Level	Sector (intended users)
Tracking Adaptation in Agricultural Sectors: Climate Change Adaptation Indicators[63] ⁶⁰ (FAO, 2017)	Methods and indicators for tracking climate-change adaptation	National and sub-national	AFOLU (national decision-makers and MRV practitioners)
Monitoring and reporting toolkit of Pilot Program for Climate Resilience (PPCR)[64] ⁶¹ (CIF, 2015)	Processes related to adaptation planning and mainstreaming	National and program/ project level	Multi-sectoral (national policy-makers)
Stocktaking for national adaptation planning (SNAP) tool[65] ⁶² (GIZ, 2014)	Self-assessment of capacities to undertake NAP processes	National	Multi-sectoral (stakeholders involved in NAP processes)
Tool for monitoring progress, effectiveness, and gaps (PEG) under NAP processes[66] ⁶³ (UNFCCC, 2015)	Assessment of the essential functions of NAP processes	National	Multi-sectoral (stakeholders involved in NAP processes)
Index for risk assessment (INFORM) [67] ⁶⁴ (De Groeve et al., 2015)	Assessment of country resilience and ranking	National	Multi-sectoral (national decision-makers and international organizations)
Framework on making adaptation count[68] ⁶⁵ (Spearman and McGray, 2011)	Monitoring and evaluation of adaptation processes and outcomes	National and local	Multi-sectoral (adaptation practitioners)

Reference	Topic(s)	Level	Sector (intended users)
Tracking adaptation and measuring development (TAMD) approach[69] ⁶⁶ (Brooks et al., 2011)	Monitoring of climate risk management processes and outcomes	National and local	Multi-sectoral (adaptation practitioners)
The Vulnerability Sourcebook[70] ⁶⁷ (Fritzsche et al., 2014)	Changes in outcomes, with a specific focus on vulnerability	National and sub-national	Multi-sectoral (adaptation practitioners)
Strengthening Monitoring and Evaluation of Climate Change Adaptation[71] ⁶⁸ (GEF STAP, 2017)	M&E challenges and frameworks	Program/ project	Multi-sectoral (development agencies and financial institutions)

- 4) Alignment with GEF focal area and/or Impact Program strategies and FAO comparative advantage

102. The proposed project is aligned with the Capacity Building Initiative for Transparency (CBIT) under the GEF-7 Climate Change Mitigation Focal Area Strategy to support projects that build institutional and technical capacity to meet the enhanced transparency requirements in the Paris Agreement. In line with the CBIT Programming Directions, the project aims to:

- ? Strengthen national institutions for transparency-related activities in line with national priorities;
- ? Provide relevant tools, training and assistance for meeting the provisions stipulated in Article 13 of the Agreement; and
- ? Assist in the improvement of transparency over time.

103. The contribution of the different project outputs to meeting the requirements outlined in the MPGs is summarized below.

Table 5: Project outputs mapped against relevant MPGs requirements

MPGs requirements	Bhutan CBIT Project Outputs	Related MPGs articles[72] ⁶⁹
<p>I. National inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases</p> <p><i>Mandatory</i></p>	<p><u>Output 1.1.1</u></p> <p>Institutional arrangements and procedures reviewed and formalized, including for NDC tracking (mitigation and adaptation), GHG inventory and climate financing support.</p> <p><u>Output 1.1.2</u></p> <p>Partnerships with key research and training institute(s) identified and established to support capacity building and knowledge creation on a continuous basis.</p> <p><u>Output 1.1.3</u></p> <p>National Environment Information Management System (EIMS) and sectoral information systems upgraded in line with ETF requirements, including alignment between various sector information systems.</p>	<p>Each Party <u>should implement and maintain national inventory arrangements</u>, including institutional, legal and procedural arrangements for the continued estimation, compilation and timely reporting of national inventory reports in accordance with these MPGs. (Part II, section B, para 18, p. 22)</p>

	<p><u>Output 2.1.1</u></p> <p>Gaps in the GHG inventory report identified, including identifying new sources of emissions, data collection mechanisms that need to be established, country-specific emission factors.</p> <p>-</p> <p><u>Output 2.1.2</u></p> <p>Sector specific inventory guidelines and protocols developed, including national level emission factors for selected sector(s).</p> <p><u>Output 2.1.4</u></p> <p>Relevant institutions and stakeholders trained on the inventory guidelines and protocols, and on the NDC tracking system, in view of the preparation of ETF reports.</p> <p><u>Output 2.1.5</u></p> <p>Data collected by national and local stakeholders from public and private sectors in preparation of the biennial transparency report (BTR).</p>	<p>Each Party <u>shall use methods from the IPCC guidelines</u> referred to in paragraph 20 above. Each Party should make every effort to use a recommended method (tier level) for key categories in accordance with those IPCC guidelines. (Part II, section C, para 21, p. 23)</p> <p>Each Party <u>is encouraged to use country-specific and regional emission factors and activity data, where available, or to propose plans to develop them</u>, in accordance with the good practice elaborated in the IPCC guidelines referred to in paragraph 20 above. (Part II, section C, para 24, p. 23)</p> <p>Each Party <u>shall elaborate an inventory QA/QC plan</u> in accordance with the IPCC guidelines referred to in paragraph 20 above. (Part II, section C, para 34, p. 24)</p>
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<p>II. Information necessary to track progress made in implementing and achieving NDCs under Article 4 of the Paris Agreement (mitigation)</p> <p><i>Mandatory</i></p>	<p><u>Output 2.1.3</u></p> <p>System established to track implementation and progress in achieving NDC mitigation targets.</p> <p><u>Output 1.2.1</u></p> <p>Priority areas of the LEDS/LTS and other policy processes supported through the use of data and information generated under Components 1 and 2.</p> <p><u>Output 1.2.2</u></p> <p>Gender data and information generated, analysed and framework to mainstream gender aspects into ETF reporting and future NDC updates developed</p>	<p>Each Party <u>shall provide information on the institutional arrangements in place to track progress made in implementing and achieving its NDC</u> under Article 4, including those used for tracking internationally transferred mitigation outcomes, if applicable, along with any changes in institutional arrangements since its most recent biennial transparency report. (Part III, section A, para 61, p. 27)</p> <p>Each Party <u>shall provide information on legal, institutional, administrative and procedural arrangements</u> for domestic implementation, monitoring, reporting, archiving of information and stakeholder engagement related to the implementation and achievement of its NDC under Article 4.4. (Part III, section A, para 62, p. 28)</p> <p>Each Party <u>shall identify the indicator(s) that it has selected to track progress towards the implementation and achievement of its NDC</u> under Article 4. Indicators shall be relevant to a Party's NDC under Article 4 and may be either qualitative or quantitative. These indicators could include, as appropriate, for example: net GHG emissions and removals, percentage reduction of GHG intensity, relevant qualitative indicators for a specific policy or measure, mitigation co-benefits of adaptation actions and/or economic diversification plans or other (e.g. hectares of reforestation, percentage of renewable energy use or production, carbon neutrality, share of non-fossil fuel in primary energy consumption and non-GHG related indicators). (Part III, section C, para 65, p. 28)</p> <p>Each Party shall provide a description of each methodology and/or accounting approach used, as applicable for: [?]</p> <p>(g) Methodologies used to <u>track progress arising from the implementation of policies and measures</u>; (Part III, section C, para 75, p. 29)</p>
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<p>III. Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement</p> <p><i>Encouraged</i></p>	<p><u>Output 3.1.1</u></p> <p>Framework and indicators for monitoring and reporting on NDC priority adaptation actions under the ETF developed in line with the NAP process.</p> <p><u>Output 3.1.2</u></p> <p>Relevant institutions trained on monitoring and reporting on NDC priority adaptation actions, in view of the preparation of ETF reports consistent with latest UNFCCC guidance.</p> <p>Also, Outputs 1.2.1 and 1.2.2 above.</p>	<p>Each Party <u>should provide the following information, as appropriate, related to monitoring and evaluation</u>: (c) Assessment of and indicators for, (i) how adaptation increased resilience and reduced impacts; (i) Transparency of planning and implementation; (Part IV, section F, para 112, p. 35)</p> <p>In order to enhance their adaptation actions and to facilitate reporting, as appropriate, each Party <u>should report on the establishment or use of domestic systems to monitor and evaluate the implementation of adaptation actions</u>. Parties should report on approaches and systems for monitoring and evaluation, including those in place or under development. (Part IV, section F, para 112, p. 35)</p>
<p>IV. Information on financial, technology development and transfer and capacity-building support needed and received</p> <p><i>Voluntary</i></p>	<p><u>Output 1.2.3</u></p> <p>1. System and guidelines strengthened to track/tag climate change financing in national budgetary framework to monitor, evaluate and report climate finance.</p> <p><u>Output 1.2.4</u></p> <p>ETF reporting best practices are prepared and shared with national and local stakeholders as well as with other CBIT countries and the CBIT Global Coordination Platform.</p>	<p>Developing country Parties <u>should provide, in a common tabular format, information on financial support received</u>, including, to the extent possible, and as available and as applicable. (Part VI, section C, para 134, p. 42)</p> <p>Each Party <u>should provide the following information, as appropriate, related to cooperation, good practices, experience and lessons learned</u>: (iii) Monitoring and evaluation. (Part IV, section H, para 116, p. 36)</p>

104. *FAO comparative advantage.* FAO has extensive expertise and experience in technical areas relevant to this project, including: climate change mitigation in agriculture, livestock and forestry, climate change adaptation for agriculture, integrated production systems, grasslands production and maintenance, sustainable land use and land management, land degradation, and sustainable forest management. FAO has developed and maintains the FAOSTAT database, a global inventory of GHG emissions from the AFOLU sector. FAOSTAT provides Tier 1 default estimates in accordance with IPCC's 2006 Guidelines using data from the Global Forest Resource Assessment (FRA) and countries' official reports on agriculture and land use changes. Additionally, as a technical agency, FAO has specific expertise, tools, and training materials for CCM MRV and GHG Inventory. FAO is currently

implementing two global CBIT projects, (i) Global capacity-building products towards enhanced transparency in the AFOLU sector (CBIT-AFOLU); and (ii) Building global capacity to increase transparency in the forest sector (CBIT-Forest). Additionally, FAO is implementing national CBIT projects in Afghanistan, Bangladesh, Cambodia, Mongolia, PNG, and Sri Lanka.

- 5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

105. The project will build on the baseline described above, and fund incremental costs to build additional capacity for monitoring and reporting on climate change mitigation and adaptation in Bhutan. In particular, the project will develop capacity of national institutions and staff to prepare reports consistent with the requirements of the ETF, including more up-to-date inventories of emission sources and sinks using advanced IPCC guidance and information necessary to track progress against priority actions identified in Bhutan's NDC. The GEF project will fund the incremental costs of developing standards, protocols and mechanisms for sharing of information and data; enhancing institutional frameworks and procedures; training for national and local experts, government staff and other stakeholders; transferring experience and knowledge in MRV among sectors and sub-sectors; improving data management systems; and establishing long-term capacity for monitoring and reporting under the ETF and use of information and knowledge in policy processes.

106. *Without the CBIT project*, collection, compilation and development of GHG inventory reports will continue to be mostly project-based and rely on external consultants. Bhutan will not be able to develop the required national capacity to fulfil its reporting requirements under the Paris Agreement by 2024 without outside support. Also, the quality assurance and quality control (QA/QC) will continue to be implemented through ad hoc technical working groups and validation workshops and without a solid procedure. Without the project also, Bhutan will not be able to develop country specific emission factors and uncertainty data and use higher tier approaches in sectors that are of particular importance for its GHG inventory. Information management systems will remain insufficiently integrated; and there will be limited use of transparency-related information and knowledge in policy processes. A system to track progress against NDC targets will be lacking. Finally, while the NTWG, the Sectoral Leads and the National Inventory Coordinator constituted under the TNC and BUR will remain in place, they will not be fully institutionalized and will lack a clear definition of procedures, roles and responsibilities and a broader representation.

107. *With the CBIT project*, Bhutan will put in place the required national capacity and institutional frameworks to lead the development of national GHG inventories and reports under the ETF through a solid reporting and data collection and management process. Clear roles and responsibilities and procedures will be defined, including for QA/QC. Country specific emission factors will be developed and additional activity data collected to enhance data availability. Information management systems and protocols will be in place to enable national institutions to collect and manage data required for ETF reporting. Knowledge and capacity for the use of transparency information in policy processes will be developed among national institutions and stakeholders, thereby enhancing capacity to use data in national and sub-national planning, policy and decision-making. Sector-specific adaptation indicators to track progress against the NDC targets will be developed, in

line with the NAP. Finally, Bhutan will be able to track support needed and received for the implementation of its NDC.

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

108. As explained above, the project will build institutional and technical capacity to meet the enhanced transparency requirements of the Paris Agreement. This will enable Bhutan to prepare more up-to-date inventories of emission sources and sinks and information necessary to track progress against priority actions identified in its NDC. It will also enable the country to improve the quality of data and information on climate change, in particular in the agriculture and land use sectors. It is expected that this will lead to more effective planning, management and monitoring of climate change adaptation and mitigation related activities and investment decisions in Bhutan. Increased transparency will also improve governance and accountability over time.

109. Indirectly, it is anticipated that this will generate global environmental benefits (GEBs) in the areas of climate change, land degradation, and biodiversity. Socio-economic benefits will also be generated, including through improved management of ecosystems and natural resources upon which local livelihoods depend, as well as by building capacity of stakeholders and national and local institutions, including government, academia, civil society, and the private sector.

7) Innovativeness, sustainability, potential for scaling up and capacity development

Innovation

110. The project is innovative as it aims to establish a comprehensive coordination mechanism and capacity development with regard to ETF reporting in Bhutan. The project will facilitate investment in dedicated knowledge management and information system and IT hardware and software for more effective management and reporting of ETF-related data and information on mitigation and adaptation related activities in Bhutan.

111. Furthermore, the project will introduce best practices, tools and lessons learned from other countries for ETF reporting. This will result in technology transfer to relevant government institutions, universities, and research institutions in Bhutan. Innovative tools for estimating GHG emissions will be introduced, and capacity built for their use in ETF reporting. These tools may include, among others, FAO's Global Livestock Environment Assessment Model (GLEAM), which enables countries to establish baselines and assess the impacts of different mitigation and adaptation scenarios in the livestock sector at local and national levels. Based on IPCC Tier 2 methodology and GIS-based modelling of livestock distributions, GLEAM enables assessments of all major GHG emissions from livestock and the impacts of related activities to reduce emissions from the sector. Similar tools have been developed via FAO's Mitigation of Climate Change in Agriculture (MICCA) program.^{[73]⁷⁰} The

FAOSTAT emissions database[74]⁷¹ may also be used for country-level activity data and Tier 1 GHG estimates for the agriculture and land use sectors.

Sustainability and potential for scaling up

112. The project will build on identified country needs and will be embedded in the key institutions responsible for ETF reporting in Bhutan. It builds on existing capacity in these institutions and aims to further enhance capacity, systems, and coordination mechanisms required to meet the obligations under the Paris Agreement while also addressing national priorities. The project will build individual, institutional, technological, and operational capacity for MRV in the relevant sector institutions and universities by introducing relevant tools, data management systems, and protocols. It will also strengthen collaboration among institutions and sectors as well as international exchange. Through these mechanisms, it is anticipated that the built capacity will be sustained after the project ends. Additionally, NEC and the sectors will be able to use/allocate some of their regular budgets and staff to sustain the capacity developed under the project, such as to ensure regular capacity building activities, contributing to future ETF reporting, as well as the use and maintenance of the EIMS and sectoral systems. As described under Output 1.1.3 Activity #3, the project will establish clear mandates and budget for the maintenance and future development of the EIMS, including interface with NSB, relevant sector agencies and research institutes.

113. Moreover, the developed tools and training programs can be used to scale up the capacity and adoption of tools and approaches within relevant institutions at national and sub-national levels. The training programs will aim to reach a broader audience to expand the network of professionals involved in ETF reporting in Bhutan. The project will also engage in exchange and sharing of best practices and lessons learned under the CBIT Global Coordination Platform and FAO Transparency Network, contributing to the adoption and scaling of relevant tools, methodologies and approaches in other countries. In particular, the following opportunities for scaling have been identified and will be further explored during implementation:

? *Inventory guidelines and protocols:* Although the project covers all sectors, it will focus on selected key categories and gases in each sector (such as for the inventory guidelines to be developed under Output 2.1.2). Thus, there is scope to scale up the developed guidelines and systems functionalities beyond the selected key categories and gases.

? *Information systems:* The data-sharing platform/EIMS and sectoral systems will continue to be operated and developed by NEC and sector agencies after the project ends. Wherever possible, the project will develop interoperable platforms to enable sharing of data among agencies. Data sharing with the National Statistics Bureau (NSB) and linkages with SEEA accounting is also expected to be expanded to other sectors once demonstrated by the project in a pilot sector.

? *Capacity building:* Capacity building and training provided to national and local level stakeholders will be developed as modules that can be adapted to improve data collection methods and analysis across all sectors. Training programs under Outputs 1.1.2, 2.1.4 and 3.1.2 will be institutionalized within sectors as well as the partner universities, enabling the country to further develop national capacity even after the project ends. Because the CBIT project is largely focused on

capacity building, there will be potential for scaling up, expanding the program to include more staff, and over time, introduce more advanced material as new technologies for MRV and CCA/CCM emerge.

? *Institutional mechanisms:* By working through and strengthening the institutional mechanisms in place for transparency of climate change actions, the project will be able to better facilitate this process of scaling out project-developed systems, processes and partnerships. Over time, the enhanced government capacity will lead to regular national reporting on actions to reduce climate change drivers and impacts as envisioned under Article 13 of the Paris Agreement.

? *Sharing of lessons within Bhutan and with other countries:* The project will ensure the dissemination of knowledge and experiences generated under the project, including through the partnership with the universities established under Output 1.1.2. The information and knowledge sharing will directly contribute to the project's goal to build national capacity and awareness on the ETF and its data collection, monitoring and reporting processes. As described above, lessons learned will also be shared with other countries in the region and globally for potential replication in these countries. The project will engage directly with CBIT's global projects to avail of and contribute to opportunities for sharing best practices and lessons learned.

Capacity development

114. A self-assessment questionnaire was circulated among sectors during PPG to assess existing knowledge and capacity. As highlighted in the baseline section, national capacity for GHG inventory and tracking of NDC adaptation and mitigation actions is still limited, both in terms of individual and institutional capacity. Only a limited number of national experts have been engaged in previous processes and they mostly provide *ad hoc* inputs. As explained in the project's Theory of Change, capacity building is at the core of the CBIT interventions. First, the CBIT project will build national capacity by strengthening institutional arrangements, knowledge sharing, and institutionalize capacity building. Second, it will also enhance the sectors capabilities by strengthening and aligning their information systems. Finally, technical capacity will be built of a wider group of stakeholders in GHG inventory as well as the NDC tracking system. Identified national research institutions and universities will be engaged to enhance data and information collection and capacity building. The project will focus on building capacity of all stakeholders involved and will aim to increase the participation of women in capacity building activities. Where needed, it will engage international expertise with the aim of enhancing capacity of national institutions and stakeholders.

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- [55] See also UNFCCC Secretariat (2020). Handbook on institutional arrangements to support MRV/transparency of climate action and support, Consultative Group of Experts. https://unfccc.int/sites/default/files/resource/Hand%20book_EN.pdf Institutional arrangements can be organized around five separate components. These are: Organizational mandates; Expertise; Data flows; Systems and tools; and Stakeholder engagement.
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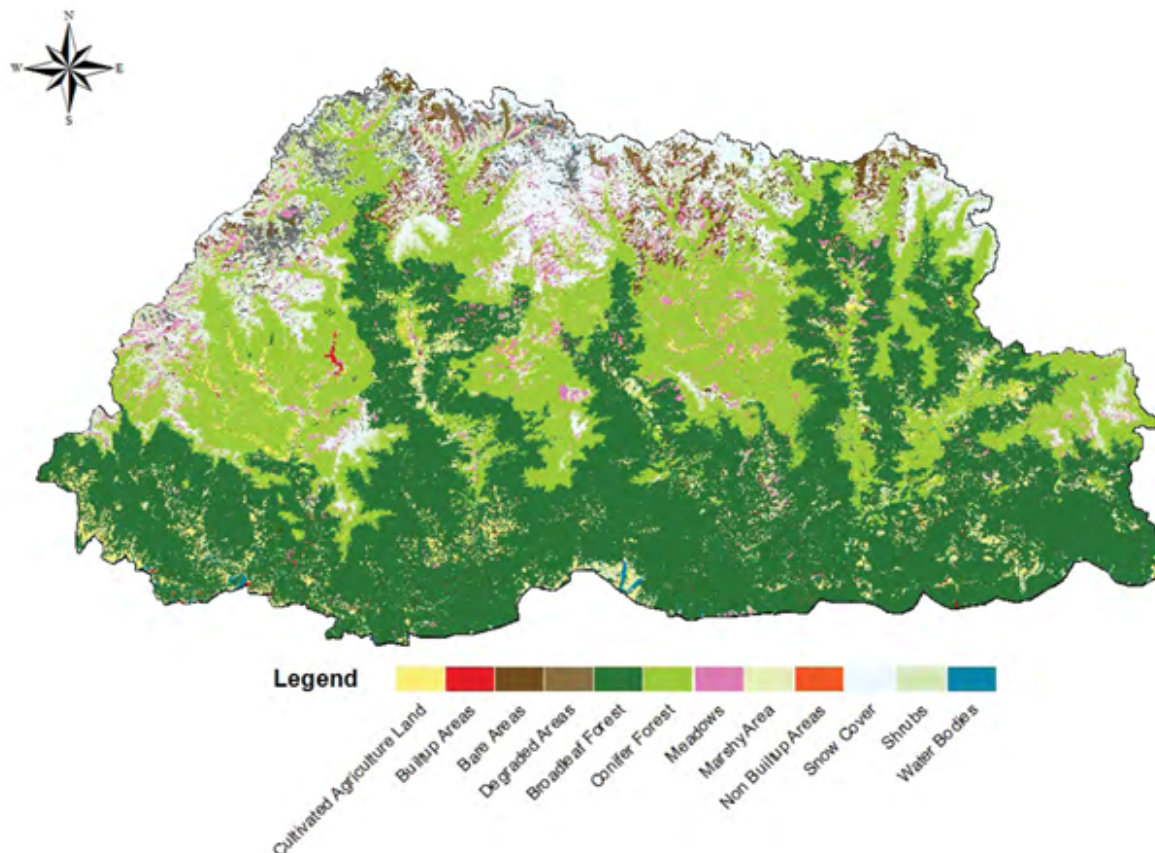
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1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

n/a

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations

Indigenous Peoples and Local Communities

Private Sector Entities

If none of the above, please explain why: Yes

Stakeholder consultations during the project design phase

Consultations were held during project identification and design phase with key agencies and stakeholders at national level (Ministry of Agriculture and Forests, Department of Forests and Park Services, Ministry of Information and Communications, Ministry of Economic Affairs, Department of Renewable Energy, Department of Hydropower and Power Systems, Department of Livestock, Department of Industries, Waste Management Division and Environment Assessment and Compliance

Division of NEC, FAO Country Office Bhutan). Consultations with civil society, private sector, academia, UN agencies and sub-national stakeholders of various sectors were also held during project design. Additionally, experiences from the ongoing GCF readiness projects in working with these stakeholders have been taken into account in the project design. Due to COVID-19 restrictions, in addition to in-person meetings, the project used alternative means for consultations with national and sub-national stakeholders, such as virtual meetings, smaller size gatherings and phone calls.

A summary of the main consultations held during PPG is provided below. In terms of women's participation, it is to be noted that woman representatives were present in about 70% of the individual stakeholder meetings listed below. They also represented 34.4% of participants at the PPG inception workshop.

Meeting / consultation	Main points of discussion and observations
<p>1. PPG Inception Workshop (virtual meeting)</p> <p>15th June 2021, 10:00-12:30</p>	<p>The PPG workshop was attended by 21 men (65.6%) and 11 women (34.4%). The participants consisted of the technical focal points of the relevant agencies as well as representatives from academia and civil society, UNDP and FAO. The proposed project outputs and outcomes were presented to the participants and discussed with them. The timeline for the PPG phase was also presented.</p> <p>Online polls were conducted among the participants to broadly assess the existing institutional capacity and knowledge on climate change mitigation and adaptation and the quality of current MRV system (CBIT Tracking Tool Indicators 5 and 3).</p> <p>The following recommendations were made (among others):</p> <ul style="list-style-type: none"> ? Engage National Statistics Bureau (NSB) for alignment and management of data. ? Inclusion of additional stakeholders such as Gross National Happiness Commission (GNHC), Ministry of Finance (MOF) and national aviation bodies. ? Identify colleges under Royal University of Bhutan (RUB) for CBIT project collaboration. Sherubtse College, College of Natural Resources and College of Science and Technology, may be involved for soil carbon estimates. ? Include capacity building on ?data analysis? along with the data collection and management systems. ? While strengthening the working group members, the transfer of knowledge needs to be taken into consideration. <p>Following the inception workshop, these points were discussed more in detail with individual stakeholders and were incorporated into the project design.</p>

<p>2. June 2021 ? Meetings with National Environment Commission (NEC)</p>	<p>NEC and the PPG team (led by Bhutan Ecological Society and FAO) agreed on the identified agencies and confirmed the timeline for stakeholder consultations.</p> <p>The College of Natural Resources (CNR), College of Science and Technology (CST), and Sherubtse College under the Royal University of Bhutan, along with the Ugyen Wangchuck Institute for Conservation and Environment, were identified for engagement in the CBIT project. Recommended to also engage NSB in terms of data management. NEC recommended to also reach out to the National Commission for Women and Children (NCWC) particularly regarding mainstreaming gender component of the project.</p> <p>It was discussed whether the individual CBIT outcomes were in alignment with the newly published second NDC and achievable within the scope of the proposed project timeframe.</p> <p>Recommendations to explore and perhaps even encourage a marketplace approach whereby, sectors/agencies/private entities are incentivised, for accounting and mitigating GHG emission, in future were made.</p> <p>NEC mentioned plans of taking the existing paper based EIMS system online with the inclusion of GHG component. Also mentioned were the plans of upscaling the existing Environmental Clearance system with inclusion of the GHG inventory component.</p> <p>Annex H table and a self-assessment questionnaire were distributed to the sector focal points to seek their inputs on the proposed activities as well as identify capacity gaps.</p>
<p>3. July 2021 ? Meeting with the Road Safety and Transport Authority (RSTA)</p>	<p>RSTA raised that most of the outcomes outlined in the CBIT project are coordinated by the NEC where the sector focal points work as part of technical team. It, however, was noted that RSTA and Ministry of Information and Communications (MoIC) do have focal officials dedicated to the GHG Inventory and NDC.</p> <p>Suggestions were made on the proposed activities, such as the strengthening of the motor vehicle data recording system.</p>
<p>4. July 2021 ? Meeting with the Department of Renewable Energy (DRE)</p>	<p>DRE noted the importance of establishing country/sector specific emission factors to account for GHG emissions since Bhutan has been taking zero as its grid emission factor till date due to lack of evidence and studies.</p> <p>Since the second NDC was still under process during the time of consultation, DRE expressed whether the proposed CBIT activities will be in line with the proposed/approved activities drawn in the second NDC.</p> <p>Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>

5. July 2021 ? Meeting with the Department of Agriculture (DoA)	<p>DoA noted that a similar capacity exercise was conducted in 2018 (named Assessment of Existing Institutional Capacity of the RNR Sector and its related Agencies to Plan and Implement Climate Resilient Integrated Landscape Management and Community Development) and perhaps the Ministry of Agriculture and Forests (MoAF) could continue to build on the objectives of the earlier project.</p> <p>DoA recommended to update some of the figures in the CBIT PIF document.</p> <p>Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>
6. July 2021 ? Meeting with the Department of Livestock (DoL)	<p>Livestock already had activities assigned to CBIT outcomes. Further suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible. These were also discussed with the livestock experts from the FAO global CBIT project to benefit from experiences from other countries, such as Mongolia.</p>
7. July 2021 ? Meeting with the Department of Industries (DoI)	<p>The earlier focal person involved was no longer with the department, therefore, the current personnel related the need for more time to discuss the outputs with the former personnel to propose activities accordingly. Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>
8. July 2021 ? Meeting with the Department of Forest and Park Services (DoFPS)	<p>DoFPS officials commented on existing mandates of land use mapping between the DoF and the National Land Commission (NLC). They also informed about the ongoing second NFI, including collection of soil samples. Inputs were provided for the relevant ProDoc sections. Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>
9. July 2021 ? Meeting with the National Statistics Bureau (NSB)	<p>NSB inquired about the progress with the implementation of EIMS and the data format maintained in this system. They also suggested to verify whether the current CBIT activities are in compliance with the SEEA.</p> <p>NSB suggested the importance of the project to be more sustainable whereby there are provision to build upon it and enhance further in the future. Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>
10. July 2021 ? Meeting with the National Commission for Women and Children (NCWC)	<p>The consultation noted the disparate impacts of climate change on different gender and highlighted the importance of equitable capacity building opportunities for men and women and the need to propose activities accordingly.</p> <p>Suggestions were made on the proposed activities and subsequently incorporated into Annex H where feasible.</p>

11. July 2021 ? Meetings with CNR, CST, Sherubtse College, UWICER	<p>Virtual meetings were organized with these institutes due to the COVID-19 restrictions. After discussing the CBIT documents, the following points were raised:</p> <p>Focal personnel of CST were newly appointed and did not have prior knowledge of the project, therefore, offered to only submit the self-assessment form.</p> <p>UWICER and Sherubtse College also related not having enough prior knowledge of the activities and therefore, were not in position to propose activities or estimates. Hence, they concluded to provide only the self-assessment form. Sherubtse College expressed their interest and capacity to estimate soil carbon and proposed possible future collaborations to carry out GHG inventory.</p> <p>CNR agreed to propose both activities, corresponding estimate along with the self-assessment form.</p>
12. Validation meetings and consultations with NEC and sectors (August-September 2021)	The draft work plan and results indicators were first discussed with NEC and then circulated among sectors for their feedback. Adjustments were made in these documents to incorporate the feedback received, where feasible within the available budget.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder Engagement Matrix

The main stakeholders identified and their envisioned role in project implementation are summarized below.

Name of Institution	Proposed role in the project
1. Gross National Happiness Commission (GNHC)	GNHC is the GEF Operational Focal Point and will oversee the implementation of the CBIT project.
2. National Environment Commission (NEC) o Waste Management Division of NEC	Will be Project Lead Executing Agency and overall coordinator of the project.
3. Ministry of Agriculture and Forests o Department of Forests and Park Services (DoFPS) o Department of Agriculture (DoA) o Department of Livestock (DoL) o Department of Agricultural Marketing and Cooperatives	Will be a project implementing partner and will coordinate project activities in the AFOLU sector.

<p>4. Ministry of Economic Affairs</p> <ul style="list-style-type: none"> o Department of Renewable Energy (DRE) o Department of Hydropower and Power Systems o Department of Industries (DoI) 	Will be a project implementing partner and will coordinate project activities in the Energy and IPPU sector.
<p>5. Ministry of Information and Communications (MoIC)</p> <ul style="list-style-type: none"> o Road Safety and Transport Authority (RSTA) 	Will be engaged for coordination of the GHG inventory activities in the energy/road and air transportation sector.
<p>6. National Statistics Bureau (NSB)</p>	Will be engaged for coordination and data management/data repository and sharing under Component 1 of the project.
<p>7. National Commission for Women and Children (NCWC)</p>	Will be engaged with regard to gender equality and mainstreaming in the project.
<p>8. National Center for Hydrology and Meteorology</p>	Will support climate science including systemic observation and information management.
<p>9. Local Government (dzongkhag, gewog)</p>	Will be engaged in capacity building, data collection and monitoring at the sub-national level.
<p>10. Research institutions and universities</p> <ul style="list-style-type: none"> o Royal University of Bhutan o Renewable Natural Resources Research and Development Centres o Ugyen Wangchuck Institute for Conservation and Environmental Research o Khesar Gyalpo University of Medical Sciences of Bhutan 	Will be engaged for capacity building, integrating climate change into curriculum and training modules, supporting systemic observation and research, monitoring, data collection activities etc.
<p>11. Civil society organizations, national and international NGOs</p> <ul style="list-style-type: none"> o Royal Society for the Protection of Nature (member of NCCC) o Tarayana Foundation o Bhutan Ecological Society 	Will be consulted and involved in capacity building activities.
<p>12. Local communities, community-based organizations (CBOs)</p>	Inputs from community-based adaptation and mitigation activities will be taken into account during project preparation and implementation.

13. Private companies, professional institutes and associations <ul style="list-style-type: none"> o Association of Bhutanese Industries (ABI) o Bhutan Chamber for Commerce and Industries (BCCI) (member of NCCC) 	ABI and BCCI will be engaged through the Ministry of Economic Affairs to support the Energy and IPPU sectors. Other sectors will be consulted during project implementation.
14. Other UN agencies and development partners	Will be engaged to coordinate and build on lessons learned from previous and ongoing projects related to NDC implementation and reporting in Bhutan.
15. Bhutan Trust Fund for Environmental Conservation	Will be engaged in activities to coordinate information on climate change adaptation and mitigation related actions.

Stakeholder Engagement Plan

NEC by national mandate will be the overall lead to coordinate and ensure active participation of all stakeholders involved in the project. The project will be implemented in close collaboration with relevant stakeholders at national and sub-national levels. Identified national research institutions and universities will be engaged to enhance data and information collection and capacity building. The project will focus on building capacity of all stakeholders involved and will aim to increase the participation of women in capacity building activities. Where needed, it will engage international expertise with the aim of enhancing capacity of national institutions and stakeholders. The table below summarizes the main methods for consultation and engagement of different stakeholder groups during project implementation, at both national and local levels.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Stakeholder group	Methods for consultation and engagement	Periodicity
1. National and local government	The following methods will be the main channels for communication with government stakeholders. ? Email, phone, and virtual/face-to-face meetings. ? Workshops. ? Project knowledge products.	At least quarterly

2. Local communities and community groups, including women, Indigenous Peoples and vulnerable groups	The project will communicate with local communities mainly through relevant government sectors at the local level and civil society organizations.	As needed
3. Research institutes and academia	The main channels used for communication with research institutes and academia are the following: ? Email, phone, and virtual/face-to-face meetings. ? Workshops.	At least bi-annually
4. Civil society organizations and private sector	Civil society and private sector actors will be engaged primarily through meetings, workshops, and phone calls.	At least bi-annually
5. Regional and international organizations, development partners	Regional and international organizations will equally play a significant role to fill the gaps in capacity building and other technical assistance to accomplish the project activities. Further, all organizations including development partners will be kept informed through the project's knowledge products, as well as workshops and participation in events.	At least annually

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain) Yes

Civil society as well as academia are among the partners and key stakeholders of the project and will continue to be engaged during project implementation.

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

I. Gender Analysis

1. Significant progress has been made to empower women especially in the public sector to achieve gender equality and wellbeing of women in Bhutan. The United Nations through UN Women has conducted regional capacity building to strengthen women in political participation and budgeting.[1] The initiative is in line with the development of the Government of Bhutan's 11th Five Year Plan to accommodate women needs in the process of planning and budgeting in the public sector. Nevertheless, country-wide challenges remain in the areas of education, employment opportunities, literacy among adult women, domestic violence, lack of incentives, constraints in legal institutions, and participation of women in decision-making.[2],[3]

2. **Gender and social differentiation in Bhutan.** Among South Asian countries, Bhutan is regarded as having a relatively high level of gender equality, ranking 99 in the Global Gender Inequality Index 2020.[1] Laws in Bhutan treat women and men equally, and women's rights and interests are safeguarded by the provisions of different legal acts, including the Constitution of the Kingdom of Bhutan. Bhutan's Inheritance Act of 1980, for example, guarantees equal inheritance rights to men and women. Traditional inheritance practices which in Bhutan favour daughters are even more progressive than modern law. As a result, about 60% of rural women hold land registration titles, which is higher than anywhere else in South Asia. Nevertheless, there are several areas in which they are at a disadvantage compared to men. Such areas are politics and decision-making, tertiary education and economy, with rural women being more vulnerable. The literacy rate for women, which stands at 63.9%, is lower than that for men, which is 78.1%. This translates into lower levels of female participation in formal employment and high public office.

[1] Bhutan ranked 99 in the Global Gender Inequality Index 2020, compared to 110 for Nepal, 123 for India and 133 for Bangladesh.

<http://hdr.undp.org/en/content/gender-inequality-index-gii>.[5]

3. **Public offices.** Women are poorly represented in the civil service and among elected officials. In 2013 elections, women gained 3 of the 47 seats in the national assembly, and none of the 20 elected seats in the national council. Women are not well-represented in the civil service, particularly at the executive level. The percentage of woman in civil service is noted rising from 32.4% in 2012 to 35.43% in 2017.[6]

4. **Employment.** Over the past 30 years from 1990-2019, female labour force participation rate in Bhutan has been at an average of 60.8%.[7] This reflects the percentage of women in the population, starting at the age of 15 years and older, that are economically active. In 2009, the participation rate was at its highest with 66.2%, and is currently at 59.5%, compared to a male participation rate of 74%. In rural areas, women outnumber men among the employed, particularly in agriculture, where productivity and earnings remain low. Men have a larger share than women of rural employment in private business and government, while more women are employed in farming enterprises.[8] Promoting women's participation in economic activities is one of the key gender issues in Bhutan.[9]

5. **Entrepreneurship.** As highlighted in an ADB report, Bhutanese women are active in the micro, small, and medium enterprise (MSME) sector, mainly as micro entrepreneurs. Their participation in, and contribution to this sector must be addressed if they are to benefit from a policy, strategy, and institutional framework designed to encourage MSME growth. Enhancing access to credit is key in supporting the heightened interest of women ?especially young women and rural women ? in entrepreneurship.[10]

6. **Education.** The enrolment ratio in higher education is 23.3% for women and 29.6% for men. Gender disparity is noticeable not only in the number of students, but also in the field of study. Far more men are enrolled in the fields of science, engineering, mathematics, farming and forestry while more women study law. The number of teachers in higher education is 163 women and 469 men.[11]

7. **National policies and plans.** Gender mainstreaming in national plans in Bhutan was initiated with the 10th Five-year Plan. It started with the adaptation of guidelines to mainstream gender into all planning aspects to elevation as one of the 16 National Key Result Areas for the 11th Five-year Plan. In the ongoing 12th Five-year Plan, gender is recognized as a cross-cutting theme strongly advocates all ministries, agencies and concerned sectors to address gender gaps by integrating into their plans and programs based on gender analysis. This Plan also has ?Gender Equality and Women and Girls Empowered? as a National Key Result Area with key performance indicators and targets that will measure women?s representation in Parliament.[12] The GNH Policy Screening Tool, which is used across the sectors in Bhutan, sets ?gender equality? as one of its 26 screening items. It stipulates that policies are to be evaluated and categorized in the following four degrees: 1) will increase gender inequality, 2) do not know the effects on gender equality, 3) will not have any negative effects on gender equality, and 4) will promote gender equality. The National Gender Mainstreaming Guidelines were formulated in 2014 by the National Committee for Women and Children (NCWC). It shows a common approach and procedures for gender mainstreaming in each sector.[13]

8. **Vulnerability and adaptation options in gender.** The majority of the population are still directly dependent on agriculture, and it is mostly women that work in the field to support the children and elderly that are left back home. This group of people are the ones most vulnerable to the impacts of climate change and have limited capacity and resources to adapt as male migrate out seeking employment and work for wages. Many settlements in the country still face acute shortages of water for drinking and irrigation and the problem will be further exacerbated by changing monsoon patterns and decreasing snow cover. Such phenomenon will have additional bearing on women. Any proposed plans, programs and projects should try to integrate gender concerns and consider incorporating gender friendly technology and application to be implemented as an adaption option where possible.[14] The Renewable Natural Resource (RNR) Sector 11th Five-Year Plan (2013-2018) regards gender as one of the crosscutting issues to address. The plan pointed out that a majority of women, especially in rural areas, are engaged in agriculture because of social expectations, inheritance practices based on the matrilineal system, and lack of skills necessary for being employed in urban areas. The plan also describes the vulnerabilities of women engaged in agriculture in rural areas as poor access to markets and services, food shortage, lack of off-farm employment opportunities, lack of necessary skills, limited arable land, labour shortage, and natural disasters such as floods and fires. Furthermore, it indicates that women in rural areas are very busy because they spend most of their time on household chores such as meal preparation, fetching water and wood, and childcare. It suggests that support to

improve small-scale agriculture would help women significantly provided that a gender perspective is integrated in the scope of assistance.

9. With regard to the energy sector, an ADB report (2011) highlights the importance of engaging women in decision-making related to energy sources. For example, negative health effects resulting from biomass as a primary energy source impact women and children to a much greater degree than men, as they spend more time indoors. In turn, electricity and solar power expand the livelihood opportunities and productivity. Training women in skills such as installation and maintenance of solar energy systems and general electricians' skills not only ensures availability of skills for maintaining energy infrastructure, but also assists in creating equal access to employment in the energy sector for both men and women.[15]

10. **Gender and NDC/LEDS.** To get an understanding of gender issues in the context of climate change and related policy responses in Bhutan a study on gender and climate change in Bhutan for priority sectors of Agriculture, Energy and Waste was carried out.[16] The findings and recommendations helped set a basis for understanding gender and climate linkages while enabling the incorporation of gender approaches in the three sectors. It also helped to inform gender considerations in the development LEDS for agriculture, transport, and waste. The second NDC states, however, that further in-depth studies for gender and climate change covering additional sectors and issues are needed.[17]

The *Agriculture/Food Security LEDS* pointed out that mitigation options can create job opportunities for rural women that can contribute to their empowerment, leadership building and better livelihood and life quality. They can also promote access of rural women to sustainable technologies thereby reducing drudgery. The LEDS highlighted that in some households, women are mainly the ones responsible for activities such as fodder collection and livestock care. Availability of readymade Total Mixed Ration (TMR) feeding locally will potentially reduce women's workload. Also, by increasing the productivity, TMR enables to reduce the number of cattle heads and therefore decrease the time required for cattle care. More precise impact assessment of TMR on women labour should be undertaken. When properly implemented, LEDS for Food Security mitigation actions can contribute to reach gender equality and women and girls empowerment goals, by addressing women unemployment rate and gender payment gaps. Most of the emission reduction strategies proposed (modification of rice irrigation techniques, increase of organic fertilizers) imply more workforce than the baseline scenario activities. Taking into consideration that half of the farmers are female, and that feminisation of agriculture is taking place due to male out-migration, rural women are a strong candidate to supply the job demand that the mitigation actions will trigger. However, the LEDS also noted that for this to be achieved, it is necessary to strongly engage girls into agriculture-related education as well as to design a capacity-building plan for rural women to properly participate in the new job opportunities.[18]

11. The *LEDS for Human Settlement* highlights differences across gender in the energy sector. Women are mainly responsible for several of the energy sources addressed in the LEDS, including cooking and heating. The National Energy Efficiency and Conservation Policy and Roadmap therefore include reference to gender-related aspects. In the waste sector, women are the main handlers of household waste and therefore, a key target group for implementing segregation at source. In addition, the share of women engaged in the informal waste sector is high. This data shows that understanding

and addressing gender-related aspects of the energy and waste sector can be conducive to implementing the mitigation measures presented in the LEDS and overcome barriers.[19]

[1] Bhutan Continues Efforts on Taking Gender Forward, 2013.

<https://asiapacific.unwomen.org/en/news-and-events/stories/2013/2/bhutan-continues-efforts-on-taking-gender-forward>

[2] Bhutan Gender Equality, 2020. <https://tradingeconomics.com/bhutan/gender-equality-wb-data.html>

[3] Household Duties and Low Self Esteem Prevent Women in Bhutan from Participating in Politics, 2012.

<https://asiapacific.unwomen.org/en/news-and-events/stories/2012/10/household-duties-and-low-self-esteem-prevent-women-in-bhutan-from-participating-in-politics>

[4] Bhutan ranked 99 in the Global Gender Inequality Index 2020, compared to 110 for Nepal, 123 for India and 133 for Bangladesh.

<http://hdr.undp.org/en/content/gender-inequality-index-gii>

[5] Third National Communication, 2020.

[6] 12th Five Year Plan of Bhutan 2018-2023.

[7] Female Labor Force Participation Rate, 2020.

<https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=BT>

[8] ADB Country Partnership Strategy Bhutan, 2014-2018.

<https://www.adb.org/sites/default/files/linked-documents/cps-bhu-2014-2018-ga.pdf>

[9] Japan International Cooperation Agency (JICA), 2017. Survey of Country Gender Profile (Kingdom of Bhutan).

[10] Asian Development Bank (ADB), 2011. Gender Equality Results Case Studies: Bhutan.

[11] JICA (2017).

[12] Third National Communication, 2020.

[13] JICA (2017).

[14] Ibid.

[15] Asian Development Bank (ADB), 2011. Gender Equality Results Case Studies: Bhutan.

[16] Gender and Climate Change in Bhutan with a focus on Nationally Determined Contribution areas: Agriculture, Energy and Waste, National Commission for Women and Children, Royal Government of Bhutan, 2020.

[17] Bhutan's Second NDC, 2021.

[18] Ministry of Agriculture and Forests, Royal Government of Bhutan (2021). Low Emission Development Strategy (LEDS) for Food Security in Bhutan: Agriculture & Livestock Sector.

[19] Ministry of Works and Human Settlement, Royal Government of Bhutan (2021). Low Emission Development Strategy for Human Settlement.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

1. Private sector has been engaged in previous processes, including the NDC and TNC development. This was done, in particular, through involvement of the Association of Bhutanese Industries (ABI) and Bhutan Chamber for Commerce and Industries (BCCI), but also through questionnaires sent to private entities through the various sector agencies such as to collect activity data. Additionally, the UNDP NDC Support Programme and GCF Readiness projects incorporate components on private sector engagement that the CBIT project can build upon. Private stakeholders from the agriculture (including farming, forestry, livestock) sector have been mostly involved indirectly through the BCCI and civil society organizations such as the Royal Society for the Protection of Nature and Tarayana Foundation that work with communities in the field on private/community forestry, farming, etc. Perspectives of women entrepreneurs have been incorporated through engagement of the National Commission for Women and Children.

2. The TNC, second NDC, and the LEDS for Industries were prepared with full consultation and participation of the private industries of Bhutan.[1] Production and energy consumption data, including electricity and fuel consumption was collected from different companies for the period 2016 to 2019. Farm Machinery Corporation Limited (FMCL) and Bhutan Livestock Development Corporation Limited (BLDCL) were Core and Expert Group Members of the Agriculture/Food Security LEDS. In addition, Bhutan is pursuing access for the private sector with three financial institutions (Bhutan Development Bank Ltd, Bank of Bhutan Ltd and the Bhutan National Bank Ltd) undergoing the accreditation process for access to the Private Sector Facility of the GCF.[2]

3. Private companies, professional institutes and associations will continue to be involved during project implementation. They will be engaged in capacity development and data collection activities of the GHG inventory, as well as for developing data management systems, and implementation of the LEDS/LTS. It is envisioned that a data sharing protocol and confidentiality pact will be established through the project for private companies providing activity data and NEC. The project will also

collaborate and coordinate with the GCF readiness projects with regard to private sector engagement and NDC investment opportunities. ABI and BCCI will be engaged through the Ministry of Economic Affairs to support the Energy and IPPU sectors.

[1] Bhutan's Second NDC, 2021.

[2] Bhutan's Second NDC, 2021.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

1. The main risks identified and proposed mitigation actions are listed in the table below. No significant social and environmental risks were identified.

COVID-19 analysis

1. As one of the least developed countries, Bhutan has been hugely impacted by the COVID-19 pandemic. Stringent pandemic containment measures, prolonged nationwide lockdowns, and lengthy quarantine requirements (14-21 days) stifled economic activities across all sectors. As per the Asian Development Outlook (ADO) report 2021, Bhutan economic growth is projected to decline by 3.4% in FY2021 compared to 0.9% in FY2020. However, with strong policy plans, supported by successful completion of full COVID-19 vaccinations for 90% of the eligible population, Bhutan's economic growth is expected to increase to 3.7% in FY2022 (ADO, 2021).

2. As a response to the economic repercussions of the COVID-19 pandemic, the government presented an Economic Contingency Plan (ECP) to mitigate and address the impacts on the sectors most affected by the pandemic: tourism and allied sectors, construction, and agricultural sector. The ECP of the agricultural sector on food self-sufficiency and nutrition security aims to boost agriculture and livestock production, bring back potential fallow lands under cultivation, provide alternative employment for displaced people, and improve and enhance market access. The LEDS for Food Security is aligned with the targets of increasing food production and increasing the use of fallow lands.

3. In 2020, UN agencies in collaboration with the Government of Bhutan developed a joint COVID-19 response, the "UN Bhutan COVID-19 Socio-Economic Response Plan" (SERP). This framework included both short-term measures to mitigate negative social and economic consequences and medium-to long-term investments to strengthen the re-build and resilience to future crises. Further, UNDP Bhutan also institutionalized the UN COVID-19 Response and Recovery Multi-Partner Trust Fund (UN COVID-19 MPTF) in April 2020 with the primary objectives to protect livelihoods by reinforcing the tourism and agriculture sectors in Bhutan. Bhutan is also currently finalizing its 21st Century Economic Roadmap, which includes plans for Bhutan's economic recovery from COVID-19. A fundamental aim of Bhutan's COVID-19 recovery is to help ensure a sustainable future for Bhutan. This includes recovery efforts anchored in climate change mitigation and adaptation, environmental protection, and strengthening the green and circular economy.

4. COVID-19 considerations have also been incorporated into the sectoral LEDS. The LEDS Surface Transport (2021) noted that increased risks associated with crowded places combined with social

distancing measures in public and shared transport are likely to affect modal choices of commuters. This places a fundamental challenge on the Government to regulate and manage public transport in the country. Rethinking density management will be a key concern in the face of future outbreaks. Technology needs to be tailored to ensure that liveability and sustainability dimensions are catered adequately, considering public health. The LEDS Industries (2021) pointed out that the COVID-19 pandemic had led to a shrinkage in economic activities with a further downward projection of GDP growth and postponed the timeline for graduation from the category of Least Developed Countries (LDCs) by 2 years to 2023.

5. The COVID-19 pandemic also affected the preparation of the second NDC from Bhutan with disruptions and delays to technical work and the consultation process. Despite these challenges, the second NDC was prepared through an extensive process of technical assessments and stakeholder consultations, with the participation of government agencies, stakeholder groups including CSOs, and private sector.

6. It is increasingly evident that the COVID-19 pandemic is unlikely to disappear anytime soon and will continue to have adverse impacts on socio-economic activities/progress of Bhutan. Likewise, it will also impact the effective implementation of the CBIT project activities in Bhutan, particularly in terms of carrying out capacity building activities that need resources and inputs of international expertise, if current international travel restrictions are not relaxed. Virtual training and workshops are alternatives as demonstrated in other CBIT countries. Developing appropriate mechanisms to ensure effectiveness of any virtual training will be essential.

Description of risk	Impact	Probability of occurrence	Proposed mitigation actions
1) Insufficient collaboration among government agencies and departments results in low coordination.	Moderate	Moderate	? The project builds on existing climate change coordination mechanisms and, in particular, the leading role of the National Environment Commission (NEC). The project also aims to support the different sector agencies in fulfilling their mandates. With the incremental support of the project, it is, thus, anticipated that there will be sufficient collaboration in the implementation of the ETF requirements.
2) Limited capacity in government and research institutions results in insufficient number of participants in capacity development activities and programs.	Moderate	Low	? There have been significant previous efforts to build the capacity of relevant institutions in Bhutan. The project will aim to further develop capacity among a larger group of stakeholders and professional staff within these agencies and institutions. Establishment of a partnership with key research and training institute(s) is foreseen under Output 1.1.2.
3) High staff turnover results in undermining the built capacity and sustainability of the project.	High	Moderate	? As explained above, the project aims to build capacity of a broad group of stakeholders within the relevant agencies and institutions. This will help mitigate the risk of staff turnover. Moreover, a training program, coordination mechanism and data management system and protocols will be developed and institutionalized, so that new staff can be trained even after the project ends. Output 1.1.1 will help put in place institutional arrangements that are sustainable and involve a wider group of stakeholders within the agencies, including technical staff and decision makers.

4) Information systems and data produced under the project are not used and sustained by the relevant departments after the project ends.	High	Moderate	<p>? More detailed consultations and an analysis of the needs of different sectors and institutions was conducted during the project preparation, to ensure that the project responds to specific needs in these institutions. Also, the project is embedded in and led by NEC and is closely linked to ongoing programs and mandates of all the executing/implementing partners? annual performance agreement and individual work plans.</p> <p>? The project aims to strengthen existing mechanisms, platforms and data management systems, instead of establishing new ones, and will build the capacity among institutions to maintain and sustain these after the project ends.</p>
5) Climate risks: The project is a capacity building project aiming to strengthen institutional and technical capacities at the national level for enhanced transparency in implementation and monitoring of Bhutan's NDC. Therefore, the project does not trigger the filter questions required for a climate risk screening, meaning that climate does not pose a risk to the project interventions or implementation. Nonetheless, a summary of the main climate risks in the country has been prepared and is attached as a separate document in the GEF Portal.	Low	Moderate	<p>The following considerations will continue to be taken into account during project implementation.</p> <p>? Integrate climate change mitigation, adaptation and disaster risk reduction, into national, regional, and local policy strategies and plans. Current FAO activities in Bhutan include the application of FAO tools for Climate Risk and Impact Assessment, using regional and national datasets, to inform adaptation and mitigation measures.</p> <p>? Promote climate information and projections as a fundamental element to ensure the implementation of action plans.</p> <p>? Ensure direct involvement of climate and agrometeorological experts, researchers, and institutions, in the decision-making process.</p> <p>? Scale up activities on the capacity for national institutions to provide early warnings and climate services to farmers and agricultural end users most impacted by climate change</p>

<p>6) COVID-19 related risks:</p> <p>(i) Restrictions due to the COVID-19 pandemic may lead to reduced ability of the project to organize trainings and meetings.</p> <p>(ii) COVID-19 may affect the availability of co-financing, in particular the resource allocations from Government.</p> <p>(iii) Opportunities: the CBIT project can contribute to COVID-19 recovery.</p>	Low	Moderate	<p>(i) The project may not be able to organize face-to-face meetings and trainings, which may impact the participation. If restrictions continue during implementation, the project would use alternative means for consultations, meetings and trainings, such as virtual meetings. Project implementation may be slightly delayed, but overall project delivery is not expected to be affected by the COVID-19 pandemic. Webinars and online sessions would be used in lieu of face-to-face trainings.</p> <p>(ii) It is not anticipated that the availability of co-financing will be significantly affected by COVID-19. Bhutan is currently the chair of the Least Developed Countries (LDC) negotiating group on climate change under the UNFCCC, and climate change will remain a priority for the Government.</p> <p>(iii) The CBIT project will contribute to the ?UN Bhutan COVID-19 Socio-Economic Response Plan? and Bhutan?s 21st Century Economic Roadmap by supporting recovery efforts anchored in climate change mitigation and adaptation.</p>
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6. Institutional Arrangement and Coordination

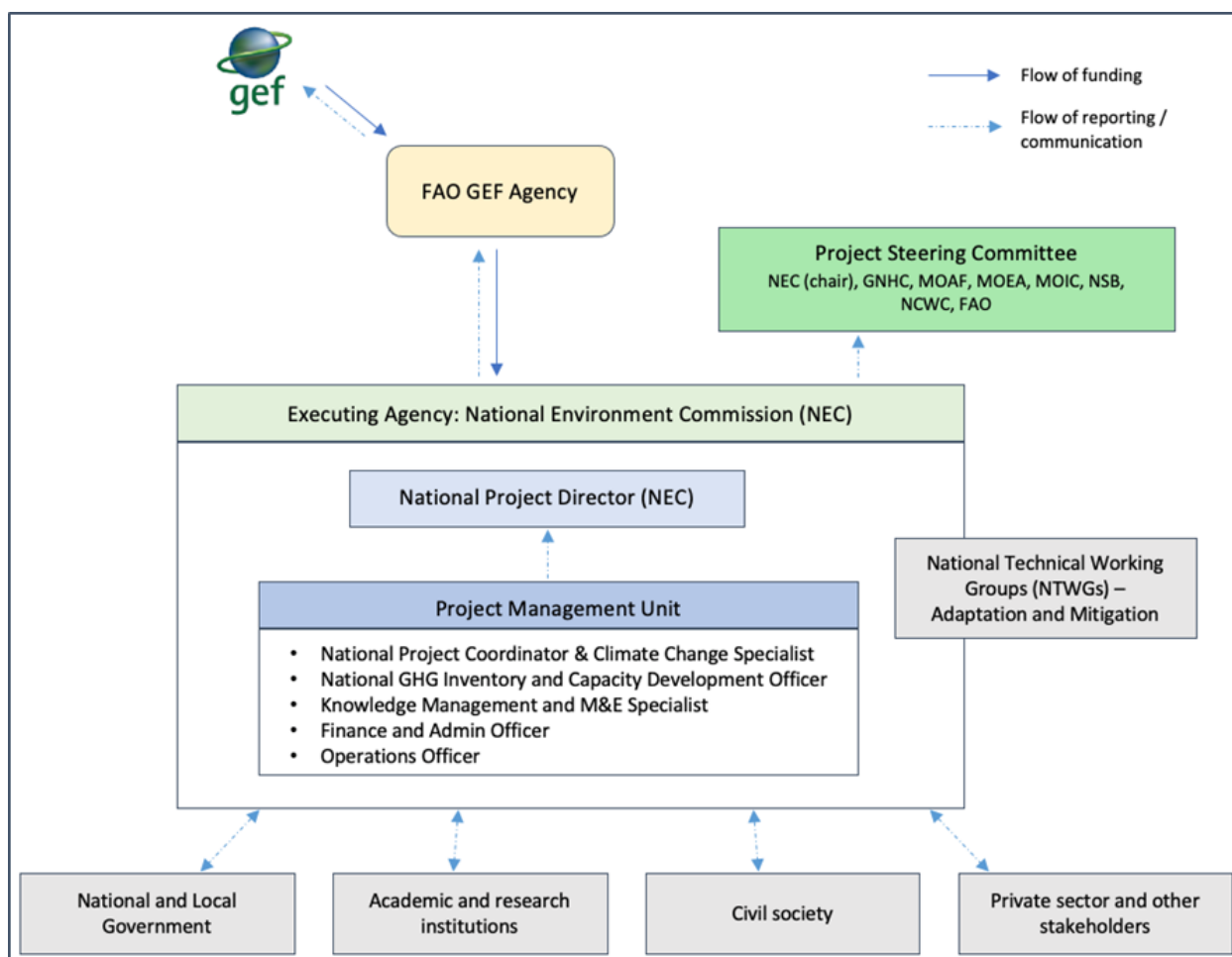
Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

6.a Institutional arrangements for project implementation.

1. FAO will be the GEF Implementing Agency for this project. The National Environment Commission (NEC) will be the Lead Executing Agency and will be responsible for the overall coordination and execution of the project, including monitoring and evaluation. Other stakeholders will be involved in the project implementation as described in Section 2. Stakeholders.

2. The NEC will have the executing and technical responsibility for the project, with FAO providing oversight as GEF Agency as described below. The NEC will act as the lead executing agency and will be responsible for the day-to-day management of project results entrusted to it in full compliance with all terms and conditions of the Operational Partnership Agreement signed with FAO. As lead executing agency and OP of the project the NEC is responsible and accountable to FAO for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements. Note: It should be noted that the identified Operational Partner (OP), results to be implemented by the OP and budgets to be transferred to the OP are non-binding and may change due to FAO internal partnership and agreement procedures which have not yet been concluded at the time of submission.

3. The project organization structure is as follows:



1. A **National Project Director (NPD)** will be designated within NEC, who will oversee the CBIT project implementation. The NPD will be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will also be responsible for supervising and guiding the National Project Coordinator (see below) on the government policies and priorities. The same NPD also oversees the GCF NAP Readiness project and will ensure synergies with the NAP process. The same divisions and personnel haven been involved in previous TNC and BUR processes, and are involved in the GCF projects as well as in the UNDP NDC Support Programme. Thus, the project implementation plans will be closely coordinated.

2. A **Project Steering Committee (PSC)** will be established to provide strategic guidance and take decisions related to the project implementation including approval of project plans, budgets and revisions. The PSC will be comprised of representatives from NEC (chair), GNHC, Ministry of Agriculture and Forests, Ministry of Economic Affairs, Ministry of Information and Communications, National Statistics Bureau, the National Commission for Women and Children and FAO. The NPD (or designated person from lead national institution) will chair the Project Steering Committee. The PSC will provide strategic guidance to the Project Management Team and to all executing partners. The PSC will meet at least once per year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the project and other ongoing projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of governmental partners work under this project; vi) Review and approval of the Annual Work Plan and Budget; vii) Making by consensus, management

decisions when guidance is required by the National Project Coordinator of the PMU. The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. Hence, the project will have a Focal Point in each concerned institution. As Focal Points in their agency, the concerned PSC members will: (i) technically oversee activities in their sector; (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project; (iii) facilitate coordination and links between the project activities and the work plan of their agency; and (iv) facilitate the provision of co-financing to the project. The National Project Coordinator (see below) will be the Secretary to the PSC.

3. A **Project Management Unit (PMU)** will be co-funded by the GEF grant and established within the Climate Change Division of NEC. The PMU will be tasked with the day-to-day management of the project activities, as well as with financial and administrative reporting. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will be composed of a National Project Coordinator (NPC) who will work full-time for the project lifetime. In addition, the PMU will include a Knowledge Management and M&E Specialist, a Finance and Administrative Officer (co-funded), an Operations/ Project Support Officer, and a National GHG Inventory and Capacity Development Officer.

4. The **National Project Coordinator (NPC)** / Climate Change Specialist^[1] will oversee daily implementation, management, administration and technical supervision of the project, on behalf of the Operational partner and within the framework delineated by the PSC. S/he will be responsible, among others, for:

- i) Overall technical lead for the implementation of all project outputs and activities and ensure technical soundness of project implementation;
- ii) Coordination with relevant initiatives;
- iii) Lead technical implementation of Outputs 1.1.1 (institutional arrangements), 1.2.4 (EFT best practices), and overall technical coordination of Outputs 2.1.2 (GHG inventory guidelines) and 3.1.1 (adaptation indicators);
- iv) Ensuring a high level of collaboration among participating institutions and organizations at the national and local levels;
- v) Ensuring compliance with all Operational Partners Agreement (OPA) provisions during the implementation, including on timely reporting and financial management;
- vi) Coordination and close monitoring of the implementation of project activities;
 - vii) Leading and supervising the preparation of various technical outputs, e.g. knowledge products, reports and case studies;
 - viii) Ensuring meaningful engagement of stakeholders as per the Stakeholder Engagement Plan;
- ix) Ensuring that all the project resources are used solely to achieve project objectives as per the approved work plan and budget as per the government financial policies and FAO/GEF requirements;
- x) Tracking the project's progress and ensuring timely delivery of inputs and outputs;
- xi) Providing technical support and assessing the outputs of the project national consultants hired with GEF funds, as well as the products generated in the implementation of the project;
- xii) Approving and managing requests for provision of financial resources using provided format in OPA annexes;

- xiii) Monitoring financial resources and accounting to ensure accuracy and reliability of financial reports;
- xiv) Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;
- xv) Maintaining documentation and evidence that describes the proper and prudent use of project resources as per OPA provisions, including making available this supporting documentation to FAO and designated auditors when requested;
- xvi) Implementing and managing the project's monitoring and communications plans;
- xvii) Organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;
- xviii) Submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO;
- xix) With support from the Knowledge Management and M&E Specialist, preparing the first draft of the Project Implementation Review (PIR);
- xx) Supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED);
- xxi) Assisting the NPD in submitting the required OP technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;
- xxii) Providing draft terminal report for BH two months before the ending date of the OPA or the project;
- xxiii) Informing the PSC and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

5. The **Food and Agriculture Organization (FAO)** will be the GEF Implementing Agency (IA) for the Project, providing project cycle management and support services as established in the GEF Policy. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. FAO Project Task Force (PTF) will be established as a management and consultative body. The PTF consists of designated FAO staff possessing the appropriate authority and skills mix to ensure effective technical, operational and administrative project management throughout the project cycle (see **Annex K** for details):

- ? The Budget Holder, which is usually the most decentralized FAO office, will provide oversight of day to day project execution and is accountable for managing to achieve project goals and proper use of resources;
- ? The Lead Technical Officer(s), drawn from across FAO will provide oversight/support to the projects technical work in coordination with government representatives participating in the PSC;
- ? The Funding Liaison Officer(s) within FAO will monitor and support the project cycle to ensure that the project is being carried out and reporting done in accordance with agreed standards and requirements.
- ? The HQ Technical Officer is accountable for advising and supporting the LTO in ensuring project formulation, appraisal and implementation adhere to FAO corporate technical standards and policies.

6. FAO responsibilities, as GEF agency, will include:

- ? Administrate funds from GEF in accordance with the rules and procedures of FAO;

- ? Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s) and other rules and procedures of FAO;
- ? Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;
- ? Conduct at least one supervision mission per year; and
- ? Reporting to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation and the Project Closure Report on project progress;
- ? Financial reporting to the GEF Trustee.

6.b Coordination with other relevant GEF-financed projects and other initiatives.

7. The coordination with other relevant GEF-financed projects and other initiatives, as well as lessons learned from previous GEF projects and other initiatives, are described below.

Project or initiative	Complementarity with CBIT project
<i>FAO global CBIT projects</i>	
1. FAO is currently implementing two global CBIT projects, (i) Global capacity-building products towards enhanced transparency in the AFOLU sector (CBIT-AFOLU); and (ii) Building global capacity to increase transparency in the forest sector (CBIT-Forest). Both projects are expected to be completed in June 2022. Additionally, FAO is implementing national CBIT projects in Afghanistan, Bangladesh, Cambodia, Mongolia, PNG, and Sri Lanka. The PNG project is the first FAO-CBIT project to reach completion in September 2021. The FAO-CBIT portfolio review's findings and recommendations will inform the Bhutan CBIT project where applicable.	The Bhutan CBIT project will build closely on the outcomes and lessons learned of the global CBIT projects, in particular with regard to knowledge products and training materials/ webinars produced under these projects.
<i>UNDP/UNEP CBIT Global Coordination Platform</i>	
2. UNDP and UNEP are jointly implementing the Capacity Building Initiative for Transparency Global Coordination Platform (CBIT GCP). The project has established an online platform supporting countries to understand and implement the ETF. The platform provides development partners with an overview of existing initiatives and countries with knowledge and information forums for sharing best practices.	The Bhutan CBIT project will use the mechanisms of the Global Coordination Platform for knowledge sharing and exchange. https://www.cbitplatform.org/
<i>UNDP/GEF</i>	

3. NAPA III project: Enhancing Sustainability and Climate Resilience of Forest and Agricultural Landscape and Community Livelihoods (under implementation)

This multi-focal UNDP GEF-6 LDCF/BD/SFM project started in 2017. Its objective is to operationalize an integrated landscape approach through strengthening of biological corridors, sustainable forest and agricultural systems, and building climate resilience of community livelihoods.

In particular, the CBIT project builds on the following expected outputs of the NAPA III project:

? Strengthened monitoring systems for forest condition, biodiversity status and carbon stocks in DoFPS, including strengthened National Forest Inventory (NFI) and National Forest Monitoring System (NFMS) to measure status and condition of forest and carbon stocks, integration of the HC VF concept, protocols and capacity for monitoring habitats and biodiversity.

? Planning and monitoring capacity for sustainable forest management in FMUs and LFMPs.

? Institutional mechanisms and tools strengthened for integration of CCA and environmental sustainability needs in local development planning system, through strengthened central and local Mainstreaming Reference Group system (to integrate environment, climate change, gender and other cross-cutting issues into Local Government plans).

? Strengthened climate resilience and productivity of agricultural and livestock management.

? Institutionalized knowledge for Integrated Landscape Management (ILM) and Climate Change Resilience.

4. UNDP's **Low Emission Capacity Building (LECB) Programme**, implemented from 2013 to 2017, laid important foundations for the development of capacity for GHG emission inventory and low-carbon development in the country. One objective under the LECB project was to develop a functional GHG inventory data management system to ensure timely and quality data to reduce the uncertainty in the inventory process.

Relevant outcomes of the LECB Programme, upon which the CBIT project can build, include:[2]

? National forest inventory and GHG inventory data improved and systematically archived through improvement of Environment Information Management System (EIMS).

? Nationally Appropriate Mitigation Actions (NAMAs) for solid waste and transport developed and submitted for financing.

? INDC prepared through highly consultative process and Parliamentarians sensitized on the Paris Agreement and the INDC prior to its ratification in 2017.

? Low Emission Development Strategies (LEDS) prepared for industry, human settlements, energy efficiency, and transport to support Bhutan's NDC priorities and help to address the impacts of rapid urbanization.

? Intelligent transport system designed for Thimphu, and various measures piloted such as e-tickets and smart cards for buses and a passenger-friendly bus stop.

? Update of the National Transport Policy (draft 2017).

? Capacity building on GHG Inventory, NAMA and LEDSs, climate change mitigation, sustainable transport systems, for the project's Technical Working Groups of 35 experts and parliamentarians.

? A gender capacity assessment was conducted in 2013. Following the assessment, capacity building and training was delivered to specific sectors including housing, waste, industry and transport. Participants developed skills to allow them to participate in the planning, design, coordination, implementation and evaluation of NAMAs and LEDS.[3]

The CBIT project builds on the capacity and systems developed under the LECB Programme. Whereas previous capacity building efforts were, primarily, focused on sectors other than agriculture, the proposed CBIT project will aim to build capacity for all sectors.

Three NAMAs were developed in 2016 for Road Transport, Housing (residential and institutional) and Municipal Solid Waste Management. However, securing support to implement the NAMAs has been challenging and the NAMAs have not yet been implemented.[4]

<p>5. UNDP GEF-6 Bhutan Sustainable Low-emission Urban Transport Systems (GEF ID 9367, under implementation). The objective of the project is to facilitate low-carbon transition in the Bhutan's urban transport sector by promoting wider uptake of low emission vehicles (LEVs), in particular electric vehicles (EVs), as the preferred fuel source for transport in Bhutan.</p> <p>The project is executed by the Ministry of Information and Communications (MoIC).</p>	<p>The CBIT project will closely coordinate with this project, in particular with regard to the development of policies, strategies and guidelines to support the implementation of low emissions urban transport programme.</p>
<p>6. Mainstreaming Biodiversity Conservation into the Tourism Sector in Bhutan (GEF ID 10234, pending CEO endorsement). The aim of this project is that the ecotourism development mainstreams biodiversity conservation into the tourism sector in Bhutan.</p> <p>The project is executed by the Tourism Council of Bhutan in collaboration with the Ministry of Agriculture and Forests.</p>	<p>The CBIT project will exchange lessons learned with this project.</p>
<p>7. UNDP, under the global Biodiversity Finance Initiative (BIOFIN), implemented several activities using the BIOFIN methodology in Bhutan, delivering results not only related to biodiversity but also to tackle climate change and eradicate poverty. The project used the methodologies of the Climate Public Expenditure and Institutional Review (CPEIR) as well as the Poverty Environment Initiative (PEI) to identify poverty initiatives and green investment.</p>	<p>The CBIT project will build on the capacity and awareness developed under the BIOFIN project, in particular with regard to climate mainstreaming and investment planning.</p>
<p>GCF</p>	

8. NDA Strengthening and Country Programming support for Bhutan

GCF approved readiness proposal, through Gross National Happiness Commission (Phase 2).

This 2-year, USD 400,000 GCF readiness project (implemented from 2019 to 2020) was approved by GCF in 2019 and builds on the Phase 1 Readiness project. The project aimed to strengthen the capacity of the GNHC as the GCF National Designated Authority (NDA), including strengthening institutional capacity, supporting engagement with stakeholders at local and national level through development and strengthening of country coordination mechanism, and supporting oversight capacity.

Among others, the following activities were implemented under this project:

- ? Develop an effective, informative and transparent public web-based platform (website) for NDA on the GCF-related projects, programs and activities and M&E system in Bhutan. NDA will regularly maintain and update the system. A comprehensive M&E framework will be established in conjunction with existing government tracking tools.
- ? Conduct sensitization and awareness workshops/trainings on GCF mechanism in Bhutan, accreditation, and proposal writing and development skills in climate change areas.
- ? Conduct workshops for private sector participants with the aim to sensitize and build capacity of private sector stakeholders on climate change, climate finance and GCF.

The CBIT project builds on and complements the activities of this readiness project, in particular with regard to the online information and M&E system to be established under the project, as well as awareness and training activities and stakeholder workshops.

<p>9. Enhancing Climate Resilience of Water Sources in Bhutan</p> <p>GCF concept note, through FAO (currently under preparation)</p> <p>Across the Himalaya, spring and other local water sources are drying up, seasonally or completely, often attributable to rising temperatures, reduced spring and winter precipitation and declining snow cover area. This GCF project, for which the proposal is currently under development, will aim to revive and protect Bhutan's water sources under the impacts of climate change. In particular, it will (i) identify and assess declining spring-sheds, sources and catchments; and (ii) implement recharge measures to ensure climate-proofed water supply.</p> <p>The project addresses one of eight major priority objectives specified for Bhutan's 12th Five Year Plan, in the form of the Water Flagship, which is focusing on the provision of climate resilient water and sanitation infrastructure to rural and urban populations.</p>	<p>The CBIT project will involve this GCF project for lessons learned, data and information on water-related adaptation measures.</p>
<p>10. Bhutan Green Transport Program</p> <p>GCF approved project preparation funding application, through World Bank (currently under preparation)</p> <p>Emissions of air pollutants and greenhouse gases are among the most pressing environmental challenges faced by Bhutan. Increasing rates of motor vehicle ownership and use have had impacts on the Bhutanese environment (e.g. changes to land use, emissions, congestion, noise, etc.). The objective of the Green Transport Program for Thimphu city is to maintain a pristine environment with clean air and with minimum emissions from the transport sector by promoting greener transport modes including zero emissions vehicles, public transport, and non-motorized transport.</p> <p>The program will comprise three broadly interlinked interventions: (i) investments in green transport infrastructure; (ii) investments in zero emissions performance buses and other operating assets for bus services; and (iii) technical assistance and institutional development.</p>	<p>The CBIT project aims to coordinate with this project with regard to low emission strategies and related data monitoring and management systems.</p>

UNEP/GEF	
<p>11. Umbrella Programme for Biennial Update Report to the United National Framework Convention on Climate Change (UNFCCC) (ongoing)</p> <p>Under this Global GEF-6 project, UNEP is supporting Least Developed Countries (LDCs) and Small Islands Developing States (SIDS), including Bhutan, to prepare and submit good quality initial biennial update reports to the UNFCCC that comply with the convention's reporting obligation.</p>	<p>The CBIT project will coordinate closely with this BUR project, and will aim to complement it by developing additional capacity for MRV and information management, in particular in the agriculture and livestock sectors.</p>
<p>12. Building climate resilience of urban systems through Ecosystem-based Adaptation (EbA) in the Asia-Pacific region.</p> <p>This regional UNEP GEF-5 LDCF project was approved in 2017 and is implemented in Bhutan, Cambodia, Lao PDR and Myanmar. In Bhutan, the project will be executed by UN-Habitat and Thimphu Thromde local government.</p> <p>The objective of the project is to reduce the vulnerability of poor urban communities in Asia-Pacific LDCs to climate change impacts using Ecosystem-based Adaptation (EbA).</p>	<p>The CBIT project will aim to exchange knowledge and lessons learned with this project, in particular with regard to climate risk data and assessment, and climate change adaptation.</p>
Others	

13. Bhutan Climate Fund

Since January 2018, the Ministry of Finance (MOF), the NEC, the Ministry of Economic Affairs (MEA), and the GNHC have been discussing the possibility of developing and piloting a Bhutan Climate Fund (BCF) with the World Bank, to help monetize mitigation outcomes from hydropower exports.

The proposed activities include:[\[5\]](#)

? Design and capitalization of a USD 50 million BCF to develop and pilot a framework for monetizing emission reductions generated by hydropower projects.

? Support the creation of a policy and regulatory framework to support generation, monitoring, reporting, and verification of the emission reductions from mitigation projects included in the BCF.

? Define objectives and procedures for the use of BCF funds for the benefit of the hydropower projects and for adaptation, resilience, conservation activities, and other investments that contribute to Bhutan's green growth.

? Facilitate the achievement of Bhutan's NDC commitments while meeting its overall development goals.

The CBIT project will exchange and coordinate closely with this project, in particular with regard to the proposed MRV framework to be developed for the hydropower and other relevant sectors.

<p>14. Bhutan for Life (BFL)</p> <p>GCF approved funding proposal, through WWF.</p> <p>The BFL project will employ an innovative sustainable financing model to support improved management of the country's protected areas while providing the time and resources to allow the Government to identify and secure long-term revenues sufficient to maintain these management improvements.</p> <p>BFL is an innovative funding initiative by the Royal Government of Bhutan and WWF. It aims to provide a sustained flow of finance to maintain and manage the country's protected areas and biodiversity, foster healthy ecosystems, maintain Bhutan's forest cover, support communities living in protected areas, and strengthen enforcement and management of protected areas.</p>	<p>The CBIT project will involve this GCF project for lessons learned, data and information on mitigation and adaptation in the forestry sector.</p>
<p>15. Climate Technology Centre & Network (CTCN)</p> <p>In 2014, the CTCN supported Bhutan to build capacity on low-carbon mobility planning and intelligent transport system to reduce GHG emissions from the transport sector. CTCN facilitated South-South collaboration between National Designated Entities (NDEs) of Thailand and Bhutan.[6]</p>	<p>The CBIT will build on the capacity developed under this technical assistance program.</p>

[1] Corresponding to one single position, i.e., the NPC is also a Climate Change Specialist.

[2] UNDP, Bhutan Country Profile. NDC Support Programme.
<https://www.undp.org/content/dam/LECB/docs/factsheets/Bhutan.pdf>

[3] <https://wedo.org/wp-content/uploads/2016/04/02.pdf>

[4] Bhutan's Second NDC, 2021.

[5] <http://documents.worldbank.org/curated/en/971531538568130794/pdf/Bhutan-Climate-Fund-Concept-Note.pdf>

[6] <https://www.ctc-n.org/technical-assistance/projects/reducing-ghg-emissions-transport-improving-public-transport-systems>

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

National document	Main relevant strategies
1. COVID-19 Recovery Plans	The CBIT project is directly aligned with aims expressed in the ?UN Bhutan COVID-19 Socio-Economic Response Plan? and Bhutan?s 21 st Century Economic Roadmap, by contributing to recovery efforts anchored in climate change mitigation and adaptation.
2. Nationally Determined Contribution (NDC) under UNFCCC (2015)	The CBIT project directly supports the implementation of Bhutan?s NDC by building capacity for monitoring and reporting on its adaptation and mitigation commitments. As highlighted in the NDC, enhancing awareness and capacity through education, research on areas of concern in Bhutan and institutional strengthening will be essential for successful implementation of the intended actions.
3. National Adaptation Programme of Action (NAPA) under the UNFCCC (2006)[1]	The CBIT project supports priorities identified in the NAPA, in particular with regard to improving adaptation monitoring in the priority sectors identified, including disaster management, flood protection, rainwater harvesting, Glacier Lake Outburst Floods, etc.
4. Low-Emission Development Strategies (LEDS) for Food Security, Human Settlements, Transport, and Industries (2021)	<p>The CBIT project directly supports implementation of the LEDS, in particular through its Output 1.2.1 which supports interventions in priority areas of the LEDS/LTS. The project also contributes to building monitoring and reporting capacity for the following priorities outlined in the LEDS:</p> <ul style="list-style-type: none"> ? Forest conservation and management under the National REDD+ Strategy. ? Low emission development in the Agriculture and Livestock sectors. ? Low emission development for Human Settlements (includes energy in buildings, transport infrastructure, waste management, land-use in urban areas, and information communication and technology). ? Low emission development for Industries (manufacturing, energy efficiency). ? Low emission development for Surface Transport.

<p>5. Technology Needs Assessment under UNFCCC (2013)</p>	<p>A Technology Needs Assessment (TNA) for mitigation and adaptation was conducted in 2013. The CBIT project helps to address some of the gaps and challenges identified in the TNA, including:</p> <ul style="list-style-type: none"> ? Lack of appropriate technologies ? Limited funding for technology development and technology transfer ? Adaptation technologies are scarce and difficult. <p>In the TNA, for each prioritized sub-sector, one technology was prioritized and key barriers identified. The selected priority sectors and technologies in mitigation include: (i) Solid waste: Composting, (ii) Transport: Intelligent transport system, and (iii) Industries: Waste heat recovery. The selected priority sectors and technologies in adaptation include: (i) Agriculture: Development of drought and pest resistant varieties of crops, (ii) Water resources: Efficient irrigation systems, and (iii) Natural disaster and infrastructure: Climate resilient roads.</p>
<p>6. Second and Third National Communications under UNFCCC (2011, 2020)</p>	<p>The CBIT project directly responds to some of the recommendations made in the SCN and TNC, including:</p> <ul style="list-style-type: none"> ? Addressing climate change requires additional efforts on top of ongoing development activities, so financial support required should be emphasized as support needed for the additional burden of climate change. ? There needs to be better coordination among stakeholders led by NEC in cooperation with GNHC. ? Increased support is needed to promote research and capacity development for climate change to better inform preparation of adaptation and mitigation measures. ? Bhutan lacks country-specific emission factors for all most all the sectors for the various emission-related activities except in forestry sector. Therefore, emission factors relevant to Bhutan will need to be developed. ? Key constraints and barriers identified in the TNC include insufficient legal/policy/planning environment, lack of coordination and integration, and absence of detailed research.

<p>7. National Biodiversity Strategy and Action Plan (NBSAP) under Convention on Biological Diversity (CBD)</p>	<p>The CBIT project indirectly addresses the following target of Bhutan's NBSAP:</p> <p>? Target 10: By 2020, potential impacts of climate change on vulnerable ecosystems identified and adaptation measures strengthened (through integrating climate change adaptation into systemic planning and site management plans for biodiversity corridors (BCs), forest management units (FMUs), local forest management plans (LFMPs) and community forests (CFs); into local government planning through mainstreaming reference group (MRG) system; and into climate-smart agricultural practices in project landscapes).</p>
<p>8. National Action Program (NAP) to Combat Land Degradation for UNCCD (2014)</p>	<p>The main goal of the NAP is to prevent and mitigate land degradation and its impacts through systems and practices of SLM that protects and maintains the economic, ecological and aesthetic values of our landscapes. The CBIT project is in line with the objectives of the NAP:</p> <ol style="list-style-type: none"> 1. Conservation, rehabilitation and sustainable use of forest resources to maintain well-functioning forest landscapes and watersheds. 2. Development and promotion of sustainable agricultural practices that enhances local livelihoods whilst maintaining the productivity and stability of agricultural lands. 3. Integration of environmental management measures in development activities that pose significant risks of land degradation. 4. Strengthening of systemic and institutional capacity to combat land degradation and its impacts. 5. Information, advocacy and education to create increased policy and public support for sustainable land management.

<p>9. Bhutan Land Degradation Neutrality (LDN) National Report (2015)[2]</p>	<p>The project is also in line with Bhutan's LDN targets:</p> <ul style="list-style-type: none"> ? By 2035, reforestation with native species in open areas will be realized on 25.00 km². In addition, further productivity decline will be avoided through various means and soil organic carbon (SOC) will be maintained at 50 ton/ha by 2030. ? By 2030, wood substitute products will be promoted with subsidies and further declines in productivity will be avoided. ? By 2025, improved pasture will be promoted on 0.50 km². In the meantime and beyond, by 2030, improved breeds will be promoted. ? By 2025, SLM measures will be implemented as identified in the NAP on 35.07 km². In addition, further productivity decline will be avoided through various means and SOC will be maintained at 50 ton/ha. ? By 2040, the RAMSAR framework will be set up on 1.83 km². ? By 2035, plantations in open areas will be realized on 0.10 km². ? By 2035, restoration/reclamation of degraded areas will be realized on 0.50 km².
<p>10. National Capacity Self-Assessment (NCSA) for Global Environmental Management</p>	<p>The NCSA Action Plan included seven expected outputs, which the CBIT project will partially address:</p> <ol style="list-style-type: none"> 1. Policy and legal framework for environmentally sustainable development improved. 2. Implementation of environment management mandates at central, dzongkhag, and geographic levels improved. 3. Information and monitoring systems in the four thematic areas strengthened. 4. Implementation capacity of NEC and MoAF enhanced to effectively function as national focal agencies. 5. Institutional mechanisms for environmental management strengthened. 6. Environmental financing mechanisms strengthened. 7. Environmental education and awareness programmes strengthened.

11. Contribution to the UN Sustainable Development Goals (SDGs)	<p>The CBIT project will contribute to the following SDGs:</p> <ul style="list-style-type: none"> ? SDB 13 Climate Action: Take urgent action to combat climate change and its impacts. ? SDG 15 Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. ? SDG 1 No Poverty: End poverty in all its forms everywhere. ? SDG 2 No Hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. ? SDG 3 Good Health and Well-Being
12. Bhutan 2020: A Vision for Peace, Prosperity and Happiness	<p>Bhutan 2020 is a vision statement that outlines the country's development goals, objectives and targets with a twenty-year perspective to maximize Gross National Happiness (GNH). As one of the four main GNH objectives, it enunciates that development pursuits are to be carried out within the limits of environmental sustainability and without impairing the ecological productivity and natural diversity, thus providing the overarching policy context for sustainable development that is resilient to, and mitigates, climate change. The CBIT project is in line with and supports this vision.</p>

[1] <https://unfccc.int/resource/docs/napa/btn01.pdf>

[2] <https://knowledge.unccd.int/home/country-information/countries-having-set-voluntary-ldn-targets/bhutan>

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

1. Under Output 1.2.4, the project will develop and implement a KM and communications plan to ensure outreach and dissemination of project results. The project aims to enhance knowledge and information management for improved transparency in climate change-related data and UNFCCC reporting processes. It will promote information and knowledge sharing among national stakeholders and institutions, by setting up relevant systems, coordination mechanisms and protocols. This will include coordination among sector institutions, local governments, research institutions, donor-funded projects, civil society organizations, and private actors. Knowledge products will be developed (in particular under Output 1.2.4 on ETF reporting best practices) and targeted specifically at these various institutions and stakeholders. The knowledge products will build on previous capacity building initiatives implemented in Bhutan and globally, to ensure that the project learns from and builds on relevant previous experience. Additionally, the project will ensure dissemination of knowledge and experiences generated under the project, including through the partnership with the universities established under Output 1.1.2. The information and knowledge sharing will directly contribute to the project's goal to build national capacity and awareness on the ETF and its data collection, monitoring and reporting processes. In addition, the

project will support the creation and sharing of knowledge in the region and globally through the CBIT Global Coordination Platform and through the coordinating role of FAO. Bhutan has participated in several capacity building activities of the global CBIT projects (including CBIT-AFOLU and CBIT-Forest) and will continue to be engaged until their completion. The Bhutan CBIT project will build closely on the outcomes and lessons learned of the global CBIT projects, in particular with regard to knowledge products and training materials/ webinars produced under these projects.

2. Under the various outputs, the project will develop guidelines, procedures and protocols, as well as training programs and materials, that will be made available through the National Environment Information Management System (EIMS) and will be disseminated to project stakeholders through trainings, knowledge products and other means (in English and local language). The project will document lessons learned in the process of ETF strengthening in Bhutan and share among CBIT partners through CBIT global coordination platform, regional workshops and seminars. It will organize awareness raising and knowledge dissemination through periodic seminars, workshops, publications, and other means. The enhanced institutional frameworks and information sharing arrangements put in place under Outcome 1.1 will also help to improve knowledge sharing among sectors. The CBIT Global Coordination Platform, as well as other international fora such as the LDC Consortium in Asia, the regional CBIT network, and the global AFOLU ETF network established under FAO's global CBIT project, will be used to disseminate knowledge and experiences from the Bhutan CBIT project to other countries. Synergies will also be sought with knowledge management efforts under the GCF readiness projects as well as UNDP's NDC Support Programme. The use of alternative media and means of communication (including social media, webinars, etc.) will be explored in view of the COVID-19 pandemic.

The relevant budget and key deliverables are shown below.

Deliverable	Timeline	Budget
1. LOA with research institute(s) on knowledge creation and capacity building (Output 1.1.2)	Throughout project implementation	? 70,000
2. Knowledge products and publications, including awareness and training materials (Output 1.2.4)	Throughout project implementation	? 22,100
3. Development and implementation of KM and communications strategy by National Knowledge Management and M&E Specialist	Year 1	? 22,500
Total Budget		USD 114,600

9. Monitoring and Evaluation

Describe the budgeted M and E plan

21. Project oversight will be carried out by the PSC, FAO GEF Coordination Unit and relevant technical units in FAO headquarters. Oversight will ensure that: (i) project outputs are produced in

accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/adaptation benefits are being delivered. The FAO GEF Coordination Unit and HQ Technical Units will provide oversight of GEF financed activities, outputs and outcomes largely through the annual Project Implementation Reports (PIRs), periodic backstopping and supervision missions.

2. Project monitoring will be carried out by the PMU and the FAO Budget Holder (BH). Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At project inception, the results matrix will be reviewed to finalize identification of: i) outputs; ii) indicators; and iii) any missing baseline information and targets. A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.) will also be developed during project inception by the Knowledge Management/M&E Officer appointed at the PMU.

Project Monitoring and Evaluation Plan

M&E Activity	Responsible Parties	Timeframe	GEF Budget (USD)
Inception Workshop	Project Management Unit (PMU)	Within two months of project document signature	5,000
Final Workshop	PMU	Within two weeks of the workshop	5,000
Project Progress Reports (PPRs)	PMU	Bi-annually	National Knowledge Management and M&E Specialist USD 22,500
Project Implementation Review reports (PIRs)	PMU	Annually in July	Covered by above
Rapid Mid-term Review	PMU and BH	In the 3 rd quarter of the 2 nd year of the project	20,000

M&E Activity	Responsible Parties	Timeframe	GEF Budget (USD)
Terminal Evaluation	The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED.	To be launched within six months prior to the actual project completion date	40,000
Terminal Report	PMU, BH, LTO	Two months before the end date of the project	6,550
Total Budget			99,050

3. Specific reports that will be prepared under the M&E program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, assessment of the relevant GEF-7 Core Indicators against the baselines will be required at mid-term and final project evaluation.

4. **Project Inception Report.** It is recommended that the PMU prepare a draft project inception report in consultation with the LTO, BH and other project partners. Elements of this report should be discussed during the project Inception Workshop and the report subsequently finalized. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, and a detailed project monitoring plan. The draft inception report will be circulated via e-mail to the PSC for review and comments before its finalization, no later than one month after project start-up. The report should be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FAO's Field Program Management Information System (FPMIS) by the BH.

5. **Results-based Annual Work Plan and Budget (AWP/B).** The draft of the first AWP/B will be prepared by the PMU in consultation with the FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop inputs will be incorporated and the PMU will submit a final draft AWP/B within two weeks of the workshop to the BH. For subsequent AWP/B, the PMU will organize a project progress review and planning meeting for its review and adaptive management. Once PSC comments have been incorporated, the PMU will circulate the AWP/B to the BH, LTO and the FAO GEF Coordination Unit for comments and for clearance by BH and LTO prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring

and supervision activities required during the year. The AWP/B should be approved by the Project Steering Committee, LTO and the FAO GEF Coordination Unit, and uploaded on the FPMIS by the BH.

6. **Project Progress Reports (PPR):** PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Annex A1). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. PPRs will also report on projects risks and implementation of the risk mitigation plan. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PMU and the Project Task Force (PTF) members. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

7. **Annual Project Implementation Review (PIR):** The PMU (in collaboration with the BH and the LTO) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the FAO GEF Coordination Unit Funding Liaison Officer (FLO) for review and approval no later than (check each year with GEF Unit but roughly end June/early July each year). The PMU will submit the first PIR draft to FAO BH/LTO, once finalized, the BH/LTO will submit it to the FAO GEF Coordination Unit as part of the Annual Monitoring Review report of the FAO-GEF portfolio. PIRs will be submitted to the GEF and uploaded on the FPMIS by the FAO GEF Coordination Unit.

8. **Technical Reports:** Technical reports will be prepared by national, international consultants (partner organizations under Letters of Agreement) as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PMU to the BH who will share it with the LTO. The LTO will be responsible for ensuring appropriate technical review and clearance of said report. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

9. **Co-financing Reports:** The BH, with support from the PMU, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Endorsement Request. The PMU will compile the information received from the executing partners and transmit it in a timely manner to the LTO and BH. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.

10. **Terminal Report:** Within two months before the end date of the project or the ending date of the OPA, the PMU will submit to the BH and LTO a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results.

Evaluation Provisions

1. Two independent project evaluations, a **rapid (reduced scope)** Mid-Term Review (MTR) in the 3rd quarter of project year 2 and a Terminal Evaluation (TE), to be launched within six months prior to the actual project completion date, will be carried out. The BH will arrange an independent MTR in consultation with the PSC, the PMU, the LTO and the FAO-GEF Coordination Unit. The MTR will be conducted to review progress and effectiveness of implementation in terms of achieving project objective, outcomes and outputs. The MTR will allow mid-course corrective actions, if needed. The MTR will provide a systematic analysis of the information on project progress in the achievement of expected results against budget expenditures. It will refer to the Project Budget (see Annex A2) and the approved AWP/Bs. It will highlight replicable good practices and key issues faced during project implementation and will suggest mitigation actions to be discussed by the PSC, the LTO and FAO-GEF Coordination Unit.
2. The GEF evaluation policy foresees that all medium and large size projects require a separate **terminal evaluation**. Such evaluation provides: i) accountability on results, processes, and performance; ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.
3. The Budget Holder will be responsible to contact the Regional Evaluation Specialist (RES) six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED and will be responsible for quality assurance. Independent external evaluators will conduct the terminal evaluation of the project taking into account the 'GEF Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects'. FAO Office of Evaluation (OED) will provide technical assistance throughout the evaluation process, via the OED Decentralized Evaluation Support team ? in particular, it will also give quality assurance feedback on: selection of the external evaluators, Terms of Reference of the evaluation, draft and final report. OED will be responsible for the quality assessment of the terminal evaluation report, including the GEF ratings.
4. After the completion of the terminal evaluation, the BH will be responsible to prepare the management response to the evaluation within four weeks and share it with national partners, GEF OFP, OED and the FAO-GEF Coordination Unit.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?

This project is not expected to affect people's livelihoods and employment status directly. Indirectly, the project is expected to contribute overall socio-economic benefits by supporting the effective and efficient management of natural resources as well as publicly funded initiatives to steward those resources. It is also expected to generate indirect benefits for decent rural employment by supporting the development of gender-responsive low-emission strategies in the various sectors, including AFOLU, Energy, IPPU, and Waste. Furthermore, it aims to build the capacity of 200 direct beneficiaries, of which at least 30% women. Given that the national and local economies are so intimately reliant on environmental resources, this

project's benefits for the quality, transparency, and accessibility of related information will greatly benefit all citizens, especially those directly engaged in the AFOLU sector and vulnerable to climate change.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Risk certification at PIF stage	Project PIF ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Objective: By 2024, Bhutan is submitting reports consistent with the requirements of the Paris Agreement's Enhanced Transparency Framework (ETF), including more up-to-date inventories of emission sources and sinks using advanced IPCC guidance and information necessary to track progress against priority actions identified in Bhutan's NDC.							
Component 1: Enhancing institutional frameworks, knowledge and capacities for the preparation, reporting and use of transparency information							
<u>Outcome 1.1:</u> Strengthened institutional frameworks to enable the preparation and reporting of transparency information[1].	(i) CBIT Tracking Tool Indicator 5: Qualitative assessment of institutional capacity for transparency-related activities (Scale: 1 ? 4)[2]	1.86 (as per PPG inception workshop survey)	2	3 (as per PPG inception workshop survey)	Assessment by project team (mid-term) Survey at final project workshop	Sufficient human and financial resources are available in the key agencies to sustain the project outcomes after the project ends.	PMU
<u>Output 1.1.1</u> Institutional arrangements and procedures reviewed and formalized, including for NDC tracking (mitigation and adaptation), GHG inventory and climate financing support.	(i) Number of revised inter-agency agreements/MOUs, procedures, and/or revised Terms of Reference.	-	At least 5	At least 8 (NEC, NSB, Forestry, Agriculture, Livestock, Energy, Transport, Industry)	Evidence of agreements/procedures/TORs	Agencies have sufficient motivation to engage. Robust succession plan is in place to avoid knowledge and capacity gaps in measurement and reporting for ETF.	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 1.1.2</u> Partnerships with key research and training institute(s) identified and established to support capacity building and knowledge creation on a continuous basis.	(i) Number of MOUs signed with research/training institute(s) on knowledge creation and capacity building related to ETF requirements.	-	At least 2	At least 2	MOU (UWICER, CST, CNR, Sherubtse)	Research/academic institutes have sufficient capacity to support research and training.	PMU
<u>Output 1.1.3</u> National Environment Information Management System (EIMS) and sectoral information systems upgraded in line with ETF requirements, including alignment between various sector information systems.	(i) A national platform fully functional to manage transparency data and report on NDC progress. (ii) Number of government agencies reporting data to the national platform on a regular basis.	- -	(i) EIMS platform fully operational (ii) First pilot entries conducted	(i) EIMS and relevant sectoral systems fully operational (ii) At least 6 (Forestry, Agriculture, Livestock, Energy, Transport, Industry)	Implementati on report of EIMS and sectoral systems Evidence of reported data	Sectoral systems can be linked with EIMS through database interfaces	PMU
<u>Outcome 1.2:</u> Strengthened knowledge and capacities for the generation and use of transparency information in policy processes.							PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 1.2.1</u> Priority areas of the LEDS/LTS and other policy processes supported through the use of data and information generated under Components 1 and 2.	(i) Number of staffs (men/women) trained on implementation of priority areas/strategies under the LEDS/LTS. (ii) Number of LEDS / LTS priority areas/strategies for which technical assistance is provided.	- -	- -	At least 20 (30% women)[3] At least 2	Training report LEDS / LTS implementation report		PMU
<u>Output 1.2.2</u> Gender data and information generated, analysed and framework to mainstream gender aspects into ETF reporting and future NDC updates developed.	(i) Number of indicators for NDC tracking (adaptation and mitigation) that incorporate gender aspects	-	At least 4 in mitigation and 6 in adaptation	At least 4 in mitigation and 6 in adaptation	Evidence of agreed indicators		PMU

[illegible]

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Outcome 2.1:</u> System in place to monitor and report on NDC mitigation targets and support continuous improvements to GHG[4] inventories and data quality.	CBIT Tracking Tool Indicator 3: Quality of MRV systems (Scale: 1 ? 10)[5]	2.43 (as per PPG inception workshop survey)	4	6 (as per PPG inception workshop survey)	Assessment by project team (mid-term) Survey at final project workshop	Sufficient human and financial resources are available in the key agencies to sustain the project outcomes after the project ends.	PMU
<u>Output 2.1.1</u> Gaps in the GHG inventory report identified, including identifying new sources of emissions, data collection mechanisms that need to be established, and country-specific emission factors.	(i) Gaps prioritized and capacity development plan agreed on with sectors	-	Gaps identified and capacity development plans agreed on	Gaps identified and capacity development plans agreed on	Evidence of agreed gaps and capacity development plans		PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 2.1.2</u> Sector specific inventory guidelines and protocols developed, including national level emission factors for selected sector(s).	(i) Number of sectoral guidelines / handbooks / toolkits and protocols adopted by sectors (ii) Number of country-specific emission factors developed	-	(i) At least 4 (ii) -	(i) At least 7 (Forestry, Agriculture, Livestock, Energy, Transport, Industry, Waste) (ii) At least 1 (Forestry, Agriculture, Livestock, or Waste, tbc)	Evidence of guidelines and emission factors		PMU
<u>Output 2.1.3</u> System established to track implementation and progress in achieving NDC mitigation targets.	(i) Existence of nationally appropriate, gender-sensitive indicators, reporting format and procedures to track NDC mitigation targets.	-	Indicators and formats and procedures in place	Indicators and formats and procedures in place	Evidence of agreed indicators		PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Output 2.1.4</u> Relevant institutions and stakeholders trained on the inventory guidelines and protocols, and on the NDC tracking system, in view of the preparation of ETF reports.	(i) Number of staffs (men/women) demonstrating sufficient knowledge of inventory guidelines and the NDC tracking system.	-	30 (at least 30% women)	150 (at least 30% women)	Training assessment surveys	Stakeholders have sufficient motivation to engage and share the knowledge acquired from training. Stakeholders are assured of sufficient, reliable support for their obligations under the protocols.	PMU
<u>Output 2.1.5</u> Data collected by national and local stakeholders from public and private sectors in preparation of the biennial transparency report (BTR).	(i) Number of activity data entered and validated through the EIMS platform.	-	(i) -	(i) Data collected, entered and validated in EIMS for at least 4 indicators.	Reports from EIMS entries		PMU

Component 3: Strengthening capacity to monitor and report on NDC adaptation actions.

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
<u>Outcome 3.1:</u> Technical capacities for monitoring and reporting progress in the implementation of NDC adaptation actions developed.	(i) Number of staffs (men/women) demonstrating sufficient knowledge of adaptation indicators and framework and the NDC tracking system.	-	20 (at least 30% women)	50 (at least 30% women)	Training assessment surveys		PMU
<u>Output 3.1.1</u> Framework and indicators for monitoring and reporting on NDC priority adaptation actions under the ETF developed in line with the NAP[6] process.	(i) Existence of nationally appropriate, gender-sensitive indicators and framework to track NDC adaptation targets.	-	Indicators and framework in place	Indicators and framework in place	Evidence of agreed indicators		PMU
<u>Output 3.1.2</u> Relevant institutions trained on monitoring and reporting on NDC priority adaptation actions, in view of the preparation of ETF reports consistent with latest UNFCCC guidance.	Covered by Outcome indicator above						PMU

[1] Transparency information primarily refers to the BTR reporting requirements, including national GHG inventory, reporting on climate finance, institutional arrangements, uncertainty assessment, and tracking progress against NDC targets, as well as the technical review process.

[2] Please refer to the CBIT Programming Directions for a description of the scale (Annex IV, p. 18). Level 3 = Designated transparency institution has an organizational unit with standing staff with some capacity to coordinate and implement transparency activities under Article 13 of the Paris Agreement. Institution has authority or mandate to coordinate transparency activities under Article 13. Activities are not integrated into national planning or budgeting activities.

https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.50.06_CBIT_Programming_Directions_0.pdf

[3] Overlap with other beneficiary targets (Outputs 2.1.4 and 3.1.2). Thus, this will not be counted towards Core Indicator 11 to avoid double-counting.

[4] Greenhouse gas.

[5] Please refer to the CBIT Programming Directions for a description of the scale (Annex III, p. 16). Level 6 = Measurement systems are strong and cover a greater percentage of activities ? feedback loops exist even if they are not fully functioning. Reporting is available through multiple pathways and formats but may not be complete/transparent. Verification is done through standard methodologies but only partially (i.e. not all data is verifiable).

https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.50.06_CBIT_Programming_Directions_0.pdf

[6] National Adaptation Plan.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

1. There are no major changes in alignment with the original PIF. Project outputs and outcomes were elaborated in more detail in Annex H (work plan), in close consultation with all sectors. The activities were prioritized in close consultation with stakeholders, considering the project resources and based on first the requirements of the MPGs. The main changes from the original PIF are described below.

Topic	Main changes from PIF stage
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1) Outcomes and outputs	<p>Output 1.2.1 has been clarified to be more specifically focused on the LEDS/LTS. The wording has been changed from "Analysis to assess near and long-term impacts of key climate change policies and measures developed" to "Interventions in priority areas of the LEDS/LTS supported".</p> <p>More specific information has been added for the different sectors in the work plan in Annex H, in particular for Outputs 1.1.3 and 2.1.2.</p>
2) Budget by components	The budget by components has been revised slightly based on the detailed budget plan, but no significant shifts have been made.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG).
(Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: 50,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Salaries Professional	2,380	0	2,380
Consultants	42,300	0	15,372
Contracts	0	32,248	0
Training/Workshops	5,320	0	0
Total	<u>50,000</u>	<u>32,248</u>	<u>17,752</u>

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

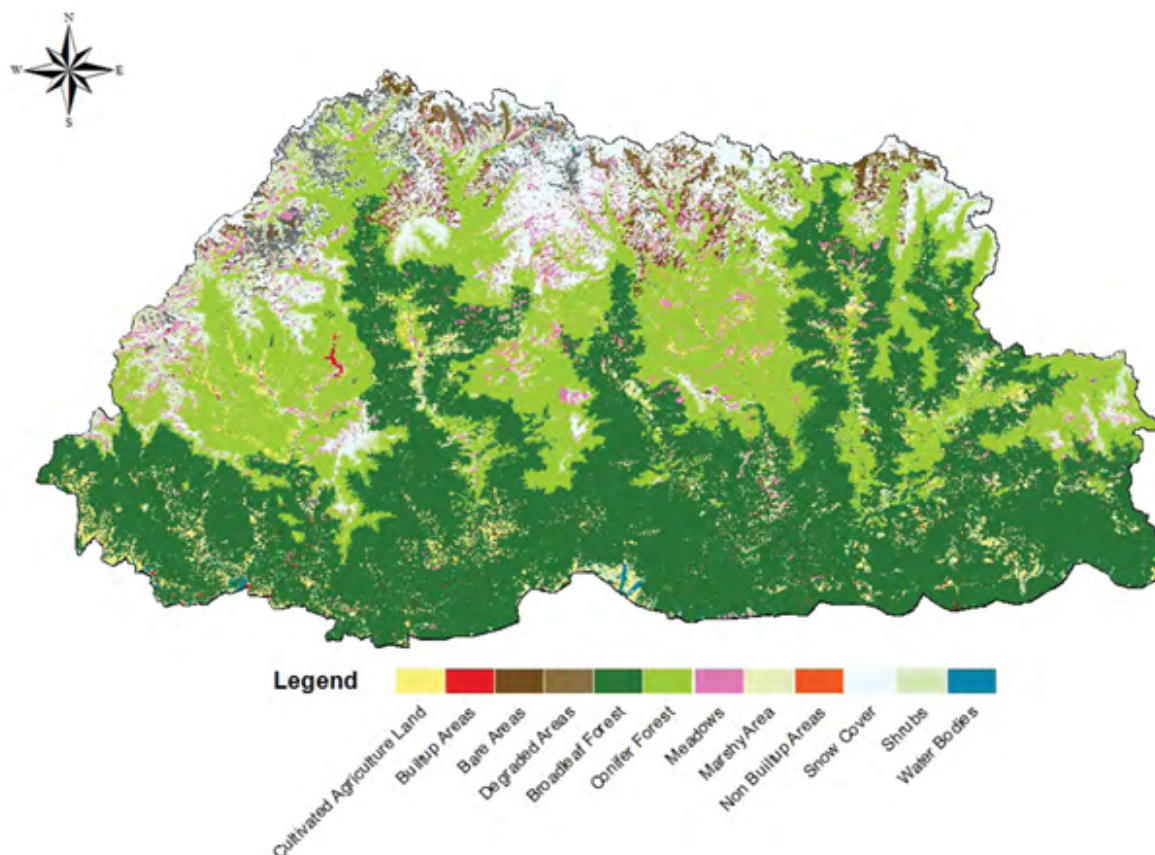


Figure 6: Map of Land use and Forest types and sub-classes in Bhutan (Source: LCMP-2010, Second National Communication to the UNFCCC)

ANNEX E: Project Budget Table

Please attach a project budget table.

Budget for GCP /BHU/015/GFF				BUDGET (USD)						Total GEF	Budget by Agency	
Bhutan CBIT project: Strengthening institutional and technical capacities for enhanced transparency in implementation and monitoring of Bhutan's Nationally Determined Contribution (NDC)	Unit	Qty	Unit cost	Outcome 1.1	Outcome 1.2	Outcome 2.1	Outcome 3.1	M&E	PMC		Government NEC	FAO Managed
				Total 1.1	Total 1.2	Total 2.1	Total 3.1					
5570 Consultants												
International Consultants												
1. International Climate Transparency Expert(s)	day	100	500	10,000	-	40,000	-			50,000		50,000
2. International GHG Inventory Expert(s) - MRV	day	100	500	-	-	50,000	-			50,000		50,000
				-	-	-	-			-		
Sub-total - International Consultants				10,000	-	90,000	-	-	-	100,000	-	100,000
National Consultants												
1. National Project Coordinator/Climate Change Specialist (NPC)	month	36	2,000	1,136	5,000	5,000	5,000		66,864	72,000	72,000	
2. National Knowledge Management and M&E Specialist	month	30	1,500	-	22,500	-	-	22,500		45,000	45,000	
3. National GHG Inventory and Capacity Development Officer	month	30	1,500	18,000	9,000	18,000	9,000			54,000	54,000	
4. Operations/Project Support Officer	month	36	1,500	-	-	-	-		54,000	54,000	54,000	
5. Consultancy to develop and formalize enhanced institutional arrangements and procedures for all sectors (1.1.1)	sum	1	15,000	15,000	-	-	-			15,000	15,000	
6. Consultancy to support training, generation and analysis of data related to gender and develop framework to mainstream gender (1.2.2)	sum	1	10,000	-	10,000	-	-			10,000	10,000	
				-	-	-	-			-		
Sub-total - National Consultants				34,136	46,500	23,000	14,000	22,500	109,864	250,000	250,000	-
5570 Sub-total - Consultants				44,136	46,500	113,000	14,000	22,500	109,864	350,000	250,000	100,000
5650 Contracts												
1. LOA with research institute(s) on knowledge creation and capacity building (1.1.2)	sum	1	70,000	70,000	-	-	-			70,000	70,000	
2. Consultancy services to conduct scoping of existing systems and develop EIMS, including user guides and capacity building (1.1.3) Note: This line is for the development of the EIMS. The lines below refer to specific items/sectoral systems related to the EIMS. Exact amounts per sector yet to be confirmed based on assessment of EIMS and sectoral systems.	sum	1	100,000	100,000	-	-	-			100,000	100,000	
2a. EC system integrating GHG inventory requirements (NEC)	sum	1	60,000	60,000	-	-	-			60,000	60,000	
2b. eRALIS and online database for aviation / helicopters (RSTA and MOIC)	sum	1	60,000	60,000	-	-	-			60,000	60,000	
2c. National Forest Monitoring System, NFI database, SLMS and FIRMS (DOF)	sum	1	80,000	80,000	-	-	-			80,000	80,000	
2d. Energy Information System (EIS) (DRE)	sum	1	60,000	60,000	-	-	-			60,000	60,000	
2e. Other sectors (bld / Transport / Industries / NSB)	sum	1	60,000	60,000	-	-	-			60,000	60,000	
3. Support to LEDS / LTS implementation (1.2.1)	sum	1	40,000	-	40,000	-	-			40,000	40,000	
4. Develop system and guidelines to track/tag climate change financing (1.2.3)	sum	1	20,000	-	20,000	-	-			20,000	20,000	
5. Service contracts to support development of inventory guidelines and country-specific emission factors, incl. development of training materials (2.1.2). Note: This line refers to overall compilation. The lines below refer to individual sectors.	sum	1	20,000	-	-	20,000	-			20,000	20,000	
5a. NEC (incl. SOPs and QA/QC and links with SEEA air emission accounts)	sum	1	30,000	-	-	30,000	-			30,000	30,000	
5b. Forestry	sum	1	45,000	-	-	45,000	-			45,000	45,000	
5c. Agriculture	sum	1	50,000	-	-	50,000	-			50,000	50,000	
5d. Livestock	sum	1	50,000	-	-	50,000	-			50,000	50,000	
5e. Energy	sum	1	30,000	-	-	30,000	-			30,000	30,000	
5f. Transport	sum	1	30,000	-	-	30,000	-			30,000	30,000	
5g. Industries	sum	1	30,000	-	-	30,000	-			30,000	30,000	
5h. Waste	sum	1	30,000	-	-	30,000	-			30,000	30,000	
6. Develop indicators, standard reporting format and procedures to track NDC mitigation targets in collaboration with all sectors, incl. training materials (2.1.3)	sum	1	30,000	-	-	30,000	-			30,000	30,000	
7. Develop indicators and framework to track NDC adaptation targets in collaboration with all sectors, incl. training materials (3.1.1)	sum	1	20,000	-	-	-	20,000			20,000	20,000	
Audits and spot checks	sum	3	13,300	-	-	-	-		39,900	39,900		39,900
Mid-Term Review	sum	1	20,000	-	-	-	-	20,000		20,000		20,000
Terminal Evaluation and Terminal Report	sum	1	46,550	-	-	-	-	46,550		46,550		46,550
5650 Sub-total - Contracts				490,000	60,000	345,000	20,000	66,550	39,900	1,021,450	915,000	106,450
5900 Travel												
1. International travel - for international consultants (1.1.3 and 2.1.2) and for participation of national staff in international training and forums (1.2.4)	sum	1	30,000	5,000	10,000	15,000	-			30,000	10,000	20,000
2. Domestic travel (1.2.4)	sum	1	25,000	-	20,000	5,000	-			25,000	25,000	
5900 Sub-total - Travel				5,000	30,000	20,000	-	-	-	55,000	35,000	20,000
5920 Training												
1. Training workshops (1.2.1, 2.1.4, 3.1.2)	sum	1	141,000	-	20,000	81,000	40,000			141,000	141,000	
2. Coordination meetings/ workshops (1.1.1, 1.2.2, 1.2.3, 1.2.4, 2.1.2, 3.1.1)	sum	1	50,000	5,000	25,000	10,000	10,000			50,000	50,000	
3. Inception workshop (M&E)	sum	1	5,000	-	-	-	-	5,000		5,000	5,000	
4. Final workshop (M&E)	sum	1	5,000	-	-	-	-	5,000		5,000	5,000	
5. PSC meetings	sum	6	1,500	-	9,000	-	-			9,000	9,000	
5920 Sub-total - Training				5,000	54,000	91,000	50,000	10,000	-	210,000	210,000	-
6000 Expendable Procurement												
1. Knowledge products and publications, including awareness and training materials (1.2.4)	sum	1	22,100	-	22,100	-	-			22,100	22,100	
				-	-	-	-			-		
6000 Sub-total - Expendable Procurement				-	22,100	-	-	-	-	22,100	22,100	-
6100 Non-expendable Procurement												
1. Equipment, furniture (1.1.2, 1.1.3, 1.1.4, 1.1.5, 1.1.6, 1.1.7, 1.1.8, 1.1.9, 1.1.10, 1.1.11, 1.1.12, 1.1.13, 1.1.14, 1.1.15, 1.1.16, 1.1.17, 1.1.18, 1.1.19, 1.1.20, 1.1.21, 1.1.22, 1.1.23, 1.1.24, 1.1.25, 1.1.26, 1.1.27, 1.1.28, 1.1.29, 1.1.30, 1.1.31, 1.1.32, 1.1.33, 1.1.34, 1.1.35, 1.1.36, 1.1.37, 1.1.38, 1.1.39, 1.1.40, 1.1.41, 1.1.42, 1.1.43, 1.1.44, 1.1.45, 1.1.46, 1.1.47, 1.1.48, 1.1.49, 1.1.50, 1.1.51, 1.1.52, 1.1.53, 1.1.54, 1.1.55, 1.1.56, 1.1.57, 1.1.58, 1.1.59, 1.1.60, 1.1.61, 1.1.62, 1.1.63, 1.1.64, 1.1.65, 1.1.66, 1.1.67, 1.1.68, 1.1.69, 1.1.70, 1.1.71, 1.1.72, 1.1.73, 1.1.74, 1.1.75, 1.1.76, 1.1.77, 1.1.78, 1.1.79, 1.1.80, 1.1.81, 1.1.82, 1.1.83, 1.1.84, 1.1.85, 1.1.86, 1.1.87, 1.1.88, 1.1.89, 1.1.90, 1.1.91, 1.1.92, 1.1.93, 1.1.94, 1.1.95, 1.1.96, 1.1.97, 1.1.98, 1.1.99, 1.1.100, 1.1.101, 1.1.102, 1.1.103, 1.1.104, 1.1.105, 1.1.106, 1.1.107, 1.1.108, 1.1.109, 1.1.110, 1.1.111, 1.1.112, 1.1.113, 1.1.114, 1.1.115, 1.1.116, 1.1.117, 1.1.118, 1.1.119, 1.1.120, 1.1.121, 1.1.122, 1.1.123, 1.1.124, 1.1.125, 1.1.126, 1.1.127, 1.1.128, 1.1.129, 1.1.130, 1.1.131, 1.1.132, 1.1.133, 1.1.134, 1.1.135, 1.1.136, 1.1.137, 1.1.138, 1.1.139, 1.1.140, 1.1.141, 1.1.142, 1.1.143, 1.1.144, 1.1.145, 1.1.146, 1.1.147, 1.1.148, 1.1.149, 1.1.150, 1.1.151, 1.1.152, 1.1.153, 1.1.154, 1.1.155, 1.1.156, 1.1.157, 1.1.158, 1.1.159, 1.1.160, 1.1.161, 1.1.162, 1.1.163, 1.1.164, 1.1.165, 1.1.166, 1.1.167, 1.1.168, 1.1.169, 1.1.170, 1.1.171, 1.1.172, 1.1.173, 1.1.174, 1.1.175, 1.1.176, 1.1.177, 1.1.178, 1.1.179, 1.1.180, 1.1.181, 1.1.182, 1.1.183, 1.1.184, 1.1.185, 1.1.186, 1.1.187, 1.1.188, 1.1.189, 1.1.190, 1.1.191, 1.1.192, 1.1.193, 1.1.194, 1.1.195, 1.1.196, 1.1.197, 1.1.198, 1.1.199, 1.1.200, 1.1.201, 1.1.202, 1.1.203, 1.1.204, 1.1.205, 1.1.206, 1.1.207, 1.1.208, 1.1.209, 1.1.210, 1.1.211, 1.1.212, 1.1.213, 1.1.214, 1.1.215, 1.1.216, 1.1.217, 1.1.218, 1.1.219, 1.1.220, 1.1.221, 1.1.222, 1.1.223, 1.1.224, 1.1.225, 1.1.226, 1.1.227, 1.1.228, 1.1.229, 1.1.230, 1.1.231, 1.1.232, 1.1.233, 1.1.234, 1.1.235, 1.1.236, 1.1.237, 1.1.238, 1.1.239, 1.1.240, 1.1.241, 1.1.242, 1.1.243, 1.1.244, 1.1.245, 1.1.246, 1.1.247, 1.1.248, 1.1.249, 1.1.250, 1.1.251, 1.1.252, 1.1.253, 1.1.254, 1.1.255, 1.1.256, 1.1.257, 1.1.258, 1.1.259, 1.1.260, 1.1.261, 1.1.262, 1.1.263, 1.1.264, 1.1.265, 1.1.266, 1.1.267, 1.1.268, 1.1.269, 1.1.270, 1.1.271, 1.1.272, 1.1.273, 1.1.274, 1.1.275, 1.1.276, 1.1.277, 1.1.278, 1.1.279, 1.1.280, 1.1.281, 1.1.282, 1.1.283, 1.1.284, 1.1.285, 1.1.286, 1.1.287, 1.1.288, 1.1.289, 1.1.290, 1.1.291, 1.1.292, 1.1.293, 1.1.294, 1.1.295, 1.1.296, 1.1.297, 1.1.298, 1.1.299, 1.1.300, 1.1.301, 1.1.302, 1.1.303, 1.1.304, 1.1.305, 1.1.306, 1.1.307, 1.1.308, 1.1.309, 1.1.310, 1.1.311, 1.1.312, 1.1.313, 1.1.314, 1.1.315, 1.1.316, 1.1.317, 1.1.318, 1.1.319, 1.1.320, 1.1.321, 1.1.322, 1.1.323, 1.1.324, 1.1.325, 1.1.326, 1.1.327, 1.1.328, 1.1.329, 1.1.330, 1.1.331, 1.1.332, 1.1.333, 1.1.334, 1.1.335, 1.1.336, 1.1.337, 1.1.338, 1.1.339, 1.1.340, 1.1.341, 1.1.342, 1.1.343, 1.1.344, 1.1.345, 1.1.346, 1.1.347, 1.1.348, 1.1.349, 1.1.350, 1.1.351, 1.1.352, 1.1.353, 1.1.354, 1.1.355, 1.1.356, 1.1.357, 1.1.358, 1.1.359, 1.1.360, 1.1.361, 1.1.362, 1.1.363, 1.1.364, 1.1.365, 1.1.366, 1.1.367, 1.1.368, 1.1.369, 1.1.370, 1.1.371, 1.1.372, 1.1.373, 1.1.374, 1.1.375, 1.1.376, 1.1.377, 1.1.378, 1.1.379, 1.1.380, 1.1.381, 1.1.382, 1.1.383, 1.1.384, 1.1.385, 1.1.386, 1.1.387, 1.1.388, 1.1.389, 1.1.390, 1.1.391, 1.1.392, 1.1.393, 1.1.394, 1.1.395, 1.1.396, 1.1.397, 1.1.398, 1.1.399, 1.1.400, 1.1.401, 1.1.402, 1.1.403, 1.1.404, 1.1.405, 1.1.406, 1.1.407, 1.1.408, 1.1.409, 1.1.410, 1.1.411, 1.1.412, 1.1.413, 1.1.414, 1.1.415, 1.1.416, 1.1.417, 1.1.418, 1.1.419, 1.1.420, 1.1.421, 1.1.422, 1.1.423, 1.1.424, 1.1.425, 1.1.426, 1.1.427, 1.1.428, 1.1.429, 1.1.430, 1.1.431, 1.1.432, 1.1.433, 1.1.434, 1.1.435, 1.1.436, 1.1.437, 1.1.438, 1.1.439, 1.1.440, 1.1.441, 1.1.442, 1.1.443, 1.1.444, 1.1.445, 1.1.446, 1.1.447, 1.1.448, 1.1.449, 1.1.450, 1.1.451, 1.1.452, 1.1.453, 1.1.454, 1.1.455, 1.1.456,												

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).