Royal Government of Bhutan

United Nations Development Programme

ENABLING ACTIVITIES FOR THE PREPARATION OF BHUTAN'S SECOND NATIONAL COMMUNCIATION TO THE UNFCCC [1]

Brief description

Bhutan ratified the Framework Convention on Climate Change (FCCC/UNFCCC) in August 1995. As part of its obligations under the UNFCCC, Bhutan submitted its Initial National Communication comprising an executive summary, GHG inventory, vulnerability assessment and national climate change action plan for mitigation of and adaptation to possible climate change effects at the Sixth Session of the Conference of Parties in November 2000. Bhutan also completed its First National Inventory on Greenhouse Gas Emissions and carried out basic training on developing a greenhouse gas inventory.

The completion of the Initial National Communication and First Greenhouse Gas Inventory were significant achievements for Bhutan in its efforts to deal with the problem of climate change. Despite the numerous constraints such as lack of human resources and absence of or/low quality of information, the Initial National Communication was completed by a multi-sectoral team composed of members from important stakeholder groups in Bhutan, who indicated that mitigation activities could be possibly be implemented in the following sectors: energy, industrial processes, agriculture, land use and forestry and waster management.

However, the Vulnerability and Adaptation Assessment in the Initial National Communication was not very extensive and not based on any thorough technical or scientific studies. This constraint was largely due to lack of expertise and experience in such fields in Bhutan. Other constraints include lack of relevant data and information, and the poor quality of available information. Most of the potential impacts and vulnerability assessments are based on assumptions and discussions with various stakeholders in Bhutan. Although there is a general sense of the potential impacts and the vulnerability of the sectors in Bhutan, the extent and nature of impacts is not understood.

Since Bhutan is highly vulnerable to the adverse impacts of climate change, it is important that it review the assessments carried out under the Initial National Communication, and also addresses the gaps and constraints identified during the Initial National Communication process. The Second National Communication will serve as an important planning tool by providing the information on climate risk to the development during the national and sectoral planning processes.

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Acronyms

CBOs:	Community-based organizations
CP:	Country Programme
ESTs:	Environmentally sound technologies
FCCC:	Framework Convention on Climate Change
GEF:	Global Environment Facility
GHG:	Greenhouse Gas
INC:	Initial National Communication
MDG(s):	Millennium Development Goal(s)
NAPA:	National Adaptation Programmes of Action
NCSA:	National Capacity Self Assessment
NGO:	Non-governmental Organization
Nu.:	Ngultrum (Bhutanese currency)
SDG:	SAARC (South Asia Association for Regional Cooperation) Development Goal
SNC:	Second National Communication
TNA:	Technological Needs Assessment
RGoB:	Royal Government of Bhutan
UNDP:	United Nations Development Programme
UNDAF:	United Nations Development Assistance Framework
UNFCCC:	United Nations Framework Convention on Climate Change
UN:	United Nations
V & A:	Vulnerability and adaptation

1. Elaboration of the Narrative

1.1 Situation Analysis

The overall objective of the United Nations Development Assistance Framework (UNDAF) 2002-2007 for Bhutan was the reduction of poverty in Bhutan, incorporating a focus on good governance and social services delivery through sustainable development. The UNDP and the Royal Government of Bhutan have begun development of UNDAF 2008-2012 including completion of the Common Country Assessment and national stakeholder consultative workshop on UNDAP in August 2006.

At the time of development of this project proposal, the UNDAF formulation process is still underway. However, the Common Country Assessment, which serves as a basis for preparation of UNDAF 2008-2012 for Bhutan, examines Bhutan's current development situation and also presents a shared analysis by the UN System in the areas identified for MDGs. It highlights Bhutan's vulnerability to climate change and the need to build national capacity to address this issue. The project will also contribute to achieving the Millennium Development Goals by reducing vulnerability of the poor and ensuring environmental sustainability.

The project will contribute to the UNDAF outcome "National capacity to mainstream environmental concerns into policies, plans and programs enhanced" and will specifically help achieve the targets "National capacity to meet reporting requirements for MEAs strengthened" by helping the timely submission of the reports to the UNFCC.

1.2. Strategy

The project will assist Bhutan in preparing its Second National Communication (SNC), and will follow the guidelines adopted by the Conference of Parties of the United Nations Framework Convention on Climate Change. As a Non Annex-I party, Bhutan is committed to meeting its reporting obligations under the UNFCCC. The proposed activities of the SNC project build upon the work undertaken under the Initial National Communication, Technological Needs Assessment, National Adaptation Programmes of Action and National Capacity Self Assessment.

The project will help strengthen the country's technical and institutional capacity in implementing the UNFCCC by enhancing awareness in the country and also by mainstreaming climate change related issues. It will also assist in the incorporation of such issues in the general planning and development strategy formulation processes in the country as identified by the Government's Five Year Plan; Bhutan 2020 – A Vision for Peace, Prosperity and Happiness, the Middle Path – National Environment Strategy for Bhutan; Poverty Reduction Strategy; the Millennium Development Goals (MDGs) and the SAARC Development Goals.

The focus of the project will be to assess Bhutan's role in addressing climate change. This will entail examining the amount of greenhouse being emitted or removed, the degree of adverse impacts and its vulnerabilities, and a framework for the adaptation. Bhutan is an LDC with its economy highly dependent on climate-sensitive sectors such as agriculture, hydropower and forestry. Agriculture is the dominant sector in Bhutan providing livelihood, income and employment to 79% of the population. The majority of the people practice subsistence farming on marginal lands with average land holdings ranging from 1-4 acres[2]. They also own some cattle for farm yard manure (FYM) and draught power, kitchen gardens and some poultry for diet supplement. Bhutan's main export earnings are from hydro-power generation.

[2] RNR Statistics 2000 Vol 1. MOA

While it is estimated that the country has the potential to generate up to 30,000 MW of electricity, barely 3% has been harnessed so far. Much of the electricity is exported to India to generate income to finance national development. In the 8th Plan period (1997-2002), earnings from hydropower constituted 45% of the country's revenue and it is the main engine of growth in the current 9th Five-Year Plan. While it is the backbone of the economy, it is highly vulnerable to the adverse effects of climate change. For example, heavy monsoon floods in the year 2000 negatively affected economic growth by more than 2%; mainly from effects in the southern industrial areas of Phuntsholing, Pasakha and Samtse[3]. Hence, for Bhutan to be sustainable in long-run, it should be able to assess the impacts of the climate change on its future development plans and policies.

The project will be implemented by the National Environment Commission, Royal Government of Bhutan through the UNDP Bhutan Country Office (CO). All earlier climate change initiatives like Initial National Communication, Greenhouse Gas Inventory, Technological Needs Assessment, National Adaptation Programmes of Action, and National Capacity Self Assessment were conducted through participation of multi-sectoral taskforces. These processes have led to the building of local capacity. During the Second National Communication, the past members from the multi-sectoral taskforce would be involved where possible. Regional and international expertise will also be required to strengthen the institutional and technical capacity of stakeholders through on-the-task and hands-on training, seminars and workshops, as well as international cooperation.

The project will liaise closely with and share lessons with other climate change projects in the country such as the National Adaptation Program of Action (NAPA), the GLOF project and other relevant projects and programs of the government.

1.3. Management Arrangements

The project will be nationally executed and will be located within the National Environment Commission (NEC) Secretariat. The NEC is the focal point within the RGOB for all climate change related activities and has been principal coordinator for INC including First GHG Inventory, NCSA, and the NAPA. The NEC will designate a Project Manager and a Project Accountant to oversee the day-to-day management of the project and to maintain project accounts. The project manager in his work will receive high level advice from a Project Steering Committee (PSC) chaired by the Deputy Minister of the NEC. The PSC will meet at least twice a year to review progress and give directions. For details on the PSC composition and the ToR please refer to *Management Arrangements in Appendix B* "Technical Components of the Project Proposal", and *Appendix C* "Terms of Reference").

1.4 Monitoring and Evaluation

Monitoring responsibilities and events

A detailed schedule of project review meetings will be developed by the project management, in consultation with stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Steering Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the Project Manager based on the project's Annual Workplan and its indicators. The Project Team will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

[3] 9th Plan Main Document 2002-2007, Planning Commission, RGOB

Periodic monitoring of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

Project Monitoring Reporting

The Project Coordinator in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process.

(a) Inception Report (IR)

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly timeframes detailing the activities and progress indicators that will guide implementation during the first year of the project. The Report will also include a detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

When finalized the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

(b) Quarterly Progress Reports

Short reports outlining main updates in project progress will be provided quarterly to the UNDP Country Office and the UNDP-GEF regional office by the project team.

(c) *Technical Reports*

Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

Audit Clause

The Royal Government of Bhutan will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by the Royal Audit Authority, the legally recognized auditor of the Royal Government of Bhutan.

1.5 Legal Context

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Royal Government of Bhutan and the United Nations Development Programme, signed by the parties on 14 May 1974. The NEC shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

UNDP acts in this Project as Implementing Agency of the Global Environment Facility (GEF), and all rights and privileges pertaining to UNDP as per the terms of the SBAA shall be extended mutatis mutandis to GEF.

The UNDP Resident Representative is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;
b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
d) Inclusion of additional annexes and attachments only as set out here in this Project Document.

2. Total Budget

Award ID: 00043035
Award Title: PIMS 2942 Activities for the Preparation of Bhutan's Second National Communication to the UNFCCC
Project ID: 00050028
Project Title: Enabling Activities for the Preparation of Bhutan's Second National Communication to the UNFCCC
Executing Agency: National Environment Commission (NEC)

OUTPUTS (and corresponding indicators)	RESPONSIBLE PARTY	PLANNED BUDGET						
		Source of Funds	Budget Code	Budget Description	Year 1 (US$)	Year 2 (US$)	Year 3 (US$)	Total Budget (US$)
National Circumstances	BHU - NEC	GEF	71300	Local Consultant	5,000	0	0	**10,000**
			71300	Local Consultant	5,000	0	0	
				Sub-total	**10,000**	**0**	**0**	
National Greenhouse Gas Inventories	BHU - NEC	GEF	71200	Internal Consultants	20,000	19,000	0	**100,000**
			71300	Local Consultants	13,000	8,000	0	
			74600	Travel	5,000	5,000	0	
			74500	Miscellaneous	5,000	23,500	1,500	
				Sub-total	**43,000**	**55,500**	**1,500**	
Programmes containing measures to facilitate adequate adaptation to climate change	BHU - NEC	GEF	71200	Internal Consultant	20,000	20,000	10,000	**120,000**
			71300	Local Consultant	15,000	15,000	6,000	
			71600	Travel	5,000	5,000	5,000	
			72200	Equipment	0	10,000	0	
			74500	Miscellaneous	1,000	3,000	5,000	
				Sub-total	**41,000**	**53,000**	**26,000**	
Programmes containing measures to mitigate climate change	BHU - NEC	GEF	71200	Internal Consultant	0	15,000	15,000	**60,000**
			71300	Local Consultant	0	10,000	10,000	
			71600	Travel	0	3,000	3,000	
			74500	Miscellaneous	0	2,000	2,000	
				Sub-total	**0**	**30,000**	**30,000**	
Other relevant information (e.g. research and systematic observation,	BHU - NEC	GEF	71200	Internal Consultant	0	0	5,000	

technology transfer, education and public awareness, capacity building)			71300	Local Consultant	0	0	10,000	
			74500	Miscellaneous	0	0	5,000	**20,000**
				Sub-total	**0**	**0**	**20,000**	
Constraints & Gaps; Related Financial, technical, & capacity needs	BHU - NEC	GEF	71300	Local Consultants	0	0	6,000	**10,000**
			74500	Miscellaneous	0	0	4,000	
				Sub-total	**0**	**0**	**10,000**	
Compilation, Production of communication, including Executive Summary & its translation	BHU - NEC	GEF	74210	Printing and publications	0	0	15,000	**15,000**
				Sub-total	**0**	**0**	**15,000**	
Project Management	BHU - NEC	GEF	71600	Travel	5,000	5,000	5,000	
			72200	Equipment	10,000	10,000	10,000	**60,000**
			72500	Supplies	5,000	5,000	5,000	
				Sub-total	**20,000**	**20,000**	**20,000**	
Monitoring and reporting	BHU - NEC	GEF	74100	Management and reporting	3,000	3,000	4,000	**10,000**
				Sub-total	**3,000**	**3,000**	**4,000**	
					117,000	161,500	126,500	**405,000**

3. Appendices

Appendix A: Summary report of the self-assessment exercise

1. Background and Rationale

The first activity associated with the preparation of the Second National Communication and the update of the Greenhouse Gas Inventory was the self-assessment exercise. The main objective of this self-assessment exercise was to undertake a highly consultative and participatory process of needs assessment to identify and validate the critical priorities for UNFCCC implementation in Bhutan. The self-assessment involved a stocktaking exercise and stakeholder consultation in order to build upon existing activities, institutions and knowledge. The stocktaking exercise identified gaps and validated priorities for in-depth studies during the preparation of the Second National Communication (SNC). Therefore, the stocktaking exercise was considered as the first but critical step in preparing the proposal for the SNC to the UNFCCC.

2. Process/Methodology

In order to undertake the self-assessment exercise, following methodologies were adopted:

- Desk review of existing activities on climate change and other relevant areas,
- Stocktaking of activities for the SNC,
- Multi-criteria analysis and prioritization of activities to be considered for the SNC,
- Three-stage stakeholder consultation and the mainstreaming stage.

The stocktaking exercise for SNC proposal was based mainly on analysis of gaps from earlier work related to climate change mitigation, vulnerabilities and adaptation through desk review and stakeholder consultation. Those include an extensive review of NAPA, NCSA, sector specific TNAs, the GHG national inventory report and the INC. It also included an assessment of similar programs and projects as highlighted in strategic documents such as the PRSP, Vision 2020, MDG commitments, the proposed SDGs and the 10th Five Year Plan Guideline.

The review of those documents resulted in identification of the achievements and lapses (gaps) in implementation of strategic directions provided by those documents. In addition to the gaps, new areas of work were identified based on literature review, primarily the IPCC Third Assessment Report. The new areas of work were those seen to provide synergy in national development priorities and climate change issues. The strategic options thus identified have been included in the list of potential activities to be taken up during the SNC process.

The next and most important step in the self-assessment exercise was stakeholder consultations, which were conducted over three stages. In the Stage One, the stakeholders were informed about the on-going self-assessment activities. In addition, the results of the desk review task were subjected to further consultation and validation by the concerned stakeholders. The next stage of stakeholder consultation prioritized the activities to be taken up for the SNC using multi-criteria ranking analysis. Based on the indicative cost of the proposed prioritized activities and the total budget available, activities that would be implemented under the SNC process were decided upon. The final stage of the consultation reviewed the document ensuring that the proposed activities are in line with the national and sectoral plans and policies.

3. Main outcomes of the stocktaking, including priorities identified

The self-assessment exercise identified limited or low quality of climate information, limited institutional and technical capacity, lack of continuous finance and lack of awareness at grass-root and community level as the main constraints in implementing the UNFCCC in Bhutan. In order to address those gaps, the self-assessment exercise recommended implementation of the following activities under the SNC. The priority areas have been identified by the stakeholders through the consultative process:

a. National Circumstances

- The national economy has strong linkages with climate change both in terms of the cause of climate change, and its impacts. Hence, national and sectoral development priorities, objectives and circumstances need to be assessed in order to provide a more accurate background.
- There is limited awareness on impacts of climate change and capacity to assess the degree of impacts within sectors or regions among the relevant stakeholders. The 10th Five Year Plan (2008-2012) and subsequent five year plans will be based on bottom-up planning approach. Thus enhancing awareness at community level will be an important tool for mainstreaming the risk of climate change to the development into national and sectoral plans and policies.

a. National Greenhouse Gas Inventory

- The national greenhouse gas inventory submitted in the year 2000 to the UNFCCC Secretariat was for year 1994. For the second GHG inventory, the reporting will be for the period 1994-2000, depending on data availability and also the data used for the first inventory will also be revisited and revised.
- Many sectors have taken up different forms of data acquisition and management. Initiatives are also underway for establishment of an Environment Information Management System at the National Environment Commission Secretariat (NECS). However, there is no coordination in collection and management of information related to GHG. The SNC process should consider a coordinated system of information management, sharing and dissemination agreed upon among all stakeholders (sector information agencies, the Dzongkhag Environment Committees, private agencies, NGOs, etc). Therefore, resources and more time than was allocated for data collection and validation in INC should be allocated for this purpose.
- The First GHG Inventory covered only four out of the six sectors included in the IPCC Guidelines: Energy, Industry, Agriculture and Land-use Change and Forestry. The solvent and waste sectors were left out for lack of relevant data. Depending on data availability, the second GHG inventory will include the two sectors that were left out of first GHG inventory.
- Absence of national emission factors and low in-house capacity to develop them, limited in-country human and technical resources for conducting greenhouse gas inventory are some of the major constraining factors. Strengthening human technical and institutional capacities to develop national emission factors and conduct a GHG inventory will be undertaken as one of the priority activities under this project.
- Determine the key source categories and assess the level of uncertainty associated with the inventory data.

b. Long-term vulnerability and adaptation assessment

- Being a mountainous country and agriculture-based economy, vulnerability assessment and adaptation mechanisms should prioritize human health, water resources, sustainable agriculture, forest & biodiversity, energy and livestock. Impact assessment of climate change on these sectors need to be considered in the SNC. The SNC should consider to seek, clarify and elaborate not only on immediate coping mechanisms and projects to vulnerabilities (as in the case of NAPA and other TNAs carried out so far) but should also look at longer-term coping mechanisms and actions for adaptations for mainstreaming into national plans and programs.

- For impact assessment of climate change, it is mandatory to have information on past and future state of climate. Bhutan, at the moment has climate data only from 1985 onwards. Therefore, it is essential to develop climatological data atleast for past 50 years and also construct future climate and socio-economic scenarios.
- Hazard areas to be identified and mapped for early warning system planning and implementation

c. Mitigation assessment

Significant climatic shocks can set back economies and slow down the achievement of pro-poor growth. Therefore each sector has a role to play in reducing risks to potential shocks, including those resulting from climatic variability.

Poverty alleviation programs help the poor to better cope up and mitigate the impacts of climate change. This will help mitigate or reduce climate changes and therefore addressing poverty is a means of addressing climate change. For a mountainous country with most of the population relying on sustainable agriculture and with about 31.7 % of the population living below poverty line of Nu. 740.36 per capita per month, it is necessary to focus on poverty alleviation to bring about positive impacts in climate change.

- Assess rural energy consumption pattern for scoping improved technology promotion and adoption.
- Strategic and local level land use planning based on land capability and suitability for GHG emission assessment and to support conservation and management of natural resources.
- Improvement in information management and awareness; demonstration of effects and benefits of cleaner production; production and promotion of the use of best practice manuals; capacity building and award schemes for cleaner technology applications.
- Improved forest fire fighting capacities at community and local levels to mitigate GHG emissions from burning (initially) and land use change (later).

d. Education, Training and public awareness

- Assess the views of media on Climate Change issues.
- Promote local investment programs that create awareness on what individuals and groups can do to reduce vulnerabilities or enhance adaptation to CC events as a policy towards education, training and public awareness.
- Attempt at mainstreaming CC issues in schools, non-formal education centers, monastic bodies, military training centers and nature clubs in schools through green award, art and writing competitions and related programs.
- Conduct information campaigns covering climate change, energy use patterns, GHG emissions and implications at individual, community, national and international levels. Street acting, cultural festivals and media can be used for such campaigns.
- Films, new articles and write ups on CC, its impacts on different development themes such as health, poverty, trade and economy, natural resources, etc.
- Built up scientific and technical capacity in colleges and institutes of Royal University of Bhutan to integrate climate changes, vulnerabilities to such changes and adaptation and coping mechanisms into their courses.
- Intensified awareness and sensitization on the linkage of climate change and poverty.

4. Main lessons learned of the self-assessment exercise, including and brief explanation on how its outcomes have provided inputs to the preparation of the project proposal

The self-assessment exercise helped take stock of climate change initiatives in the country. It also identified that there are some pertinent gaps in the implementation of the UNFCCC such as lack of institutional arrangement and system for the GHG Inventory, poor quality of GHG activity data, lack of institutional and technical capacity to undertake vulnerability and adaptation assessment, lack of capacity to assess, plan and

implement mitigation measures. While the Royal Government of Bhutan recognizes that climate change initiatives will not be sustainable unless they are mainstreamed within the national development plans and policies, the process of mainstreaming has been impeded by lack of awareness and capacity in the concerned sectors and also in the national planning and development agencies. Thus, the capacity building including awareness program is an important aspect under the SNC. The Royal Government of Bhutan has adopted a bottom-up development planning approach, so it is important to enhance awareness and development capacity on climate change and its impacts, possible adaptation measures and incorporation of climate risks to development at the grass-root (community) level.

The NAPA process showed that Bhutan is highly vulnerable to the adverse impacts of climate change. It identified some of the adaptation interventions needs to address adverse impacts of climate change. The identified adaptation interventions are immediate and urgent needs. The NAPA process looked at the vulnerability and adaptation assessment at a shorter term based on existing information, proven literature and expert judgement.

5. Explanation of the stakeholder consultations and validation process used for the preparation of the national communication project proposal, including. This information could be provided in a form of a summary table such as the one provided below:

Name of institutions / stakeholders consulted	**Stakeholder interests, official position or mandate**	**Reasons for inclusion**	**Role in the self-assessment process (e.g. consultation, preparation of draft report, data provider)**
National Environment Commission (NEC)	The UNFCCC Focal Agency	The NEC had coordinated the work on INC and will also coordinate SNC including self-assessment exercise.	Project coordination, coordination of consultation workshops, and preparation of draft report.
City Corporation	Municipal authority	Responsible for waste management in the town, implementation of urban plans including urban road network system.	Consultation
Road Safety Transport Authority	Regulator of transport sector	The RSTA maintains data on number of vehicles in the country. They also enforce emission standards.	Consultation
National Soil Service Center	Focal Agency for UNCCD	NSSC is responsible for sustainable land management	Consultation
Department of Local Governance, Ministry of Home and Cultural Affairs	Coordinating agency for the disaster management	Formulated National Disaster Reduction and Management Strategy and implementation of it in collaboration with the relevant stakeholder.	Consultation
Department of Public Health, Ministry of Health	Formulate and implement public health plans and policies	Ultimate impacts of the climate change impinge on human health.	Consultation
Bhutan Chamber of Commerce and Industry	Private sector development	Wider stakeholder consultations	Consultation
Bhutan Ferro Alloy Limited	Industry	Representative of industrial sector, and source of activity data for GHG Inventory.	Consultation
Bhutan Calcium and Carbide Limited	Industry	Representative of industrial sector, and source of activity data for GHG Inventory.	Consultation
Department of Forest, Ministry of Agriculture	Formulate and implement forestry plans and policies, and also enforce Forest and Nature Conservation Act,	Forest will be one of the impacted sectors by the climate change.	Consultation

Name of institutions / stakeholders consulted	Stakeholder interests, official position or mandate	Reasons for inclusion	Role in the self-assessment process (e.g. consultation, preparation of draft report, data provider)
	1995.		
Construction Association of Bhutan	Private sector development	Wider stakeholder consultations	Consultation
National Statistical Bureau	Maintain and produce statistics on social and economic activities.	Primary source of data for GHG Inventory.	Consultation
Agromet Unit, Council of RNR Research for Bhutan	Agrometeorological research	Agriculture will be one of the impacted sectors by the climate change	Consultation
Environment Unit, Ministry of Trade & Industry	Environmental management in brown sector	Responsible for enforcement of Environment Assessment Act in the brown sector	Consultation
Department of Livestock, Ministry of Agriculture	Formulate and implement livestock plans and policies	Livestock will be one of the impacted sectors by the climate change, source of livestock data for GHG inventory	Consultation
Royal Society for Protection of Nature	NGO dedicated to nature conservation	Creating awareness on environmental issues at grassroots level	Consultation
Department of Aid & Debt Management, Ministry of Finance	Official agency for donor coordination and resource mobilization	Resource allocation has implications on addressing climate change issues	Consultation
Department of Energy, Ministry of Trade & Industry	Formulate and implement energy plans and policies	Energy use pattern has direct implication on climate change	Consultation
Department of Industry, Ministry of Trade & Industry	Formulate and implement industrial plans and policies	Energy use in industrial sector has direct impact on climate change	Consultation
Planning Commission Secretariat	Official agency for formulating and directing national plans and policies	Mainstreaming climate risk to development into national development plans and policies	Consultation
UNDP	Donor agency	Implementing agency for GEF and coordination among development partners	Consultation

Appendix B: Technical components of the project proposal

1. Background/Context

Bhutan, with an area of 38,394 sq. km, is located on the southern slopes of the eastern Himalayas where elevations range from about 100 m in the foothills to over 7500 m towards the north. By being located in the Eastern Himalayas, Bhutan is characterized by a very fragile mountainous ecosystem and its climate is heavily influenced by the seasonal monsoons. Over 80% of the population is still engaged in subsistence agriculture and significant national revenues are derived from forest resources (not including the non-timber benefits derived by the agrarian population). The deep gorges and perennial rivers provide Bhutan with a high potential of hydropower generation potential. Hydropower generation through run-of-the-river schemes is the major source of revenue for the country and this sector continues to grow significantly. The economy of the country is heavily dependent on sectors that are vulnerable to climate change, such as agriculture, forestry and water resources. Bhutan's status as a Least Developed Country further makes the country more vulnerable.

Bhutan signed the Framework Convention on Climate Change (FCCC/UNFCCC) at Rio de Janeiro in June 1992. The 73rd session (15 August 1995) of the National Assembly consequently ratified the Conventions. Under the UNFCCC, Bhutan is obligated by Articles 4 and 12 to submit a National Communication comprising an executive summary, GHG inventory, vulnerability assessment and national climate change action plan for mitigation of and adaptation to possible climate change effects. The Initial National Communication from Bhutan under the National Greenhouse Gas Project as a GEF Enabling Activity Project was submitted at the Sixth Session of the Conference of Parties in November 2000. Under that project, Bhutan also completed its First National Inventory on Greenhouse Gas Emissions and carried out basic training on conducting greenhouse gas inventory. That project and the two reports were the first major steps that Bhutan undertook towards implementing its obligations as a party to the UNFCCC.

The completion of the Initial National Communication and First Greenhouse Gas Inventory were significant achievements for Bhutan in its efforts to deal with the problem of climate change. Despite the numerous constraints such as lack of human resources and absence of or/low quality of information, the Initial National Communication was completed by a multi-sectoral team composed of members from important stakeholder groups in Bhutan, who indicated that mitigation activities could be possibly be implemented in the following sectors: energy, industrial processes, agriculture, land use and forestry and waster management.

However, the Vulnerability and Adaptation Assessment in the Initial National Communication was not very extensive and not based on any thorough technical or scientific studies. This constraint was largely due to lack of expertise and also the lack of experience in such fields in Bhutan. The other constraint of doing such studies in Bhutan is either the lack of relevant data and information or the poor quality of available information. Most of the potential impacts and vulnerability assessments are based on assumptions and discussions with various stakeholders in Bhutan. Although there is a general sense of the potential impacts and the vulnerability of the sectors in Bhutan, the extent and nature of impacts is not understood.

2. Project Objectives

Broadly, this project will assist Bhutan in preparing its second national communications consistent with the requirements of the UNFCCC. The Convention provides a clear mandate for all of the activities planned in this project. Specifically: (a) Article 12 requires developing countries to prepare national communications, due three years after entry into force of the Convention. It is assumed for purposes of this project that this deadline will be extended in the case of Bhutan, for which the convention entered into force in August 1995. (b) Article 4.1 calls on all countries to formulate and implement programs to mitigation and adapt to climate change. Six specific objectives have been identified:

(a) To enable the Royal Government of Bhutan (RGOB) to fulfill its reporting obligations with regard to the development of inventories of greenhouse gas (GHG) sources and sinks.
(b) To enable RGOB to fulfill its reporting obligations with regard to the identification of options for mitigating climate change thereby enhancing national capacity to identify, analyze, and formulate viable GHG mitigation measures.
(c) To enable RGOB to fulfill its reporting obligations with respect to its vulnerability to future climate change.
(d) To enable RGOB to fulfill its reporting obligations with respect to options for adapting to climate change.
(e) To enable Bhutan to prepare national plans for mitigation and adaptation for fulfilling its reporting requirements to the FCCC Secretariat.
(f) To enable RGOB to fulfill its reporting obligation with respect to communicating information under Article 12 of the FCCC.

In addition to fulfilling its primary role, the project will benefit the RGOB's larger goal of promoting sustainable development. The project will enhance the ability of the RGOB to address concerns of the effect of climate change on its natural resources. Regardless of the eventual climate change impact, it is important that the RGOB possess the necessary human and institutional resources to integrate appropriate responses to the risk of climate change to its development priorities. In parallel to fulfilling RGOB's obligation under FCCC, the development objectives of the RGOB will be furthered through: (a) promotion of greater understanding of the complementarity of climate change mitigation strategies and furtherment of national sustainable development objectives, particularly in the forestry sector and the development of hydropower potential; (b) strengthened cooperation and coordination among ministries and institutions as a result of implementing cross-cutting activities relevant to climate change. A climate change policy dialogue process will be initiated and strengthened to foster understanding of climate change issues and linkages among a wide stakeholder group; and (c) increased capacity to financially engage a concerned international community capable of financing climate change mitigation projects that complement national sustainable development objectives.

Concern over global climate changes is likely to result in enhanced availability of funding related to climate change mitigation. The RGOB has considerable interest in taking advantage of such opportunities, but has limited knowledge of how these may be exploited. Creating the ability to formulate climate change mitigation strategies will further enhance the ability of the RGOB to pursue financing opportunities for mitigation measures that further national sustainable development objectives.

3. Project Strategy (1-2 paragraphs)

As in Section 1.2 of main body.

4. Project activities

Output 4.1: National circumstances

National development priorities, objectives and circumstances will be identified through a series of stakeholder meetings. Institutional arrangement required for the preparation of national communication on a continuous basis among relevant government, non-governmental and private agencies will also be discussed through such meetings. The estimated budget for this activity will be US$ 10,000.00.

Activities:

1. Collect and analyse all national and sectoral strategies, plans and studies relevant to the formulation of the SNC, including national development and poverty eradication plans and strategies;
2. Update data and information on the national circumstances, including geographical characteristics (climate, forests, land use, other environmental conditions, etc.), population (growth rates, distribution, density etc.), economy (energy, transport, industry, mining, tourism, agriculture, , waste, services etc.), education (including scientific and technical research);
3. Collect and analyse information on specific needs and concerns arising from climate change impacts and/or the impact of the implementation of response measures.
4. Evaluate existing institutional arrangements and established an agreed set-up for continuous preparation of national communications to the UNFCCC;
5. Prepare draft National Circumstances chapter of the SNC based on outputs of the above-mentioned activities;
6. Conduct consultation of stakeholders on draft National Circumstances chapter and incorporate their comments and feedback in finalising it.

Outcome:

1. Description of national and regional development priorities, objectives and circumstances, on the basis of which Bhutan will address climate change and its adverse impacts;
2. Updated data and information on features of geography, climate and economy which may affect Bhutan's ability to mitigate and adapt to climate change;
3. Information regarding specific needs and concerns arising from the adverse impacts of climate change and the implementation of response measures;
4. National Circumstances chapter prepared.
5. Established institutional arrangement for the continuous preparation of national communications to the UNFCCC.

Output 4.2: Greenhouse gas inventory

During the preparation of Initial National Communication, Bhutan has developed inventory for GHG emissions by source and removals by sinks for the gases that are not covered by the Montreal Protocol. The inventory was for year 1994. While Bhutan as a LDC could report the national GHG inventory for years at its own discretion, an attempt to report for all year since 1994 till 2000 will be made. While conducting the second GHG inventory, a revision on the data used and methodologies adopted for the first inventory will also be carried out. Under the SNC, the source of activity data will be identified and collected. Moreover an attempt will be made to explore possibilities of using localized emission factors for estimating the sectoral GHG emission through cost effective and country specific programs. As a part of institutional arrangement to report the data, a review will be conducted to assess the continuity, functionality and sustainability of the existing system of data collection and archiving. The data needs for GHG inventory will be integrated into the Environmental Information Management System (EIMS), an environmental database system where the data owners can report their individual data. The estimated budget to carry out the activities listed under section 4.2 is USD 100,000.00.

Activities:

1. Establish sectoral working groups in energy, industry, agriculture, solvent, waste, and land use change and forestry (LULUCF);
2. Train members of the technical working group in IPCC methodologies for conducting national GHG inventories. Extensive and comprehensive technical training and support will be required as few members of the working group have prior experience conducting a national GHG inventory. Review the 1994 GHG inventory, taking into consideration data gaps and areas needing improvement identified in the stock-taking exercise;

3. Recruit international/regional consultant to advise and guide the technical working group on conducting the GHG inventory;
4. Conduct assessment of institutional arrangement setup for GHG inventory;
5. Review reporting instructions for GHG inventory;
6. Identify and analyse key source categories and priority GHGs;
7. Collect activity data and statistics from national sources to fill inventory data gaps;
8. Undertake national GHG inventory for the year 1994-2000 and estimate emission trends to the year 2020 covering all six sector, based on data availability;
9. Conduct an uncertainty assessment with regards to emission factors and activity data, as well as the reliability of existing statistics;
10. Explore opportunities with other stakeholders for strengthening data management systems within and outside the government to increase accuracy with regards to the preparation of future national GHG inventories on a continuous basis;
11. Explore cost-effective programmes to develop country-specific emission factors for improvements to future national GHG inventory exercises.
12. Prepare the draft technical report for the national GHG inventory and circulate to all relevant stakeholders. Local and national workshops will be organised to collect stakeholder comments and feedback and incorporated, where relevant in the finalisation of the National GHG Inventory;
13. Finalise the results of the national GHG inventory, as a separate technical output with detailed references and methodologies, for dissemination to all relevant stakeholders to further raise the awareness of the national GHG status and climate change issues.

Outcomes:
1. National inventory system in place;
2. A national inventory of anthropogenic emissions by sources and removals by sinks for CO_2, CH_4 and N_2O, and conditional on data availability for CO and NO_x;
3. Technical appendices to the inventory, discussing inventory procedures, methodologies and levels of uncertainty;
4. Increased national ability to conduct a GHG inventory, including strengthened human, technical and institutional capacity and;
5. Recommendations on the improvement and strengthening of national data collection and management for future GHG inventories.

Output 4.3: Programmes containing measures to facilitate adequate adaptation to climate change

In order to facilitate adequate adaptation to climate change, following activities will be implemented: (1) generate baseline climate information, and develop future climate and socio-economic scenerios; (2) assess the impacts; (3) scope vulnerabilities and adaptation measures; (4) develop adaptation strategies and framework for the implementation. The NAPA has conducted immediate and urgent adaptation needs assessment, however, this study will focus on long-term adaptation interventions. The assessment will focus on: water resources, forest and biodiversity, agriculture and livestock, human health, and glaciers. Bhutan does not have capacity to carry out such kind of task, so it will have to depend heavily on regional resource centers like TERI, Development Alternatives, etc. The counterparts from Bhutan will be trained in order to be able to provide a meaningful and productive input to the study. The estimated budget to carry out the activities listed under section 4.2 is USD 150,000.00.

Activities:
1. Form a multi-sectoral technical working group composing of members who were involved in the formulation of the NAPA;
2. Train members of the technical working group on vulnerability and adaptation assessment methodologies, including IPCC Technical Guidelines for Assessing Climate Change Impacts and

Adaptation. Extensive and comprehensive technical training will be required as few members of the working group have prior experience in vulnerability and adaptation assessment;

3. Develop baseline climate information and generate appropriate climate change scenarios for Bhutan using appropriate climate models;
4. Compile and analyse the available record on climate-related disasters;
5. Carry out more advanced sectoral vulnerability and adaptation assessments in agriculture, forest, watershed and water, human health and glaciers. The focus on glaciers is due to the fact that all the rivers, which drive the hydropower sector in Bhutan, are glaciers fed;
6. Identify long-term priority adaptation strategies and measures, resulting from improved understanding of climate change effects on the country;
7. Discuss uncertainties in emission and climate change scenarios in vulnerability and adaptation assessments;
8. Identify national needs for adaptation technologies and the transfer of these technologies from other countries;
9. Synthesise information and prepare a long term adaptation strategies and measures, based on NAPA and V&A assessment and conduct national stakeholder consultations;
10. The final findings of the V&A assessment will be the National Adaptation Plan and it will be disseminated to all relevant stakeholders to further raise the awareness of climate change issues and also aid as a planning tool.

Outputs:

1. Improved national technical and institutional capacity for vulnerability and adaptation assessments, building upon the capacity and experiences of the NAPA;
2. Increased awareness of all stakeholders on vulnerabilities to climate change and on the need for adaptation;
3. Increased stakeholder participation in vulnerability and adaptation assessments;
4. Atlas of climate-related disasters;
5. Improved understanding of the vulnerabilities of key sectors to climate change and of appropriate adaptation measures to climate change for these sectors;
6. A long-term adaptation strategy framework called National Adaptation Plan and;
7. Improved integration and mainstreaming of adaptation to climate change in national development policies.

Output 4.4: Programmes containing measures to mitigate climate change

Bhutan is a low volume GHG emitting country with hydropower as the major source of energy in Bhutan. However, a chunk of rural population still depends on fossil fuel and biomass as the source of energy. The rural electrification through the national grid is costly fair due to rough terrain and sparse population density. Hence, GHG abatement assessment will be done and a strategy including different mitigation scenarios will be developed outlining various renewable and low-carbon energy technological options, improved technology to reduce fuelwood consumption, etc., if possible, through carbon market mechanisms which are most often designed on the principles of sustainable development. Also a scoping and strategy for adoption of cleaner production in the industrial sector should be carried out. One of the most important tasks will be to develop GHG abatement strategy including national policy framework for its implementation and carry out financial and economical implications to implement those abatement potential. Bhutan has successfully commissioned a micro-hydro power plant as a CDM project. However, the lesson learnt was that such projects are not economically viable. It would be worthwhile to explore CDM opportunities as it is one of the mechanisms under the Convention that would contribute to sustainable development.

Activities:

1. Train members of the technical working group, including members who originally worked on the INC, on mitigation assessment/evaluation methodologies, including the use of mitigation analysis tools. Extensive and comprehensive training will be required as few members of the working group have prior experience in mitigation assessment;
2. Review previous work and studies on mitigation and renewable energy development, including the INC, and national power development masterplan, and off-grid electrification using renewable energy.
3. Based on the results from the GHG inventory, develop a baseline scenario for GHG emission by sources and removal by sinks;
4. Conduct a climate change mitigation assessment using bottom-up or top-down modelling tools;
5. Identify and screen mitigation options for reduction potential and cost;
6. Identify national needs for mitigation technologies and the transfer of these technologies from other countries;
7. Assess potential for accessing funding through the Clean Development Mechanism and identify potential CDM projects;
8. Identify barriers to climate change mitigation and propose improvements to the national regulatory framework with regards to barriers to climate change mitigation;
9. Develop a projection of GHG emission by sources and removal by sinks under different mitigation scenarios, taking into account national sustainable development objectives;
10. Update the national GHG mitigation plan;
11. The draft technical report of the mitigation assessment and mitigation plan of Bhutan will be circulated to all relevant stakeholders. Local and national workshops will be organised to collect stakeholder comments and feedback;
12. The final findings of the mitigation assessment will be disseminated to all relevant stakeholders to further raise the awareness of climate change issues.

Outputs:

1. Mitigation options for key sources and sinks of GHGs prioritised according to economic (costs and benefits), social, environmental and technological benefits;
2. Baseline projections of GHGs by sources and sinks;
3. Projection of GHGs by sources and sinks under different mitigation scenarios;
4. Increased technical and institutional capacity to conduct a mitigation assessment;
5. Increased awareness of stakeholders of mitigation technologies and ancillary benefits;
6. National GHG Abatement Plan.

Output 4.5: Other information considered relevant to the achievement of the objective of the Convention

In order the address climate change at the national level, following activities have been identified as critical instrument:

a. technology transfer that suits the national circumstance
b. education, training and public awareness
c. capacity building at the national, *dzongkhag* (district) and *geog* (block)

The UNFCCC is based on the concept of sustainable development, and the transfer of appropriate technology enhances economic growth of a country in self-sustaining manner.

In accordance with the obligations under the UNFCCC, the SNC will provide information on steps taken by Bhutan to achieve the Convention objectives such as integration of climate change risks into relevant social,

economic and environmental policies, on activities related to the transfer of environmentally sound technologies, and also on training and public awareness at national, sectoral and community level on climate change issues.

Activities:

1. Assess the level of integration of climate change issues into national development policy making and planning processes;
2. Promote integration and mainstreaming of climate change risks into social, economic and environmental policies capacity building and awareness programs;
3. Assess the level of awareness of climate change among policy makers, non-government organisations, research institutions, and relevant private sector entities;
4. Conduct needs analysis in areas of awareness, training and education programmes on climate change issues;
5. Assess and establish suitable institutional arrangements for the transfer of mitigation and adaptation technologies;
6. Formulate recommendations for the development of mechanisms to improve regional and international transfer of appropriate technologies, and their dissemination to a broad range of stakeholders.
7. Explore opportunities and recommend measures for promoting climate change information sharing and exchange with neighbouring countries and other international networks;
8. Draft technical report on other information considered relevant to the achievement of the objective of the Convention to be included in the SNC.

Outputs:

1. Enhanced integration of climate change risks into national development policies;
2. Enhanced public awareness and understanding of climate change;
3. Gaps identified in education, training and public awareness of climate change;
4. Improved institutions for the transfer of mitigation and adaptation technologies and;
5. Improved regional and international cooperation on climate change information sharing and exchange, and if possible for transfers of appropriate technologies.

Output 4.6: Constraints and gaps, and related financial, technical and capacity needs

The SNC will provide information on constraints, gaps, and related financial, technical and capacity needs, associated with the implementation of activities, measures and programmes envisaged under the Convention, including the improvement of future national communications.

The constraints and gaps to effectively implement Bhutan's commitments under the UNFCCC will be assessed. The assessment will be done through stakeholder consultations focusing on identification of financial, technical and capacity needs to implement activities related to Bhutan's commitment under UNFCCC at both national and local levels. Based on such an assessment, opportunities and barriers for implementation of adaptation measures will be identified.

Activities:

1. Assess constraints and gaps associated with the preparation of the SNC;
2. Formulate recommendations to improve the preparation of national communications on a continuous basis;
3. Compile information on financial resources and technical support provided by government and international institutions for activities relating to climate change;
4. Assess financial requirements for activities to adapt to climate change and to mitigate GHG emissions;

5. Assess status of mitigation project profiles proposed in the INC and NAPA, and determine barriers to their implementation;
6. Based on the vulnerability and adaptation assessment and the national GHG Abatement plan, propose a list of projects for financing (specific technologies to be used, materials/equipment required, techniques or practises);
7. Draft technical report on constraints and gaps, related financial, technical and capacity needs to be included in the SNC.

Outputs:
1. Recommendations on improvement of national communications.
2. Estimated financial requirements for the implementation of the National Adaptation Plan and National GHG Abatement Strategy.
3. Project profiles for financing to adapt to climate change.
4. Project profiles for financing to reduce emissions by sources and enhancing removals by sinks.

5. Institutional Framework for Project Implementation

The project will be nationally executed and will be located within the National Environment Commission (NEC) Secretariat. The NEC is the focal point within the RGOB for all climate change related activities and has been principal coordinator for INC including First GHG Inventory, NCSA, and the NAPA.

The overall coordination of the execution of the project will be managed through a Project Coordinator/Manager appointed by the NEC Secretariat from its in-house manpower. The project, therefore, visualizes: (a) *The National Environment Commission (NEC) Secretariat* as the lead agency for the project implementation since it is the focal point for the FCCC; (b) *Project Steering Committee*, an inter-ministerial committee to be constituted by NEC Secretariat in consultation with other line ministries and agencies. The Committee includes: National Environment Commission, Department of Aid & Debt Management, Royal Civil Service Commission and the UNDP Country Office. The Committee will provide advice to NEC Secretariat and the Project Management Team and will be the body charged with the technical oversight of project execution; (c) *Project Management Team* within NEC Secretariat will be responsible for fulfilling objectives of the project and would be responsible for the execution of the project. The Project Management Team will draw upon relevant expertise from other line ministries and agencies. The project activities will be coordinated by a full-time Project Coordinator/manager. The NEC Secretariat would provide core support staff and office facilities to the Project Management Team. Additional project related staff that may be required from time to time (such as local consultants, interns, surveying staff, etc.) would also be arranged by the NEC Secretariat for the Project Management Team.

Additional technical support would be provided through access to regional experts or institutions from the region as and when the Project Management Team identifies the need. The following institutions could provide technical back-stopping: (a) National Physical Laboratory, New Delhi (b) Asian Institute of Technology (AIT) in Bangkok, Thailand (c) Korean Energy Economics Institute, Republic of Korea (d) The Energy and Research Institute, India, and (e) The Development Alternatives, India.

6. Assessing project impact

The project is envisaged to aid as an important planning tool thereby helping the Bhutan take a sustainable development path by:

1. providing information on climate change risks to development and how to adapt/minimize to those risks;
2. identifying GHG mitigation options through CDM and;

3. also promoting the mainstreaming of climate change risks to development into national developmental plans and policies.

Further, the implementation of project would help build the national capacity on climate change and also enhance awareness within the country on climate change and its impacts.

The matrix below would be used to assess the final impact of the project:

Project Objectives	**Impact**	**Indicators**
Enable RGOB to fulfill its reporting obligations to the development of inventories of greenhouse gas (GHG) sources and sinks.	RGOB able to fulfill its reporting obligations to the development of inventories of greenhouse gas (GHG) sources and sinks.	• Database on GHG emission activity data • Inventory of emission factors • Inventory of GHG emission by sources and removal by sinks
Enable RGOB to fulfill its reporting obligations to the identification of options for mitigating climate change thereby enhancing national capacity to identify, analyze, and formulate viable GHG mitigation measures.	RGOB able to identify options for mitigating climate change and national capacity to identify, analyze, and formulate viable GHG mitigation measures enhanced.	• Report on assessment of energy use/consumption pattern and recommendation on switching over to clean energy • Report on afforestation/ reforestation opportunities • Assessment of CDM Opportunities in country
Enable RGOB to fulfill its reporting obligations with respect to its vulnerability to future climate change.	RGOB's ability to report on vulnerability to future climate change enhanced	• Baseline climate data • Climate and socio-economic scenario • Sectoral vulnerability and impact assessment
Enable RGOB to fulfill its reporting obligations with respect to options for adapting to climate change.	Options for adapting to climate change developed and status report prepared by RGOB	• National Adaptation Framework Strategy
Enable RGOB to fulfill its reporting obligation with respect to communicating information under Article 12 of the FCCC.	RGOB's capacity to report and communicate information under Article 12 of the FCCC enhanced.	• Second National Communication • GHH Inventory 1994-200

7. Budget

The total cost of the proposed project for the GEF funding is USD 405,000.00. The details of the estimated budget are as follows:

Sl. No.	Activities	Total USD
I	NATIONAL CIRCUMSTANCES	**10,000.00**
I.1	Collect and analyse all national and sectoral strategies, plans and studies relevant to the formulation of the SNC, including national development and poverty eradication plans and strategies.	1500
I.2	Update data and information on the national circumstances, including geographical characteristics (climate, forests, land use, other environmental conditions, etc.), population (growth rates, distribution, density etc.), economy (energy, transport, industry, mining, tourism, agriculture, waste, services etc.), education (including scientific and technical research).	1000
I.3	Collect and analyse information on specific needs and concerns arising from climate change impacts and/or the impact of the implementation of response measures.	1500
I.4	Evaluate existing institutional arrangements and established an agreed set-up for continuous preparation of national communications to the UNFCCC.	1000
I.5	Prepare draft National Circumstances chapter of the SNC based on outputs of the above-mentioned activities.	2000
I.6	Conduct consultation of stakeholders on draft National Circumstances chapter and incorporate their comments and feedback in finalising it.	3000
II	NATIONAL GREENHOUSE GAS INVENTORIES	**100,000.00**
II.1	Establish sectoral working groups in energy, industry, agriculture, solvent, waste, and land use change and forestry (LULUCF).	5000
II.2	Train members of the technical working group in IPCC methodologies for conducting national GHG inventories.	20000
II.3	Review the 1994 GHG inventory, taking into consideration data gaps and areas needing improvement identified in the stock-taking exercise and also review reporting instructions for GHG inventory.	1000
II.4	Recruit international/regional consultant to advise and guide the technical working group on conducting the GHG inventory.	20000
II.5	Collect activity data and statistics from national sources to fill inventory data gaps.	10000
II.6	Undertake national GHG inventory for the year 1994-2000 and estimate emission trends to the year 2020 covering all six sector, based on data availability;	15000
II.7	Conduct an uncertainty assessment with regards to emission factors and activity data, as well as the reliability of existing statistics.	4000
II.8	Explore opportunities with other stakeholders for strengthening data management systems within and outside the government to increase accuracy with regards to the preparation of future national GHG inventories on a continuous basis;	2000
II.9	Explore cost-effective programmes to develop country-specific emission factors for improvements to future national GHG inventory exercises.	5000
II.10	Prepare the draft technical report for the national GHG inventory and circulate to all relevant stakeholders. Local and national workshops will be organised to collect stakeholder comments and feedback and incorporated, where relevant in the finalisation of the National GHG Inventory;	8000

II.11	Finalise the results of the national GHG inventory, as a separate technical output with detailed references and methodologies, for dissemination to all relevant stakeholders to further raise the awareness of the national GHG status and climate change issues.	10000
III	PROGRAMMES CONTAINING MEASURES TO FACILITATE ADEQUATE ADAPTATION TO CLIMATE CHANGES	**120,000.00**
III.1	Form a multi-sectoral technical working group composing of members who were involved in the formulation of the NAPA.	1000
III.2	Train members of the technical working group on vulnerability and adaptation assessment methodologies, including IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation. Extensive and comprehensive technical training will be required as few members of the working group have prior experience in vulnerability and adaptation assessment.	20000
III.3	Develop baseline climate information and generate appropriate climate change scenarios for Bhutan using appropriate climate models.	10000
III.4	Compile and analyse the available record on climate-related disasters;	5000
III.5	Carry out more advanced sectoral vulnerability and adaptation assessments in agriculture, forest, watershed and water, human health and glaciers. Recruit consultants, both international and local.	40000
III.6	Identify long-term priority adaptation strategies and measures, resulting from improved understanding of climate change effects on the country;	10000
III.7	Identify national needs for adaptation technologies and the transfer of these technologies from other countries. Synthesise information and prepare a long term adaptation strategies and measures, based on NAPA and V&A assessment and conduct national stakeholder consultations.	24000
III.8	Consultation on final findings of the V&A assessment and the National Adaptation Plan.	10000
IV	PROGRAMMES CONTAINING MEASURES TO MITIGATE CLIMATE CHANGE	**60,000.00**
IV.1	Train members of the technical working group, including members who originally worked on the INC, on mitigation assessment/evaluation methodologies, including the use of mitigation analysis tools.	10000
IV.2	Conduct a climate change mitigation assessment using bottom-up or top-down modelling tools.	15000
IV.3	Develop a projection of GHG emission by sources and removal by sinks under different mitigation scenarios, taking into account national sustainable development objectives.	10000
IV.4	Update/develop the national GHG mitigation plan including: options for reduction potential and cost; national needs for mitigation technologies and the transfer of these technologies from other countries; barriers to climate change mitigation and propose improvements to the national regulatory framework with regards to barriers to climate change mitigation; potential for the Clean Development Mechanism and identify potential CDM projects.	15000
IV.5	Draft technical report of the mitigation assessment and mitigation plan of Bhutan.	5000
IV.6	Stakeholder consultation on the draft technical report.	5000
V	OTHER INFORMATION RELEVANT TO ACHEIVEMENT OF THE OBJECTIVE OF THE CONVENTION	**20,000.00**

V.1	Survey to assess (1) the level of integration of climate change issues into national development policy making and planning processes and (2) the level of awareness of climate change among policy makers, non-government organisations, research institutions, and relevant private sector entities	5000
V.2	Promote integration and mainstreaming of climate change risks into social, economic and environmental policies capacity building and awareness programs (awareness materials).	2000
V.3	Stakeholder consultation to (1) conduct needs analysis in areas of awareness, training and education programmes on climate change issues; and (2) assess and establish suitable institutional arrangements for the transfer of mitigation and adaptation technologies;	2000
V.4	Formulate recommendations for the development of mechanisms to improve regional and international transfer of appropriate technologies, and their dissemination to a broad range of stakeholders.	4000
V.5	Explore opportunities and recommend measures for promoting climate change information sharing and exchange with neighbouring countries and other international networks;	4000
V.6	Draft technical report on other information considered relevant to the achievement of the objective of the Convention to be included in the SNC.	3000
VI	CONSTRAINTS & GAPS; RELATED FINANCIAL, TECHNICAL, & CAPACITY NEEDS	**10,000.00**
VI.1	Assess constraints and gaps associated with the preparation of the SNC and also subsequent NCs, and recommend ways to improve it.	1000
VI.2	Compile information on financial resources and technical support provided by government and international institutions for activities relating to climate change;	1000
VI.3	Assess financial requirements for activities to adapt to climate change and to mitigate GHG emissions;	1000
VI.4	Assess status of mitigation project profiles proposed in the INC and NAPA, and determine barriers to their implementation;	1000
VI.5	Based on the vulnerability and adaptation assessment and the national GHG Abatement plan, propose a list of projects for financing (specific technologies to be used, materials/equipment required, techniques or practises);	2000
VI.6	Draft technical report on constraints and gaps, related financial, technical and capacity needs to be included in the SNC.	4000
VII	COMPILATION, PRODUCTION OF COMMUNICATION, INCLD. EXEC. SUMMARY & ITS TRANSLATION	**15,000.00**
VII.1	Documentation, compilation, editing and publication of GHG Inventory and Second National Communication Report	15000
VIII	PROJECT COORDINATION AND MANAGEMENT (BASED ON 3 YEARS DURATION)	**60,000.00**
VIII.1	Capacity building (financial and project management) of the project management unit	30000
VIII.2	Institutional support to the project management unit (office equipment, stationeries, communication facilities and other miscellaneous management activities)	30000
IX	MONITORING AND REPORTING	**10,000.00**
IX.1	Project Steering Committee Meeting	5000
IX.2	Periodic auditing of the project by the Royal Audit Authority	5000
TOTAL COST		**405,000.00**

8. Detailed Workplan

The implementation schedule of the project will be as follows:

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Second National Communications	I. NATIONAL CIRCUMSTANCES	Collect and analyse all national and sectoral strategies, plans and studies.												
		Update data and information on the national circumstances.												
		Collect and analyse information on specific needs and concerns arising from climate change impacts and/or the impact of the implementation of response measures.												
		Evaluate existing institutional arrangements and established an agreed set-up for continuous preparation of national communications to the UNFCCC.												
		Prepare draft National Circumstances chapter.												
		Conduct consultation of stakeholders on draft National Circumstances chapter.												
	II. NATIONAL GREENHOUSE GAS INVENTORIES	Establish GHG sectoral working groups (SWGs).												
		Train SWGs on IPCC methodologies for conducting national GHG inventories.												
		Review the 1994 GHG inventory and reporting instructions for GHG inventory.												
		Recruit international/regional consultant.												
		Collect activity data and statistics.												
		Undertake national GHG inventory for the year 1994-2000 and estimate emission trends to the year 2020 covering all six sector, based on data availability;												
		Conduct an uncertainty assessment												

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Explore opportunities with other stakeholders for strengthening data management systems within and outside the government to increase accuracy with regards to the preparation of future national GHG inventories on a continuous basis;												
		Explore cost-effective programmes to develop country-specific emission factors for improvements to future national GHG inventory exercises.												
		Prepare the draft technical report for the national GHG inventory.												
		Finalise the results of the national GHG inventory, as a separate technical output with detailed references and methodologies.												
	III. PROGRAMMES CONTAINING MEASURES TO FACILITATE ADEQUATE ADAPTATION TO CLIMATE CHANGES	Form a multi-sectoral technical working group (adaptation).												
		Train members of the technical working group on vulnerability and adaptation assessment methodologies, including IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptation.												
		Develop baseline climate information and generate appropriate climate change scenarios for Bhutan using appropriate climate models;												
		Compile and analyse the available record on climate-related disasters.												
		Carry out more advanced sectoral vulnerability and adaptation assessments in agriculture, forest, watershed and water, human health and glaciers.												

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Identify long-term priority adaptation strategies and measures, resulting from improved understanding of climate change effects on the country.												
		Discuss uncertainties in emission and climate change scenarios in vulnerability and adaptation assessments.												
		Identify national needs for adaptation technologies and the transfer of these technologies from other countries.												
		Synthesise information and prepare a long term adaptation strategies and measures, based on NAPA and V&A assessment and conduct national stakeholder consultations.												
		The final findings of the V&A assessment will be the National Adaptation Plan and it will be disseminated to all relevant stakeholders to further raise the awareness of climate change issues and also aid as a planning tool.												
	IV. PROGRAMMES CONTAINING MEASURES TO MITIGATE CLIMATE CHANGE	Train members of the technical working group – mitigation.												
		Review previous work and studies on mitigation and renewable energy development.												
		Develop a baseline scenario for GHG emission by sources and removal by sinks.												
		Conduct a climate change mitigation assessment using bottom-up or top-down modelling tools.												
		Identify and screen mitigation options for reduction potential and cost.												
		Identify national needs for mitigation technologies and the transfer of these technologies from other countries.												

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Assess potential for the Clean Development Mechanism and identify potential CDM projects.												
		Identify barriers to climate change mitigation and propose improvements to the national regulatory framework with regards to barriers to climate change mitigation.												
		Develop a projection of GHG emission by sources and removal by sinks under different mitigation scenarios, taking into account national sustainable development objectives.												
		Update the national GHG mitigation plan.												
		The draft technical report of the mitigation assessment and mitigation plan of Bhutan will be circulated to all relevant stakeholders.												
		Conduct stakeholder consultation.												
	V. OTHER INFORMATION RELEVANT TO ACHEIVEMENT OF THE OBJECTIVE OF THE CONVENTION	Assess the level of integration of climate change issues into national development policy making and planning processes.												
		Promote integration and mainstreaming of climate change risks to development into social, economic and environmental policies capacity building and awareness programs.												
		Assess the level of awareness of climate change among policy makers, non-government organisations, research institutions, and relevant private sector entities;												
		Conduct needs analysis in areas of awareness, training and education programmes on climate change issues;												
		Assess and establish suitable institutional arrangements for the transfer of mitigation and adaptation technologies;												

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Formulate recommendations for the development of mechanisms to improve regional and international transfer of appropriate technologies, and their dissemination to a broad range of stakeholders.												
		Explore opportunities and recommend measures for promoting climate change information sharing and exchange with neighbouring countries and other international networks;												
		Draft technical report on other information considered relevant to the achievement of the objective of the Convention to be included in the SNC.												
	VI. CONSTRAINTS & GAPS; RELATED FINANCIAL, TECHNICAL, & CAPACITY NEEDS	Assess constraints and gaps associated with the preparation of the SNC.												
		Formulate recommendations to improve the preparation of national communications on a continuous basis.												
		Compile information on financial resources and technical support provided by government and international institutions for activities relating to climate change.												
		Assess financial requirements for activities to adapt to climate change and to mitigate GHG emissions.												
		Assess status of mitigation project profiles proposed in the INC and NAPA, and determine barriers to their implementation.												

Expected Outcome	Outputs	Activities	Planned Schedule											
			Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		Based on the vulnerability and adaptation assessment and the national GHG Abatement plan, propose a list of projects for financing (specific technologies to be used, materials/equipment required, techniques or practises).												
		Draft technical report on constraints and gaps, related financial, technical and capacity needs to be included in the SNC.												
	VII. COMPILATION, PRODUCTION OF COMMUNICATION, INCLD. EXEC. SUMMARY & ITS TRANSLATION	Documentation, compilation and editing of GHG Inventory and Second National Communication Report												
		Review of SNC by stakeholders including government endorsement												
		Publication of GHG Inventory and Second National Communication Report												
		Submission of the SNC to the UNFCCC												
	VIIII. PROJECT COORDINATION AND MANAGEMENT (BASED ON 3 YEARS DURATION)	Capacity building (financial and project management) of the project management unit												
		Institutional support to the project management unit (office equipment, stationeries, communication facilities and other miscellaneous management activities)												
	IX. MONITORING AND REPORTING	Project Steering Committee Meeting												
		Periodic auditing of the project by the Royal Audit Authority												

Appendix C: Terms of Reference

ANNEX C-1: TOR FOR PROJECT MANAGER

Background

Relevant information on the project background, objectives, activities, and expected outputs of the project are provided in the project document, which can be referred to for more detailed information. The project document is to be considered an integral part of these Terms of References.

Overall duties

The project manager (PM) is responsible for the day-to-day management, coordination and supervision of the implementation of the project. The PM will be appointed by the executing agency and will be in charge and responsible for the following:

- Prepare annual work plans and budget for the project in consultation with relevant stakeholders.
- Assist in the identification, selection and recruitment of national and international consultants.
- Supervise, coordinate and facilitate the work of all national and international consultants recruited for the different activities;
- Keep the PSC fully informed of the progress of the project activities and outputs.
- Participate in the PSC meetings and carry out a follow up on the outcomes of such meetings;
- Control expenditures and assure an adequate management of resources provided for the project;
- Identify relevant, on-going activities by NGOs, CBOs, and other agencies, and establish linkage;
- Facilitate the establishment of a Multi Sector Task Force (MSTF) to validate and confirm results of the SNC assessments; ensure that the SNC activities and outputs are aligned with national and sectoral plans and policies; and function as sectoral focal point.
- Coordinate the work of MSTF
- Coordinate stakeholders meetings

Outputs

The final output of the PDF-B phase for which the PM is responsible will be a project brief and project document including the following:

- Adaptation measures to be piloted and plan for implementation decided
- Assessment of capacity needs at the systematic, institutional, individual levels conducted
- Resource mobilization strategy formulated
- Proceedings and other documentation of workshops and seminars produced
- Monitoring and Evaluation framework developed
- Project execution and implementation arrangements agreed

Qualifications

At minimum the following qualifications apply for the position of PM:

- Familiar with climate change and adaptation issues in Bhutan and the main actors and stakeholders in this field;
- Familiar and experienced with the design and planning of development projects, particularly in the field of disaster risk reduction and water management;
- Proven ability to implement and manage project activities at a comparable level to the ones included under the PDF B phase;
- Preferably some knowledge on GEF procedures and processes, including GEF requirements for submitting a full-scale programme;
- Excellent working knowledge of spoken and written English;
- Willingness to travel as appropriate;

A minimum of 10 years professional working experience relevant in the context of this project (climate change, adaptation, disaster risk reduction and water management, sustainable development, environment).

Timing and Modalities

Services of the PM are required over a project period of 6 months. Within the 6 month period approx. 120 working days is required. Estimated starting date is November 15, 2006.

The PM will perform his/her duties from the home office through e-mail, telephone and fax correspondence combined with short, focused missions.

The PM will report to UNDP RCU and consult very closely with the UNDP country office in Bhutan and the UNDP HQ Technical Advisor on adaptation.

ANNEX C-2: TOR FOR SCOPING AND IMPLEMENTING THE V&A COMPONENT OF THE NATIONAL COMMUNICATION

Profile of the V&A expert/consultant

The V&A expert should be very knowledgeable and with hands-on experiences on V&A issues, have a solid understanding of the gaps and needs for developing/improving vulnerability assessments, and have technical expertise in the formulation of adaptation options. The V&A expert should be able to scope technical studies in the V&A area and design an implementation strategy to carry out the different V&A activities within the framework of the NC. He/She should also have a solid understanding of the institutional arrangements and resources required to carry out the V&A work.

Although the NC project document already provides the framework for the V&A studies, the expert should be able to advise on any adjustments if needed, both at the organizational and technical levels, for a successful implementation of the V&A studies.

Activities

In general, the V&A expert/consultant should be responsible for ensuring that the following set of activities is carried out. Emphasis on different activities will depend on the scope of the work

already described in the NC project document and/or on the specific activities the V&A expert would be assigned to.

Policy and institutional issues

1. Identify the key policy issues the V&A study of the SNC project aims to address, e.g.,
    a. to scope the scale of risks associated with projected climate change;
    b. to aid in the identification of priorities for adaptation;
    c. to support the development of a national adaptation strategy.

2. Identify the expected output of the V&A study of the SNC project on the basis of the project document, e.g.,
    a. impacts assessment at the sectoral level for the given priorities identified in the project document;
    b. a national adaptation strategy, including policies, programs and projects.

3. Develop a clear strategy to link the V&A outputs to national development planning. This would include, among others:
    a. assessment of institutional arrangements/stakeholders engagement required to facilitate linking the outcome of the V&A studies to sectoral or national planning;
    b. framework for assessing how the above linkage can be monitored and measured in the short and long terms, for instance through the development of practical indicators.
    c. Provide inputs to the LDCF project "Reduce climate change-induced risks and vulnerabilities from glacial lake outbursts in the Punakha-Wangdi and Chamkhar Valleys". The project is expected to be initiated in 2007 and is one of the priority areas identified under the NAPA.

Technical issues

Scope of the V&A study

4. Elaborate on the scope (geographic, thematic, sectoral coverage, time horizon) of the V&A study, e.g.,
    a. designing a strategy to build on but advance what was done within INC, and while applicable, NAPA project;
    b. elaborating on the scope of studies to address sectors/regions not covered by INC, sectors/regions identified as sensitive/vulnerable to climate change, as per the NC project proposal;
    c. preparing a detailed workplan for each of the study to be carried out, including a strategy to involve the relevant stakeholders, timeline, etc.;
    d. designing a strategy, as applicable, to link the V&A studies with previous and ongoing related projects/activities (e.g., land degradation, biodiversity, international waters.)

Methodological framework

5. Elaborate on the overall methodological framework for the V&A study as per the project document and in consultation with the project coordinator. In doing so, the V&A expert should ensure that:

a. The proposed methodological framework is the most appropriate given the policy questions to be addressed, the characteristics of the study (e.g., sectoral focus, spatial and temporal scales, stakeholders involved, and data requirement, etc.), and data availability;
b. In-country expertise required for such a methodological framework is available. If needed, the V&A expert should develop a strategy to address technical capacity gaps. For instance, by exploring the possibility of applying another framework in which more in-country expertise exists, or by designing a training/technical backstopping strategy, etc.

Scenarios development

6. Identify the types of scenarios required to conduct the V&A assessment, e.g., climate, socio-economic, sea level, adaptive capacity, technology, land-use land-cover.

7. Identify the temporal and spatial resolution needed for these scenarios (e.g., national, sub-national, watershed, community, farm level, multi-decadal average, annual, monthly, daily, mean conditions, extreme events, etc.). In doing so, the expert should justify the choices.

8. Develop the strategies for developing such scenarios, e.g., model-based, expert judgment, etc.

In the preparation of the scenarios development strategy, the expert should assess the feasibility of the scenario needs and the methods for developing these scenarios, given the characteristics of the studies, and data availability. For instance, the expert would be expected to advice on alternative options to running regional climate models or other resource intensive and time consuming exercises. The V&A expert would also assess whether there is enough in-country expertise to develop such scenarios and/or identify options to address the needs for additional expertise.

Sectoral assessment (to be considered by each of the sectors to be covered in the V&A study)

9. Elaborate on the methods and tools, as per the project document, chosen to undertake sectoral assessments, e.g., numerical models, elicitation of expert views, stakeholder consultations, focus groups, etc. In doing so, the expert will advise on any adjustments needed to the options identified in the project document.

10. Provide justifications for the selection of the methods/tools considering the research questions, characteristics of the study, and requirements of data and technical expertise of these methods/tools.

11. Assess in-country expertise required to apply the selected methods/tools and prepare training/technical backstopping strategy as required.

12. Develop a strategy to integrate findings from sectoral assessment, as needed. For instance, by applying an integrated model, synthesizing sectoral information, etc.

<u>Technical assistance needs</u>

13. Develop a technical backstopping/training strategy to strengthen the national capacity needed to carry out the different V&A studies, This would include details on the type of support needed (training courses on particular methodological frameworks/tools, guidance material, technical documents and good practice) and the, timeline for such support.

ANNEX C-3: TOR FOR CONSULTANTS

Background

Relevant information on the project background, objectives, activities, and expected outputs of the project are provided in the project document, which can be referred to for more detailed information. The project document is to be considered an integral part of these Terms of References.

Overall duties

The consultant is responsible for carrying out a specific set of activities, which contribute to the design of the overall project. The consultant works under the supervision and guidance of the PM and in close consultation with UNDP Country Office to implement the PDF B activities. The activities for which the consultant is responsible include:

- Validate pilot sites with local communities and other stakeholders through national workshops;
- Carry out barrier analysis for piloting the adaptations;
- Appraise capacity needs for applying risk management techniques, and use of climate information, including seasonal forecast and monitoring information and products;
- Assess effectiveness of early warning systems in place, focusing on institutional capacity needs at local, national, and regional levels which includes identification of traditional communication systems;
- Assess pathways of information delivery from producers to users of climate information along the chain of regional, national and local institutions
- Identify capacity needs and gaps in the communication chain along regional, national and local users and producers of climate information including integration of farmer knowledge into climate forecasting systems;
- Identify capacity for implementing adaptation measures in relation to climate information systems at local, national and regional scales, indigenous knowledge, drought mitigation practices, and other land management practices
- Assess capacity gaps for adequate policy support particularly with regard to mainstreaming into sector policies;
- Provide inputs to the drafting of the project brief and project document.

Timing and Modalities

The Consultant will work under the guidance of the PM and report directly to the PM. The Consultant will be contracted by the project for a period of 6 months and a total of 90 working days. Starting date is December, 2006.

The consultant will perform his/her duties from the home office through e-mail, telephone and fax correspondence combined with short, focused in-country missions.

ANNEX C-4: TOR FOR PROJECT STEERING COMMITTEE (PSC)

A Project Steering Committee (PSC) will be created in order to advice the Project Manager, the Executing Agency and UNDP during project implementation.

Duties

The responsibilities of the PSC include the following:

- Provide strategic advice to the PM and the EA on the overall direction of the project;
- Offer technical and political expertise to the PM for successful implementation of the PDF B activities;
- Act as a platform for sharing information on the project and disseminate information to interested networks and institutions.
- Approve the annual work plans and budget
- Approve necessary budget re-appropriations and reallocations within the overall framework of the project document

Frequency of meetings

The PSC will meet 2 times over the 6 months period of the PDF B phase. The first meeting will be approx. 1 month after project start and the second meeting towards the end of the 6 months period. The location of the meetings will be in Bhutan. If useful the PSC might extend its existence into the implementation phase of the full size project.

Members

At minimum, representatives of the following organizations will take seat in the PSC:

- UNDP Regional Office Bangkok (the GEF-Implementing Agency), Member
- UNDP Bhutan CO, Member
- The Project Manager, Member Secretary
- Government Representatives (Specify and identify the chair from among them)
- Relevant local and regional institutions involved in disaster risk mitigation and early warning systems related to flood control.

Appendix D: Endorsement letters

- GEF Operational Focal Point
- UNFCCC Focal Point

SIGNATURE PAGE

Country: Bhutan

UNDAF Outcome(s)/Indicator(s):

Expected Outcome(s)/Indicator (s):
National Strategies for Sustainable Development for Integrating of economic, social & environmental issues adopted & implemented

Expected Output(s)/Indicator(s):
National Capacity for reporting to Multilateral Environmental Agreement (MEA's) and designing National Action for sustainable environmental management strengthened

Implementing partner: National Environment Commission

Other Partners: Department of Debt & Aid Management (DADM), Ministry of Finance
United Nations Development Programme (UNDP)

Programme Period: 2007 - 2009
Programme Component: Goal 3. Energy and Environment for Sustainable Development, Service line 3.1
Project Title: PIMS 2942 Enabling Activities for the Preparation of Bhutan's Second National Communication to the UNFCCC
Project Code: 00050028
Project Duration: 3years
Management Arrangement: National Execution

Budget	USD 405,000 (GEF)
Total budget:	USD 405,000 (GEF)

Allocated resources:
- Government
- Regular
- Other:
  - Donor _____
  - Donor _____
  - Donor _____
- In kind contributions _____

Unfunded budget: _____

Agreed by (Government): _____

Agreed by (Implementing partner/Executing agency):_____

Agreed by (UNDP):_____