REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: LDCF

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PART I: PROJECT INFORMATION

Project Title: Addressing the risk of climate-induced disasters through enhanced national and local capacity for effective actions			
Country(ies):	Bhutan	GEF Project ID:[1]	4976
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4760
Other Executing Partner(s):	N/A	Submission Date:	January 24, 2014
GEF Focal Area (s):	Climate Change	Project Duration(Months)	48
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ☐ ➢ For SGP ☐	N/A	Agency Fee ($):	1,149,120

A. FOCAL AREA STRATEGY FRAMEWORK[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Cofinancing ($)
CCA-1 (select)	1.2 Reduced vulnerability to climate change in development sectors	Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability	LDCF	4,834,800	45,202,829
CCA-2 (select)	2.1 Increased knowledge and understanding of climate variability and change-induced threats at country level and in targeted vulnerable areas	Systems in place to disseminate timely risk information	LDCF	4,610,400	5,908,000
CCA-2 (select)	2.2. Strengthened adaptive capacity to reduce risks to climate-induced economic losses	Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events	LDCF	2,046,000	3,429,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
		Total project costs		11,491,200	54,539,829

B. PROJECT FRAMEWORK

Project Objective: To enhance national, local and community capacity to prepare for and respond to climate-induced multi-hazards to reduce potential losses of human lives, national economic infrastructure, livelihoods, and livelihood assets

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount ($)	Confirmed Cofinancing ($)
Risk reduction from climate-induced floods and landslides	Inv	Risk from climate-induced floods and landslides reduced in Bhutan's	Pasakha Industrial Area protected from climate-induced floods through	LDCF	4,634,800	43,202,829

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the Focal Area/LDCF/SCCF Results Framework when completing Table A.

		economic and industrial center Phuentsholing and Pasakha Industrial Area	watershed management measures, river bank protection works and development of flood buffer zones Climate-induced landslide risk in four critical areas in Phuentsholing-Rinchending area reduced through Integrated slope stabilization measures Integrated geo-hazard assessment and mapping carried out in four critical landslide- and flood-prone areas in Bhutan, using data standards compatible with the national database Thresholds for landslide slope failure determined in different geological zones, through research correlating geological instability with rainfall data from weather stations			
Enhanced adaptive capacity at community level	Inv	Community resilience to climate-induced disaster risks (droughts, floods, landslides, windstorms, forest fires) strengthened in at least four dzongkhags	Climate-resilient water harvesting, storage and distribution systems designed, built or rehabilitated in at least four dzongkhags and one municipality Community-level water resource inventory completed, maintained, and used for water resource management planning in at least four dzongkhags Disaster management institutions at various levels established and trained in four dzongkhags for better preparedness and response to climate-induced disasters	LDCF	1,898,800	3,129,000
Enhanced national capacity for managing climate risks	Inv	Relevant information about climate-related risks and threats shared across development sectors for planning and preparedness on a timely and reliable basis	Enhanced quality, availability and transfer of real-time climate data in all dzongkhags for climate resilient development planning and local disaster management Increased effectiveness of National Weather and Flood Forecasting and Warning Center (NWFFWC) through improved capacity to analyze, manage and disseminate localized climate information in a timely	LDCF	4,410,400	5,508,000

			manner Policy makers and development professionals have systematic access to evidence-based information on climate risks and hazards through cross-government knowledge sharing and coordination mechanisms			
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
			Subtotal		10,944,000	51,839,829
			Project management Cost (PMC)[3]	(select)	547,200	2,700,000
			Total project costs		11,491,200	54,539,829

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME ($)

Please include letters confirming cofinancing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount ($)
National Government	Through the Gross National Happiness Commission: • Construction of national highways • Expansion of Phuentsholing City • TA support to DGM from Norway • Mongar water resource expansion • Water resource inventory • Capacity building support to DDM from WB/GFDRR • TA support to DHMS/NWFFWC from Finnland • DHMS Departmental budget	Grant	53,350,829
CSO	Tarayana Foundation	In-kind	156,000
CSO	Tarayana Foundation	Grant	671,000
GEF Agency	UNDP's assistance: • Tarayana rural development through the Joint Support Program • CBDRM capacity building in Sarpang and Tsirang Dzongkhags through the Joint Support Program • CBDRM capacity building in Zhemgang Dzongkhag through UNDP Regional Bureau for Asia and the Pacific	Grant	362,000
(select)		(select)	
(select)		(select)	
(select)		(select)	

[3] PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Co-financing			54,539,829

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in $)		
				Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
UNDP	LDCF	Climate Change	Bhutan	11,491,200	1,149,120	12,640,320
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				11,491,200	1,149,120	12,640,320

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

[2] Indicate fees related to this project.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount ($)	Cofinancing ($)	Project Total ($)
International Consultants	148,500		148,500
National/Local Consultants	34,300		34,300

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF[4]

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc. N/A

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities. N/A

A.3 The GEF Agency's comparative advantage: N/A

A.4. The baseline project and the problem that it seeks to address:

[4] For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question

While the fundamental problem that the project seeks to address remains unchanged, detailed baseline assessments during the PPG phase resulted in a more refined set of baseline projects and the additional contributions of LDCF funding.

LDCF funding under Outcome 1 will safeguard RGoB's proposed capital investments in Phuentsholing and Pasaka Industrial Area on roads and city expansion (approximately $41 million). Reflecting the economic importance of Phuentsholing and PIA for the country and increasing influx of residents, a large sum of capital investments under the new five-year development plan are directed towards this area. However, at the same time, the inherent geological vulnerability of the city sitting on alluvial deposits covered by gravels and sand with large blocks of rocks occurring as terraces, exposes the future investments to a considerable risk of landslides and flush floods, induced by extensive dry spells or concentrated rainfall. The proposed LDCF investments of US$4.61 million will, first, remove the imminent risks of floods and landslides from this area, and, second, build capacity of the Department of Geology and Mines, to carry out climate-sensitive risk hazard assessments in four critical landslide- and flood-prone areas in the country.

As for Outcome 2, the baseline projects/investments, presented in the approved PIF, that are ongoing to address sudden onset of disasters remain consistent. As described in the Project Document, the RGoB has sequenced and combined various sources of funding to eventually build CBDRM capacity in all dzongkhags in the country as mandated in the recently enacted Disaster Management Act, the CBDRM capacity building entails the establishment of a Dzongkhag Disaster Management Committee (DDMC), formulation of a Disaster Contingency Plan, and training of relevant personnel within the Committee and community. A separate set of trainings for forest fire management are offered by the Department of Forests and Park Services, but coordinated uniformly by the DDMC. Since the first two dzongkhags was trained in 2008/09 with support from the first LDCF-financed GLOF project, 16 out of 20 dzongkhags have received support over the last four years. In the proposed second LDCF project, the remaining four dzongkhags will receive the CBDRM support, which will have completed the CBDRM capacity building in all dzongkhags in the country. In so doing in the four dzongkhags, additional climate-risk considerations (which will be made available through the investments and technical assistance in Outcome 1 and 3) will be reflected in the Disaster Contingency Plans. This work in improving/updating the Contingency Plans will also take place in three additional dzongkhags (i.e. Sarpang, Tirang, and Zhembang) which have been supported by the baseline projects of the Joint Support Programme and RBAP Capacity Building Programme for Disaster Risk Management, both financially assisted by UNDP.

It should be noted, however, that one co-financing source, envisaged from UNDP, for this Outcome was removed due to the geographical alignment. At the PIF stage, co-financing of circa $1M was envisaged in the form of Capacity Development Grants provided through PEI/JSP. It was originally thought that the CBDRM capacity building (including the establishment of a DDMC, formulation of a contingency plan, etc) can better inform the use of the Grants which do not necessarily have a specific climate change focus. However, since the PIF formulation to the beginning of PPG, several other dzongkhags had received support on CBDRM leaving four dzongkhags in the country that needed CBDRM support. These four dzongkhags turned out to be different from the five pilot dzongkhags that received the Capacity Development Grants in PEI/JSP (with the exception of Samtse dzongkhag), and thus it was removed from the final list of co-financing.

For addressing slow onset of disasters, especially droughts, the planned RGoB investments under the 11th five-year plan for expanding freshwater resources for Mongar Municipality is considered a major baseline project for this component. This was not presented at the PIF stage as the details of the five-year plan was not made available then (also see the section below in the change in the scope of "additional activities" requested for LDCF financing in this regard). In rural areas, Tarayana Foundation's signature project 'livelihood programme', which receives financial support from JSP, Helvetas and ADB, is considered a baseline project for this subcomponent. The livelihood programme, with ultimate objective of improving livelihoods of rural communities and empowering small and remote communities, is providing options for income generating activities, product development and marketing, etc, through formation of self-help groups, which place a lot of emphasis on women's participation in these activities. The proposed LDCF project will integrate climate change adaptation investments, especially aiming at reducing vulnerability to water scarcity, into this baseline program.

For Outcome 3, the change in the baseline project affected during the PPG stage is as follows: In the approved PIF, JICA's financial and technical support for strengthening early warning system. At the time of writing the PIF, the

scope of the JICA support was unconfirmed but believed to be exclusively GLOF-focused. However, during the course of PPG, it was confirmed that JICA's investments on the hydro-met infrastructures would have wider applications for strengthening climate resilience in the country. For this reason, JICA's investment is not counted towards baseline, but it is considered a project that requires close coordination (which has already started during the PPG phase).

A table listed below presents baseline projects vis-à-vis corresponding project Outcomes and Outputs.

	Relevant Outputs	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
GEF LDCF		**2,457,300**	**5,212,700**	**2,401,350**	**1,419,850**	**11,491,200**
OUTCOME 1: Risks from climate-induced floods and landslides reduced in economic/industrial hubs						
Construction of National Highways						
Construction of Damchu-Chukha bypass road (DANTAK) under Phuentsholing-Thimphu HWY	1.2 & 1.3	3,163,889	3,163,889	3,163,888		9,491,666
Construction of Fafe-Khosala bypass road under Zhemgang-Trongsa HWY		1,994,277	1,994,277	1,994,279		5,982,833
Department of Roads - Operation and Maintenance		88,867	88,867	88,867	88,865	355,466
Expansion of Phuentsholing City						
Phuentsholing Thromde's capital investments for expansion and industrial development	1.1 & 1.2	6,343,216	6,343,216	6,343,216	6,343,216	25,372,864
DGM TA support from Norway	1.2 & 1.3	1,000,000	1,000,000	1,000,000	1,000,000	4,000,000
Sub-total for Outcome 1		**12,590,249**	**12,590,249**	**12,590,250**	**7,432,081**	**45,202,829**
OUTCOME 2: Community resilience to climate-induced disaster risks strengthened						
Mongar water resource expansion	2.1	375,000	375,000	375,000	375,000	1,500,000
Water resource inventory	2.2	120,000	110,000	110,000		340,000
JSP/Tarayana rural development	2.1	175,000				175,000
Tarayana in-kind co-financing	2.1	39,000	39,000	39,000	39,000	156,000
Tarayana's 'livelihood programme'						
Through Helvetas	2.1	178,000	178,000			356,000
Through ADB		157,500	157,500			315,000
CBDRM Capacity Building						
JSP's support in Sarpang and Tsirang Dzongkhags	2.3	87,000				87,000
UNDP/RBAP's support in Zhemgang Dzongkhag		100,000				100,000
WB/GFDRR capacity building and assessment for DDM at the national level		150,000	125,000	125,000		400,000
Sub-total for Outcome 2		**1,381,500**	**984,500**	**649,000**	**414,000**	**3,429,000**
OUTCOME 3: Climate information shared across climate-sensitive sectors on a timely and reliable basis						
DHMS/NWFFWC TA from Finland						
Finnish Meteorology Institute support in weather forecasting	3.1 & 3.2	200,000	200,000	200,000		600,000
Finnish ICIMOD support		108,000				108,000
DHMS Department Budget	3.1 & 3.2	1,300,000	1,300,000	1,300,000	1,300,000	5,200,000
Sub-total for Outcome 3		**1,608,000**	**1,500,000**	**1,500,000**	**1,300,000**	**5,908,000**
Total co-financing		**15,579,749**	**15,074,749**	**14,739,250**	**9,146,081**	**54,539,829**
Total		**18,037,049**	**20,287,449**	**17,140,600**	**10,565,931**	**66,031,029**

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The additional activities for which LDCF financing is requested remain the same for Outcome 1 as presented in the approved PIF.

For Outcome 2, to address the increasing risk of water scarcity in Mongar municipality, the RGoB initially planned to build an impounding reservoir (150m x 35m) in the upstream of the Yakpogang water source, as presented in the PIF. However, this option was rejected from the cost-effectiveness point of view. Also given the scale of the construction in a hilly landscape, the potential negative environmental impacts as well as the risk of earthquake-induced flood from the reservoir itself, could be non-negligible. These considerations led to a revised planned outlay for addressing water scarcity in Mongar in the 11th five-year plan, which attempts to secure continuous supply of freshwater through accessing additional water sources for Mongar Municipality. Additional activities that will be implemented with LDCF funding are for the purpose of making efficient use of expanded freshwater resources. The current water supply network for Mongar is a result of continuous extension on an ad hoc basis as the city continued to expand, and as a result, nearly 60% of water is estimated to be lost during the distribution. As climate change projection points to a decline of the existing water sources by 0.2 liters per second annually, simply adding more and more freshwater sources is not going to improve the resilience of the city unless existing system weaknesses are addressed and water distribution efficiency improved. To this end, LDCF investments will be used to redesign the existing water distribution core system in such a way that (future) expansion of the "branch networks" can be done without causing water loss. Redesigning of the water distribution system is a first attempt in Bhutan and the technical capacity that will be obtained within the MoWHS and Mongar Municipality can be replicated in other burgeoning cities where population increase is likely to pose additional strain, on top of climate-induced uncertainty over water resources, on freshwater supply.

Under Outcome 3, additional Output 3.3, which aims at strengthening NEC's capacity for cross-sectoral coordination and actions for climate change adaptation, was included in the Project Document. During the detailed assessments of project Outcomes and Outputs and potential synergies across them, it became clear that such capacity enhancement within NEC is needed, not only to maximize the adaptive impacts from this project, but also to ensure institutional sustainability of the project impacts beyond the project timeframe. Key partners involved in the NAPA priority formulation agreed that the programmatic approach to this project would facilitate cross-sectoral or –ministerial collaboration for climate change actions. However, the experience of such an approach has been limited to the time of the production of NAPA documents (original and update). While the implementation of the project itself will provide various opportunities for cross-sectoral collaboration (such as climate information obtained through Outcome 3 feeding into geo-hazard or flood hazard warning thresholds established by DGM/FEMD under Outcome 1, which in turn will feed into the revision of the Disaster Contingency Plan under Outcome 2), additional areas of collaboration need to be identified in a consultative manner. To this end, under the new Output 3.3, a Capacity Development will be established and implemented while NEC will also produce evidence-based guidance and recommendations on climate change adaptation strategies and activities in Bhutan and how to integrate CC and adaptation within sector policies.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

Most of risks identified during the PIF stage are still valid. However, after detailed assessments of stakeholder capacity, baseline stakeholder assessment resulted in a refined set of risks, summarized in Table below.

#	Description	Type	Impact & Probability	Countermeasures / Mng't response	Owner
1	Multiple implementing agencies involved in the project might hinder project progress	Operational	P=2 I=3	▪ Three-tier management arrangement (PB, TAG and PWG) will ensure information	Implementing partners, co-coordination agency, project Manager, Project Support

				exchange at both working- and strategic-level ▪ Regular meeting (at least quarterly) to update on project implementation status among different project managers	Officer
2	Insufficient technical & implementation capacity of key actors may impede timely achievement of outputs.	Organizational	P = 2 I = 2	▪ Detailed orientation & training on processes, especially technical & financial reporting, project management, etc.. Mentoring will also be resorted to.	Implementing Partners, Co-ordination agency, and Project Manager
3	Loss of key project personnel during the project life (as often happens in government agencies due to transfer of key staffs) may affect project progress	Operational	P = 3 I = 4	▪ Responsibility of the Implementing partners to ensure effective project implementation by providing relevant alternate candidates ▪ Proper documentation of project implementation reports/status for easy follow-up on project progress	Co-ordination agency, Implementing Partners
4	Theft/ vandalism of materials and machineries used for slope stabilization structures (e.g. galvanized iron mesh used in gabion walls) by miscreants, especially given the proximity/ contiguity of the landslide areas to the porous border with Indian town (Jaigaon)	Security	P=3 I=4	Apart from Phuentsholing Thromde assigning guards for vulnerable local structures, during the implementation phase, the following measures have been identified: ▪ Phuentsholing Thromde has periodic dialogue with Indian counterpart on various issues, and this issue will be brought to the attention of the Indian counterpart so that security personnel on both sides of the border are fully informed about the risk ▪ During the dialogue, the fact that the landslide measures in Phuentsholing will benefit communities on the Indian side will be emphasized (in fact, the number of beneficiaries	Implementing partner, Construction companies

				is expected to be larger in India) so that the border securities against vandalism can be strengthened ▪ Lastly, by the design of the stabilization measures, once the work is complete, the structures will be fixed and the possibility of theft is likely to become sufficiently small.	
5	Cross border impacts from Indian side (due to strikes and other issues) which might prevent movement of laborers to project site	Political	P=2 I=5	▪ Political dialogue (at national level) depending on the severity of the situation	Implementing partner, local administration
6	Widespread geologic fragility in the area and extreme rainfall events may trigger flood and landslide problems at levels and in areas not envisaged in the project which might hamper project implementation	Environmental	P=2 I=4	▪ Have some contingency plans in place in case of such situation	Implementing partner, construction companies
7	Operational exchange rate fluctuation may affect the project deliverables negatively	Financial	P = 3 I = 2	▪ Close monitoring of financial resources and adjustments in implementation strategies taking into consideration the actual budget situation.	Implementing Partner and Project Manager
8	Some critical partners may fail to deliver outputs on time.	Strategic	P = 2 I = 3	▪ Close monitoring of implementation of deliverables of responsible agencies;	Implementing Partner, and Project Manager
9	Incompatibility of different elements (equipment) of the hydromet network and NWFFWC supported from JICA and also from this project	Strategic	P=1 I=2	▪ Since DHMS is the implementing partner for both the projects any discrepancies can be avoided as raised in numerous occasions during consultations with DHMS to ensure compatibility	Implementing partner
10	Force majeure or natural disasters may set back	Environmental	P = 2	▪ Draw up alternative	Implementing Partner, and

	established timetables		I = 3	implementation options for critical activities	Project Manager

A.7. Coordination with other relevant GEF financed initiatives

The first LDCF project that focuses on GLOF risks is operationally closing and thus there will be no direct overlap with the proposed second LDCF project.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

Various stakeholders at national as well as local level will be engaged during the implementation of the project activities. Through the programmatic approach adopted in the implementation of this project, key stakeholders span not only across sectors at the national level, but will also involve two municipalities and a CSO at the subnational level.

Tarayana Foundation, a CSO with strong experience of working with grassroots communities in sustainable livelihoods and community empowerment, will play a pivotal role in mobilizing and forming local self-help groups for rural water harvesting (Output 2.1) and training these local groups in selected rural water harvesting technologies, thus building local community capacity and ownership. The proposed list of villages that have been identified during the PPG phase as target villages is listed below.

Dzongkhag	**Gewog**	**Villages/ Hamlets**	**No. of intended beneficiaries**
Mongar	Kengkhar	Murung	15 hhs
		Nanaric	15 hhs
		Shingchongri	15 hhs
		Tongla	15 hhs
		Tsalabi	15 hhs
		Yudaric	15 hhs
Samtse	Dophuchen	Lotokuchu Jigme	33 hhs
		Lotokuchu Singye	35 hhs
		Lotokuchu Wangchuck	17 hhs
		Lumbey	14 hhs
Tsirang	Tsirang-toe	Tsirang-toe	20 hhs
		Kapasing	25 hhs
		Thaktsang	25 hhs
		Tongsingnang	20 hhs
Pemagatshel	Chimung	Redingla	6 hhs
		Chimung	40 hhs
		Nyasjhar	25 hhs
	Dungmin	Mikuri	30 hhs
		Bangyul	30 hhs

		Teptepla	10 hhs

The community-level water resources inventory (Output 2.2) will among other things involve household surveys on drinking and irrigation water conditions at the community level, collaboration with dzongkhag staff for field surveys and analysis of data, and will rely on a multi-disciplinary technical group drawn from relevant sectors for technical guidance and backstopping. The disaster risk management output (Output 2.3) will entail working directly with, and training, Disaster Management Committees and Sub-committees at dzongkhag/ gewog/ thromde levels for formulation of Dzongkhag/Gewog/Thromde Disaster Management and Contingency Plans and establishment of Critical Disaster Management Facilities. Communication protocol will also be established for coordinated preparedness and response to disasters, involving all key stakeholders at central and local levels. Setting up of VLFFMGs will provide grassroots level socio-institutional set-up for directly engaging with, and building capacity of, local stakeholders for forest fire management. In addition, the formulation of dzongkhag/ gewog forest fire management plans will entail training on formulation process and guidelines, and technical backstopping to the dzongkhag and gewog officials. Planning process and guidelines will be developed among other things to provide a clear vision, approach and suite of participatory tools and techniques to actively engage local stakeholders in the formulation of various local level plans for disaster risk management and forest fire management.

Outputs 3.2 and 3.3 seeks to foster dissemination of climate information across various climate-sensitive sectors and improve access to, and cross-government sharing of, climate information for informed policy-making. A major emphasis will be on strengthening the MSTCCC and key government agencies for dealing with climate change (mitigation and adaptation), joint knowledge development and adaptive learning. This is expected to improve the quality of coordination and dialogue between multiple stakeholders at the policy-making level.

In keeping with the national execution (NEX) agreement between the UNDP and RGoB, all government stakeholders will be directly involved in project execution and implementation of planned activities. At the end of each project year, an Annual Review and Planning Workshop (ARPW) will be conducted to take stock of project implementation, share lessons, foster synergy between various project outcomes and outputs and with other relevant projects, fine-tune project implementation, and prepare Annual Work Plan (AWP) and Budget for the year ahead. The ARPW will be organized by the Project Management Unit (PMU) and involve the principal responsible agencies, supporting technical agencies, relevant development partners, UNDP CO, and the UNDP Asia-Pacific Regional Center. Furthermore, there will be a number of formal mechanisms, such as Project Board, Project Implementation Team and Technical Advisory Group meetings, to ensure coordination and communication between various stakeholders.

Table below provides an outline of the key stakeholder agencies and their role in the project:

Agency	**Type**	**Role in PPG**	**Role in Implementation**
National Environment Commission Secretariat	Cross-sector government body	Coordination, strategic guidance and logistical support in general, and inputs to the design of activities for output 2.2.	The **PMU** will be housed in NECS for overall project coordination and management, including monitoring of project progress and reporting. In addition, implementation of activities for outputs 2.2 and 3.3 and, hence, the **lead responsible agency** for delivery of these outputs
Gross National	Cross-sector	Strategic guidance, national	Overall monitoring of delivery of

Happiness Commission Secretariat	government body	review and endorsement as national GEF operational focal point and as apex national planning and international assistance coordination body.	GEF/LDCF financing and project implementation.
Phuentsholing Thromde	Municipal authority (local government)	Local knowledge inputs to the technical assessments for outputs 1.1 and 1.2.	Management and implementation of activities for outputs 1.1 and 1.2. and, hence, the **lead responsible agency** for delivery of these outputs. Given the relatively high project investments involved in these outputs and the limited in-house capacity, a Output Management Unit will be created within Phuentsholing Thromde.
Department of Geology and Mines – DGM (Ministry of Economic Affairs)	Government technical department	Technical assessment for designing activities for output 1.2 and technical guidance for identification of sites for output 1.3.	Technical support and guidance for implementation of activities for output 1.2; and implementation of activities for outputs 1.3 and 1.4 and, hence, the **lead responsible agency** for delivery of outputs 1.3 and 1.4
Department of Engineering Services – DES (Ministry of Works and Human Settlement)	Government technical department	Technical assessment for designing activities for output 1.1 and 2.1.	Technical support and guidance for implementation of activities for output 1.1 and 2.1.
Mongar Municipality	Municipal authority (local government)	Local knowledge inputs to the technical assessment for output 2.1.	Implementation of activities related to Mongar town water harvesting, storage and distribution system under output 2.1 and, hence, the **lead responsible agency** for delivery of this part of output 2.1
Tarayana Foundation	Civil society organization	Inputs to the design of activities for output 2.1	Implementation of activities related to rural water harvesting, storage and distribution systems under output 2.1 and, hence, the **lead responsible agency** for delivery of this part of output 2.1
Department of Disaster Management (Ministry of Home and Cultural Affairs)	Government technical department	Inputs to the design of activities for output 2.3 (climate-induced disasters other than forest fire).	Implementation of activities for output 2.3 (climate-induced disasters other than forest fire) and, hence the **lead responsible agency** for the delivery of this part of output 2.3
Department of Forests and Park Services (Ministry of Agriculture and Forests)	Government technical department	Inputs to the design of activities for output 2.3 (forest fire-related), and to the technical assessment for output 2.1.	Implementation of activities for output 2.3 (forest fire-related) and hence the **lead responsible agency** for the delivery of this part of output 2.3

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

Bhutan's economy, one of the world's smallest, relies significantly on agriculture (for domestic growth and employment) and on India as a trade partner. Imports from India in 2011 reached Nu. 35.2 billion (or 72% of Bhutan's total imports) and export Nu. 26.3 billion, including electricity (84% of its total exports). The city of Phuentsholing and Pasakha Industrial Area (PIA), sitting on the boarder of India and closest entry/exit point from Thimphu, is economically the most important location for Bhutan. However, this area has been beset with continuous landslides and floods in the past, and available climate change projection points to a likely increase in such events in the future. The Phuentsholing-Thimphu Highway is a lifeline of Bhutan delivering goods from India and PIA to the rest of the country, and the blockages of the Highway from landslides in the past had considerable impacts in the entire economy. Part of LDCF grants will be used to remove imminent risks of landslides and floods from this area while the institutional capacity within DGM will also be developed to carry out hazard risk assessments so that future risks can be adequately addressed. Given the significant importance of Phuentsholing city, PIA, and the Highway, removing additional risks imposed by climate change on these economic infrastructure has far-reaching socioeconomic implications for the entire country, not just in the vicinity of these areas.

Despite remarkable progress in poverty reduction in recent years, one in four Bhutanese still remains in income poverty (2011 Bhutan HDR) and 97.4% of the poor live in rural areas. The target dzongkhags of Mongar, Tsirang, Pema Gatshel and Samtse dzongkhag, under Outcome 2, contain within them some of the poorest and most vulnerable communities in Bhutan. 2011 HDR notes that poverty rates are high in Mongar and Samtse, these two dzongkhags rank 15th and 20th, respectively, in the national HDI rank (out of 20 dzongkhags). In Tsirang and Samtse, nearly 75% of households reported that food grain produced is not sufficient for household consumption.

Given the baseline level of poverty and other development challenges, further diminishing access to water or increasing incidents of extreme events, because of climate change impacts, will lead to increasing dependency on the state (or other forms of support), potentially accelerated out-migration of working-age people, an increasing nutritional deficit among the population and potentially emergency food-aid requirements in the dzongkhags. Water harvesting options and disaster management support to be implemented under Outcome 2, as well as the provision of localized weather and climate information under outcome 3, will generate measurable economic benefits for the beneficiary communities, largely in the form of access to water and avoided damages from climate-induced disasters. The climate-resilient water harvesting, storage and distribution systems are expected to directly benefit one municipality with a population of around 6,000 people and some 420 rural households in 20 villages/ hamlets in 4 dzongkhags. The benefits of the investments under outcome 3 will be nationwide and thousands of rural communities will directly benefit from improved weather forecasting and climate information. Also, the project will support the implementation of local development activities through a Civil Society Organization, highlighting the added value of grass-roots approach in community-led development, complementary to a traditional, more government-led approach. The engagement of a CSO – Tarayana Foundation – for community-level climate change adaptation work will also ensure that women are able to reap adaptation benefits from the project. Tarayana's baseline development work, through the support of JSP, Helvetas and ADB, offers their expertise and experience in mobilizing self-help groups, many members of which are women, and recognizes women's particular role in water resource management within household.

Strengthening the nation-wide hydro-met data and EWS infrastructure, which will be promoted under Outcome 3, will have a direct impacts on socioeconomic conditions of most vulnerable community members. While the DDM has promoted CBDRM capacity building in 16 out of 20 dzongkhags to date, and the remaining four will be covered under this project, mock drills have been conducted only as part of the first LDCF project. In this project, at least two mock drills will be conducted in each of the four target dzongkhags (i.e. eight in total) using the newly established early warning system. This will bring tangible adaptation benefits, ultimately, in the form of a number of lives saved from potential natural disasters. During all mock drills that will be conducted in the project, gender-disaggregated participation will be monitored and reported.

B.3. Explain how cost-effectiveness is reflected in the project design:

The following alternative project design options to obtain the same project objective have been considered and evaluated upon their cost-effectiveness:

Sectorally-driven approach to removing immediate risks imposed by climate change

This option, which would involve the same government agencies but implemented in a compartmentalized approach, would be expected to generate similar results in the short-run. In this approach, DGM would focus on landslide risk management, FEMD on flood management, DDM on CBDRM training, DHMS on weather monitoring, etc, without cross-sectoral coordination and knowledge sharing. Such an approach is not uncommon in the context of other cross-cutting development issues such as gender where relevant agencies typically have their own gender strategy, if at all, and little coordination across them. However, within the context of climate change, in the long-run, such an approach is likely to lead to a sub-optimal development impact. For example, without proactively facilitating knowledge exchange between DGM and DHMS with associated technical assistance to enable them to leverage each other's expertise, it is likely that a locally-specific landslide warning, which integrate real-time weather information, would be more difficult to generate, exposing community members to greater climate risks. Similarly, a lack of tripartite coordination among DHMS, FEMD and DDM would mean that the CBDRM capacity building facilitated by DDM would likely to continue to rely on past observational trends of natural disasters rather than integrating the scenario-based evacuation trainings (e.g. flood warning beyond a rainfall event beyond a specific threshold, which in turn was established through the joint assessment of the locality by FEMD and DHMS). It is evident from this that the approach that is proposed in this project, in which cross-sectoral coordination is facilitated in specific Outcomes as well as through enhanced coordination capacity support provided to NEC, additional adaptive benefits can be expected.

Reducing climate risks only through the implementation of hard adaptation measures without the use of complementary ecosystem based measures and community-based capacity building for DRM

This option would seek reducing imminent risks of extreme events (landslides, floods, and droughts) only through direct engineering approach. This option was immediately rejected as the costs involved in such an approach would be higher by an order of magnitude. Moreover, in a country like Bhutan where geological conditions are inherently fragile and environmental conditions (such as the existence of many glaciers, gorges, rivers and high mountain ranges) vulnerable to changes in climatic conditions, it is almost inevitable that there will be residual damages of climate change (those that cannot be abated with adaptation measures) and developing preparedness to climate-induced extreme events and climate resilience will be critical.

The proposed project design, as presented, was deemed the most cost-effective amongst these alternatives considered. The basis for the considerable cost-effectiveness of the project design is explained in further detail below. In particular, it has been designed to maintain a balance across various elements that contribute to

increasing the overall preparedness of the Bhutanese society to future climate risks. These elements include removal of imminent hazards, amplified by climate change, of landslides and floods in Phuentsholing and Pasakha Industrial Areas, economically one of the most important parts of the country; building community resilience to creeping risks of climate change represented by water shortages, which is expected to widen the 'safety buffer' to maintain the viability of livelihoods against smaller, but increasingly more frequent fluctuations in freshwater availability; building the national capacity in monitoring, analyzing, and presenting dynamic changes in weather and climate; and facilitating the exchanges of climate information in a meaningful manner across climate-sensitive sectors.

C. DESCRIBE THE BUDGETED M &E PLAN:

The project will be monitored through the following M&E activities. The M&E budget is provided in the table below. The M&E framework set out in the Project Results Framework in Part 3 of this project document is aligned with the AMAT and UNDP M&E frameworks.

Project Inception and Implementation

A Project Inception Workshop will be conducted within two months from the date of commencement of the project. This workshop will involve the full project team, implementation partners, co-financing partners, the UNDP-CO and representation from the UNDP Regional Advisor, as well as UNDP HQ as appropriate.

A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's strategic results framework (SRF). This will include reviewing the SRF (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise finalize the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project.

Additionally, the Project Inception Workshop will: (i) introduce project staff with the UNDP-GEF team which will support the project during its implementation, namely the CO and responsible UNDP/GEF Regional Advisor; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and RCU staff vis à vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), Tripartite Review Meetings, as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings.

The Workshop will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

Monitoring and Reporting

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

Inception Report

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed Annual Work Plan for the first year divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from the UNDP-CO, the UNDP/GEF Regional Advisor or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the 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 affect 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 Regional Advisor will review the document.

Annual Project Report (APR)

The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring, and project management. It is a self-assessment report by project management to the CO and provides input to the country office reporting process and the ROAR, as well as forming a key input to the Tripartite Project Review. An APR will be prepared on an annual basis prior to the Tripartite Project Review, to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work.

The format of the APR is flexible but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, CAE and other expenditure reports (ERP generated);
- Lessons learned;
- Clear recommendations for future orientation in addressing key problems in lack of progress.

Each of the responsible parties (for all outputs) will develop the APR for his/her output and submit these to the Project Management Team, who will then compile the individual reports in one overall project APR.

Project Implementation Review (PIR)

The PIR is an annual monitoring process mandated by the GEF and conducted in an online/web-based format. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by the CO together with the national project management team. The PIR cycle is from July-June and ideally prior to the TPR. The PIR should then be discussed in the TPR so that the result would be a PIR that has been agreed upon by the project, the executing agency, UNDP CO and the Bangkok Regional Center.

Quarterly Progress Reports

Short reports outlining main updates in project progress will be provided quarterly to the UNDP Country Office, who will share these with the UNDP-GEF regional office.

Periodic Thematic Reports

As and when called for by UNDP, UNDP-GEF or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

Independent Evaluations

Mid-Term Evaluation

An independent Mid-Term Evaluation of the project will be conducted after completion of the first two years. The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-EEG, and in line with UNEG Guidelines. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

Terminal Evaluation

Three months prior to the final Project Board meeting, an independent Terminal Evaluation will take place in accordance with UNDP and GEF guidance. The Terminal Evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the Mid-Term Evaluation, if any such correction took place). It will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-EEG, and in line with UNEG Guidelines.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where

results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Indicative M&E Work Plan and Budget

The indicative monitoring and evaluation plan and corresponding budgets is provided in Table below.

Type of M&E activity	**Responsible Parties**	**Budget US$ (excluding project team staff time)**	**Time frame**
Inception Workshop (IW)	PMU UNDP CO UNDP HQ	5,000	Within first two months of project start up
Inception Report	PMU UNDP CO	Included in the workshop budget	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	PMU will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be finalized in Inception Phase and Workshop	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Oversight by UNDP CO/GEF Regional Advisor and Project Director Measurements by national implementing agencies at central and local levels	To be determined as part of the Annual Work Plan's preparation	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	PMU UNDP-CO UNDP-GEF	None	Annually
TPR and TPR report	Government Counterparts UNDP CO PMU UNDP-GEF Regional Advisor	None	Every year, upon receipt of APR
Project Board Meetings	PMU UNDP CO	None	Following Project IW and subsequently at least once a year
Technical Advisory Group Meetings	PMU UNDP CO	None	At least twice a year during project duration
Annual Review and Planning Meetings	PMU UNDP CO	32,000	Once a year 8,000
Periodic status reports	PMU	12,000	To be determined by the PMU and UNDP CO, yearly 3,000
Technical reports	PMU Hired consultants as needed	Tbd	To be determined by the PMU and UNDP-CO
Mid-term External Evaluation	PMU UNDP- CO UNDP-GEF Regional Advisor External Evaluators (i.e. international/ national consultants)	30,000	Two years after project implementation.
Terminal Evaluation	PMU UNDP- CO UNDP-GEF Regional Advisor	30,000	At the end of project implementation

	External Evaluators (i.e. international/ national consultants)		
Terminal Report	PMU UNDP-CO	None	At least one month before the end of the project
Lessons learned / Knowledge Management	PMU UNDP-GEF Regional Advisor (suggested formats for documenting best practices, etc)	120,000	Yearly 30,000
Audit	UNDP-CO Project team	None	To be determined by the PMU and UNDP CO
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	UNDP Country Office UNDP-GEF Regional Advisor (as appropriate) PMU, National Implementing Agencies		as and when necessary
TOTAL INDICATIVE COST Excluding project team staff time and UNDP staff and travel expenses		**US$ 229,000**	

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):): (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Karma Tshiteem	Secretary	GROSS NATIONAL HAPPINESS COMMISSION	04/19/2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	**Signature**	**Date *(Month, day, year)***	**Project Contact Person**	**Telephone**	**Email Address**
Adriana Dinu, Executive Coordinator, and Director a.i., UNDP/GEF		January 24, 2014	Yusuke Taishi Regional Technical Specialist - LECRDS, UNDP	+66819493997	yusuke.taishi@undp.org

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

Project Strategy	Indicator	Baseline	End of Project Target	Source of Verification	Risk/ Assumption
Project Objective: To enhance national, local and community capacity to prepare for and respond to climate-induced multi-hazards to reduce potential losses of human lives, national economic infrastructure, livelihoods, and livelihood assets.	Level of capacity of local communities to prepare for and respond to climate-induced risks. Availability of climate information and the level of their use for preparedness and reduction of impacts	- Local disaster mgt institutions functional in 16 of 20 dzongkhags - Mock-drills not widely adopted except 1 # of mock-drills under LDCF GLOF project; - No real-time localized weather data available to local institutions and communities - No community-level seasonal water resources inventory available	Communities capacity to prepare for and respond to localized climate-induced risks enhanced : - Existence of functional local disaster mgt institutions; - Adequate response to scenario-based early earning mock-drills (4 no. in Years 3 and 4, in 4 dzongkhags) - Availability of real-time localized weather data (measured in four sample dzongkhags) - Availability of seasonal water resource inventory (measured in 5-6 gewogs)	▪ Mid-term and Terminal Evaluation Reports; ▪ Project Progress Reports; ▪ Government reports; ▪ On-line materials (website, electronic reports). ▪ Bhutan Broadcasting Corporation ▪ DHMS web portal ▪ Success rate and evaluation report of mock-drills	Risks: ▪ Difficulty in coordinating the various outcomes and outputs implemented by different agencies, leading to silo approach; ▪ Complex technical and organizational management of the processes and results. Assumption: ▪ Government funding is available to sustain and consolidate the interventions after the conclusion of the project.
Project Strategy	**Indicator**	**Baseline**	**End of Project Target**	**Source of Verification**	**Risk/ Assumption**
Outcome 1: Risk from climate-induced floods and landslides reduced in Bhutan's economic and industrial center Phuentsholing and Pasakha Industrial Area.	Reduced damage from floods in the industrial hub of the country, Pasakha.	Climate-induced floods and landslides impact industrial operations and socio-economic activities in several parts of the country, of which Pasakha Industrial Area, Phuentsholing Urban Area and the Phuentsholing-Thimphu Highway are among the most impacted; Floods in the past (1996, 1998 and 2000) have incurred heavy damages on some of the industrial units in Pasakha and the BFAL/BCCL residential colony. River dredging is carried out annually to remove excessive silt during the monsoons but is only an interim and partial	Erosion in Barsa watershed and sedimentation and flooding in Barsa river is reduced due to comprehensive mitigation measures, reducing the occurrence of floods resulting in damages by 25% Reduced annual cost of riverbed dredging in Pasakha Industrial Area by 30%	▪ Project progress and evaluation reports; ▪ Government 11th Five Year Plan review report(s); ▪ Results of the risk perception survey ▪ Barsa watershed management plan ▪ Landslide stabilization technical design and construction reports ▪ Government and PIA damage assessment reports in the event of flood disaster; ▪ Geo-hazard assessment reports and maps. ▪ Research findings on thresholds developed for	Risks: ▪ Flood risk mitigation and slope stabilization measures may have a long gestation period and not show visible results by the end of the project period; ▪ Widespread geologic fragility in the area and extreme rainfall events may trigger flood and landslide problems at levels and in areas not envisaged in the project. ▪ Theft/ vandalism of materials used for slope stabilization structures (e.g. galvanized iron mesh used in gabion walls) by miscreants, especially given the proximity/ contiguity of the landslide areas to the porous international border.

		measure.		slope stability and climatic conditions;	
	Number of active and unstable landslides in Phuentsholing area	Existing large active landslides are common in the Phuentsholing area, despite past stabilization measures.	Four critical landslide sites in Phuentsholing-Rinchending area stabilized and contained within existing boundaries, safeguarding economic assets	▪ Media reports;	
	Vulnerability and risk perception index [AMAT 1.2.14] o Proportion of men in households that perceive landslides and floods as a major concern; o Proportion of women in households that perceive landslides and floods as a major concern; o Proportion of industrials units that perceive floods as a major concern;	GNH Survey 2010 reports that 29% of the surveyed population perceive landslides as a major concern and 26% perceive floods as a major concern; 50.9% of the interviewed Phuentsholing and Pasakha residents perceive landslides as a major concern, and 49.6% perceive floods as a major concern (based on ad hoc preliminary survey during PPG); 30% of the surveyed industrial units in Pasakha perceived landslides as a major concern, and 20% perceived floods as a major concern - based on ad hoc preliminary survey during PPG; Interventions to reduce the risks from climate-induced floods and landslides are piecemeal and partial and not integrated in local planning processes.	Proportion of men in households that perceive landslides and floods as a major concern reduced by 30% Proportion of women in households that perceive landslides and floods as a major concern reduced by 30% Proportion of industrial units that perceive floods as a major concern reduced by 30%		
Output 1.1: Pasakha Industrial Area protected from climate-induced floods through watershed management measures, river bank protection works and development of flood buffer zones					
Output 1.2: Climate-induced landslide risk in four critical areas in Phuentsholing-Rinchending area reduced through Integrated slope stabilization measures					
Output 1.3: Integrated geo-hazard assessment and mapping carried out in four critical landslide- and flood-prone areas in Bhutan, using data standards compatible with the national database					
Output 1.4: Thresholds for landslide slope failure determined in different geological zones, through research correlating geological instability with rainfall data from weather stations					
Project Strategy	**Indicator**	**Baseline**	**End of Project Target**	**Source of Verification**	**Risk/ Assumption**
Outcome 2: Community resilience to climate-induced disaster	Water resource inventories, water harvesting technology and additional	Bhutan Water Policy (2003) specifies assessment and inventory of national water	Up-to-date community-level water resource inventory and database in place in at least	▪ Project progress reports; ▪ Government 11th Five Year Plan review	Risk: Limited in-country experience and know-how of climate-

risks (droughts, floods, landslides, windstorms, forest fires) strengthened in at least four dzongkhags.	water storage capacity available in some the most drought-prone communities of Bhutan	resources as a special area of attention for informed water resources management. However, no systematic water resources inventory has taken place due to limited funds and technical capacity; Several villages and urban centers in various dzongkhags experience water scarcity. Simulation undertaken in the Second National Communication process project declining non-seasonal rainfall in 11 out of 20 dzongkhags between 2010-2039;	four dzongkhags, feeding into national water resources inventory/database; One Municipal water supply system made climate resilient, serving 6,000 beneficiaries; 20 villages/ hamlets have adopted climate-resilient water harvesting approaches, -technology and efficient water management practices, therewith reducing water scarcity for some 420 rural households.	report(s); ▪ Project evaluation reports. ▪ Water resources inventory report and database. ▪ Local-level disaster management plans.	resilient water harvesting technology may lead to inappropriate technology choices
	Existence and operationalization of disaster management committees at the local level	The Disaster Management Act (2013) stipulates the creation of disaster management committees and formulation of disaster management plans at national and local levels, but have been established at present in four pilot dzongkhags only. Forest fire is a recurrent phenomenon, destroying around 6,000 ha of forests annually. The national forest fire management strategy has been approved recently but there is no community-based forest fire management plan and mechanism to systematically guide effective and coordinated forest fire management at the local level.	Local-level disaster management committees (DMCs) established, capacitated and functional in at least four dzongkhags prone to climate-induced disasters; Climate-induced disaster management plan developed, including for forest fire management, and integrated in local development plans and programmes in four dzongkhags.		<u>Risk:</u> Local administrations allocate low priority to establishing and strengthening local institutions for disaster management, because of existing high workload <u>Assumption:</u> Local Governments and administrations have adequate existing capacity to build upon for disaster management
<u>Output 2.1</u>: Climate-resilient water harvesting, storage and distribution systems designed, built or rehabilitated in at least four dzongkhags and one municipality					
<u>Output 2.2</u>: Community-level water resource inventory completed, maintained, and used for water resource management planning in at least four dzongkhags					
<u>Output 2.3</u>: Disaster management institutions at various levels established and trained in four dzongkhags for better preparedness and response to climate-induced disasters					
<u>Outcome 3</u>:	Availability and the level of	The current network of	Network with national	▪ Project progress reports;	<u>Risks:</u>

Relevant information about climate-related risks and threats shared across development sectors for planning and preparedness on a timely and reliable basis.	use of localized climate information. Number and location of real-time weather observation, forecasting and warning stations that feed data into the NWFFWC; Number of sectors using climate information to make their development policies and plans climate resilient	meteorological stations is limited to 24 stations, of which only 3 are automated. Existing infrastructure for climate risk warning is highly GLOF-risk related. The NWFFWC is in a nascent stage supported by a small network of meteorological stations and with insufficient capacity to analyze, manage, and disseminate climate information in a timely manner. Demand for and use of localized climate information is yet unclear and undervalued Due to sector fragmentation little exchange of knowledge, lessons and experiences takes place, existing platforms are shaped around national programmes (like NAPA working group) but do not function adequately outside the framework of these programmes due to limited capacity of NECS for multi-stakeholder process facilitation and sector leadership	coverage of minimum # 60 new real-time weather stations and # 45 new flood measurement stations established. NWFFWC operational, with a core team of at least 10 members trained and established for climate data analysis, management and dissemination; Climate data/ information user training provided to at least 100 staff of key data user agencies, e.g. disaster management, agriculture, forestry, hydropower, civil aviation, road transport, and tourism, and local government institutions. Updated weather forecasting and localized climate information disseminated on a daily basis through web-portal, media and other means At least three evidence-based policy influencing documents disseminated through NECS National climate change policy framework in place (CC adaptation and synergies), with gender segregated policies and monitoring framework	▪ Government 11th Five Year Plan review report(s); ▪ Project evaluation reports; ▪ Meteorological data and records; ▪ Day-to-day broadcast of weather reports and forecasts. ▪ Web portal analysis ▪ Interviews with policy staff of different sectors and inventory/analysis of new policy documents on relevant sectors	▪ Compatibility of different elements (equipment) of the hydromet network and NWFFWC ▪ Support from JICA changed, delayed or cancelled <u>Assumptions:</u> ▪ In-country capacity is available or built for operation and maintenance of the hardware; ▪ Spares are readily available in the event of damage or disrepair. <u>Risk:</u> Sectors unwilling to integrate climate risks into policies and activity designs, because of more challenging complexity and likely higher budget requirements and thus in the short-term less perceived benefits
<u>Output 3.1</u>: Enhanced quality, availability and transfer of real-time climate data in all dzongkhags for climate resilient development planning and local disaster management					

Output 3.2: Increased effectiveness of National Weather and Flood Forecasting and Warning Center (NWFFWC) through improved capacity to analyze, manage and disseminate localized climate information in a timely manner
Output 3.3: Policy makers and development professionals have systematic access to evidence-based information on climate risks and hazards through cross-government knowledge sharing and coordination mechanisms

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

COUNCIL MEMBER COMMENTS FOR FULL/MEDIUM-SIZED PROJECTS

Country/Region: Bhutan
Project Title: Addressing the Risks of Climate-induced Disasters through Enhanced National and Local Capacity for Effective Actions
GEFSEC Project ID: 4760
GEF Agenc(ies): UNDP
Anticipated project financing ($ million): PPG : 0.1 GEF Project Grant : 11.4912
Total Project Cost: USD 65,360,029
GEF Agency Contact Person: Yusuke Taishi

Review sheet comments	Reply	Reference to Document
BY CEO Endorsement please clarify the mechanisms through which capacities developed in the project will be integrated into well-established programmes in the country so that the project benefits may be sustained.	The institutionalization of developed capacity is ensured, inter alia, through the following approaches adopted in the project: First, capacity building towards CBDRM will be an integral element of the recently approved Disaster Management Act, which mandates every dzongkhag to establish a Dzongkhag Disaster Management Committee and associated plans. Thus, the CBDRM capacity building that will be facilitated through the project has a legislative underpinning. In addition, it is envisaged that enhanced access to and understanding about climate information and risks, which will be made possible from the investments under Outcome 3, will be integrated into the new Contingency Plan in the four target dzongkhags and additional three from the baseline projects. The experience of "climate risk mainstreaming" into the dzongkhag-level contingency plan will be shared through the World Bank/GFDRR-supported project, which is currently providing a technical assistance to DDM at the national level for improving disaster management capacity in terms of formulation of rules and regulations, by-laws and standard operating procedures. Through this, it is envisaged that the additional adaptation benefits and approach that will be introduced by this project, in the context of CBDRM, will be integrated into the national-level DM Act implementation methodologies. Second, under Outcome 3, two types of government groups will be trained for the use of climate information. First, technical officers within NWFFWC, which is mandated to provide weather forecasts and climate projections, will be trained on climate data analysis, management and dissemination. Second, at least 100 government officers from agencies that will use processed climate data will also be trained so that they could interpret and make best use of improved climate information. The agencies that will be trained include disaster management, agriculture, hydropower, civil aviation, road, tourism, and local governments. Lastly, NEC as the coordination agency for climate change issues will also be supported in building their cross-sectoral collaboration and coordination capacity. Climate change is one of the first development challenges that require pan-government coordination for effective actions. As part of the capacity	*Additionality* sections in Outcome 2 and 3.

	building process, LDCF resources will be used by NEC to produce a national climate change policy framework, which integrates lessons generated from the implementation of this project.	
Please articulate the ways in which each baseline programme will contribute to the stated project components and the mechanisms through which the proposed project will be integrated into the baseline projects to make them more resilient. Please clarify coordination among the baseline programmes such that they provide consolidated and appropriate baseline for the proposed project	The manifestations of climate risks in Bhutan are multifaceted, and so are the sectors whose capacity needs to be developed for effective actions to mitigate such risks. The RGoB's decision to implement this project in a programmatic manner was underpinned by their conviction that various entities both government and non-government need to gain experience and obtain capacity in addressing climate risks in respective sectors. Due to this programmatic approach in which eight responsible parties are involved in the implementation of the project, relevant baseline projects and co-financing projects are inevitably diverse. A list of baseline projects that are providing co-financing to the proposed LDCF project is presented in Section 4. The ways in which climate resilience will be introduced to these baseline projects are described in the baseline/additionality sections in Section 2.5. In particular, the following projects/initiatives/expenditures are considered as the baseline projects for this project: Outcome 1: • Construction of national highways and expansion of Phuentsholinc City • Technical assistance support for the Department of Geology and Mines Outcome 2: • Planned RGoB expenditures to expand water sources for Mongar • Ongoing financial and technical assistance for national water resource inventory • Tarayana's ongoing rural development support • CBDRM capacity trainings Outcome 3: • Technical assistance support to the Department of Hydro-Meteorological Services and National Weather and Flood Forecasting and Warning Center • Departmental budget for DHMS	Section 4 Summary of Funds and Co-financing and Section 2.5 Project Objective, Outcomes, Outputs and Activities. Section A4 in the CEO Endorsement Form also presents list of baseline projects vis-à-vis corresponding Outcomes and Outputs for the project
Component 2 includes building resilience to forest fires, however the activities described are highly geared towards water and flood management and only addresses forest fire peripherally. Depending on the districts and sites that would be chosen for the activities, please describe activities targeted towards reduction of climate change vulnerabilities specific to the area and address those vulnerabilities to the equal extent as indicated in the expected outcome for component 2.	The target dzongkhags for building community capacity for forest fires have been selected on the basis of the historic occurrence of forest fires. More specifically, the following dzongkhags have been selected: Wangduephodrang; Mongar; Trashigang; and Thimphu. The project activities that will be implemented by the DoFPS entail integration of real time climate risks into the pilot Forest Fire Management Programme (FFMP). Activities in FFMP include Project support will include formulation of dzongkhag/gewog forest fire management plans, and formation and training of village level forest fire management groups (VLFFMGs). However, forest fire management plans that are developed through the FFMP is currently reactive rather than anticipatory based on real time climate information. With enhanced climate data monitoring capacity (through Outcome 3), forest fire management plans in these four dzongkhags will be	The *additionality* section under Outcome 2

	strengthened with additional considerations to reflect the real time climate information that will be generated by DHMS. To complement this, LDCF resources will also be used to build the capacity within DoFPS to reflect climate risks in their implementation of FFMP. – Training and facilitation capacity for community-based forest fire management – Development of awareness and advocacy materials – Research and information development on the impact of climate risks on forest fires – Improving Watch and Alert system – Review and update of National Forest Fire Management Strategy taking into account the experiences and lessons learnt from the project and other related initiatives. It is important to note that, despite distinct activities to address risks of forest fires compared with other CBDRM activities, the Dzongkhag Disaster Management Committee acts as the single oversight and coordination agency at the subnational level ensuring concerted response to all types of natural hazards at the sub-national level.	
Please provide details on local communities and CSOs that will be involved in the design and implementation of different project components.	NEC as the Implementing Partner for this project has invited Tarayana Foundation as a Responsible Party to carry out some of project activities under Outcome 2. Tarayana Foundation is the only CSO in the country that has a nation-wide presence working on rural development issues, especially related to access to water. Leveraging their experience in mobilizing local community members and forming self-help groups, Output 2.1 of the project in particular, will have a strong community-engagement element built in the design. Specifically, community members from 420 villages across 20 villages will directly benefit from community-based adaptation activities in the area of water scarcity. As reflected in the co-financing letter from Tarayana Foundation, these community members will contribute to the project activities in the form of labor contribution to construct community-level water harvesting infrastructure. Also CBDRM capacity building for climate-induced extreme events (including forest fires) will involve community members through mock-drills and as members of VLFFMGs and search and rescue volunteer groups.	Section B.1 in the CEO Endorsement Form; Section 2.9 Stakeholder Involvement Plan
Please list and explain the coordination of the proposed project with related programmes other than the baseline projects	Section 2.3 “Project links to past and on-going initiatives” lists relevant initiatives that the design team of the project took into considerations in the design of the proposed LDCF project. Of these, JICA’s Capacity Development of GLOF and Rainstorm Flood Forecasting and Early Warning in the Kingdom of Bhutan is considered the most critical initiative that require a close coordination as it presents a potential risk of overlap. To avoid potential overlap and achieve synergies, during the PPG phase, JICA, RGoB and UNDP had a series of consultative meetings. The following is the general approach for future coordination: To ensure system coherence, JICA and UNDP agreed that the	Section 2.3 Project links to past and on-going initiatives; the *additionality* section for Outcome 3

	final decision on system design, equipment requirements and specifications for hydro-met infrastructures will only be taken after both these projects have finalized the (joint) comprehensive overall design, ensuring adequate integration of all elements and functionalities. Only after the full design has received support from all parties (MoE/DHMS, UNDP/GEF, JICA and World Bank) and equipment requirements and specifications have been validated, will purchase of equipment under the LDCF project commence. Furthermore since JICA will provide a large TA and capacity development support to DHMS, the capacity development support under the LDCF project will be limited to those essential technical capacities for the adequate functioning of the systems the LDCF project will invest in and which are not covered by JICA (or World Bank). The LDCF project will thus invest in capacity development on ICT systems operation and maintenance under Output 3.1, and under Output 3.2 on snow and glacier research, river basin research, demand sensitization and on climate data processing, interpretation and demand supply with a focus on weather forecasting and generating useful climate data. The capacity development overview, developed by DHMS and presented in Annex 11, will therefore only be a reference for prioritization of these latter capacity development activities, under Output 3.2	
Please provide information regarding coordination among the parties responsible for various baseline programmes and also with the executing entity.	The potential challenge of coordination for effective, concerted implementation of the project was acknowledged during the PIF formulation stage and the management arrangement of the project was formulated with a view to overcome this challenge. In particular, the management arrangement will have three-tiered coordination system: the Project Working Group (PWG) represented by working-level officials from the IP and RPs, Technical Advisory Group (TAG) represented by mid-level officials which will be responsible for the overall technical coherence of the project and adherence to the national standards, and the Project Board which will provide strategic guidance and oversight of the project. Of these three tiers, it is PWG and PB that are primarily responsible for coordination of project activities and baseline development activities. Members of PWG will meet on a quarterly basis to report progress, issues and reconcile financing, to provide PMU the necessary information for donor reporting. Progress as measured against the strategic results frame indicators and AMAT will be consolidated at this level for further review by the PB. At the Board level, UNDP and key partners such as JICA will be present to ensure high-level coordination. Beyond the project structure, the Multi-Sectoral Technical Committee on Climate Change (MSTCCC), whose capacity will be strengthened through Output 3.3, will also be used as a platform for coordination.	Section 5 Management Arrangement details the coordination mechanisms in the project.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[5]

A. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

Concerns that may affect project implementation were fully reviewed during the PPG stage and it was updated in the Risk Log in Section A.6 above and Annex 14.

B. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

PPG Grant Approved at PIF: **100,000**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF/NPIF Amount ($)***		
	Budgeted Amount	***Amount Spent as of 22.11.2013)***	***Amount Committed***
Activity1.Technical definition and capacity needs assessment	55,750.00	58,598.34	0.00
Activity3. Technical study for Landslide mitigation in P/ling	9,160.00	9,364.77	0.00
Activity4. Technical study for water supply system in Mongar	18,400.00	18,540.43	0.00
Activity5. Technical study for hydromet services	6,835.15	5,924.71	0.00
Activity6. Project Management	8,259.78	3305.69	3,400.00
Contingency(Exchange gain and loss)	1595.07	794.18	71.88
Total	100,000	96,528.12	3,471.88

[5] If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used**)**

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)

N/A