GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Naoko Ishii
CEO and Chairperson

August 12, 2015

Dear LDCF/SCCF Council Member:

UNEP as the Implementing Agency for the project entitled: ***Nepal: Catalysing Ecosystem Restoration for Climate Resilient Natural Capital and Rural Livelihoods in Degraded Forests and Rangelands of Nepal.***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNEP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by LDCF/SCCF Council in May 2013 and the proposed project remains consistent with the Instrument and LDCF/SCCF policies and procedures. The attached explanation prepared by UNEP satisfactorily details how Council's comments have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Naoko Ishii
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee

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REQUEST FOR CEO ENDORSEMENT
PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND:GEF TRUST FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Catalysing ecosystem restoration for climate resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal.			
Country(ies):	Nepal	GEF Project ID[1]:	5203
GEF Agency(ies):	UNEP	GEF Agency Project ID:	00992
Other Executing Partner(s):	Ministry of Science, Technology and Environment (MoSTE) in collaboration with Ministry of Forests and Soil Conservation (MoFSC) and Ministry of Agricultural Development (MoAD)	Submission Date:	July 21, 2015
GEF Focal Area (s):	Climate Change Adaptation	Project Duration (Months)	48
Name of parent program (if applicable): For SFM/REDD+ X For SGP ☐ For PPP ☐		Agency Fee ($):	498,415

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Co-Financing ($)
CCA-1	Outcome 1.2: Reduced vulnerability in development sectors	Output 1.2.1: Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability	LDCF	4,149,301	5,104,740
CCA-2	Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses	Output 2.2.1: Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events	LDCF	921,106	4,260,061
CCA-3	Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer	Output 3.2.1: Skills increased for relevant individuals in transfer of adaptation technology	LDCF	176,068	1,674,199
			Total Project Cost	5,246,475	11,039,000

B. PROJECT FRAMEWORK

Project Objective: Increased capacity of national and local government institutions in Nepal to adapt to climate change by implementing EbA in degraded forests and rangelands in mid-hill and high mountain areas.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Co-Financing ($)
Component 1: Local and national institutional capacity development.	TA	Outcome 1: Increased capacity of government officials and local user groups	Output 1.1 Technical working group on EbA established within the MCCICC.	LDCF	45,800	478,388
			Output 1.2 Training provided for national, district and local stakeholders on identifying,	LDCF	145,460	811,038

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

		to implement EbA through enhanced institutional arrangements, intersectoral collaboration and research.	prioritizing, implementing, monitoring and evaluating EbA interventions.			
			Output 1.3 National campaigns implemented and local-level dialogue facilitated on EbA approaches and benefits, including lessons learned in Component 3.	LDCF	311,960	545,796
			Output 1.4 Primary, secondary and tertiary educational programmes developed on EbA best practices.	LDCF	362,960	2,211,835
Component 2: Policy and strategy strengthening.	TA	Outcome 2: National policies and strategies strengthened to promote EbA implementation.	Output 2.1 Policy briefs developed and training provided on recommended revisions to policies, strategies and relevant sectoral budgets – including for the forestry, agriculture and water sector – to promote EbA in forests and rangelands.	LDCF	38,660	795,245
			Output 2.2 Frameworks developed that support upscaling of EbA in forests and rangelands.	LDCF	41,760	795,245
Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital.	Inv.	Outcome 3: EbA implemented and monitored by user groups to restore forests and rangelands in the mid-hills of Achham and Salyan and high mountains of Dolakha to decrease sensitivity of local communities to climate change.	Output 3.1 Social, economic and biodiversity site-specific information produced to support identification, prioritization, implementation, monitoring and evaluation of EbA in forests and rangelands.	LDCF	50,560	1,783,297
			Output 3.2 EbA demonstrations implemented to increase water infiltration and fodder production during drought conditions and intense rainfall events, and integrated into operational management plans of user groups.	LDCF	2,374,740	1,391,980
			Output 3.3 Adaptation techniques introduced to complement EbA through conservation of topsoils and water in the face of droughts and increased rainfall intensity.	LDCF	964,245	916,980
			Output 3.4 Community Livelihood Improvement Plans (CLIPs) produced from forests, rangelands and agro-ecosystems and implemented with local communities.	LDCF	704,830	757,246
Sub-Total				LDCF	5,040,975	10,487,050
Project management Cost (PMC)[3]				LDCF	205,500	551,950
Total project costs					5,246,475	11,039,000

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

Pls include letters confirming cofinancing for the project with this form

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

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount ($)
National Government	Ministry of Forests and Soil Conservation	Grant	4,151,000
National Government	Ministry of Forests and Soil Conservation	In-Kind	280,000
National Government	Ministry of Agricultural Development	Grant	5,108,000
International agency	UNEP: Ecosystem-Based Adaptation in Mountain Ecosystems	Grant	1,500,000
		Total Co-financing	11,039,000

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
UNEP	LDCF	Climate Change	Nepal	5,246,475	498,415	5,744,890
Total Grant Resources						5,744,890

[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	50,000	0	50,000
National/Local Consultants	650,880	4,320,308	4,971,188

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No
(If non-grant instruments are used, provide in Annex D and 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]

Several changes have been made in terms of the alignment of the LDCF-financed project document with the original project design of the PIF. The following points summarise the most notable changes.

- The GEF Focal Area objectives selected at PIF stage were maintained in the project document. However, the number of outcomes under these Focal Areas was reduced and streamlined following consultations held at project preparation phase.
- Some of the baseline projects and the co-financing amounts identified at the PIF stage were changed for the project document. This change was because of a number of reasons that are described below.
  - The Climate Change Research Project (CCRP) that was identified as a baseline project in the PIF was not included in the project because the project was found to no longer be relevant during the PPG. Instead, the Multi-Stakeholder Forestry Project (MSFP) is included because in the current context of Nepal, the MSFP is a more relevant baseline project than the CCRP.
  - The Leasehold Forestry and Livestock Project (LFLP) no longer has a livestock component. As a result, the project name has been changed to the Leasehold Forestry Project (LFP). This initiative is still included as a baseline project.
  - Under the guidance of the MoFSC, additional programmes were added as baseline projects, namely: i) the Tree Improvement Programme (TIP); and ii) the Building Climate Resilience of Watersheds in Mountain Eco-regions. See Section A.4.

[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

- At CEO endorsement, the aligned projects are slightly different to those identified at the PIF stage. In particular, more opportunities for synthesis and collaboration were identified through consultations with stakeholders during the PPG (see Section A7).
- Since the devastating earthquakes that were experienced in Nepal on 25 April and 12 May 2015, several development initiatives have started up and more partners are focussing on disaster relief for local communities. At a district level, Achham and Salyan experienced minimal impacts from these earthquakes. The baseline situation in these districts, as it related to the LDCF-financed project, remains relatively unchanged. However, Dolakha was one of the worst affected districts, experiencing a 7.3 earthquake on 12 May and several aftershocks, the largest of which had a magnitude of 6.3[5]. Consequently, the communities living in Dolakha are currently very vulnerable, and would benefit largely from implementation of the LDCF-financed project in this district. Consultations with the chief of the Climate Change Section in the Ministry of Science Technology and Environment (MoSTE) indicated that the implementation of the LDCF-financed project in this district will need to be undertaken with a focus on livelihood diversification. It has also been noted that income from environmental resources has been identified as an important livelihood that contributes to building resilience of local communities after they experience disasters such as earthquakes[6]. By promoting an EbA approach, the LDCF-financed project will benefit the rural communities that have been affected by the earthquakes, contributing to post-earthquake relief for these targeted communities. Extensive community consultations and assessments will be required at the inception phase to understand the baseline situation in the Dolakha district. This will be initiated during the baseline assessment and will be undertaken by the National Climate and Socio-Economic Expert (NCASEE).

The wording of the three project Outcomes has been altered slightly to make them more specific, although they remain based on the same underlying principles. The rewording of project outcomes is detailed in the table below.

Outcome as written in the PIF	Outcome written at CEO endorsement
1. Strengthened technical capacity of local and national institutions to plan and implement measures to reduce the vulnerability and increase the resilience of mid-hill and high mountain communities by restoring the rangelands and forests they rely on for their livelihoods.	1. Increased capacity of government officials and local user groups to implement EbA through enhanced institutional arrangements, intersectoral collaboration and information.
2. Policies and strategies that promote the restoration of degraded forests and rangelands thereby increasing the resilience of local communities to climate change.	2. National policies and strategies strengthened to promote EbA implementation.
3. Increased resilience of local mid-hill and high mountain communities in Achham, Salyan and Dolakha districts to increased temperatures, reduced water availability and intense rainfall events through restoration of degraded forests and rangelands.	3. EbA implemented and monitored by user groups to restore forests and rangelands in the mid-hills of Achham and Salyan and high mountains of Dolakha to decrease sensitivity of local communities.

The project outputs have been contextualized to fit the current needs in Nepal, following the consultations held during the PPG. The following table details the revisions to outputs under Component 1.

Output as written in the PIF	Output written at CEO endorsement	Justification
1.1. A multi-disciplinary national committee established that i) facilitates cross-cutting national dialogue on adaptation through ecosystem restoration, ii) develops large-scale ecosystem restoration as means of adaptation programmes, and iii) mobilises funds for the implementation of the programmes.	1.1. Technical working group on EbA established within the MCCICC.	The Government of Nepal (GoN) constituted the Multi-sectoral Climate Change Initiatives Coordination Committee (MCCICC) in 2012. This committee serves as the main national platform for ensuring regular dialogue and consultations on climate change related policies, plans, finance, programmes/projects, and activities. As

[5] OSOCC Assessment Cell. 2015. Nepal earthquake: District profile – Dolakha. Available online at: http://reliefweb.int/report/nepal/nepal-earthquake-district-profile-dolakha-17052015 . Accessed on 6 July 2015.
[6] Smith-Hall, C., Larsen, H.O., Pouliot, M., Chhetri, B.B.K., Rayamajhi, Meilby, H. & Puri, L. 2015. Policy brief developed by the Copenhagen Centre for Development Research: Environmental resource income is important for earthquake-hit rural households. Available online at: http://www.forestrynepal.org/images/publications/ku_2015-06-08.pdf. Accessed on 3 July 2015.

		such, MCCICC has provided a platform to discuss and share experiences, and develop synergy and avoid duplication of effort programmes in the field of climate change. Following consultations with stakeholders during the PPG phase, it was decided that MCCICC is a suitable platform for cross-cutting dialogue on EbA.
1.2. Local authorities, committees and user groups, with an emphasis on women and youth, trained on adapting communities to climate change by using specific techniques for restoring local degraded forests and rangelands in the most vulnerable ecosystems.	1.2. Training provided for national, district and local stakeholders on identifying, prioritizing, implementing, monitoring and evaluating EbA interventions	All training – besides training to develop alternative livelihoods – will be undertaken within this output. Therefore, this output includes national and local training.
1.3. Policy briefs and technical guidelines developed and distributed for policy- and decision-makers on increasing resilience of local communities to climate change by using appropriate ecosystem restoration techniques based on emerging research findings as well as on local indigenous knowledge.	This output was moved to Component 2.	All activities that are related to reviewing or developing policies are included in Component 2.
This output was moved from 1.5	1.3. National campaigns implemented and district level collaboration facilitated on EbA approaches and benefits, including lessons learned in Component 3.	
1.4. PhD and MSc theses produced with a focus on the specific climate change risks – increasing temperatures and reduced water availability – and providing technical guidance to reduce these risks by developing suitable ecosystem management plans for the targeted areas. This could include research on appropriate multi-purpose, indigenous plant species for forest and rangeland restoration under this changed climate.	1.4. Primary, secondary and tertiary educational programmes developed on EbA best practices.	Following discussions with stakeholders from research institutions – including the Central Department of Environmental Science (CDES), Central Department of Geography, Institute of Forestry (IOF), Agroforestry University (AFU) and Tribhuvan University (TU) – this output was refined to focus on topics related to EbA in particular.
1.5. Community awareness increased in terms of how to adapt to climate change through restoration of ecosystems, including lessons-learnt in Component 3.	This output was moved (Output 1.3)	The concept of the output remains the same (under Output 1.3). However, to promote local awareness and dialogue of the EbA approach, District Environment Energy Climate Change Coordination Committees will be strengthened/established and open days will be coordinated at project intervention sites.

Component 2 was updated to promote complementarity with aligned projects that are being implemented in Nepal (in particular, the BMUB-funded project).

Output as written in the PIF	**Output written at CEO endorsement**	**Justification**
2.1. Revisions on existing ecosystem management and development policies and strategies produced to identify	2.1. Policy briefs developed and training provided on recommended revisions to policies, strategies and relevant sectoral	To streamline project activities, this output was reworded to include the review and recommended revision of

entry points for promoting adaptation via restoration of degraded ecosystems.	budgets – including for the forestry, agriculture and water sector – to promote EbA in forests and rangelands.	policies, strategies and relevant sectoral budgets to promote upscaling of EbA (i.e. merged with output 2.3).
2.2. A national up-scaling adaptation strategy through ecosystem restoration developed and institutionalized.	2.2. Frameworks that support upscaling of EbA in forests and rangelands developed and presented to relevant national institutions.	This output was reworded to include an upscaling strategy and a financing plan (i.e. both "frameworks" that support upscaling of EbA).
2.3. Current forestry, agricultural and water sector budgets, policies and strategies revised to promote adaptation through ecosystem restoration up scaling	This output was merged with Output 2.1.	This output was merged with Output 2.1.

The following table details the revisions to outputs under Component 3.

Output as written in the PIF	Output written at CEO endorsement	Justification
An output was added.	3.1. Social, economic and biodiversity site-specific information produced to support identification, prioritization, implementation, monitoring and evaluation of EbA in forests and rangelands.	An output for local-level information was included to promote indigenous knowledge and site-specific technical information in the design of EbA interventions.
3.1. Multi-purpose forests and rangelands established in landscapes that were initially highly degraded to increase water infiltration and fodder production in the face of drought conditions and intense rainfall events.	3.2. EbA demonstrations implemented to increase water infiltration and fodder production during drought conditions and intense rainfall events, and integrated into operational management plans of user groups.	The underlying concept of the output remains the same (i.e. implementation of EbA will result in multi-purpose forests and rangelands). This is because the EbA interventions will enhance ecosystem functioning of forests and rangelands and provide multiple benefits to local communities.
3.2. Conservation of top soils achieved in agricultural and natural landscapes despite greater intensity of rainfall events.	3.3. Adaptation techniques introduced to complement EbA through conservation of topsoils and water in the face of droughts and increased rainfall intensity.	The wording of the output was changed to describe deliverables (i.e. adaptation techniques) instead of a change in state (i.e. conservation of top soils), thereby making the output easier to measure.
3.3. Alternative livelihoods (e.g. non-timber forest products) developed and promoted based on the benefits of functional forests and rangelands that are resistant to drought and extreme rainfall events.	3.4. Community Livelihood Improvement Plans (CLIPs) produced from forests, rangelands and agro-ecosystems and implemented with local communities.	Based on consultations during the PPG, livelihoods were expanded to include products from forest, rangeland and agro-ecosystems that the project will develop. The output also includes Community Livelihood Improvement Plans (CLIPs), which is the mechanism that is widely implemented in Nepal to improve livelihoods of vulnerable communities.

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

The LDCF-financed project remains aligns with **Nepal's NAPA,** and will address three of the nine priorities identified: Priority 1, Priority 5 and Priority 7.

The text forming the PIF has been further developed and additional policies, strategies and plans of relevance have been included. The alignment of the LDCF-financed project with key policies and strategies is presented below. For more information see Section 3.6 of the project document.

- *Comprehensive Peace Accord*: The LDCF-financed project will contribute to realising the objectives for political, economic and social transformation and conflict management as described in the accord. In particular, the project is aligned with the accord's objective to "follow a policy to protect and promote national industries and resources".
- *Nepal Peace and Development Strategy* (2010–2015): The LDCF-financed project will have a positive effect on peace building in the country.
- *National Five-Year Plans* and *Three-Year Interim Plans*: The LDCF-financed project will support these objectives by strengthening Nepal's institutional and technical capacity for EbA.
- *Local Adaptation Programmes of Action* (LAPAs): The LDCF-financed project has been designed to align with the LAPA framework.
- *Sustainable Development Agenda for Nepal* (SDA): By strengthening the technical capacity of local and national stakeholders to implement EbA, the LDCF-financed project will promote sustainable development.
- The *United Nations Development Assessment Framework* (UNDAF): The LDCF-financed project will promote outcomes under all three components of this framework.
- *Millennium Development Goals* (MDGs): The LDCF-financed project will contribute towards achieving MDG 1, MDG 3 and MDG 7.
- *Climate Change Policy* (CCP): the LDCF-financed project will increase the adaptive capacity of local communities and government in Nepal, thereby contributing to the objectives of the CCP.
- *Nepal Environment Policy Action Plan* (NEPAP): Through the LDCF-financed project, this plan will be reviewed to identify entry points for EbA.
- *National Strategy for Disaster Risk Management* (NSDRM): Through the LDCF-financed project, interventions will be implemented in Achham, Dolakha and Salyan Districts of Nepal to reduce the risk of climate-related disasters.
- *Nepal Biodiversity Strategy* (NBS) and the *Nepal Biodiversity Strategy Implementation Plan* (NBSIP): By promoting sustainable management of forests and rangelands, the LDCF-financed project will align with the NBS and NBSIP.
- *National Conservation Strategy* (1988): Through the LDCF-financed project, this strategy will be reviewed to identify entry points for EbA.
- Nepal's Initial *National Communication* (NC): The proposed LDCF-financed project will support the technologies promoted by this NC. Nepal's Second NC is currently being developed.
- *National Adaptation Plan* (NAP): The LDCF-financed project will contribute to the objective of the NAP process by promoting integration of EbA into ecosystem management and planning.
- The *Master Plan for the Forestry Sector* (MPFS): Through the LDCF-financed project, this plan will be reviewed to identify entry points for EbA.
- *Forestry Sector Policy* (FSP): The LDCF-financed project is aligned with the objective of the FSP to decrease the vulnerability of Nepalese communities by developing the forestry sector.

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

The LDCF-financed project meets the LDCF's eligibility criteria. In addition, this project conforms to the strategic objectives, namely: i) adopting a complementary learning-by-doing, multidisciplinary and participatory approach; and ii) implementing NAPA priorities. The LDCF-financed is also aligned with GEF Focal Area/LDCF/SCCF strategies. In particular, the following "Focal Area Objectives" are addressed in the project.

- **CCA-1**, Outcome 1.2: Reduced vulnerability to climate change in development sectors;
- **CCA-2**, Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses; and
- **CCA-3**, Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer.

A.3 The GEF agency's comparative advantage:

UNEP has considerable experience in implementing projects and providing scientific guidance in the field of climate change. To date, UNEP has facilitated the completion of 15 NAPAs and is also assisting LDCs and other developing countries with the implementation of the adaptation priorities identified by the NAPAs, National Communications and Technology Needs Assessments. This agency also has experience in implementing more than 80 adaptation projects at global, regional and national levels. Through the implementation of those projects, UNEP works to develop innovative solutions for national governments and local communities to adapt in an environmentally sound way to

future climate change. In particular, UNEP achieves this through the provisions of methods and tools to support decision making, addressing barriers to implementation testing and demonstrating those solutions, as well as building climate resilience through restoration of key ecosystems – river basins, mountains, coasts and dry lands – vulnerable to climate change. UNEP's work on climate change adaptation focuses on three main areas: i) Science and Assessments; ii) Knowledge and Policy Support; and iii) Building the Resilience of Ecosystems for Adaptation. UNEP first focused its adaptation work on EbA – as mandated by its Governing Council – through the EBA[7] Flagship Programme of UNEP (hereafter the BMUB-funded project).

UNEP is uniquely positioned to undertake the innovative approach of ecosystem restoration for adaptation. Importantly the adaptation interventions of this LDCF-financed project rely on knowledge of a wide range of ecosystems. Other parts of the project – such as enhancing water supplies, increasing agricultural productivity and developing alternative community livelihoods – are attached to the central theme of managing ecosystems appropriately. UNEP's core business is providing technical advice on managing environments in a sustainable manner and therefore has a significant comparative advantage in implementing the project. The technical and scientific knowledge that UNEP brings to the project will be fundamental for its success. In particular, ecological science will need to drive Outcome 3's demonstration activities to ensure that the information generated is based on rigorous evidence. UNEP's experience in revising policy will be important for translating the information generated into appropriate policy, strategy and legislative documents.

UNEP in Nepal: UNEP has been active in Nepal since 2000 and has worked closely with government and non-government partners in the country through various projects including but not limited to: the BMUB-funded project on *Ecosystem Based Adaptation mountain ecosystems* with Nepal being one of the pilot countries; and the global SCCF-financed project recently approved by GEF namely *Enhancing Capacity, Knowledge and Technology Support to Build Climate Resilience of Vulnerable Developing Countries,* which is piloting technologies in China, Nepal, Seychelles and Mauritania (hereafter the GEF/SCCF-funded project). There are also other GEF and non-GEF projects implemented by UNEP in Nepal that have created the basis for a strong partnership and presence of UNEP in the country. Subsequently, UNEP headquarter office will liaise and work closely with their Regional Office for Asia Pacific (ROAP) in order to maintain country presence and implement the LDCF-financed project. During these years of working with Nepal government, UNEP has developed strong relationships with local partners, including the Ministry of Science, Technology and Environment (MoSTE), ICIMOD, the World Conservation Union (IUCN), the WWF and the NTNC. Ongoing projects with these partners are listed in Section A.7 below. The BMUB-funded project is of particular relevance to the project because of the synergies between the two projects in terms of: i) developing innovative techniques for building resilience of communities via appropriate ecosystem management; and ii) strengthening the policy environment for EbA.

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

Nepal has one of the highest population densities of all LDCs. Unemployment and poverty are ubiquitous across the country, with more than 70% of the population living on less than US $2 per day[8]. Nepalese, therefore, rely strongly on natural resources for their livelihoods. As a result, ecosystem degradation is the most consistent threat to the population and to the Nepalese economy[9]. Unsustainable use of wood, soil and water resources, and the consequent degradation of natural ecosystems in Nepal is jeopardising the livelihoods of rural communities and ultimately the Nepalese economy as a whole (See Annex N: Theory of change for underlying problems).

Under this scenario, the main problems that the baseline projects seek to address are an increase in poverty and food insecurity, degradation of forest and rangeland ecosystems, reduction in agricultural productivity resulting in fewer

[7]Participants at COP 16 as well as the IUCN have noted that UNEP is an appropriate agency for implementing in developing countries and further developing the EBA concept. At the 2010 United Nations Climate Change Conference (COP 16) the EBA approach adopted by UNEP was noted as vital in playing a role in integrating EBA into the adaptation and development strategies of developing countries. It was also noted at this COP that investing in EBA was one of the most effective ways to address the multiple challenges of vulnerability and poverty.(As reported in the article 'Inspiring action towards a low carbon, climate resilient future'. Available from http://www.cc2010.mx/en/press-center/press-resources/news_2010112340160.htm)

[8] Ibid

[9] Approximately 74% of the population of Nepal is employed in the subsistence agriculture sector.

livelihood options, and limited access to water resources as summarised below. For more information, please refer to Annex N (Theory of change for underlying problems), and Sections 2.1 and 2.3 of the Project Document.

- *Poverty*: Poverty in Nepal is widespread largely because of limited livelihood options. Rural communities rely mainly on subsistence farming. Ongoing decrease in the productivity of this activity and increasing population size are causing a reduction in per-capita food availability. Many rural communities respond to such deficits by: i) migrating to areas that present opportunities for employment[10] or increased agricultural productivity; and/or ii) relying on natural resources for their livelihoods. Continued population growth and increasing poverty lead to further exploitation of natural resources thereby reducing the regenerative capacity of ecosystems. This results in a negative cycle which both exacerbates and is exacerbated by poverty.
- *Degradation of forest and rangeland ecosystems*: High population density and widespread poverty in Nepal have led to an increase in pressure on forest and rangeland ecosystems goods and services. In particular, increased rates of harvesting fodder and woodfuel, combined with inappropriate livestock management are impacting negatively on ecosystems. The degradation of ecosystems is the most consistent threat to the Nepalese economy and especially to rural communities as they rely strongly on ecosystem goods and services for their livelihoods [11]. In drier months, this threat is exacerbated when local communities – who rely mostly on rain-fed agriculture – place additional demands on these ecosystems. For example, farmers collect more fodder from forests and rangelands to feed their livestock, thereby reducing the vegetation cover of these ecosystems. This decrease in vegetation cover contributes to: i) increased soil erosion; ii) reduced water infiltration into soils and subsequent water availability; and iii) reduced food availability and food insecurity.
- *Subsistence agriculture*: Approximately 74% of Nepal's population relies on subsistence, rain-fed agriculture for their livelihood. Despite a relatively large percentage of the population engaged in this sector, the food trade deficit is growing. As a result, the agricultural sector's contribution to the annual GDP has decreased by 11% over the last decade and currently accounts for 32%. The stagnant performance of this sector and an increasing population has resulted in decreasing food availability. Consequently, 42 of Nepal's 75 districts experience food shortages periodically. This is exacerbated by a small per-capita holding size of agricultural land, which is estimated at approximately 0.8 hectares[12]. As a means to increase agricultural productivity, intensive agriculture is expanding which subsequently results in the deforestation of hill slopes.
- *Water availability*: An estimated 80% of the population have access to water – largely from streams and rivers – however, the availability and quality thereof is unreliable. Additionally, given the steep topography of the country, those living on slopes in hilly regions, tend to fetch water from the valleys before carrying it uphill to their homes. This is exacerbated during dry periods when smaller streams are empty and the only available surface water is further away in the larger rivers. Some families are consequently restricted to using less than five litres of water per day[13].
- *Gender:* Women and men are both vulnerable to these problems, although female-headed households tend to have lower incomes and fewer opportunities than men do (as they need to both take care of children and make an income in order to feed the family resulting in less economic opportunities). Women often rely on climate-sensitive natural resources for their livelihood many of these livelihoods are underpinned by functional, intact forest ecosystems. Furthermore, Nepalese women have historically been marginalised from local and national decision-making processes.

A number of initiatives are being implemented in Nepal to address the baseline problems described above. The LDCF-financed project will build on several of these projects, namely the *Leasehold Forestry Programme* (LFP), *Livestock Service Development and Extension Programme* (LDSEP), *Tree Improvement Pro*gramme (TIP), *Building Climate Resilience of Watersheds in Mountain Eco-Regions Progra*mme (BCRWMER) and the *Multi-Stakeholder Forestry Proj*ect (MSFP). Extensive PPG consultations have promoted strong alignment of the LDCF-financed project with these baseline projects. The LDCF project will build on the baseline projects detailed below.

[10] In a number of the more remote communities, the age distribution of the local population is not normal because a large proportion is older. This distribution is a result of the younger people moving to larger cities or out of the country in search of employment.
[11] Approximately 74% of the population of Nepal is employed in the subsistence agriculture sector.
[12]Ministry of Agriculture and Cooperatives. 2010. National Agriculture Sector Development Priority (NASDP) for the Medium-Term (2010/11 - 2014/15). GoN.
[13]Suresh, S. D., Water Crisis in Nepal Himalayas. Available at: http://www2.fiu.edu/~sukopm/seminar/Suresh.pdfAccessed on 27 September 2013.

The DoF – under MoFSC – is implementing the ongoing **Leasehold Forestry Programme** (LFP). The annual budget for this programme – which is funded by the GoN – is ~US$281,700. This programme focuses on restoring degraded forests and community-based management of these forests. It targets 22 mid-hill districts in Nepal – including Achham, Dolakha and Salyan – where on-the ground activities will be implemented by the LDCF-financed project. The overall goal of the programme is sustained reduction in the poverty of 44,300 poor households through increased production of forests on allocated leasehold forestry plots. The major components of the programme are: i) leasehold forestry and group formation of Leasehold Forestry User Groups (LFUGs); ii) rural finance; and iii) project management and coordination. Activities within the LFP will provide as a baseline towards Components 1 and 3 of the LDCF project which will translate into a co-financing amount of US$922,444 over four years.

The LDCF project will build on the LFP to increase climate resilience of project activities. To provide feedback on the successes and challenges of the project, District Forest Officers (DFOs) that are implementing the LFP in Achham, Dolakha and Salyan will participate in the Multi-sectoral Climate Change Initiative Coordination Committee (MCCICC) meetings annually under Output 1.1 (Activity 1.1.2). At these meetings, the district officers will share knowledge with similar projects and initiatives. National stakeholders that make decisions for the LFP will receive training on planning and implementing EbA, including topics on selecting best practice EbA (Activities 1.2.2). The activities under Output 1.2 will support capacity building and extension services that are implemented by LFP for forest management and restoration. Within this output, district officers and user groups committee members will be trained on the technical aspects of selecting species for tailored EbA in forests and rangelands (Activity 1.2.5). These species will be selected within the LDCF-financed project by synthesising scientific information and indigenous knowledge (Activity 3.2.1)[14]. In addition, DFOs that are implementing the LFP will be trained to propagate, monitor and conserve these selected species. Under Output 3.4, the LDCF-financed project will develop sustainable livelihoods from forests and rangelands, thereby promoting the importance and conservation of ecosystems that are targeted by LFP among communities in Achham, Dolakha and Salyan. Awareness campaigns that will be implemented at a national scale (Activity 1.3.2) will include information on the benefits of using EbA to restore forests and rangelands. Application of this approach to reforestation will increase the resilience of the LFP under the effects of climate change.

The **Livestock Service Development and Extension Programmes** (LDSEP) are two ongoing programmes funded by the GoN – with an annual budget of ~US$4,604,500) – and implemented by the DoLS under MoAD. Within these ongoing programmes, a wide range of activities – with a focus on rangelands – is conducted in all 75 districts. The main objective of these programmes is to reduce poverty in rural communities by increasing livestock productivity through the appropriate management of ecosystems. Activities of the LDSEP include: i) establishing a grass seed centre and distributing these seeds to district resource centres; ii) managing a system for livestock feed quality; iii) managing local community resources to increase supply of pasture and fodder; iv) increasing productivity of local community pasture land; v) involving the private sector in the production and marketing of grass seeds; and vi) assisting in the establishment of livestock markets. As a result of these activities, grass seeds are distributed and degraded pasturelands are restored. These restored ecosystems result in an increase in palatable grass cover thereby enhancing livestock production. The LDSEP will provide as the baseline for Components 1 and 3 of the LDCF project, which translates into co-financing of US$5,108,000 over four years.

The LDCF-financed project will climate-proof the LDSEP by restoring rangelands using EbA. Through Component 1 of the, District Livestock Extension Officers (DLOs) that are implementing the LDSEP in Achham, Dolakha and Salyan will participate in the MCCICC meetings annually under Output 1.1 project to provide feedback on the successes and challenges of the project These district officers will consequently share knowledge with aligned initiatives. In addition, national stakeholders that make decisions for the LDSEP will receive training on planning and implementing EbA, including topics on selecting best practice EbA (Activities 1.2.2). At a local level, district officers and user groups involved in LDSEP will also receive training to strengthen their technical capacity to restore rangelands using EbA (Activity 1.2.5).

District officers and user groups involved in LDSEP will benefit from the training on EbA to restore rangelands that the LDCF-financed project will provide. This training will be based on the EbA protocols that will be informed by: i)

[14] Historically, species that grow quickly and produce natural resources for indigenous and local communities have been selected for reforestation

the socio-economics and biodiversity of demonstration sites (Activities 3.1.3); and ii) climate change trajectories (Activity 3.2.1). In addition, these stakeholders will be trained on techniques to conserve topsoil and water, thereby further increasing the adaptive capacity of local communities at intervention sites to the negative effects of climate change (Activities, 1.2.5). Furthermore, the EbA interventions (Activities 3.2.4 and 3.2.5) will build on rangeland restoration activities conducted by LDSEP in Achham, Dolakha and Salyan.

The **Tree Improvement Programme** (TIP) is an ongoing initiative that has an annual budget of ~US$3,024,640 (funded by the GoN) and is implemented by the DoF within the MoFSC). The objective of this programme is to improve productivity of forests through technological advances in tree breeding, propagation and conservation. The TIP contributes to the conservation of genetic diversity of forests by: i) selection of plus trees from different geographic regions and ecosystems of Nepal[15]; and ii) establishing gene banks. The major activities of the TIP are: i) identification of seed stands for conserving genetic resources; and ii) establishing breeding seed orchards. Within this programme, breeding and propagation research is conducted on nationally important tree species. In addition, training is conducted for local government across different departments and user groups on improving conservation and sustainable forest resources. At a national scale, a database has been established for extant forest tree species. The TIP will provide a baseline for Components 1 and 3 of the LDCF project which will translate into a co-financing amount of US$1,614,278 over four years.

The LDCF-financed project will complement activities undertaken by TIP to research and promote important plant species for Nepal. As a result, climate-resilient and useful species will be identified for restoration of forests and rangelands (Activities 3.2.4 and 4.2.5) based on scientific information – including climate change trajectories – and indigenous knowledge (Activities 3.2.1). Funding will be made available through the LDCF-financed project for students from local universities to conduct research on EbA (Activity 1.4.7). The TIP will benefit from the technical training that will be provided by the LDCF-financed project on implementing EbA to restore degraded forests and rangelands (Activity 1.2.5). In particular, district officers and user groups will be trained on the technical aspects of selecting species for EbA that is tailored to particular forests and rangelands. In addition, these stakeholders will be trained to propagate, plant, monitor and conserve these selected species.

Building Climate Resilience of Watersheds in Mountain Eco-Regions (BCRWMER) project is funded by ADB, the Nordic Development Fund (NDF) and the GoN. This project is being implemented from 2014–2020 by the Department of Soil Conservation and Watershed Management (DoSCWM) within MoFSC, with a total budget of US$30,110,000, and is one of the components of Nepal's Strategic Program for Climate Resilience (SPCR). The objective of the project is to provide access to more reliable water sources for domestic purposes and irrigation for local communities living in watersheds of Nepal's river systems. To achieve this overall objective, the programme will: i) demonstrate activities for participatory watershed management planning; and ii) strengthen the capacity of government at all levels for this approach to water conservation. The programme will implement activities to achieve four major outputs: i) participating communities have strengthened capacity to manage catchments and improved water storage infrastructure; ii) communities and government manage water in an inclusive manner; iii) government implements knowledge-based approaches for integrated water and land management; and iv) project management support is provided. The programme is being implemented in six districts[16]. The BCRWMER will provide a baseline for Components 1 and 3 of the LDCF project which translates into a co-financing amount of US$461,222 over four years.

The LDCF-financed project will work closely with the BCRWMER and support its major objective of improving watershed management through the development in particular of protocols for EbA that are based on scientific findings, indigenous knowledge and government norms (Activities 3.2.1 and 3.2.2). Therefore, the EbA interventions implemented by the LDCF project in Achham (Activities 3.2.4 and 3.2.5) will climate proof the vegetation restoration activities that are implemented by the BCRWMER project. The DFO or District Soil Conservation Officer (DSCO) that will be responsible for executing activities in Achham will participate in the MCCICC meetings annually under Output 1.1 of the LDCF-financed project (Activity 1.1.2). At these meetings, the LDCF-financed project will share knowledge with similar projects and initiatives. The activities under Output 1.2 will support capacity building and extension services that are implemented by BCRWMER. Within this output, district officers and user groups will be

[15]A plus tree is a species that is selected for a forest breeding program because it has a superior phenotype
[16] Achham, Baitadi, Bajhang, Bajura, Dadeldhura and Doti,

trained on the technical aspects of selecting species for tailored EbA in forests and rangelands close to watersheds. This approach to reforestation will increase the resilience of the BCRWMER under the effects of climate change.

The **Multi-Stakeholder Forestry Project** (MSFP) is a Joint Funding Agreement (JFA) between the MoFSC (GoN), DFID, Swiss Agency for Development and Cooperation (SDC) and Government of Finland (GoF) (total budget: US$150,000,000[17] from 2011–2021). The MoFSC provides strategic direction for the programme and leads the multi-stakeholder steering committee. The programme is building on 20 years of achievements in forestry work by the GoN. MSFP is designed to run over 10 years and is currently in its second phase. The programme benefits rural communities[18]who are dependent on forest resources and are most vulnerable to the effects of climate change. Firstly, MSFP will improve inclusive forest governance by: i) establishing a National Forest Entity (NFE) in line with the GoN approach paper (2010); ii) revising policies, plans and guidelines for the forestry sector to promote a multi-stakeholder approach; and iii) strengthening the capacity of government and non-state actors to implement policies for multi-stakeholder governance of forests. Secondly, the project is facilitating an increase in the number of investments and jobs in the forestry sector by: i) identifying opportunities and challenges related to private sector investment; and ii) establishing partnerships between private sector, local forestry groups and farmers for forest-based enterprises. Thirdly, through the MSFP, indigenous and local communities will realise benefits from good governance and investments in forest resources. To enhance these benefits, MSFP will improve structures and practices for local forest governance. Lastly, the project will focus on improving sustainable management of forests by government, local communities and the private sector in the face of climate change. To promote sustainable management, MSFP will focus on restoring, managing and enhancing forest ecosystems. In addition, Payment for Ecosystem Services (PES) and similar carbon market initiatives will be piloted. The MSFP will provide a baseline for Components 1 and 3 of the LDCF project, which translates into US$1,153,056 over four years.

The LDCF-financed project will build on the major objectives of the MSFP by conducting a stocktaking exercise of EbA that has been implemented in Nepal and the most cost-effective EbA interventions will be identified (Activity 1.2.1). The MSFP will integrate the findings of this research in planning for adaptation to climate change through restoration and management of forest ecosystems throughout Nepal[19]. Importantly, the project will demonstrate the benefits of EbA on the ground for the most vulnerable communities in Achham, Dolakha and Salyan (Activity 3.2.4 and 3.2.5). Lessons learned through this on-the-ground implementation will also be integrated into MSFP activities throughout the country. In addition, the LDCF-financed project will design protocols – that are in line with local government norms – for particular forest and rangeland ecosystems (Activity 3.2.2). These protocols will complement the MSFP because they will be based on both scientific findings and indigenous knowledge (Activity 3.2.1). The LDCF-financed project will also support the objectives of MSFP by enhancing awareness of the benefits of EbA in forests and rangelands at a national, district and local level (Activity 1.3.2). The research frameworks that will be established by the LDCF-financed project to measure impacts of EbA will support the objective of MSFP to manage forests scientifically and sustainably so that they benefit vulnerable local communities (Activities 1.4.4, 1.4.5, 1.4.6 and 1.4.7). Moreover, the MSFP will benefit from the technical training that will be provided by the LDCF-financed project (Activity 1.2.5). As a result of this activity, district officers and user groups will be trained on the technical aspects of selecting species for tailored EbA in forests. In addition, these stakeholders will be trained to propagate plant, monitor and conserve these selected species.

Importantly, stakeholders from these baseline projects will be consulted on an ongoing basis and lessons learned through the LDCF-financed project will be shared with these stakeholders. To achieve this, the managers of the baseline projects will be involved in the Project Managers Working Group (PMWG) that will be established by the LDCF-financed project (see Annex H: Project management and implementation arrangements).

The additionality of the LDCF-financed project is described in Section A.5 below.

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

[17] For the first financial phase, these donors provided approximately US$62,000,000. For the second phase, they are providing approximately US$88,000,000.
[18] In particular, poor and disadvantaged households
[19]Ultimately, the MSFP will be implemented in all 75 districts of Nepal.

environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The effects of climate change – including increasing temperatures and erratic rainfall – exacerbate the baseline problems described in Section A.4 by further degrading forest and rangeland ecosystems in the mid-hills and high mountains of Nepal, thereby affecting their capacity to provide ecosystem goods and services to local communities. Additionally, agriculture – including livestock rearing – is adversely affected by these climate-related hazards. For example, agricultural production decreases as: i) increasing temperatures shift the distribution of agro-ecological zones and agricultural pests in the mid-hills and high mountains; ii) intense rainfall events increase erosion; iii) extreme events such as droughts, floods and landslides damage the assets of local communities; and iv) erratic rainfall increases variability of river flow. The effects of climate change also include decreasing water availability and quality which further affect the livelihoods of local communities. These problems are expected to increase in intensity and frequency under future climate change scenarios.

Moreover, as livelihoods are underpinned by functional, intact ecosystems, there is a need to train women to adapt to climate change using an Ecosystem-based Approach. Women in Nepal currently have insufficient access to relevant information and skills to manage the negative effects of climate change on these natural resources. Women often bear the burden of fetching water for their families and therefore spend time walking to and from water sources. Under conditions of more frequent and severe droughts, women may have to travel further to collect water, which will increase the opportunity costs experienced by these stakeholders during this activity.

Currently, adaptation approaches such as EbA, are not being implemented in degraded forest and rangeland ecosystems to address the negative effects of climate change on the Nepalese population. This is because: i) local, district and central-level institutions have limited capacity to plan and implement EbA; ii) policies, strategies and legislation in Nepal do not promote EbA; iii) the availability of climate-resilient livelihood options for local communities to replace rain-fed agriculture is limited; and iv) there are few on-the-ground EbA interventions that demonstrate the effectiveness of this adaptation measure. These gaps will be addressed by the LDCF-financed project to increase the capacity of national and local government institutions in Nepal to adapt to climate change by implementing EbA in degraded forests and rangelands in mid-hill and high mountain areas. Furthermore, gender inequalities as a result of climate change impacts will be addressed by project interventions such as capacity building, training on climate resilient livelihoods and awareness raising activities.

Component 1: Local and national institutional capacity development

Without LDCF resources

The Multi-sectoral Climate Change Initiative Coordination Committee (MCCICC) – managed by MoSTE – will continue to function as a national platform for enabling regular dialogue and consultations on policies, plans, projects, activities and finance for climate change[20]. This committee will continue to focus on adaptation to climate change in the broader context and as a result there will be limited cross-sectoral dialogue on EbA, in particular at a national level. Consequently, there will continue to be limited opportunities to: i) enhance the understanding on EbA; ii) share lessons learned and preliminary results from the various ongoing EbA projects; iii) increase the technical capacity of stakeholders at a national level to plan and implement EbA; and iv) provide feedback and updated information to project managers (PMs), policy-makers and decision-makers on EbA initiatives. In addition, the sharing of knowledge on lessons learned and tools developed by ecosystem management initiatives that are being implemented in the country will remain *ad hoc*. This will continue to result in fragmented planning for climate change between relevant sectors.

At a national level, capacity building initiatives will continue to focus mainly on climate change. For example: i) the *Nepal Climate Change Support Programme* (hereafter NCCSP) is focused on strengthening the technical capacity of local institutions to establish and monitor the effects of climate change as well as assess the effectiveness of interventions; and ii) *Enhancing Capacities on Climate Change Adaptation and Disaster Risk Management for*

[20] Ministry of Science, Technology and Environment. 2012. MCCICC. Available at: http://moste.gov.np/संस्थाहरु/mccicc Accessed on 26 March 2014.

Sustainable Livelihoods in the Agricultural Sector is focused on capacity building for adaptation and disaster risk reduction at a national level. National stakeholders therefore will continue to have an understanding of the effects of climate change in Nepal. However, these stakeholders will have limited knowledge on selecting best-practice EbA for adapting to these effects. Consequently, opportunities to catalyse and upscale EbA will continue to remain limited, and the benefits of EbA will not be a priority for local communities and policy- and decision-makers in government.

Furthermore, capacity-strengthening and awareness-raising activities on EbA will continue to be localised and focused only in isolated areas of Nepal. For example the BMUB-funded project conducts training for representatives from Kaski, Parbat and Syangja Districts on appropriate EbA interventions for the Panchase Area. In particular, the representatives from the following government agencies in these districts were targeted: i) the Panchase Protected Forests; ii) the District Forest Offices (DFOs); iii) the Western Regional Forest Directorate (WRFD); and iv) the District Soil Conservation Offices (DSCO). In addition, the BMUB project has improved local awareness on EbA through radio shows that have been aired on stations for Kaski, Parbat and Syangja Districts. However, without LDCF funding, the understanding of EbA among stakeholders will continue to remain limited to only the Panchase Area.

As climate change is currently integrated into Health, Population and Environmental studies in secondary school academic curricula, it will continue to be studied under the topic of pollution and therefore will not receive adequate attention. The NCCSP are developing recommendations for academic curricula on Climate Change and Environmental Management in order to promote integration of climate change into academic curricula. . However, the focus will still remain on climate change in general and lack an EbA focus. Following the activities supported by the BMUB-funded project to raise awareness of schoolchildren in the Panchase area schoolchildren in the remainder of the country – i.e. outside the Panchase area – will continue to have limited awareness on EbA, and tools to support integration of EbA into school curricula will not be developed. At a tertiary level, research and monitoring of EbA will only be limited to the nine students funded through the BMUB-funded project. Measurements of the impacts of EbA will only be limited to the lifespan of the BMUB-funded project, while the benefits of implementing EbA to restore ecosystems in Nepal are likely to accrue 10-15 years after these restoration interventions are implemented. The full range of benefits from using EbA as an approach will not be documented over a longer period of time as there are currently no agreements or mechanisms in place to promote monitoring of EbA impacts in the long term.

Under the business as usual scenario, representatives from initiatives such as the LFP, LDSEP, MSFP, TIP, BMUB-funded project will continue to have limited understanding of EbA in Nepal. There will continue to be a lack of information on EbA to inform the design of these initiative including: i) scientific research to inform EbA; ii) evidence of the long-term benefits of EbA; and iii) information on how EbA fits into relevant government and private sector development plans. Moreover, the sharing of knowledge on lessons learned and tools developed by these projects will continue to be *ad hoc*. As a result, planning for climate change between relevant sectors will remain fragmented.

Adaptation alternative

GEF funding of US$921,106 is required to increase the capacity of government institutions and local user groups to implement EbA through enhanced institutional arrangements, intersectoral collaboration and research. Application of this approach will reduce the vulnerability of local communities to the negative effects of climate change given their strong reliance on ecosystems for their livelihoods. At a national level, dialogue on EbA will be integrated into a coordination mechanism for adaptation to climate change. This dialogue on EbA will promote synergy between ministries to plan and implement EbA. In addition, district officers from Achham, Dolakha and Salyan that will be involved in the LDCF-financed project will attend MCCICC forums to share lessons that they learn through on-the-ground EbA. These will include the DFOs, DSCOs and District Livestock Officers (DLOs) who are involved in LFP, MSFP and BCRWMER. Furthermore, at a national level, the capacity of national stakeholders in MoSTE, MoFSC and MoAD to select best-practice EbA projects for Nepal will be increased.

Within this component of the project, the public understanding and awareness on the EbA approach and its benefits will also be enhanced. To achieve this, information on this approach – including lessons learned through the LDCF-financed project – will be collated and shared with a variety of target groups. These will include *inter alia*: i) indigenous and local communities throughout Nepal; ii) national stakeholders in MoSTE MoFSC and MoAD; iii) youth enrolled in primary, secondary and tertiary education programmes; and iv) environmental journalists. At a local

level, the LDCF-financed project will promote learning on EbA and its benefits by promoting intra- and inter-community dialogue on using this approach to restore degraded forests and rangelands. This will be achieved by: i) organising open learning days at intervention sites in selected Village Development Committees (VDCs); and ii) strengthening the District Environment Energy Climate Change Coordination Committees (DEECCCCs) in Achham, Dolakha and Salyan to integrate an EbA discussion into their mandates. Increased public awareness of EbA will support the national upscaling of project activities and increase human capacity to plan and implement EbA at a national level.

Research on EbA will be undertaken to build an evidence base for this approach. In addition, frameworks will be established to measure the short-, medium- and long-term effects of EbA interventions that have been implemented by other projects – such as the BMUB-funded project – and that will be implemented by the LDCF-financed project. To enhance the awareness of the youth of Nepal on EbA, tools for integrating EbA into school curricula will be developed.

At a local level, the technical capacity of stakeholders to implement EbA in forests and rangelands will be strengthened. Such stakeholders will include relevant user groups and district officers in Achham, Dolakha and Salyan and user groups in selected VDCs who are implementing LFP, MSFP and BCRWMER. In addition, the technical capacity of the DLOs and District Agricultural Development Officers (DADOs) will be strengthened to implement and maintain techniques for topsoil and water conservation. These techniques will include: i) sustainable management of livestock in the face of climate change; and ii) maintenance of infrastructure for rainwater harvesting. All technical training will be supported by relevant guidelines that will be developed within the LDCF-financed project. This training will use, relevant tools that have been developed by the BMUB-funded project. The LDCF-financed project will complement BMUB-funded capacity-strengthening activities while avoiding duplication through the PMWG.

The total co-financing for this component is US$4,260,061.

The outcome and outputs for Component 1 are detailed below.

Outcome 1: Increased capacity of government officials and local user groups to implement EbA through enhanced institutional arrangements, intersectoral collaboration and research.

Output 1.1. Technical working group on EbA established within the MCCICC.

The activities to be implemented under Output 1.1 follow below.

1.1.1 Establish an EbA Technical Working Group (TWG) within MCCICC.

1.1.2 Coordinate visits for DFOs, DSCOs, DLOs and DADOs from Achham, Salyan and Dolakha to attend MCCICC discussions on EbA to share lessons learned from EbA that is implemented on the ground through Component 3.

Output 1.2. Training provided for national, district and local stakeholders on identifying, prioritizing, implementing, monitoring and evaluating EbA interventions.

The activities to be implemented under Output 1.2 follow below.

1.2.1. Conduct a stocktaking exercise of EbA interventions that have been implemented in South Asia, with particular reference to Nepal, and analyse the cost to benefit ratios of these interventions to identify the most cost-effective approaches.

1.2.2. Train national stakeholders in MoSTE MoFSC and MoAD on: i) cost-effective EbA for Nepal; and ii) selecting EbA using the UNEP EbA decision support framework.

1.2.3. Coordinate visits for national stakeholders to EbA intervention sites in Nepal.

1.2.4. Work with the National Agro-Ecosystems Expert (Forestry) (NAEF), National Agro-Ecosystems Expert (Rangelands) (NAER) and National Hydrology and Soil Expert (NH&SE) to develop training material and technical guidelines on: i) implementing EbA to restore degraded forests and rangelands; and ii) managing livestock and maintaining infrastructure to conserve topsoils and water.

1.2.5. Train district officers and user groups – including Community Forestry User Groups (CFUGs) and Women's' User Groups (WUGs) – and at intervention sites on: i) implementing EbA to restore degraded forests and rangelands; and ii) managing livestock and maintaining infrastructure to conserve topsoils and water.

Output 1.3. National campaigns implemented and district level collaboration facilitated on EbA approaches and benefits, including lessons learned in Component 3.

The activities to be implemented under Output 1.3 follow below.

1.3.1 Produce radio shows and magazine articles to enhance national awareness on the benefits of EbA in forests and rangelands.
1.3.2 Air radio shows on national stations and publish articles in "face-to-face" magazine to enhance awareness on the benefits of EbA in forests and rangelands.
1.3.3 Facilitate intra- and inter- community dialogue on EbA in forests and rangelands by: i) coordinating open learning days for indigenous and local communities in selected VDCs; and ii) integrating an EbA discussion in the District Environment Energy Climate Change Coordination Committee in Achham, Dolakha and Salyan[21].
1.3.4 Coordinate visits for the director generals of DoF, DoLS, DoSCWM and Department of Agriculture (DoA), school environmental clubs and environmental journalists to a selected VDC in Achham, Dolakha or Salyan.
1.3.5 Collate information on lessons learned during the implementation of the LDCF-financed project to disseminate to: i) other UNEP implemented projects that include EbA through PMWG meetings; and ii) the public through radio shows or magazine articles.

Output 1.4. Primary, secondary and tertiary educational programmes developed on EbA best practices.

The activities to be implemented under Output 1.4 follow below.

1.4.1 Assess primary and secondary school curricula to identify entry points for learning on EbA[22].
1.4.2 Design educational toolkits for primary and secondary schools on EbA for adaptation to climate change. These toolkits must include: i) lesson plans to enhance understanding of the role of EbA in climate change adaptation; and ii) guidelines for small-scale EbA projects that can be implemented on school premises to strengthen the technical capacity of the Nepalese youth to plan and implement EbA.
1.4.3 Present the educational toolkits on EbA to the Ministry of Education (MoE) at a workshop.
1.4.4 Work with representatives from the BMUB-funded projects and academics from MoFSC, Tribhuvan University (TU), the Agriculture and Forestry University (AFU), the Nepal Academy of Science and Technology (NAST) and the Department of Forest Resources and Survey (DoFRS) to define research topics to measure the short-, medium- and long-term impacts of EbA in Nepal.
1.4.5 Develop a Memorandum of Agreement (MoA) between NAST and the DoFRS to conduct medium- and long-term research. Set up systems in these institutions to collect, process and analyse long-term data for this research.
1.4.6 Establish monitoring points in selected VDCs to collect data to measure the long-term impacts of EbA in Nepal.
1.4.7 Select and fund 15 BSc, 10 MSc and 3 PhD research studies through TU or AFU on the impacts EbA that is implemented through Component 3. Students conducting this research should be selected from a variety of disciplines including: i) botany; ii) climatology; iii) environmental science; iv) forestry; and v) livestock research.
1.4.8 Disseminate information on the findings of the research studies through national and regional meetings that are coordinated by the MoFSC, MoSTE and MoAD.

[22] This work will build on to that done by NCCSP: "Mainstreaming climate change risk management in development." One of the activities being conducted under this component is the development of recommendations for Academic Curricula on Climate Change and Environmental Management. Moreover, it will build on the stocktaking exercise that is scheduled to take place for the NAP process.

Component 2: Policy and strategy strengthening

Without LDCF resources

The policy environment in Nepal will not adequately promote EbA in forests and rangelands, and stakeholders at a national and local level will be unaware of the tasks that need to be conducted and coordinated to upscale EbA. Government initiatives to restore and manage forest and rangeland ecosystems will continue to occur in isolation from different sectors as there are few policies and strategies in Nepal that provide an enabling environment for large-scale EbA that are informed by expert scientific research and traditional knowledge.

Whilst the fourth component of the BMUB-funded project aims to review policies and strategies to identify entry points for EbA in Nepal, and develop training material for national stakeholders on systematically integrating EbA into relevant policies and strategies. EbA will continue to not be explicitly integrated into policies, strategies and plans of national related, climate-vulnerable sectors. In addition, representatives from relevant government ministries – including the MoFSC, MoSTE and MoAD – will continue to lack a framework for implementing EbA across the country.

Lastly, there will continue to be a lack of budget allocated to EbA in particular in climate-vulnerable sectors. Whereas, adaption to climate change is included in Nepal's national budget, in 2013/2014, this made up ~10% of the country's budget of US $5.3 billion[23], opportunities for accessing funds for EbA from these sources and from a number of other sources – including the private sector – will not been identified. There will consequently continue to be limited financial provisions to implement EbA across the country.

Adaptation alternative

Additional funding (US$176,068) is required to provide recommended revisions to sectoral and cross-sectoral policies and strategies within Nepal to promote EbA in forests and rangelands, thereby increasing the climate resilience of climate-vulnerable sectors and promoting sustainable development. To do this, sectoral, sub-sectoral and cross-sectoral policies documents that are relevant to ecosystem management will be collated and reviewed. Based on the review, revisions to policies and strategies will be recommended to promote EbA in Nepal. Relevant, climate-vulnerable sectors include those for agriculture, forestry and water[24]. The budgets for these sectors will also be reviewed, and revisions to these budgets recommended. Importantly, the LDCF-financed project will work closely with the BMUB-funded project, expanding on work that has already been done, or operationalising recommendations made by this existing initiative. Within Component 4 of the BMUB-funded project, tools for systematic integration of EbA into relevant policies, strategies and plans will be developed. These tools will consequently inform the review that will be undertaken within Component 2 of the LDCF-financed project. To promote endorsement of these recommendations by policy- and decision-makers, LDCF finances will be used to develop policy briefs and provide training for these national stakeholders.

All suggested revisions will be aligned with the gender mainstreaming approach to be adopted by the LDCF-financed project. The implications of recommendations and plans for women and men will consequently be assessed, and gender-balanced EbA will be promoted. Revisions to the forestry, agriculture and water sectoral budgets will also be recommended to promote upscaling of the approach. Thereafter, policy briefs on these recommended revisions will be developed and presented to policy- and decision-makers during training sessions. During these workshops, the policy briefs on recommended revisions will be disseminated.

[23]NPC. 2013. Climate Change Budget Code, Application Review. Kathmandu, Nepal. Available at: http://www.unpei.org/sites/default/files/e_library_documents/Nepal_Climate_Change_Budget_Code_Application_Review_2013.pdf Accessed on 26 March 2014.

[24] Relevant policies and strategies to be reviewed include *inter alia:* the Nepal Environment Policy Action Plan (1993); Nepal Biodiversity Strategy (2002) and the Nepal Biodiversity Strategy Implementation Plan; The Master Plan for the Forestry Sector (1989); Agricultural Perspective Plan (1995); National Agricultural Policy (2004); Water Resource Strategy (2002); National Water Plan (2005); Water Induced Disaster Management Policy (2006); Climate Change Policy (2011).

Upscaling of EbA in Nepal will be promoted by using LDCF finances to design a national strategy and financing plan for this approach. Importantly, the strategy will be informed by research conducted under Outcome 1 and lessons learned within Outcome 3 of the LDCF-financed project. To support this strategy, LDCF resources will be used to conduct workshops and meetings with MoF and the NPC to develop a financing plan for EbA across the country.

The total co-financing for this component is $1,674,199.

The outcome and outputs for Component 2 are detailed below.

Outcome 2: National Policies and strategies strengthened to promote EbA implementation

Output 2.1. Policy briefs developed and training provided on recommended revisions to policies, strategies and relevant sectoral budgets – including for the forestry, agriculture and water sector – to promote EbA in forests and rangelands.

The activities to be implemented under Output 2.1 follow below.

2.1.1 Review existing: i) policies and strategies related to general ecosystem management, national development and adaptation to climate change to identify entry points for EbA; and ii) policies, strategies and sectoral budgets for forestry, agriculture and water. Based on this review, recommend revisions that will promote EbA in forests and rangelands.

2.1.2 Develop policy briefs on the revisions that are recommended in Activity 2.1.1.

2.1.3 Present the recommended revisions to policies and strategies that will promote EbA to policy- and decision-makers in MoFSC, MoSTE and MoAD at a workshop. Disseminate the policy briefs developed in Activity 2.1.2 at these training sessions.

Output 2.2. Frameworks that support upscaling of EbA in forests and rangelands developed and presented to relevant national institutions.

The activities to be implemented under Output 2.1 follow below.

2.2.1 Use information from Outcomes 1 and 3 to develop an upscaling strategy for EbA in forests and rangelands.

2.2.2 Work with the NPC and MoF to develop a financing plan for EbA in Nepal. This financing plan should include: i) recommendations on the portion of the national climate change allocation that should be dedicated to EbA; ii) proposals for accessing international adaptation funds for EbA including through direct access; and iii) training needs to develop the proposal-writing skills of national stakeholders in MoE, MoFSC and MoAD.

2.2.3 Present the upscaling strategy and financing plan to policy- and decision-makers in MoFSC, MoSTE and MoAD and MoF at a workshop.

Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital

Without LDCF resources

Initiatives that promote improved productivity of forests and rangelands in Nepal – and sustainable management of these ecosystems – will continue to be undermined by the negative effects of climate change. In particular, increasing temperatures in the mid-hills and high mountains of Nepal, and decreasing rainfall in the mid-hills during the dry months will reduce forest productivity. This reduced productivity will compromise the livelihoods of local communities. In rangelands, increasing temperatures and decreasing rainfall during drier months will continue to diminish rangeland productivity. In particular, livestock production will continue to reduce because of: i) increasing incidence of livestock parasites; ii) shifting geographic distributions of pest and fodder species; and iii) decreasing

availability of water[25] for livestock and fodder production. Ecosystem management initiatives – including the LFP, TIP and LDSEP – will continue to be undermined under the current and predicted effects of climate change.

Restoration of forests and rangelands on which local communities in Achham, Dolakha and Salyan strongly rely will continue to take place without taking climate change into consideration. In particular, protocols for restoration of forests will continue to be developed without taking into account historical climate data and climate trajectories for the specific project areas. Under this scenario, climate-resilient species – e.g. species that can withstand increasing temperatures and more severe droughts – will not be prioritised for EbA interventions. Adaptation benefits of these ecosystems for local communities will consequently not be maximised.

In addition, with only two relatively small scale EbA projects underway in the Western Development region of Nepal-the BMUB-funded project; and ii) the GEF/SCCF-funded project, the benefits of EbA will continue to be localised and comprehensive national frameworks to monitor the impacts of EbA over the long-term will not be established. Under the business-as-usual scenario, local communities living in Achham, Dolakha and Salyan Districts will not have the opportunity to learn from and experience the benefits of EbA in coping and with disasters such as the April and May 2015 earthquakes.

Furthermore, local communities in the mid-hill and high mountain areas will continue to experience climate-related changes in the distribution of plant and pest species that effect livestock productivity and livelihoods. For example, landowners at higher altitudes are currently noticing a reduction in the availability of fodder for their livestock. In addition, diseases – such as leptospirosis and blue tongue that negatively affect buffalo and cattle – are observed in areas outside of their historical geographic range. These climate-related effects are predicted to worsen in the future. Without LDCF resources, community-based plans for livestock management will continue to be uninformed by expert research on climate change and scientific findings for particular ecosystems. Consequently, suitable adaptation measures – such as altered stocking rates for more severe droughts, and provision of additional shade and water for increasing temperatures – will not be integrated into these plans.

Adaptation alternative

Additional funding (US$4,149,301) is required to implement EbA in three different regions – Achham in the Far-Western Region, Salyan in the Mid-Western Region and Dolakha in the Central Region – to restore a variety of degraded forests and rangelands[26]. To guide restoration at the project intervention sites, EbA protocols will be developed using scientific information on climate trajectories and local knowledge. To develop protocols for particular EbA interventions in forest and rangeland ecosystems, LDCF finances will be used to conduct relevant assessments that include scientific and indigenous knowledge. The LDCF-financed project will build on the findings of similar initiatives, but will progress the EbA science in Nepal by designing protocols that are particular for a range ecosystems in which EbA has not yet been implemented Moreover, these protocols will be informed by scientific assessments on the current *and predicted* effects of climate change. These EbA protocols will be integrated into planning for the LFP, LDSEP and MSFP, thereby climate proofing the investments made by these initiatives in the long term.

In selected VDCs in Achham, Dolakha and Salyan[27], degraded forest and rangelands areas will be restored using tailored EbA protocols. To do this, predominantly indigenous tree species for EbA in forests will be selected that: i) grow quickly under conditions of drought; ii) are broad-leaved, thereby reducing rainfall impact on the soil; iii) have deep root systems, thereby increasing water infiltration into the soil; and iv) produce natural resources that provide benefits for indigenous and local communities including fodder, NTFPs and medicinal products. For EbA in rangelands, indigenous grass species that grow quickly despite conditions of drought and/or can withstand warming temperatures will be selected. In addition, an agrosivopastoral approach to rangeland restoration will be adopted. Therefore, fast-growing and useful tree species will be planted intermittently in restored rangelands. Saplings that will be used for EbA will be propagated in nurseries that will be established though the LDCF-financed project. After

[25] This includes the reduced availability of soil moisture, ground water, stream flow and water levels in ponds, reservoirs and lakes.
[26] Interventions will be implemented in the following VDCs: i) Achham - Babla, Bhata Katiya, Rama Roshan, Rishi Daha, and Sodasha; ii) Dolakha - Khare, Lakuri Danda and Lapilang; and iii) Salyan – Devasthal, Ghanjihari Pipal, Sui Kot and Mul Khola.
[27] IBID.

termination of the project, indigenous and local communities will continue to use these nurseries to propagate: i) tree species for EbA in forests and rangelands; ii) crop species; and iii) fodder species. EbA will be implemented in at least 1000 ha of forests and 450 ha of rangelands, and this approach will be integrated into the operational management plans of local user groups.

To further increase the adaptive capacity of local communities at project intervention sites to the climate-related effects of decreased rainfall, LDCF finances will be used to implement techniques for topsoil and water conservation. These techniques will include: i) construction and maintenance of improved terraces, filtering dams, water conservation ponds and community rainwater harvesting devices; and ii) improved livestock management to conserve topsoils and water. Importantly, construction of this infrastructure will be informed by the findings of the BMUB-funded project, which has implemented similar activities in a different region (i.e. Panchase).

To increase the adaptive capacity of the indigenous and local communities in selected VDCs further, Community Livelihood Improvement Plans (CLIPs)[28] will be developed – detailing equipment, technology and training needs – for livelihoods from forest, rangeland and agro-ecosystems. Importantly, there will be a strong focus on developing the CLIPs with women-headed households. Moreover, the potential for private sector involvement will be assessed, and included if relevant. Thereafter, these CLIPs will be implemented – i.e. the equipment and technology will be transferred to local communities and training will be provided – to develop livelihoods from forests, rangelands and agro-ecosystems. By developing such alternatives, conservation of restored forest and rangeland ecosystems will be promoted. Income Generating Activities (IGAs) from forest, rangeland and agro-ecosystems for selected VDCs in Achham, Dolakha and Salyan will include: i) fodder sapling harvesting and distribution; ii) Timur collection and processing[29]; iii) Allo collection and processing[30]; iv) cardamom collection and processing[31]; v) bee-keeping and honey processing; vi) miscellaneous Non-Timber Forest Products (NTFPs) harvesting and processing; vii) eco-homestays and viii) ghee production. IGAs from agro-ecosystems include mushroom, turmeric and ginger cultivation and processing. Research will be undertaken near the beginning of the LDCF-financed project on methods to increase the climate resilience of these IGAs. Moreover, opportunities to strengthen or establish links between the targeted communities and nearby markets will be explored. For example, a hotel may be interested in sourcing mushrooms or honey that will be produced by local communities at intervention sites.

To promote sustainability of LDCF interventions, the EbA protocols that will be developed within Component 3 will be integrated into operational management plans of user groups that manage ecosystems in the area. This will promote sustainability of initiatives for ecosystem management such as the BCRWMER, LFP, LDSEP and MSFP.

The total co-financing for this component is $5,104,740.

The outcome and outputs for Component 3 are detailed below.

Outcome 3: EbA implemented and monitored by user groups to restore forests and rangelands in the mid-hills of Achham and Salyan and high mountains of Dolakha to decrease sensitivity of local communities to climate change.

Output 3.1. Social, economic and biodiversity site-specific information produced to support identification, prioritization, implementation, monitoring and evaluation of EbA in forests and rangelands.

[28] CLIPS and Household-level Livelihood Improvement Plans (HLIPs) are participatory processes that are conducted with indigenous and local communities to understand and improve livelihoods. The LIP concept considers livelihoods to comprise of five assets namely social, human, physical, natural and financial. Each community or household assesses the present status as desired future status of each asset type. Their ability to adapt to and manage natural hazards is also considered. Generally, a local resource person assists the community or household in this process.

[29] The fruit of timur (*Zanthoxylum amatum DC.*) is used in the form of condiments, spices and medicine. In addition, the fruit, sticks and young shoots are used to treat a variety of ailments including common cold, cough and fever. In addition, some indigenous and local communities in Nepal value the tree for religious purposes.

[30] The fiber obtained from allo (*Girardinia diversifolia*), also known as the Himalayan Nettle, is used for woven products including tablecloths, porter straps, bags and sacks. These products are marketed in Kathmandu and are exported to foreign countries including *inter alia*: USA and Japan.

[31] Cardamom (*Amomum subulatum*) spice is used in a variety of products including coffee, curries, pickles and essential oils. In Nepal, black cardamom seeds are chewed to freshen the breath and palate.

The activities to be implemented under Output 3.1 follow below.

3.1.1 Conduct socio-economic assessments with a focus on gender and social inclusion in selected VDCs to inform on-the-ground interventions.
3.1.2 Conduct Gender and Governance Assessments: i) at each intervention site to inform on-the-ground training and interventions; and ii) within MoSTE, MoFSC and MoAD to inform national training and policy review activities.
3.1.3 Conduct biodiversity assessments in selected VDCs to: i) enhance the database on biodiversity in Nepal; and ii) inform on-the-ground interventions that will be implemented within Component 3.
3.1.4 Support the LAPA process in selected VDCs by making available all technical information to the NCCSP.

Output 3.2. EbA demonstrations implemented to increase water infiltration and fodder production during drought conditions and intense rainfall events, and integrated into operational management plans of user groups.

The activities to be implemented under Output 3.2 follow below.

3.2.1 Collate and assess information to identify plant and grass species for EbA interventions in forests and rangelands including: i) preferences of indigenous and local communities at the LDCF-financed project's intervention sites; ii) the socio-economic and biodiversity assessments; and iii) predicted climate trends. Species that are climate-resilient and/or useful to indigenous and local communities will be prioritised.
3.2.2 Workshop with DSCOs, DFOs and DLOs from Dolakha, Achham and Salyan to design protocols for implementing EbA in forests and rangelands that are in line with local government norms.
3.2.3. Establish nurseries and nursery management plans within local communities in selected VDCs.
3.2.4 Restore degraded forests (at least 1000 ha) using the plant species identified in Activity 3.2.1 and the protocols designed in Activity 3.2.1.
3.2.5. Restore degraded rangelands (at least 450 ha) using the grass and plant species identified in Activity 3.2.1 and the protocols designed in Activity 3.2.2.
3.2.6. Update operational management plans of 100 user groups at intervention sites to include protocols for EbA in forests and rangelands.

Output 3.3. Adaptation techniques introduced to complement EbA through conservation of topsoils and water in the face of droughts and increased rainfall intensity.

The activities to be implemented under Output 3.3 follow below.

3.3.1 Assess pastoral activities in selected VDCs and climate trajectories to develop technical guidelines on managing livestock in the face of climate change (to be distributed at training under Output 1.2).
3.3.2 Conduct a hydrology and soil assessment in selected VDCs to inform the design – including size and particular location within each VDC – of improved terraces, filtering dams, water conservation ponds and community rainwater harvesting devices.
3.3.3 Construct at least 720 ha improved terraces, 36 filtering dams, 36 water conservation ponds and 24 community rainwater harvesting devices in selected VDCs.
3.3.4 Develop technical guidelines on maintaining terraces, filtering dams, water conservation ponds and community rainwater harvesting devices (to be distributed at training under Output 1.2).

Output 3.4. Community Livelihood Improvement Plans (CLIPs) produced from forests, rangelands and agro-ecosystems and implemented with local communities.

The activities to be implemented under Output 3.4 follow below.

3.4.1 Develop CLIPs with user groups for IGAs from forests, rangelands and agro-ecosystems in selected VDCs in Achham, Dolakha and Salyan. These IGAs will include: i) fodder sapling harvesting and distribution; ii) Timur collection and processing; iii) Allo collection and processing; iv) cardamom collection and processing; v) bee-keeping and honey processing; vi) miscellaneous NTFPs harvesting and processing;

vii) eco-homestays and viii) ghee production. IGAs from agro-ecosystems include mushroom, turmeric and ginger cultivation and processing.

3.4.2 Implement CLIPs to develop alternative livelihoods in selected VDCs in Achham, Dolakha and Salyan.

3.4.3 Strengthen or establish links between indigenous and local communities in selected VDCs and markets for IGAs.

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:

A summary of risks identified and their associated impacts and countermeasures can be found in the table below. A score has been given for the probability of the risk happening (P), and the impact this risk would have on the LDCF-financed project (I). Probability and Impact for these risks are scored between 1 and 5, with 1 being the lowest score and 5 being the highest. Appropriate countermeasures and management responses to minimize the negative effect posed by the potential risk will be implemented. Monitoring, re-assessing and updating these project risks will be done throughout project implementation. The risk table will be updated to include any further risks caused by the April 2015 earthquakes.

Table 1. Risks to the LDCF-financed project, and mitigation measures.

#	Description	Potential consequence	Countermeasures	Risk category	Probability & impact (1–5)
National-level risks					
1	Disagreement between stakeholders on the allocation of roles in the project.	Project inventions delayed or duplicated because of uncertain role allocation. Effectiveness of project management is reduced.	• Institutional representatives at the validation meeting will agree upon the roles and responsibilities of each participating stakeholder.	Organisational	P = 2 I = 4
2	Limited capacity of institutions to undertake scientifically rigorous research.	Effectiveness of project management is reduced.	• Institutional representatives at the validation meeting will agree upon the roles and responsibilities of each participating government institution. • The Technical Advisor (TA) will provide substantial support to the Project Manager (PM). This will include two to three field visits per year by TA to ensure that the project workplan is applied.	Institutional	P = 2 I = 3
3	Lack of inter-institutional data sharing or collaboration.	Limited transfer of relevant project information amongst role players and end-users resulting in delayed or ineffective	• Information technologies and telecommunication systems implemented or used throughout	Organisational	P = 4 I = 4

		implementation of interventions.	the LDCF-financed project are best suited to the local context and do not restrict the transfer and communication of information.		
4	Lack of political will to implement project activities.	Loss of government support may result in lack of prioritisation of LDCF-financed project activities.	• Ensure that government maintains its commitment and considers the LDCF-financed project as a support to its forestry and agriculture programmes by undertaking regular stakeholder consultations.	Organisational	P = 1 I = 4
5	High turnover of staff members in implementing agencies	Changes in project-related government priorities and poor institutional memory result in disruptions or delays in project implementation and coordination.	• Deputies and alternative representatives within the institutions will be recommended at inception to ensure that sufficient membership continuity is available. • The Project Steering Committee (PSC) will make use of established government structures to capitalise on functioning systems. • Where possible, handbooks will be developed in English and Nepalese. These handbooks will guide new staff that become involved in the LDCF-financed project	Organisational	P = 4 I = 4
• Local level risks					
6	Limited acceptance of EbA by local communities.	Communities may not adopt ecosystem restoration for adaptation activities	• The LDCF-financed project will be institutionalised	Social	P = 1 I = 4

		during or after the LDCF-financed project resulting in continued unsustainable use of resources.	within MoSTE MoFSC and MOAD to ensure sustainability into the future. • Alternative livelihood projects – that have been deemed financially, technically and socially viable or feasible – will be implemented within the LDCF-financed project to reduce reliance on intensive land uses such as agriculture and grazing. • Capacity building and training of local communities to understand the benefits of ecosystem restoration for adaptation in activities they are undertaking.		
7	Disagreement over allocation of land for implementation of project activities.	Disagreement among stakeholders about site selection.	• VDCs have been selected in line with the norms of other projects and the government. • District officers have been included in the VDC selection process.	Social	P = 1 I = 3
8	Extreme climatic events and climate variability[32].	Current climate and seasonal variability and/or hazard events result in poor restoration results.	• Ensure that current climatic variability is taken into account in restoration processes. • Focus on resilient species and promote techniques to assist plant growth particularly in the seedling and sapling stages.	Environmental	P = 2 I = 4
9	Limited local technical capacity hinders project interventions.	Capacity constraints of local institutions and experts may limit the	• Identify and develop human resources capacity	Technical	P = 3 I = 3

[32] In the most extreme cases – such as the earthquake that occurred on 25 April 2015 – mitigation measures cannot be implemented to reduce the impacts of events.

		ability to undertake the research and demonstration activities.	as required (training on EbA and techniques to conserve topsoil and water for district officers and user groups). • Initiate collaboration and exchange between local institutions and international research institutes. • A TA and a Nepalese technical expert will work closely with the proposed PM to ensure timely delivery of project outputs.		
10	Limited commitment/buy-in from local communities.	Lack of commitment/buy-in from local communities may result in failure of demonstration projects.	• A stakeholder engagement plan has been drawn up during the PPG phase. This plan will be validated at project inception. • Community stakeholders from the PPG phase will be engaged with to ensure their buy-in into the LDCF-financed project. • Actively engage local communities during implementation	Social, Environmental	P = 2 I = 4
11	Unsustainable land and natural resource use.	Unsustainable use of natural resources continues, leading to further degradation of ecosystems.	• Local dialogue on the benefits of EbA will be promoted by integrating a discussion in the DEECCCC. In addition, awareness raising events – including open days and campaigns – will be conducted.	Environmental	P = 3 I = 4
12	Limited understanding of the difference between "business-as-usual" reforestation/restoration of rangelands and EbA by local communities.	Failure to integrate EbA effectively into policies, strategies and interventions.	• Awareness-raising campaigns will be conducted to define EbA and describe its benefits. These campaigns will highlight the	Technical	P = 4 I = 4

			importance of appropriately designed EbA, using traditional knowledge and climate data.		
13	Insufficient surface water and groundwater availability at intervention sites.	Failure to effectively carry out reforestation interventions.	• Infrastructure for water conservation will be constructed at intervention sites, thereby contributing to water security.	Environmental	P = 3 I = 4

A.7 Coordination with other relevant GEF financed initiatives

There are several projects underway in Nepal that present opportunities for synergies and knowledge exchange with the LDCF-financed project. A brief description of how the LDCF-financed project will work with these partner projects is provided below. For more information, please refer to Section 2.7 of the project document.

- The *Ecosystem-based Adaptation in Mountain Ecosystems* project is implemented by UNEP, UNDP and IUCN. It is funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany (BMU). MoSTE and MoFSC are executing the project. The total allocated resources for this project in Nepal – from 2012-2015 – have been US $3,372,637 (of which US$1,500,000 is considered parallel co-financing for the LDCF-financed project over four years). The objective of the BMUB-funded project is to strengthen the capacities of Nepal, Peru and Uganda to promote EbA options in their adaptation strategies. In Nepal, this objective will be achieved through four major outcomes: i) the development of methodologies and tools for mountain ecosystems; ii) the application of these tools and methodologies at a national level; iii) the implementation of EbA pilots at the ecosystem level; and iv) the formulation of relevant national policies and development of an economic case for EbA at a national level. Within Component 1, a set of tools and methodologies for best-practice EbA are being developed. These tools and methodologies have been used to develop an EbA plan within Component 2. Importantly, detailed field assessments have been undertaken to inform these plans. Within Component 3, these plans have been implemented by the DoF to pilot EbA tools and methodologies on-the-ground in Kaski, Parbat and Syangja Districts in the Panchase Area. To promote EbA mainstreaming, Component 4 includes activities to: i) build a business case for this approach; ii) strengthen the capacity of the government and local stakeholders in Kaski, Parbat and Syangja Districts to plan and implement EbA; iii) support the process to integrate EbA into sectoral policies, strategies and plans; and iv) disseminate lessons learned on EbA. The LDCF-financed project will collaborate with the BMUB-funded project, building on the research and EbA knowledge that has been produced already. The project will also conduct a stocktaking of the EbA that has been implemented by the BMUB-funded project and use those that are applicable in the LDCF project. District officers and user groups in Achham, Dolakha and Salyan will be trained by the LDCF-financed project on the technical aspects of EbA in forests and rangelands using training material that has been developed by the BMUB-funded project. The BMUB-funded project has implemented EbA in different regions from the LDCF-financed project, and lessons learned will feed into EbA implementation to be undertaken by the LDCF project. The LDCF-financed project will work closely with representatives from the BMUB-funded project to undertake reviews of relevant policies and strategies and recommend revisions to these documents to promote EbA upscaling (Component 2). The fourth component of the BMUB-funded project is closely aligned with the second component of the LDCF-financed project. These two projects will therefore work closely to ensure complementarity of activities and to avoid duplication. In addition, the projects will share information on EbA tools and lessons learned through implementing EbA on the ground.
- The *Community-based Adaptation Planning Programme* (CAPP) focuses on strengthening the capacity of Nepal to: i) manage its environment; and ii) adapt to climate change. In particular, representatives from this programme will be consulted when climate change projections are assessed.
- *Enhancing capacity, knowledge and technology support to build climate resilience of vulnerable developing countries* is piloting EbA interventions in Lamjung District. The LDCF-financed project will collate information on EbA interventions that have been implemented by the SCCF-funded project for a stocktaking exercise of best practice EbA in South Asia, with particular reference to Nepal. In addition, information on lessons learned through

implementation of the SCCF-funded project will be collated and disseminated to the project team and local communities through awareness campaigns. To promote complementarity and avoid duplication, the LDCF-financed project will develop synergies with the SCCF-funded project to measure long-term impacts of EbA that will be implemented by both projects. These synergies will be supported through the PMWG.

- The *Hariyo Ban Nepal* recognises the importance of an ecosystem-based approach for adaptation to climate change. Currently, combinations of EbA and Community-Based Approaches are being piloted in Nepal by the Hariyo Ban Programme. The LDCF-financed project will consequently consult this programme during the stocktaking exercise to identify the most cost-effective EbA interventions for Nepal.
- The *Nepal Climate Change Support Programme* (NCCSP) is establishing District Environment Energy Climate Change Coordination Committees (DEECCCCs) to promote local dialogue on topics related climate change. In addition, the programme is developing LAPAs for a number of VDCs across 14 districts in Nepal, including Achham. The LDCF-financed project will support – and be implemented within the norms of – the NCCSP. In addition, to promote local dialogue, the LDCF-financed project will establish these committees in these two districts. Moreover, the LDCF-financed project will make available all technical information to the NCCSP to be integrated into LAPAs.
- The *Strategic Programme for Climate Resilience* (SPCR) is integrating climate resilience into development planning. The LDCF-financed project will work with the SPCR to implement activities in Achham. In particular, a project within this programme is a baseline for the LDCF-financed project.
- The *Regional Climate Change Adaptation Knowledge Platform for Asia* (APAN) provides a platform for the LDCF-financed project to share information on EbA.
- *Enhancing Capacities on Climate Change Adaptation and Disaster Risk Management for Sustainable Livelihoods in the Agricultural Sector* focuses on district- and community-level activities as well as establishing capacity building at a national level. The LDCF-financed project will collaborate with this programme – where possible – to collate information on community-level activities and interventions.
- *Feed the Future* (FTF) has objectives to improve: i) inclusive growth in the agricultural sector; and ii) nutritional status of local communities, particularly of women and children. The LDCF-financed project will build on the knowledge gathered and generated by FTF to refine interventions for agro-EbA and appropriate livestock management in the face of climate change in Achham, Dolakha and Salyan. To this end, methods for managing livestock in the face of climate change will be informed by the findings of the research that is conducted within this initiative. Within the FTF framework, an Innovation Lab for Collaborative Research: Adapting Livestock Systems to Climate Change (USAID) has been established. Colorado State University was awarded the research support in 2010. Since then, a number of research initiatives and activities have been conducted in Nepal. The proposed LDCF-financed project will collaborate closely with this research institute, building on the research findings for livestock management in the face of climate change.
- The *Community Forestry Programme* (CFP) has been running since 1981 under Nepal's forestry department, in cooperation with GON, UNDP and FAO. The LDCF-financed project will train user groups in selected VDCs to implement project activities. The project will prioritise user groups that have been established for leasehold forestry, livestock support or agricultural development. Most importantly, Women's User groups (WUGs) will be included in all training. However, CFUGs are the most well established user groups throughout Nepal and – if there are few user group options in some particular VDCs – could play a role in planting and/or monitoring EbA interventions that are implemented by the LDCF-financed project to restore forests.
- The *Non Timber Forest Products (NTFPs) Conservation Project* (Far West Nepal) promotes the sustainable use of medicinal plants and other NTFPs. The LDCF-financed project will consult the NTFP Conservation Project to collate and assess lessons that have been learned by the project while establishing nurseries.
- The *Community-Based Flood and Glacial Lake Outburst Risk Reductio*n project focuses on GLOF risk reduction and flood risk management at a local community level. The LDCF-financed project will build on these outcomes to explore the opportunities of incorporating EbA into Disaster Risk Management (DRM) and GLOF risk reduction interventions that affect forest and rangeland ecosystems.
- The *Nepal Risk Reduction Consortium* (NRRC) is based on the Hyogo Framework and Nepal's National Strategy for DRM. Five flagship priorities have been identified for sustainable disaster management. The LDCF-financed project will build on assessments that have been conducted by the consortium including those for policy and institutional strengthening.

- *Practical Action Nepal* Office has three main objectives[33] namely: i) to reduce vulnerability of local communities with regards to food security, risks from disaster and climate change; ii) to promote access to markets for smallholder farmers; and ii) to promote infrastructure for impoverished local communities. Accordingly, the LDCF-financed project will consult with representatives from this office to develop alternative livelihoods and strengthen market links.
- The *Koshi River Basin Management* project uses an integrated approach to water resource and river basin management. Information collated by the Koshi River Basin Management Project on this type of management will be sourced and used when the LDCF-financed project implements techniques for topsoil and water conservation.
- The *Western Uplands Poverty Alleviation Project* (WUPAP) promotes the increased resilience of livelihoods, and basic human dignity of poor and socially disadvantaged groups[34]in the Western Uplands region[35]. The LDCF-financed project will support WUPAP's objectives, which include the development of alternative livelihoods based on the benefits of functional forests and rangelands. In addition, the project will collaborate and build on lessons learned with regard to empowering women and marginalised communities.
- The aim of the *Kailash Sacred Landscape Conservation and Development Initiative* (KSLCDI) is to achieve long-term conservation of ecosystems, habitats, and biodiversity while encouraging sustainable development, enhancing the resilience of communities in the landscape, and safeguarding the cultural linkages between local populations. The LDCF-financed project will build on the lessons learned from ICIMOD for sharing benefits of ecosystems within local communities, particularly for livelihoods development within Component 3.
- *Inclusive Development of the Economy* (INCLUDE) is a joint Nepali and German programme, which targets the poor and very poor in five districts. The objectives of this programme are to build entrepreneurship, develop value chains and support public private dialogue. The LDCF project will build on the lessons learned from this project through training entrepreneurship, developing value chains and supporting public-private dialogue in Banke, Dang, Kailali, Pyuthan and Surkhet Districts. These lessons learned will inform the development of CLIPs under Component 3.
- The project will share lessons learned on inter alia integrating EbA into policy as well as implementation with the GEF LDCF funded project in Rwanda entitled *Building resilience of communities living in degraded forests, savannas and wetlands of Rwanda through an ecosystem management approach (2015 – 2019).*

At project inception, the list of ongoing/relevant projects will be updated to include new and relevant initiatives. In particular, the list will be updated to include projects and initiatives that are focussed on disaster relief for communities living in Dolakha District that were affected by the earthquakes that were experienced on 25 April and 12 May 2015.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

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

The implementation strategy for the LDCF-financed project includes extensive stakeholder participation. A description of the expected involvement of stakeholders in the implementation of the project is provided below. For more information on this section, please refer to Section 5 of the project document. The role of stakeholders in site selection is detailed in Appendix 8. A stakeholder engagement plan to be used during the implementation phase will be developed during the project inception workshop.

The mechanisms for stakeholders consultations will include: i) initial meetings with local government (i.e. VDC- and district-level government and line ministries) and national government ministries (i.e. MoSTE MoFSC, and MoAD) during the project inception workshop; ii) consultation meetings with the coordinators of the baseline projects (BCRWMER, LFP, LDSEP, MSFP and TIP) and co-financing institutions; iii) consultation meetings with aligned projects; iv) consultation meetings with local NGOs and user groups and community leaders; and v) consultation meetings in local communities with the beneficiaries of the LDCF project. Furthermore, indigenous and local

[33] Further details of these objectives are discussed in: The Practical Action Nepal Office Annual report 2011/2012. Available at http://practicalaction.org/media/view/29459 Accessed on 15 September 2013.
[34] The target group includes small and marginal farmers, and the landless in the project area particularly women, youth, children, and socially and economically disadvantaged groups.
[35]The project intends to cover 11 districts.

communities will be involved in the implementation of the project activities and in decision-making processes for project interventions. For example, the preferences of local communities with inform the selection of species for all restoration interventions using EbA. Community members will also receive training – through a learning-by-doing approach – on: i) EbA in forests and rangelands; ii) techniques that promote topsoil and water conservation; and iii) developing livelihoods from forest, rangeland and agro-ecosystems. Additionally, user group committee leaders from the intervention sites will be invited to participate in PSC meetings.

During project implementation, stakeholder consultations will be divided into three phases. Firstly, the 'mobilisation phase' will take place during the first year of the project. This phase includes the following: i) developing time specific details of the activities and local management structures for implementation; ii) forging partnerships for action; and iii) developing and agreeing to the extent of stakeholder engagement in each activity. Secondly, the 'consultative implementation' phase will run during the main implementation phase of the LDCF-financed project. This phase involves applying the stakeholder involvement plan to each of the activities defined during the first phase. Thirdly, the 'completion and upscaling' phase will start during the last year of project implementation. This phase will support the sustainability of the project by transferring responsibility for management of the LDCF-financed project's investments to the stakeholders.

An indicative list of stakeholders to be engaged at each stage of project implementation is presented in the table below. This list should be validated at the project inception workshop, and more stakeholders added. Memorandums of Understanding (MoUs) will be signed between the different government institutions participating in the implementation of LDCF-financed project. The corresponding budget for the activity will then be transferred to the partnering government institutions in charge.

Table 2. Stakeholders involved in project implementation.

Activity	Coordination	Implementation	Groups/ organisations involved
1.1.1	MoSTE	PMU, NNE	MCCICC
1.1.2	MoSTE	PMU, NNE	DFO, DSCO, DLO and DADO in Achham, Dolakha and Salyan, MCCICC
1.2.1	MoSTE	PMU, NNRE	BMUB-funded project, SCCF-funded project, other EbA projects in South Asia, GIZ, FAO, WWF, NCCSP, SPCR
1.2.2	MoSTE	PMU, NNRE	MoSTE, MoFSC and MoAD
1.2.3	MoSTE	PMU, NCASEE	MoSTE, MoFSC and MoAD
1.2.4	MoSTE	PMU, NCASEE	DFO, DSCO, DLO, technicians and user groups (WUGs)
1.2.5	MoSTE	PMU, NCASEE	NAEF, NAER, NH&SE
1.3.1	MoSTE	PMU, NPEE	NEFEJ, production company, radio stations in every district, NCCSP
1.3.2	MoSTE	PMU, NPEE	NEFEJ, production company, radio stations in every district
1.3.3	MoSTE	PMU, NPEE	DoLS, DEECCCC, NCCSP
1.3.4	MoSTE	PMU, NPEE	DoF, DoLS, DoSCWM, DoA, environmental school clubs, environmental journalists
1.3.5	MoSTE	PMU, NCASEE	PMU, DMPU, production company for awareness campaigns
1.4.1	MoSTE	PMU, NPEE	MoE, NCCSP, schools
1.4.2	MoSTE	PMU, NPEE	MoE, NCCSP, schools
1.4.3	MoSTE	PMU, NPEE	MoE

1.4.4	MoSTE	PMU	TU, UAF, NAST, DoFRS
1.4.5	MoSTE	PMU	NAST, DoFRS
1.4.6	MoSTE	PMU, NCASEE	NAST, DoFRS
1.4.7	MoSTE	PMU	TU, UAF
1.4.8	MoSTE	PMU	TU, UAF, MoFSC, MoAD
2.1.1	MoSTE	PMU, NP&LE	BMUB-funded project, MoFSC, MoAD, UNDP, GIZ, Nepal Risk Reduction Consortium
2.1.2	MoSTE	PMU, NP&LE	
2.1.3	MoSTE	PMU, NP&LE	MoFSC, MoAD
2.2.1	MoSTE	PMU, NP&LE	
2.2.2	MoSTE	PMU, NP&LE	NPC, MoF
2.2.3	MoSTE	PMU, NP&LE	MoFSC, MoAD, MoF
3.1.1	MoSTE	PMU, NCASEE	
3.1.2	MoSTE	NB&EE	
3.1.3	MoSTE	PMU, NCASEE	DoLS, NCCSP
3.2.1	MoSTE	PMU, NAEF, NAER	DFOs, DLOs, user groups (WUGs)
3.2.2	MoSTE	PMU, NAEF, NAER	DFOs, DLOs
3.2.3	MoSTE	PMU, NCASEE	DFOs, DLOs, user groups (WUGs), NTFPs Conservation Project
3.2.4	DoF	PMU, NAEF, DoF	DFOs, technicians, user groups (WUGs), CFP
3.2.5	DoLS	PMU, NAER, DoLS	DLOs, technicians, user groups (WUGs), CFP
3.2.6	DoF/DoLS	DFOs, DLOs, technicians, user groups	
3.3.1	MoSTE	PMU, NAER	DSCOs, user groups, indigenous and local communities, FTF, Kosi River Basin Management Project
3.3.2	MoSTE	PMU, NH&SE	DSCO[36], technicians, user groups (WUGs), SPCR
3.3.3	DoSCWM	PMU, NH&SE, DoSCWM	DSCO[37], technicians, user groups (WUGs)
3.3.4	MoSTE	PMU, NH&SE	
3.4.1	MoSTE	PMU, NNRE	DFO, DSCO, DLO, DADO, Practical Action Nepal, KSLCDI
3.4.2	MoSTE	PMU, NNRE	DFO, DSCO, DLO, DADO
3.4.3	MoSTE	PMU, NNRE	DoLS, Practical Action Nepal, KSLCDI, INCLUDE

[36]DFO in Achham
[37]IBID

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):

To increase the adaptive capacity of local communities in Achham, Dolakha and Salyan Districts to climate change, the LDCF-financed project will implement an EbA approach to restore degraded forests and rangelands. In addition, techniques to conserve topsoils and water will be implemented in these same districts and alternative livelihoods from forests, rangelands and agro-ecosystems will be developed. Achham, Dolakha and Salyan Districts were selected for project interventions based on the information below, and the location of these districts relative to activities of the baseline projects (see Section A.4). For more information see Appendix 8 in the project document.

- Achham and Salyan districts are in the mid-hill ecoregion in Nepal. Ecosystems in this ecoregion are becoming increasingly degraded because of deforestation and overstocking of livestock. These mid-hills are the main water catchments for the fertile, highly productive croplands of the Terai lowland region. EbA that is implemented in the mid-hills will consequently benefit not only local communities in these areas, but also other farming communities in the lowlands. Therefore, there are knock-on benefits and greater cost efficacy associated with adaptation interventions in this region.
- Dolakha district is in the high-hills ecoregion in Nepal. Local communities living in these high hills are particularly vulnerable to climate change impacts, primarily because of the remote nature of their homesteads, the lack of basic services, severe droughts in recent decades and limited technical capacity of local authorities. Additionally, this district was one of the worse affected during the devastating earthquake on 12 May 2015[38]. The high hills comprise around one third of the forest cover of Nepal[39]. NTFP collection (largely medicinal and aromatic herbs) is common in this area and is causing forest degradation. Agricultural expansion is also causing land degradation. The area is not suitable for agriculture because it leads to severe soil erosion on the steep slopes. This erosion decreases productivity of arable land and increases siltation of rivers and dams. High hill communities are consequently becoming increasingly vulnerable to climate change impacts.
- Achham is located within the Western development region of Nepal while Salyan is in the mid-western region. Approximately 70 % of Nepal's rangelands occur in these regions[40]. In addition, large tracks of degraded forest occur in the adjoining areas of Nawalparasi, Palpa and Tanahun in the western region of Nepal. Shifting cultivation is being practiced on a large scale (approximately 10,000 ha) within degraded forests.
- The NAPA identified local communities living in Achham to be very vulnerable to drought and vulnerable to landslides. Local communities living in Salyan were identified as being very vulnerable to drought and landslides while local communities living in Dolakha were identified as being vulnerable to drought and very vulnerable to GLOFs.

During the PPG phase, Village Development Committees (VDCs) were selected for project interventions with local stakeholders using three criteria, namely: i) climate vulnerability ranking; ii) Disadvantaged Group (DAG) rankings; and iii) availability of land for forest and rangeland restoration. Therefore, the most disadvantaged and vulnerable communities in Achham, Dolakha and Salyan were prioritised for project interventions. The outcomes of the LDCF-financed project will generate multiple socio-economic benefits for these disadvantaged communities including *inter alia*: i) increased availability and quality of water for domestic use and irrigated agriculture; ii) reduced damage and economic losses resulting from floods, droughts and landslides; and iii) increased resilience of agriculture to floods and droughts. Additional benefits include increased income and livelihood diversity. These activities will be complemented by a public awareness campaign on the benefits of these alternative livelihood practices. Diversification of livelihoods will increase the resilience of the local communities to climate change by reducing reliance on a narrow range of resources such as forests and agricultural lands. The project activities will directly benefit local communities living in at least 12 VDCs. This will include men and women in both men- and women-headed households. Moreover, the activities that will be implemented by the LDCF-financed project are considered

[38] Approximately 48,414 households were affected by these earthquakes, and ~90% of houses in Dolakha District were destroyed.
[39] Nepal Biodiversity Strategy. 2002.
[40] A large percentage of endangered wildlife species occur predominantly in the rangelands of Nepal. An additional advantage of restoring degraded ecosystems in this region will consequently be conservation of these species and concomitant growth of nature-based tourism operations that rely on such species to attract tourists to the region. The restoration interventions should preferably be located in a landscape that allows for movement of wildlife in response to climate change. This will conserve biodiversity in the face of climate change and thereby increase the tourism potential of the landscape for local communities.

"no-regrets", thereby improving the baseline conditions regardless of the severity of anticipated climate change effects. In particular, these interventions aim to decrease poverty and food insecurity. Additionally, by restoring the natural ecosystems in the intervention sites, the LDCF-financed project will increase the availability of natural habitat for plant and animal species that depend on these ecosystems. This will include endangered and endemic species. It is predicted that these concrete interventions will provide benefits – direct and indirect – for 506 households in Achham, 264 households in Dolakha and 330 households in Salyan (at least 1000 beneficiaries in total). Moreover, these interventions will be supported by national institutional and capacity strengthening to reduce the vulnerability of local communities living local communities in Achham, Dolakha and Salyan Districts to climate change.

In Nepal, women play a central role in managing livelihoods often relying on climate-sensitive natural resources for their livelihoods[41]. Despite their capability to innovate and lead, Nepalese women have historically been marginalised from local and national decision-making processes[42]. Therefore, gender considerations will be mainstreamed into LDCF-financed project activities to ensure that women are included in activities to increase their resilience and capacity to adapt to climate change[43]. Gender considerations for the LDCF-financed project are listed below.

- Implications for women and men of any recommended policy action will be assessed in Component 2. This approach to gender mainstreaming is in alignment with Nepal's Three-Year Interim Plan 2007/08–2009/10, as well as gender-specific policies and strategies such as the Gender and Social Inclusion Strategy and Action Plan (2012), and Working Paper 2 on Mainstreaming Gender and Climate Change in Nepal (2012).
- Alternative livelihoods will be developed with a focus on including female-headed households. To ensure that the progress of gender mainstreaming can be monitored throughout the project, gender disaggregated targets will be developed and used to monitor indictors.
- LDCF-financed project activities will be informed by Gender and Governance Assessments. These assessments will inform project activities and training at a national scale and at each intervention site. Moreover, within these assessments, targets and metrics to measure gender equity in project activities will be defined. These targets and metrics will be integrated into the project Results Framework. Importantly, Nepalese gender action groups will be consulted when: i) public awareness campaigns are designed; and ii) information materials are disseminated. These consultations will ensure that information reaches female stakeholders within their networks.
- Gender sensitivity will be incorporated into training topics so that: i) female participants are empowered to participate meaningfully in the trainings; and ii) all participants are made aware of their responsibility to respect the views of all of their colleagues during training workshops. Trainers will be required to have the skills and experience necessary to plan and facilitate gender-sensitive training.

The Project Manager (PM) will be responsible for monitoring and review of gender sensitivity in the training workshops and the application of gender-disaggregated indicators. In addition to gender awareness, the LDCF-financed project will promote the requirements of other disadvantaged and more vulnerable groups including the elderly, children and the differently abled.

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

The LDCF-financed project will adopt an approach of additionality and will build on existing national projects (see Section A.4.), which reduces costs of the project. Furthermore, it will complement and align with a number of current initiatives to not duplicate efforts. For example, the policy and strategy review that will be undertaken within Component 2 will build on the foundations established by the BMUB-funded project. This is a cost-effective approach to building technical capacity that will facilitate planning and implementation of EbA.

A growing body of scientific research indicates that increasing numbers of EbA projects will deliver favourable benefit-cost ratios. For example, the restoration and rehabilitation of grasslands and woodlands reportedly have internal rates of return of 20-60% and benefit-cost ratios of up to 35:1[44]. Such promising benefit-cost ratios have also been reported for comparisons between EbA projects and projects that use only hard interventions for adaptation to climate change. For example, an economic analysis of watershed management and engineering interventions was

[41]Mainlay, J., & Tan, S. F. 2012. Mainstreaming gender and climate change in Nepal (pp. 1–24). London, UK.
[42]Mainlay, J., & Tan, S. F. 2012. Mainstreaming gender and climate change in Nepal (pp. 1–24). London, UK.
[43]Denton, F. 2002. Climate change vulnerability, impacts, and adaptation: Why does gender matter? *Gender & Development, 10*(2), 10–20. doi:10.1080/13552070215903.
[44]De Groot et al. 2013. Benefits of investing in ecosystem restoration. *Conservation Biology* 27: 1286-1293.

undertaken in Lami, Fiji[45]. Although hard infrastructure can protect local communities against climate-related hazards, these approaches are unsustainable without costly maintenance and repairs. Moreover, construction of hard infrastructure that covers a large surface area transforms the natural landscape. This negatively affects the functioning of ecosystem, which reduces the ecosystems' ability to provide services.

Another study on Return on Investment (ROI) from watershed conservation was undertaken by MacDonald and Shemie in 2014[46]. This study assessed the ROI from watershed conservation activities surrounding 534 large cities around the world. A simple methodology was applied .to understand ROI for watershed conservation projects in different parts of the world. In particular, the study showed that the greatest potential for such projects to have an ROI greater than one is in Asia (Figure 1).

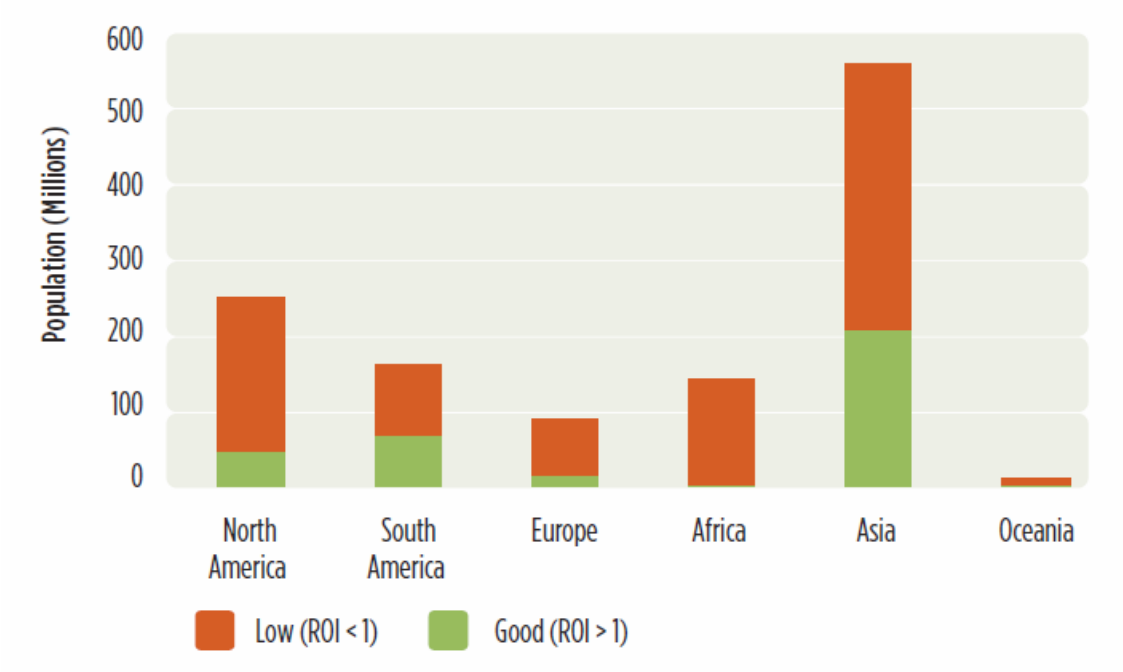

Figure 1. Potential ROI for watershed conservation by continent.

Under Outcome 3 of the LDCF-financed project, EbA in forests and rangelands will be complemented by techniques for topsoil and water conservation. These techniques will include: i) appropriate management in the face of climate change to promote sustainable land management; and ii) infrastructure to reduce rainwater run-off and erosion, and increase storage capacity for rainwater. Therefore, project activities will implement both soft and hard infrastructure[47]for adaptation to climate change. This combination is effective because: i) soft interventions are more flexible in the long-term; and ii) hard infrastructure has benefits that are more direct in the short- to medium-term[48]. This complementary approach to climate change therefore promotes cost-effectiveness[49].

The project will transfer technical knowledge on ecosystem restoration and management under conditions of climate change to local communities. In addition, a strategy – that includes lessons learned within Component 3 – will be developed to upscale this approach to other areas in Nepal. Scientific and technical information that is produced by the LDCF-financed project will be incorporated into LAPAs, thereby promoting appropriate land uses by these local communities under the predicted effects of climate change. Integration of this type of information into plans for local

[45] Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa.
[46] MacDonald, R. and Shemie, D. 2014. Urban water blueprint: mapping conservation solutions to the global water challenge. Report available at: http://water.nature.org/waterblueprint/#/intro=true. Accessed on 25 April 2015.
[47] For example, rainwater harvesting tanks, water conservation ponds, sand dams and improved terraces.
[48] Hallegate, S. and Dumas, P. 2009. Adaptation to climate change: soft vs. hard adaptation. C.I.R.E.D. Available at: http://www.oecd.org/env/cc/40899422.pdf. Accessed on 1 April 2014.
[49] CARE. 2011. Policy brief: climate change – why community based adaptation makes economic sense. Available at: http://www.careclimatechange.org/files/adaptation/PolicyBrief_Why_CBA_Makes_Economic_Sense_July12.pdf. Accessed on 1 April 2014.

ownership will promote improved governance of restored ecosystems by indigenous and local communities, thereby reducing the need for constant monitoring and maintenance of these areas. Importantly, the principles of EbA are grounded in ecosystem restoration and management. Local communities will therefore benefit from enhanced ecosystem services regardless of the severity of the negative effects of climate change.

EbA has benefits that will contribute towards mitigation commitments and other development goals of the GoN. While the EbA approach reduces vulnerability, it simultaneously provides a range of co-benefits such as carbon sequestration and storage, biodiversity conservation, alternative livelihoods and poverty reduction. Furthermore, ecosystems that are enhanced through EbA are less likely to reach their tipping points, after which ecosystem degradation becomes irreversible under conditions of climate change[50].

C. DESCRIBE THE BUDGETED M& E PLAN:

The table below describes the budgeted M&E plan for the LDCF-financed project. For more information, see Section 6 of the project document.

Table 3. Budgeted M&E plan

Type of M&E activity	Responsible parties	Budget US $ (excluding project team staff time)	Time-frame
Inception workshop and report	• PM • TA • UNEP TM • National M&E Expert	Indicative cost: US $8,000	Within first two months of project start up
Measurement of means of verification of project results	• PM • TA • UNEP TM	To be finalised in Inception Phase and Workshop. This includes hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measuring MoV for project progress on output and implementation	• PM • DPMU • UNEP TM • TA • M&E Expert •	To be determined as part of the preparation of Annual Work Plans (AWPs).	Annually prior to PIR and to the definition of AWPs
PIR	• PM • TA • UNEP TM • AFO	None. Financial audit records to be provided for PSC review	Annually
Progress reports	• PM • DPMU • TA • UNEP TM • M&E Expert	None	Quarterly
Annual audit	• External Expert • UNEP TM • PM	Indicative cost: US $20,000	Annually
Annual PSC meeting	• PSC	Indicative cost: US $8,000	Annually

[50] Jones et al. 2012. Harnessing nature to help people adapt to climate change. Nature. Published online: 26 June 1012. DOI: 10.1038/nclimate1463

Type of M&E activity	Responsible parties	Budget US $ (excluding project team staff time)	Time-frame
Independent baseline assessment	• External Expert • UNEP TM • PM	Indicative cost: US$ 40,000	No later than 3 months after project inception
MTR or MTE	• UNEP TM or Evaluation Office	Indicative cost: US$ 35,000	At the mid-point of project implementation.
Independent terminal evaluation	• UNEP Evaluation office	Indicative cost: US$ 35,000	At least three months before the end of project implementation
Project closure workshop and report	• PM • TA • AFO • UNEP TM	None	On completion of the terminal evaluation.
Visits to demonstration sites	• UNEP TM • PM • DPMU • TA • PSC representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
Consultations	• National M&E Expert	US: $57,600	Throughout project
TOTAL indicative COST **Excluding project team staff time and UNEP staff and travel expenses**			**Estimated Cost: US$ 203,600**

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)**
Mr L.S Ghimire	Joint Secretary and GEF Focal Point,	Ministry of Finance	**09/11/2012**

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**
J. Christophe Bouvier Director, Office for Operations and Corporate Services, UNEP GEF Coordination Office +254-20-7623880 christophe.bouvier@unep.org		July 21, 2015	Ermira FIDA Portfolio Manager, UNEP-GEF Adaptation	+254-20 762 3113	ermira.fida@unep.org

ANNEX A: PROJECT RESULTS FRAMEWORK.

Project objective	**Objective indicator**	**Baseline**	**Target**	**MoV**
Increased capacity of national and local government institutions in Nepal to adapt to climate change by implementing EbA in degraded forests and rangelands in mid-hill and high mountain areas	1. Degree to which capacity of targeted government institutions is strengthened at national and sub-national levels to identify, prioritize, implement, and assess effectiveness of EbA interventions.	1. Baseline study to be conducted at the project inception stage. Institutions are in the process of identifying climate change risks, but not EbA interventions to manage these risks. As a result, management systems are not in place to implement EbA, and this approach is not included in budget allocations. Through the BMUB-funded project, the MoFSC has been involved in implementing EbA interventions in the Panchase area. A quantitate assessment of the baseline for this indicator will be conducted at inception stage.	1. Increase of at least 3 in the capacity score of each institution. (Max 10, Min 0)	1. Verified through scoring methodologies developed by the TAMD and PPCR and adapted from the GEFSec - AMAT (2014)[51]. *The indicator is based on five step criteria of capacity assessment framework (expressed as questions):* *1. Are the institutions in the process of identifying climate change risks and appropriate EbA interventions?* *2. Are the institutions prioritizing EbA interventions and specifying budget allocations and targets for these interventions?* *3. Have the institutions defined clear roles and responsibilities for the coordination and implementation of EbA interventions?* *4. Is there evidence of effective implementation of EbA interventions by the institutions?* *5. Is there evidence of adequate institutional capacities for the continuous assessment, learning and review of adaptation strategies and measures?* Each question is answered with an assessment and score for the extent to which the associated criterion has been met: not at all (= 0), partially (= 1) or to a large extent/ completely (= 2). An overall score is calculated, with a maximum score of 10 given five criteria. These five criteria will be reviewed and validated at inception phase of the project.
	2. Number of beneficiaries benefitting from project interventions disaggregated by gender	2. Zero	2. At least 1000 (to be validated at inception).	2. Household surveys and reports.
Outcome 1 Increased capacity of government officials and local user groups to	**Outcome indicator** 1. A technical working group with a mandate to identify, prioritise and	1. The technical working group does not exist.	1. Technical working group established within MCCICC, of which	1. Project progress reports. Attendance registers and minutes from MCCICC meetings

[51] Adapted from TAMD (2013) and PPCR (2014) scorecard indicators.

implement EbA through enhanced institutional arrangements, intersectoral collaboration and information	monitor EbA established within MCCICC.		membership 5% are women and conducted meetings.	
	2. Number of national, district and local officers and community members with capacity to identify, prioritise and implement EbA	2. Currently, national stakeholders lack capacity to identify, prioritise and implement EbA. District and local officers at in Panchase have been trained on implementing EbA in that particular area. District and local officers at intervetion sites have capacity to undertake business-as-usual restoration interventions in forests and rangelands. A more quantitative assessment of this indicator will be made at inception phase.	2. By project end-point, at least 150 people are trained, of which 30% are women (to be validated by the baseline study)	2. Attendance registers from training sessions and training reports. A soring scale methodology will be used to measure the capacity of trained officers. To measure people's capacity to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures; the tracking tool recommends the following scoring scale: 1 = Very limited or no evidence of capacity 2 = Partially developed capacity 3 = Fully developed, demonstrated capacity Depending on the nature and scope of the training provided, the tracking tool may provide an average score based on an assessment of capacity along the following criteria: (a) understanding and interpreting climate information; (b) assessing vulnerability; (c) identifying EbA adaptation options; (d) implementing EbA measures (e) Monitoring, evaluating and learning from EbA interventions. Note - See training plan for details on the training sessions (Appendix 19).
	3. Number of national campaigns implemented by the project to increase public awareness on EbA	3. Zero	3. By project mid-point, at least 1 national awareness campaign; by project end-point, at least 2 national awareness campaigns.	3. Public awareness campaign design and final report. Project progress reports. Evidence of public awareness tools used for the campaigns.
	4. Number of education tools including research findings developed by project that are being used by government	4. Zero	4 Four tools developed.	4. Feedback from national stakeholders within MoSTE, MoFSC, MoAD and MoEd.

	institutions to integrate EbA in the educational programmes and national planning.			
Outcome 2 National Policies, strategies and plans are strengthened to promote EbA implementation	**Outcome indicator** 1. Number of policy briefs to guide the revision of the policies/ strategies to integrate EbA 2. Upscaling strategy for EbA in forests and rangelands developed. 3. Financing plans developed for EbA, including proposed budget allocations.	1. No revisions to any strategy / policy are made to date to integrate EbA as part of adaptation strategy in Nepal. 2. Zero EbA upscaling strategies developed to date in Nepal. 3. No financing plans for EbA exist to date in Nepal.	1. At least one policy brief is developed that has guided the revision of a national policy/ strategy 2. EbA upscaling strategy developed 3. Financing plan	1. Policy briefs, policy/ strategy documents. 2 EbA upscaling strategy document. 3. EbA financing plan
Outcome 3 EbA implemented by user groups to restore forests and rangelands in the mid-hills of Achham and Salyan and high mountains of Dolakha to decrease sensitivity of local communities.	**Outcome indicator** 1. Number of ha of forests restored by the project in selected VDCs using EbA[52]. 2. Number of ha of rangelands reseeded by the project in selected VDCs using EbA[53]. 3. Number of operational management plans updated to include EbA interventions as part of VDC adaptation strategies. 4. Number of techniques	1. Zero 2. Zero 3. Zero	1. At least 1000 ha of forests restored using EbA. 2. At least 450 ha of rangelands restored using EbA. 3. 100 operational management plans updated.	• 1 and 2. Field surveys at intervention sites. GPS/GIS data captured and converted into shape files/maps. 3. Reports for operational management plans.

[52] Plant species that have one or more of the following characteristics will be selected for forest restoration: i) grow quickly in the face of drought[52]; ii) are broad-leaved, thereby reducing rainfall impact on the soil; iii) have deep root systems, thereby increase water infiltration into the soil; and iv) produce natural resources that provide benefits for indigenous and local communities (including fodder, income from NTFPs and medicinal products).

[53] Grass species that grow quickly in the face of drought; and/or can withstand warming temperatures will be selected to reseed rangelands. In addition, fast-growing and useful tree species will be selected to plant intermittently in restored rangelands

	introduced in selected VDCs[54] to conserve topsoils and water	4. Zero	4. 120 ha of improved terraces, 36 filtering dams, 36 water conservation ponds and 24 community rainwater harvesting devices constructed in selected VDCs	4. Reports and field surveys at intervention sites
	5. Number Community Livelihood Improvement Plans (CLIPs) developed from forests, rangelands and agro-ecosystems of and implemented in selected VDCs[55]	5. Zero	5. Three CLIPS developed.	5. Household surveys at project sites at project inception (baseline assessment), mid-term and termination, including a section on income from livelihoods; and field surveys at intervention sites.

[55] in Achham, Dolakha and Salyan intervention sites.

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).

GEF Secretariat Review Question	GEF Secretariat Recommended Action by CEO Endorsement	Response
17. Is public participation, including by CSOs and indigenous people, taken into consideration, role identified and addressed properly?	Recommended Actions for CEO Endorsement Stage: Please identify local groups in each project site and also their respective roles in the project.	Local user groups have already been mobilised through past and current initiatives. These user groups will be involved in planning and implementing EbA in each of the VDCs. Community Forestry User Groups (CFUGs) are the most well established user groups and have been active in most VDCs for more than 10 years. Therefore, these groups have been prioritised for involvement in trainings and concrete activities. In addition, Women's User Groups (WUGs) will be included in project activities. During project inception – and more detailed consultation with the local communities – the scope for including Agricultural User Groups (AUGs), Leasehold Forestry User Groups (LFUGs) and Livestock User Groups (LUGs) will be explored. To promote intra- and inter- community dialogue, an EbA discussion will be included in the meetings that are conducted by the District Environment Energy Climate Change Coordination Committees (DEECCCCs). These committees have been established for local-level planning for adaptation to climate change by NCCSP in a number of Districts, including Achham. However, this committee has not yet been developed in Dolakha nor Salyan. The proposed LDCF-financed project will therefore work with NCCSP to develop these committees in Dolakha and Salyan.
20. Is the project implementation/execution arrangement adequate?	Recommended Actions for CEO Endorsement Stage: Please provide details on the arrangements among the partner executing agencies to ensure efficient project operations.	The execution of the project by MoSTE, MoFSC and MoAD is described in Annex H. These three ministries will work together to implement the project. In particular, MoSTE will coordinate the project. MoFSC and MoAD will implement on-the-ground activities within Component 3. A Project Managers Working Group (PMWG) will be established – including project managers – for the baseline projects and relevant stakeholders from the LDCF project (see Annex H). Moreover, engagement of

		stakeholders in the implementation of each project component is presented in Section B1.

German council comments	**Response**
In the context of collaborating with other projects, it is recommended to also consider activities from a project supported by Germany in collaboration with ICIMOD that should be taken into account for close exchange of experiences in the effort of addressing vulnerability of livelihoods: The Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) is a long-term collaborative programme around the Kailash Sacred Landscape (KSL) transboundary area in China, India, and Nepal. The overall aim of the regional implementation plan is to contribute to the sustainable development of the KSL by applying ecosystem management approaches and building on the strengths of the region while considering both the risks and opportunities of climate change. The implementation of a long-term strategy is based on participatory approaches and improved regional knowledge. The implementation plan is separated into five major components: innovative livelihood options; ecosystem management for sustaining services; access and benefit sharing for the development of resilient communities; long-term conservation and environmental monitoring; and regional cooperation to enable policies and knowledge management. Although the KSLCDI is not working in the districts of the PIF, it is closely related with respect to climate change vulnerability representing the upper reaches of the catchment areas and drainage systems directly connected to the mid-hills and the plains of Nepal. Therefore, cooperation or at least exchange of experiences would be useful and might be established in order to optimize the utilization of natural resources from top of the mountains down to the valleys and plains. Furthermore, the Programme INCLUDE, supported by Germany, works for job creation and income generation in the mid-western and far-western development regions of Nepal to contribute to balanced and socially inclusive economic growth in neighbouring the districts of this PIF. The programme components i) building entrepreneurship, ii) developing value chains and iii) supporting public-private dialogue could supplement and assist with its experiences and potentialities the endeavours to improve rural livelihoods	During PPG, ICIMOD – which is the regional PMU for the KSLCDI project – was consulted and potential synergies between KSLCDI and the LDCF-financed project were identified. The LDCF-financed project will build on the lessons learned from ICIMOD for sharing benefits of ecosystems within local communities, particularly for livelihoods development within Component 3. Similarly, lessons learned by INCLUDE through building entrepreneurship, developing value chains and supporting public-private dialogue in Banke, Dang, Kailali, Pyuthan and Surkhet Districts will inform the development of CLIPs under Component 3.
US council comments **With a view toward further strengthening this PIF, we urge UNEP, as it prepares the draft final project document for CEO endorsement, to:**	**Response**
Expand on how it will ensure the sustainability of climate change adaptation education for decision makers at the national and local level.	To promote sustainability of climate change education – and relevant adaptation measures – the proposed LDCF-financed project will implement a number of activities. Firstly, at a national level, a Technical Working Group (TWG) will be established within the Multi-sectoral Climate Change Initiatives Coordination Committee (MCCICC). This TWG will have a mandate to provide feedback on lessons learned through initiatives implementing EbA in Nepal. Therefore, a platform will for be created for: i) ongoing sharing of

	lessons learned and best practices on EbA in South Asia and Nepal; and ii) maximising opportunities for EbA in the development context of the country. Secondly, where possible, climate change will be integrated into induction manuals and handbooks will be developed in English and Nepalese in order to educate new staff members and guide national and local decisions makers. Furthermore,the LDCF-financed project will train professionals from MoFSC, MoSTE and MoAD to increase their technical capacity to plan and implement EbA. In addition, visits to the EbA demonstration sites will be coordinated for director generals of departments within MoFSC, MoSTE and MoAD. Lastly, two national campaigns will be conducted – using radio and/or television shows – to enhance public awareness on EbA. The first campaign will be conducted in the second year of the LDCF-financed project to build a basic understanding of EbA and its benefits. The second campaign will be conducted in the last year of the project and will include lessons learned throughout its lifespan. At a local level, an EbA discussion will be integrated into the mandate of DEECCCC.
Clarify how it will communicate results, lessons learned and best practices identified throughout the project to the various stakeholders both during and after the project.	The EbA discussions that are integrated into the MCCICC and DEECCCC will include lessons learned and best practices. These platforms currently exist within the national and local communication framework and will continue after the lifespan of the project. In addition, a PMWG will be established through the proposed LDC-financed project to share information including lessons learned. This group will include managers of baseline projects, projects that are implementing similar activities and baseline projects. The national awareness campaigns that are implemented by the project will also include information on lessons learned. A national upscaling strategy will be developed by the proposed LDCF-financed project. This upscaling strategy framework will define the role of government institutions – including MoFSC, MoSTE and MoAD – in the upscaling of the best practices of the environment projects including the LDCF-financed project.
Engage local stakeholders, including community-based organizations and women in both the design and implementation of the program.	See Section 5 of the project document. Within Component 3, local user groups – including CFUGs and WUGs – will be included in the design and implementation of project activities.
Clarify how it will facilitate coordination and information and knowledge exchange between the project and other relevant USAID initiatives, including the new Feed the Future program which will be working on many of the same issues and could benefit from the climate change specific programming under the LDCF project; and, the ongoing "Livestock and Climate Change Collaborative Innovation Laboratory (LCC-CIL)" research program. Both programs have activities planned and ongoing in many of the same districts highlighted in the PIF.	The LDCF-financed project will build on the knowledge gathered and generated by FTF to refine interventions for agro-EbA and appropriate livestock management under conditions of climate change in Achham, Dolakha and Salyan. To this end, methods for managing livestock in the face of climate change will be informed by the findings of the research that is conducted within LCC-CIL.

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS[56]

- Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF:			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF/NPIF Amount ($)***		
	Budgeted Amount	***Amount Spent To date***	***Amount Committed***
International Consultant	50,000	50,000	0
National Consultant	14,500	3,112	11,388
Travel	14,750	8,854	5,896
Meetings/conferences	10,250	7,332	2,918
Reporting	10,500	0	10,500
Total	100,000	69,298	30,702

[56] 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

ANNEX E: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF RESOURCES

National Experts (NEs) will play a major role in perfecting project interventions, in collaboration with the Project Management Unit (PMU), District Project Management Units (DPMUs) and user groups. The responsibilities and tasks of these NEs are described below.

Consultants	Description of responsibilities
Technical Advisor (TA)	This expert will provide overall technical guidance for on-the-ground activities and project management. He/she will visit Nepal on an annual basis to travel to the project sites and consult with the project team to solve technical issues.
National Climate and Socio-Economic Expert (NCASEE)	This expert will play an important role in the overall coordination of the project. He/she will work with the MCCICC to integrate a discussion on EbA into its mandate. This expert will also meet with the PMU, DPMU and experts on an annual basis to collate information and lessons learned. This information will inform the national awareness campaigns on EbA. The NCASEE will work academics to define research topics to measure the short-, medium- and long-term impacts of EbA that is implemented through Component 3. Thereafter, he/she will develop a Memorandum of Agreement (MoA) between NAST and the DoFRS to conduct medium- and long-term research. In addition, he/she will coordinate setting up of systems in these institutions to collect, process and analyse long-term data for this research. The NCASEE will travel with two representatives from NAST and DoFRS to set up the monitoring points in selected VDCs to measure the long-term impacts of the EbA interventions. Annually, the NCASEE will work with the technical experts to develop training material. Thereafter, he/she will visit Achham, Dolakha and Salyan to conduct technical training. To this end, the NCASEE will train relevant district officers, technicians and user groups on: i) EbA to restore forests and rangelands; ii) managing livestock in the face of climate change; and ii) maintaining infrastructure. This training will be "training for action". Therefore, training sessions will be stipulated by: i) the overall project workplan; and ii) deliverables of national and international consultants. This training will be supported by technical guidelines that will be developed by the NAEF, NAER and NH&SE. In addition, these annual training sessions will include refresher courses on technical topics. These refresher courses will be informed by lessons learned through implementation of the LDCF-financed and other EbA projects. The NCASEE will visit selected VDCs to conduct detailed socio-economic assessments of these sites, with a focus on gender and social inclusion. These assessments will be used to inform EbA protocols and CLIPs (developed through Outcome 3). In addition, he/she will meet with NCCSP on an annual basis to make available to them all technical findings that will support the LAPA process. Once the NAEF and NAER have identified species for EbA in forests and rangelands, these experts will travel with the NCASEE to Achham, Dolakha and Salyan to workshop with the DFOs and DLOs to develop planting protocols. Protocols will be developed in this way so that they are in line with local government norms. To propagate plants for EbA, nurseries will be established in selected VDCs. To establish nurseries and nursery management plans, the NCASEE will workshop with the indigenous and local communities in selected VDCs.
National Gender and Governance Expert (NG&G)	This expert will conduct assessments at a national level and in Achham, Dolakha and Salyan on gender and governance. The data collected by this expert will be used to inform: i) national training and policy reviews; and ii) training and on-the-ground interventions in each of the project intervention sites. Importantly, this expert will define indicators for gender and governance, objectives/targets that will be used to update the project Results Framework during the baseline assessment. The PMU – in particular the PM and M&E expert – will be responsible for monitoring these indicators throughout the project
National Natural Resource	This expert will conduct a stocktaking exercise on EbA in South Asia with particular reference to Nepal. In addition, the NNRE will assess the cost to benefit ratios of these approaches to identify those that are most cost-effective: Thereafter, the NNRE will prepare training material and content for national stakeholders on the findings of these assessments. The NNRE will organise and lead the training sessions.

Economist (NNRE)	Throughout the lifespan of the project, the NNRE will work with the DFOs, DLOs, DADOs and indigenous and local communities in the selected VDCs to develop CLIPs. In addition, he/she will provide technical guidance to implement these plans. To do so, he/she will provide or coordinate additional training to develop livelihoods (e.g. additional training on eco-homestays or on harvesting, processing and packaging a particular product). This expert will also be responsible for establishing or strengthening the links between the indigenous and local communities that are producing climate-resilient livelihoods and markets where these livelihoods can be sold. To do so, he/she will: i) research existing and/or potential markets; ii) identify barriers between the indigenous and local communities and these markets; and iii) develop a plan for these communities to overcome these barriers.
National Public Education Expert (NPEE)	This expert will develop and coordinate awareness campaigns on EbA. In particular, he/she will work with a sub-contracted expert/company to develop radio shows and articles – to be published in face-to-face magazine – on the benefits of EbA in forests and rangelands. Radio shows will be aired and articles will be published in the second and fourth years of the LDCF-financed project. This expert will also be responsible for promoting intra- and inter-community dialogue on EbA. To do this, he/she will integrate this topic into the DEECCCC in Achham, Dolakha and Salyan. Currently, the DEECCCC only exists in Achham. Therefore, the NPEE will work with the NCCSP to establish this mechanism in Dolakha and Salyan. In addition, this expert will coordinate: i) open days at the EbA intervention sites every year; and ii) annual visits for director generals of DoF, DoLS, DoSCWM and DoA, environmental journalists and school environmental clubs in the second, third and fourth year of the project. In the third year, the NPEE will conduct a stocktaking exercise of school curricula to identify entry points for learning on EbA. Following on from this exercise, the NPEE will develop toolkits including lesson plans and guidelines for small-scale EbA projects that can be implemented on school premises. Thereafter, the NPEE will be responsible for conducting a workshop to present these tools to the MoEd.
National Policy and Legal Expert (NP&LE)	This expert will conduct a review of relevant policies and strategies to identify entry points for EbA. Based on this assessment, the NP&LE will provide recommendations for revising policies and strategies to promote EbA in forests and rangelands. In addition, the NP&LE will use information from Outcomes 1 and 3 to develop a national upscaling strategy for EbA in forests and rangeland. This expert will also work with the NPC and MoF to develop a financing plan for EbA in forests and rangelands. To do this, he/she will make recommendations on the portion of the national climate change allocation that should be dedicated to EbA; ii) develop proposals for accessing international adaptation funds for EbA including through direct access; and iii) assess and report on the training needs to develop the proposal-writing skills of national stakeholders in MoE, MoFSC and MoAD. The NP&LE will prepare: i) training for policy- and decision-makers on the findings of these activities; and ii) policy briefs on these findings. In addition, the NP&LE will develop reports on the recommendations, upscaling strategy and financing plan. Importantly, these activities will build on work done by the BMUB-funded EbA project. In addition, it must include an extensive review of the NAPA, NAP and LAPAs that have been developed.
National Biodiversity and Ecosystem Expert (NB&EE)	This expert will visit the selected VDCs within the first six months of project inception to conduct biodiversity assessments at project sites. These assessments should include a detailed description of the biodiversity and ecosystem functioning in each of the selected VDCs. Therefore, the assessments will: i) enhance the database on biodiversity in Nepal; and ii) be used to inform on-the-ground interventions.
National Agro-Ecological Expert (Forestry) (NAEF)	This expert will play an important role in planning EbA to restore forests. Firstly, this expert will collate and assess information to identify plant and grass species for EbA interventions in forests. This information will include: i) preferences of indigenous and local communities at intervention sites; ii) the socio-economic and biodiversity assessments; and iii) predicted climate trends. Species that are climate-resilient and/or useful to indigenous and local communities will be prioritized. Thereafter, he/she will workshop with the NCASEE, NAER and DFOs and DLOs from Dolakha, Achham and Salyan to design protocols for implementing EbA in forests and rangelands that are in line with local government norms. Once planting activities commence and continue throughout the lifespan of the project, the NAEF will provide technical support on an annual basis to guide the implementation of EbA to restore forests in selected VDCs. The NAEF will work with the NCASEE to develop training content and technical guidelines on EbA in forests. This content and material will be used to conduct annual technical training.
National Agro-Ecological Expert	This expert will play an important role in planning EbA to restore rangelands. Firstly, this expert will collate and assess information to identify plant and grass species for EbA interventions in rangelands. This information will include: i) preferences of indigenous and local communities at intervention sites; ii) the socio-economic and biodiversity assessments; and iii) predicted climate trends. Species that are climate-resilient and/or

(Rangelands) (NAER)	useful to indigenous and local communities will be prioritized. Thereafter, he/she will workshop with the NCASEE, NAEF and DFOs and DLOs from Dolakha, Achham and Salyan to design protocols for implementing EbA in forests and rangelands that are in line with local government norms. Once planting activities commence and continue throughout the lifespan of the project, the NAER will provide technical support on an annual basis to guide the implementation of EbA to restore rangelands in selected VDCs. In addition, the NAER will conduct research and consultations in the selected VDCs to develop a report on managing livestock in the face of climate change. The NAER will work with the NCASEE to develop training content and technical guidelines on: i) EbA in rangelands; and ii) managing livestock in the face of climate change. This content and material will be used to conduct annual technical training. Training on EbA in rangelands will be conducted in the first annual training session in Year 1 while training on managing livestock in the face of climate change will occur within the second annual training session in Year 2. In Year 3, refresher courses on both of these topics will be provided in Achham, Dolakha and Salyan.
National Hydrology & Soil Expert (NH&SE)	This expert will identify appropriate designs for infrastructure for soil and water conservation in selected VDCs. To this end, he/she will visit these VDCs conduct a Soil and Hydrology Assessment to inform the designs of: i) improved terraces; ii) filtering dams; iii) water conservation ponds; iv) community rainwater harvesting devices; and v) bio-engineering plans to stabilize river banks. Thereafter, the NH&SE will work with the NCASEE to develop training content and technical guidelines on maintaining this infrastructure. This content and material will be used to conduct annual technical training in Year 4.
National M&E Expert	This expert will monitor the overall project progress to enable adaptive management. He/she will be responsible for developing monthly reports to detail this progress. The particular roles of this expert will be detailed during the project inception workshop, during which the project supervision plan will be developed.

ANNEX F: DETAILED GEF BUDGET

ANNEX F-1 - RECONCILIATION BETWEEN GEF ACTIVITY BASED BUDGET AND UNEP BUDGET LINE (GEF FUNDS ONLY US$)														
Project title: Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests of Nepal														
Project number: 5203														
Project executing partner: Ministry of Science, Technology and Environment														
Project implementation period: 2015-2018			Expenditure by project component/activity						Expenditure by year					Budget notes
From:														
To:			1	2	3	PM	ME	Total	Year 1	Year 2	Year 3	Year 4	Total	
UNEP Budget Line														
10	PERSONNEL COMPONENT							0					0	
								0					0	
	1101	National project manager @ 2000/month				96000		96000	24000	24000	24000	24000	96000	1
	1103	Driver @ 250/month				12000		12000	3000	3000	3000	3000	12000	2
								0					0	
	1199	Sub-total	0	0	0	108000	0	108000	27000	27000	27000	27000	108000	
	1200	Consultants						0					0	
	1201	TA (80 days @ 500/day); 1 flight every year @ 2500/flight			50000			50000	12500	12500	12500	12500	50000	3
	1202	NCASEE (346 days @ 120/day)	41520					41520	16320	8400	8400	8400	41520	4
	1203	NNRE (70 days @ 120/day)	8400					8400	8400				8400	5
	1204	NPEE (287 days @ 120/day)	34440					34440	10800	6000	11640	6000	34440	6
	1205	NP&LE (215 days @ 120/day)		25800				25800		0	11400	14400	25800	7
	1206	NCASEE (142 days @ 120/day)			17040			17040	13440	1200	1200	1200	17040	4
	1207	NB&EE (60 days @ 120/day)			7200			7200	7200				7200	8
	1208	NAEF (122 days @ 120/day)			14640			14640	7440	2400	2400	2400	14640	9
	1209	NAER (152 days @ 120/day)			18240			18240	7440	6000	2400	2400	18240	10
	1210	NH&SE (100 days @ 120/day)			12000			12000	9600		2400		12000	11
	1211	NNRE (390 days @ 120/day)			46800			46800	10800	10800	10800	14400	46800	5
	1212	NG&GE (60 days @ 120/day)			7200			7200	7200				7200	12
	1213	3 DFOs @ 250/officer/month			29250			29250	2250	9000	9000	9000	29250	14
	1214	15 Technicians for EbA in forests @ 200/technician/month			117000			117000	9000	36000	36000	36000	117000	15
	1215	3 DLOs @ 250/officer/month			29250			29250	2250	9000	9000	9000	29250	14

	1216	6 Technicians for EbA in rangelands @ 200/technician/month			46800			46800	3600	14400	14400	14400	46800	15
	1217	3 DSCOs to coordinate construction of infrastructure for topsoil and water conservation			27000			27000		9000	9000	9000	27000	14
	1218	6 Technicians for infrastructure construction @ 200/technician/month			43200			43200		14400	14400	14400	43200	15
	1219	3 DADOs to coordinate development of CLIPS @ 250/office/month			31500			31500	4500	9000	9000	9000	31500	14
	1220	6 Technicians for CLIPs @ 200/technician/month			50400			50400	7200	14400	14400	14400	50400	15
								0					0	
	1299	Sub-total	84360	25800	547520	0	0	657680	139940	162500	178340	176900	657680	
	1300	Administrative Support						0					0	
	1301	Administrative and Financial officer @ 1000/month				48000		48000	12000	12000	12000	12000	48000	16
								0					0	
	1399	Sub-total	0	0	0	48000	0	48000	12000	12000	12000	12000	48000	
	1600	Travel on official business						0					0	
	1601	Travel for district officers to attend MCCICC meeting	19200					19200	4800	4800	4800	4800	19200	17
	1602	Travel for national stakeholders from MoSTE, MoAD and MoFSC to sites	3200					3200	3200				3200	17
	1603	Travel for director generals from relevant departments to sites	4800					4800	0	1600	1600	1600	4800	17
	1604	Travel for environmental journalists for annual visits	4800					4800		1600	1600	1600	4800	17
	1605	Travel for schools for annual visits	72000					72000		24000	24000	24000	72000	17
	1606	Travel to all the sites to set up long-term monitoring points	2500					2500	2500				2500	17
	1607	Travel for student-supervisor combinations to meetings	10800					10800	0			10800	10800	17
	1608	Travel for NCASEE to all sites (Achham, Dolakha and Salyan) for annual training	6000					6000	1500	1500	1500	1500	6000	17
	1609	Additional travel to/at sites (hiring of motorbike etc.) to conduct socio-economic assessments			1000			1000	1000				1000	17
	1610	Additional travel to/at sites (hiring of motorbike etc.) to conduct Gender and Governance Assessments			1000			1000	1000				1000	17
	1611	Additional travel to/at sites (hiring of motorbike etc.) to conduct biodiversity assessments			1000			1000	1000				1000	17
	1614	Additional travel to/at sites for workshops to design protocols			1200			1200	1200	0	0	0	1200	17
	1615	Additional travel to establish nurseries			1000			1000	1000	0	0	0	1000	17
	1616	Additional travel to restore forests			8600			8600	2150	2150	2150	2150	8600	17
	1617	Additional travel to restore rangelands			8000			8000	2000	2000	2000	2000	8000	17
	1618	Additional travel for workshops to			1000			1000	1000				1000	17

		identify infrastructure for topsoil and water conservation (soil and hydrology assessments)												
	1617	Extra travel for technicians and team for constructing topsoil and water conservation			11700			11700		3900	3900	3900	11700	17
	1618	Additional travel for CLIPS			20000			20000	5000	5000	5000	5000	20000	17
								0					0	
	1699	Sub-total	123300	0	54500	0	0	177800	27350	46550	46550	57350	177800	
1999	Component total		207660	25800	602020	156000	0	991480	206290	248050	263890	273250	991480	
								0					0	
20	SUB-CONTRACT COMPONENT							0					0	
	2100	Sub-contracts (MOUs/LOAs for cooperating agencies)						0					0	
	2101	2 x awareness campaigns in Y2 and Y4 @ 25000/campaign (2 months radio show production, 2 weeks airing programme, publish 8000 copies of face-to-face @ 1.5/copy, 2750 for transport)	50000					50000		25000		25000	50000	18
	2102	7 nurseries @ 7000/nursery			49000			49000	49000				49000	20
	2103	1342 ha forests @ 1000/ha			1342000			1342000	10000	444000	444000	444000	1342000	21
	2104	790 ha rangelands @ 600/ha			474000			474000	114000	120000	120000	120000	474000	22
	2105	Sub-contract: 752 ha improved terraces			668528			668528		224028	222250	222250	668528	23
	2106	Sub-contract: 12 bio-engineering plans to stabilise river banks			26640			26640		8880	8880	8880	26640	23
	2107	Sub-contract: 36 filtering dams			79920			79920		26640	26640	26640	79920	23
	2108	Sub-contract: 36 water conservation ponds			32004			32004		10668	10668	10668	32004	23
	2109	Sub-contract: 24 community rainwater harvesting devices			13344			13344		4448	4448	4448	13344	23
								0					0	
	2199	Sub-total	50000	0	2685436	0	0	2735436	173000	863664	836886	861886	2735436	
	2200	Sub-contracts (MOUs/LOAs for supporting organizations)						0					0	
	2201							0					0	
	2202							0					0	
	2203							0					0	
	2299	Sub-total	0	0	0	0	0	0	0	0	0		0	
	2300	Sub-contracts (for commercial purposes)						0					0	
	2301							0					0	
	2302							0					0	
	2303							0					0	
	2399	Sub-total	0	0	0	0	0	0	0	0	0		0	
2999	Component		50000	0	2685436	0	0	2735436	173000	863664	836886	861886	2735436	

	total													
								0					0	
30	TRAINING COMPONENT							0					0	
	3200	Group training						0					0	
	3201	Training for institutional professionals on EbA best practices and UNEP decision support framework. Includes venue hire, breakfast and lunch.	5000					5000	5000				5000	24
	3202	Annual technical "training for action" for on-the-ground activities (district officers, technicians and user groups). Includes training on: i) using a GPS; ii) forest EbA; iii) rangeland EbA; and iv) maintaining infrastructure for soil and water conservation. Annual "refresher" courses after the first year.	60000					60000	15000	15000	15000	15000	60000	24
	3203	Training for policy- and decision-makers on recommended revisions to policies, strategies and sectoral budgets to promote EbA		5000				5000			5000		5000	24
	3204	Training for policy- and decision-makers on upscaling and financing plan for EbA		5000				5000				5000	5000	24
								0					0	
	3299	Sub-total	65000	10000	0	0	0	75000	20000	15000	20000	20000	75000	
	3300	Meetings/Conferences						0					0	
	3301	1 workshop for all people involved in EbA	2000					2000	2000				2000	25
	3302	2 learning days in 12 VDCs in Y1, Y2, Y3 and Y4 @ 1000/learning day	96000					96000	24000	24000	24000	24000	96000	25
	3303	1000 budgeted each year for meetings to collect information on lessons learned	4000					4000	1000	1000	1000	1000	4000	25
	3304	Workshop to present educational toolkits @ 5000/workshop	5000					5000			5000		5000	25
	3305	8 meetings (with TU, the AFU, the NAST and the Department of Forest Resources and Survey (DoFRS) to define research topics to measure the short-, medium- and long-term impacts of EbA in Nepal) @ 100/meeting	800					800	800				800	25
	3306	5 meetings to develop a Memorandum of Understanding (MoU) between - and set up systems within - between NAST and the Department of Forest Resources and Survey (DoFRS) to conduct medium- and long-term research @ 100/meeting	500					500	500				500	25
	3307	15 BSc research grants (including supervisor top-ups) @ 6000/grant	90000					90000	22500	22500	22500	22500	90000	25
	3308	10 MSc research grants (including supervisor top-ups) @ 12000/grant	120000					120000	30000	30000	30000	30000	120000	25
	3309	3 PhD research grants (including supervisor top-ups) @ 27500/grant	82500					82500	20625	20625	20625	20625	82500	25
	3310	Meetings with technical experts to	2000					2000	500	500	500	500	2000	25

		prepare training material												
	3311	Meetings with other projects conducting policy reviews		400				400			400		400	25
	3312	Meetings with NPC and MoF		1000				1000				1000	1000	25
	3313	Meetings with NCCSP to provide technical information for LAPAs			800			800	200	200	200	200	800	25
	3314	Workshops in each district to design EbA protocols using selected species			1500			1500	1500				1500	25
	3315	Workshops to establish nursery management plans			7000			7000	7000				7000	25
	3316	Operational management plans			25000			25000	2500	7500	7500	7500	25000	25
	3317	Workshops in each district to validate topsoil and water conservation infrastructure			3429			3429	3429			0	3429	25
	3318	Meetings to strengthen/establish market links			1000			1000				1000	1000	25
								0					0	
	3399	Sub-total	402800	1400	38729	0	0	442929	116554	106325	111725	108325	442929	
3999	Component total		467800	11400	38729	0	0	517929	136554	121325	131725	128325	517929	
								0					0	
40	EQUIPMENT AND PREMISES COMPONENT							0					0	
	4100	Expendable equipment						0					0	
	4101	Office supplies				17000		17000	8000	3000	3000	3000	17000	
	4102	Internet				4000		4000	1000	1000	1000	1000	4000	28
	4103	Phone calls				8000		8000	2000	2000	2000	2000	8000	28
								0					0	
	4199	Sub-total	0	0	0	29000	0	29000	11000	6000	6000	6000	29000	
	4200	Non-expendable equipment						0					0	
	4201	Equipment for long-term monitoring @ 1000/VDC	12000					12000	12000				12000	27
	4202	Climate data for trajectories etc.			1000			1000	1000				1000	27
	4205	7 x nursery equipment @ 2000/nursery			14000			14000	14000				14000	27
	4206	3 x motorbikes for DFOs @ 2000/bike			6000			6000	6000				6000	27
	4208	GPS and software for DFOs			980			980	980				980	27
	4209	1 x truck for project activities			40000			40000	40000				40000	27
	4210	3 x motorbikes for DLOs @ 2000/bike			6000			6000	6000				6000	27
	4211	GPS and software for DLOs			780			780	780				780	27
	4212	2 x motorbikes for DSCOs @ 2000/bike			4000			4000	4000				4000	27
	4213	GPS and software for DSCOs			620			620	620				620	27
	4214	62 CLIPS @ 45/CLIP			2790			2790	690	700	700	700	2790	27
	4215	3 x motorbikes for DADOs @ 2000/bike			6000			6000	6000				6000	27
	4216	GPS and software for DADOs @ 260/GPS package			780			780	780				780	27

	4217	Establishment of fodder sapling harvesting and distribution (9 VDCs @ 2778 each)			30556			30556	7639	7639	7639	7639	30556	27
	4218	Establishment of Timur processing (9 VDCs @ 13333 each)			146667			146667	36667	36667	36667	36667	146667	27
	4219	Establishment of Allo processing (5 VDCs @ 11111 each)			77778			77778	19444	19444	19444	19444	77778	27
	4220	Establishment of Cardamom processing (7 VDCs @ 2778 each)			25000			25000	6250	6250	6250	6250	25000	27
	4221	Establishment of Bee-keeping (3 VDCs @ 4444 each)			22222			22222	5556	5556	5556	5556	22222	27
	4222	Establishment of processing other NTFPs (Asparagus, Taxus bacata, Swertia chiraita) (12 VDCs @ 2778 each)			38889			38889	9722	9722	9722	9722	38889	27
	4223	Establishment of eco-homestays (3 VDCs @ 4444 each)			22222			22222	5556	5556	5556	5556	22222	27
	4224	Establishment of Ghee production (9 VDCs @ 3,333 each)			36667			36667	9167	9167	9167	9167	36667	27
	4225	Establishment of mushroom production (12 VDCs @ 3333 each)			46667			46667	11667	11667	11667	11667	46667	27
	4226	Establishment of turmeric cultivation and processing (4 VDCs @ 4444 each)			26667			26667	6667	6667	6667	6667	26667	27
	4227	Establishment of ginger production and processing (4 VDCs @ 4444 each)			26667			26667	6667	6667	6667	6667	26667	27
	4228	Computer equipment				20500		20500	19000	500	500	500	20500	27
								0					0	
	4299	Sub-total	12000	0	582950	20500	0	615450	236850	126200	126200	126200	615450	
4999	Component total		12000	0	582950	49500	0	644450	247850	132200	132200	132200	644450	
								0					0	
50	MISCELLANEOUS COMPONENT							0					0	
	5100	Operation and maintenance of equipment						0					0	
	5101	Maintenance and petrol for DFO motorbikes @ 200/month/bike			23400			23400	1800	7200	7200	7200	23400	31
	5102	Maintenance and petrol for truck			14400			14400	3600	3600	3600	3600	14400	31
	5103	Maintenance and petrol for DLO motorbikes @ 200/month/bike			23400			23400	1800	7200	7200	7200	23400	31
	5104	Maintenance and petrol for DSCO motorbikes @ 200/month/bike			14400			14400		4800	4800	4800	14400	31
	5105	Maintenance and petrol for DADO motorbikes @ 200/month/bike			25200			25200	3600	7200	7200	7200	25200	31
								0					0	
	5199	Sub-total	0	0	100800	0	0	100800	10800	30000	30000	30000	100800	
	5200	Reporting costs						0					0	
	5201	Technical guidelines for training institutional professionals on EbA	500					500	500				500	29
	5202	Printing of educational toolkits	500					500			500		500	29
	5203	Technical guidelines to support annual training	2000					2000	500	500	500	500	2000	29

	5204	Reporting on annual technical training	4000					4000	1000	1000	1000	1000	4000	29
	5205	Reporting for policy, strategy and sectoral budget review		500				500			500		500	29
	5206	Developing policy briefs on recommended revisions to policies, strategies and sectoral budgets to promote EbA		1000				1000			1000		1000	29
	5207	Reporting for upscaling strategy		500				500				500	500	29
	5208	Reporting for financing plan		500				500				500	500	29
	5209	Reporting on selected species for EbA to restore forests and rangelands			500			500	500				500	29
	5210	Reporting on climate-resilient livestock management			500			500		500			500	29
	5211	Technical guidelines on managing livestock in the face of climate change			1000			1000		1000			1000	29
	5212	Technical guidelines on maintaining infrastructure			1000			1000			1000		1000	29
								0					0	
	5299	Sub-total	7000	2500	3000	0	0	12500	2500	3000	4500	2500	12500	
	5300	Sundry						0					0	
	5301							0					0	
	5302							0					0	
								0					0	
	5399	Sub-total	0	0	0	0	0	0	0	0	0		0	
	5400	Hospitality and entertainment						0					0	
	5401	12 district officers attending MCCICC meeting every year (100 each for accommodation)	4800					4800	1200	1200	1200	1200	4800	30
	5402	Site visits for 8 institutional professional (100 each for accommodation)	800					800	800				800	30
	5403	Site visits for director generals from relevant departments	1200					1200		400	400	400	1200	30
	5404	Environmental journalists annual visits to sites	1200					1200		400	400	400	1200	30
	5405	Annual site visits for schools	24000					24000		8000	8000	8000	24000	30
	5406	Site visits for representatives from NAST and DoFRS to establish long-term monitoring points	5040					5040	5040				5040	30
	5407	Site visits for 27 student-supervisor combinations to meetings	3240					3240				3240	3240	30
								0					0	
	5499	Sub-total	40280	0	0	0	0	40280	7040	10000	10000	13240	40280	
	5500	Evaluation						0					0	
	5501	National M&E Expert					57600	57600	14400	14400	14400	14400	57600	35
	5502	Inception workshop @ 5000					5000	5000	5000				5000	32
	5503	Inception workshop report @ 3000					3000	3000	3000				3000	32

	5504	Baseline Assessment @ 50000					40000	40000	40000				40000	33
	5505	Mid-term review @ 35000					35000	35000		35000			35000	33
	5506	Terminal Evaluation @ 35000					35000	35000				35000	35000	33
	5507	Annual PSC meeting @ 2000/meeting					8000	8000	2000	2000	2000	2000	8000	34
	5508	Annual audit @ 5000/audit					20000	20000	5000	5000	5000	5000	20000	34
								0					0	
	5599	Sub-total	0	0	0	0	203600	203600	69400	56400	21400	56400	203600	
5999	Component total		47280	2500	103800		203600	357180	89740	99400	65900	102140	357180	
99	GRAND TOTAL		784740	39700	4012935	205500	203600	5246475	853434	1464639	1430601	1497801	5246475	

Budget notes

#	Item	Description
1	Project Manager	This budget will be used as a salary for the national PM. He/she will coordinate day-to-day management of the project. See below for details. <u>Project personnel</u> • 48 months @ US$2,000/month
2	Driver	This budget will be used as the salary for the project diver. He/she will be responsible for driving the project vehicle. See below for details. <u>Administrative support</u> • 48 months @ US$300/month
3	Consultancy contract: Technical Advisor (80 days @ US$500/day; 4 flights @ US$2,500/flight)	This budget will be used to contract an expert to provide overall technical guidance for on-the-ground activities and project management. He/she will visit Nepal on an annual basis to travel to the project sites and consult with the project team to solve technical issues. <u>Component 3</u> • 20 days each year @ US$500/day • 4 flights @ US$2,500
4	Consultancy contract: National Climate and Socio-Economic Expert (488 days @ US$120/day)	This budget will be used to contract an expert to play an important role in the overall coordination of the project. In particular, he/she will be involved in the following activities: <u>Component 1</u> • Activity 1.1.1: 12 days in Year 1 @ US$120/day • Activity 1.2.3: 20 days in Year 1 @ US$120/day • Activity 1.2.4: 60 days @ US$120/day (15 days each year) • Activity 1.2.5: 180 days @ US$120/day (45 days each year) • Activity 1.3.5: 80 days @ US$120/day (10 days each year) • Activity 1.4.4: 8 days in Year 1 @ US$120/day • Activity 1.4.5: 5 days in Year 1 @ US$120/day • Activity 1.4.6: 21 days in Year 1 @ US$120/day

		Component 3 • Activity 3.1.1: 60 days in Year 1 @ US$120/day • Activity 3.1.4: 40 days @ US$120/day (10 days every year) • Activity 3.2.2: 12 days in Year 1 @ @ US$120/day • Activity 3.2.3: 30 days in Year 1 @ @ US$120/day
5	Consultancy contract: National Natural Resource Economist (460 days @ US$120/day)	This budget will be used to contract an expert to conduct a stocktaking exercise on EbA in South Asia with particular reference to Nepal. In addition, the NNRE will assess the cost to benefit ratios of these approaches to identify those that are most cost-effective: Thereafter, the NNRE will prepare training material and content for national stakeholders on the findings of these assessments. The NNRE will organise and lead the training sessions. Throughout the lifespan of the project, the NNRE will work with the DFOs, DLOs, DADOs and indigenous and local communities in the selected VDCs to develop climate-resilient CLIPs. In addition, he/she will provide technical guidance to implement these plans. In particular, he/she will be involved in the following activities: Component 1 • Activity 1.2.1: 40 days in Year 1 @ US$120/day • Activity 1.2.2: 30 days in Year 1 @ US$120/day Component 3 • Activity 3.4.1: 320 days @ US$120/day (80 days each year) • Activity 3.4.2: 40 days @ US$120/day (10 days each year) • Activity 3.4.3: 30 days in Year 4 @ US$120/day
6	Consultancy contract: National Public Education Expert (287 days @ US8$120/day)	This budget will be used to contract an expert to develop and coordinate awareness campaigns on EbA. In particular, he/she will work with a sub-contracted expert/company to develop radio shows and articles – to be published in face-to-face magazine – on the benefits of EbA in forests and rangelands. Radio shows will be aired and articles will be published in the second and fourth years of the LDCF-financed project. This expert will also be responsible for promoting intra- and inter-community dialogue on EbA. . In particular, he/she will be involved in the following activities: Component 1 • Activity 1.3.1: 40 days in Year 1 @ US$120/day • Activity 1.3.3: 120 days @ US$120/day (30 days in each year) • Activity 1.3.4: 80 days @ US$120/day (20 days in each year) • Activity 1.4.1: 20 days in Year 3 @ US$120/day • Activity 1.4.2: 20 days in Year 3 @ US$120/day • Activity 1.4.3: 7 days in Year 3 @ US$120/day
7	Consultancy contract: National Policy and Legal Expert (215 days @ US$120/day)	This budget will be used to contract an expert to conduct a review of relevant policies and strategies to identify entry points for EbA. Based on this assessment, the NP&LE will provide recommendations for revising policies strategies and sectoral budgets to promote EbA in forests and rangelands. In addition, the NP&LE will use information from Outcomes 1 and 3 to develop a national upscaling strategy for EbA in forests and rangeland. This expert will also work with the NPC and MoF to develop a financing plan for EbA in forests and rangelands. In particular, he/she will be involved in the following activities: Component 2 • Activity 2.1.1: 60 days in Year 3 @ US$120/day • Activity 2.1.2: 30 days in Year 3 @ US$120/day • Activity 2.1.3: 5 days in Year 3 @ US$120/day

		• Activity 2.2.1: 55 days in Year 4 @ US$120/day • Activity 2.2.2: 60 days in Year 4 @ US$120/day • Activity 2.2.3: 5 days in Year 4 @ US$120/day
8	Consultancy contract: National Biodiversity and Ecosystems Expert (60 days @ US$120/day	This budget will be used to contract an expert to visit the selected VDCs within the first six months of project inception to conduct biodiversity assessments at project sites. In particular he/she will be involved in the following activity: <u>Component 3</u> • Activity 3.1.3: 60 days in Year 1 @ US$120/day
9	Consultancy contract: National Agro-Ecological Expert (forests) (122 days @ US$120/day)	This budget will be used to contract an expert to play an important role in planning EbA to restore forests. In particular, he/she will be involved in the following activities: <u>Component 3:</u> • Activity 3.2.1: 30 days in Year 1 @ US$120/day • Activity 3.2.2: 12 days in Year 1 @ US$120/day • Activity 3.2.4: 80 days @ US$120/day (20 days in each year)
10	Consultancy contract: National Agro-Ecological Expert (rangelands) (152 days @ US$120/day)	This budget will be used to contract an expert to play an important role in planning EbA to restore rangelands. In addition, the NAER will conduct research and consultations in the selected VDCs to develop a report on managing livestock in the face of climate change. In particular, he/she will be involved in the following activities: <u>Component 3</u> • Activity 3.2.1: 30 days in Year 1 @ US$120/day • Activity 3.2.2: 12 days in Year 1 @ US$120/day • Activity 3.2.5: 80 days @ US$120/day (20 days in each year) • Activity 3.3.1: 30 days in Year 2 @ US$120/day
11	Consultancy contract: National Hydrology and Soil Expert (100 days @ US$120/day)	This budget will be used to contract an expert to identify appropriate designs for infrastructure for soil and water conservation in selected VDCs. Additionally, the NH&SE will work with the NCASEE to develop training content and technical guidelines on maintaining this infrastructure. In particular, he/she will be involved in the following activities: <u>Component 3:</u> • Activity 3.3.2: 80 days in Year 1 @ US$120/day • Activity 3.3.4: 20 days in Year 3 @ US$120/day
12	Consultancy contract: National Gender and Governance Expert (60 days @ US$120/day)	This budget will be used to contract an expert to conduct Gender and Governance Assessments (GGAs) at project inception. He/she will conduct a national-level GGA, and a GGA at each intervention site. In particular, he/she will be involved in the following activities: <u>Component 3</u> • Activity 3.1.2: 60 days in Year 1 @ US$120/day
13	Consultancy contract: National Monitoring and Evaluation	This budget will be used to contract an expert to monitor the overall project progress to enable adaptive management. He/she will be responsible for developing monthly reports to detail this progress. See below for details. <u>M&E:</u> • 120 days each year @ US$120/day

	Expert (480 days @ US$120/day)	
14	District Officers Top-up in Achham, Dolakha and Salyan	This budget will be used to provide a "top-up" for the District Officers in each district to coordinate all on-the-ground activities. See below for details. <u>Component 3</u> • 3 x DFOs for 39 months (Year 1, 2, 3 and 4) @ US$250/ DFO/month • 3 x DLOs for 39 months (Year 1, 2, 3 and 4) @ US$250/ DLO/month • 3 x DSCOs for 36 months (Year 2, 3 and 4) @ US$250/ DSCO/month • 3 x DADOs for 42 months (Year 1,2,3 and 4) @ US$250/ DADO/month
15	District technicians top-up in Achham, Dolakha and Salyan	This budget will be used to provide a "top-up" for the technicians in each district to coordinate on-the-ground activities, under the guidance of the District Officers. See below for details. <u>Component 3</u> • 15 x forest technicians for 39 months (Year 1, 2, 3 and 4) @ US$200/technician/month • 6 x rangeland technicians for 39 months (Year 1, 2, 3 and 4) @ US$200/technician/month • 6 x soil conservation technicians for 36 months (Year 1, 2, 3 and 4) @ US$200/technician/month • 6 x livelihood development technicians for 42 months (Year 1, 2, 3 and 4) @ US$200/technician/month
16	Administrative and Financial Officer (48 months @ US$100 /month	This budget will be used as a salary for the AFO. He/she will assist the PM to coordinate day-to-day management of the project. In addition, he she will manage administrative and financial tasks. <u>Project Management:</u> • 48 months @ US$100 /month
17	Extra travel	This budget will be used for all additional travel expenses (petrol/bus tickets etc.) for site visits, workshops and training. See below for details <u>Component 1</u> • Activity 1.1.2: travel for District Officers @ US$4,800/year in Year 1, 2, 3 and 4 • Activity 1.2.3: travel for national stakeholders from MoSTE, MoAD and MoFSC to sites in Year 1 @ US$3,200 • Activity 1.3.4: travel for director generals from relevant departments to intervetion sites in Year 2, 3 and 4 @ US$ 4800 • Activity 1.3.4: travel for environmental journalists to intervetion sites in Year 2, 3 and 4 @ US$4,800 • Activity 1.3.4: travel for schools to intervetion sites in Year 2, 3 and 4 @ US$72,000 • Activity 1.4.6: travel to set up long-term monitoring points in Year 1 @ US$2,500 • Activity 1.4.8: travel for students/supervisors to meetings in Year 4 @ US$108,000 • Activity 1.2.5: travel for NCASEE to all sites to conduct annual training in Year 1, 2, 3 and 4 @ US$6,000 <u>Component 3</u> • Activity 3.1.1: travel for NCASEE to conduct socio-economic assessment in Year 1 @ US$1,000 • Activity 3.1.2: travel for NG&GE to conduct governance and gender assessment in Year 1 @ US$1,000 • Activity 3.1.3: travel for NB&EE to conduct biodiversity assessment in Year 1 @ US$1,000 • Activity 3.2.2: travel to/at sites for workshops to design protocols in Year 1 @ US$1,200

		• Activity 3.2.3: travel to/at sites to establish nurseries in Year 1 @ US$1,000 • Activity 3.2.4: additional travel for forest restoration team in Year 1, 2, 3 and 4 @ US$8,600 • Activity 3.2.5: additional travel for rangeland restoration team in Year 1, 2, 3 and 4 @ US$8,000 • Activity 3.3.2: additional travel for identifying infrastructure for topsoil and water conservation in Year 1 @ US$1,000 • Activity 3.3.3: additional travel for technicians and team for constructing topsoil and water conservation in Year 2, 3 and 4 @ US$11,700 • Activity 3.4.2: additional travel to develop CLIPs in Year 1, 2, 3 and 4 @ US$20,000
18	Sub-contract: awareness campaign	This budget will be used to contract an agency to develop and implement 2 awareness campaigns on EbA, one in the second year of the LDCF-financed project and one in the last year. Includes 2 months radio show production, 2 weeks airing programme, publish 8000 copies of face-to-face @ 1.5/copy, 2750 for transport. See below for details. <u>Component 1</u> • Activity 1.3.2: 2 x awareness campaigns (I in Year 2 and 1 in Year 4) @ US$25,000/campaign.
19	National Project Manager	This budget will be used to hire a Project Manager (see TORs in Appendix X and Section 4). See below for details. <u>Project management</u> • Project manager @ US$2,000/month (US$96,000 in total)
20	Sub-contract: nursery construction	This budget will be used to sub-contract a company to build nurseries. See below for details. <u>Component 3</u> • Activity 3.2.3: 7 x nurseries @ US$7,000/nursery
21	Sub-contract: forest restoration using EbA	This budget will be used to sub-contract an organisation for EbA in forests. See below for details. <u>Component 3</u> • Activity 3.2.4: 1,342 ha forest @ 1,000/ha (including purchasing species, transport, planting, conservation and monitoring)
22	Sub-contract: rangeland restoration using EbA	This budget will be used to sub-contract an organisation for EbA in rangelands. See below for details. <u>Component 3</u> • Activity 3.2.5: 790 ha rangelands @ US$600/ha (including purchasing species, transport, planting, conservation and monitoring).
23	Sub-contract: techniques for topsoil and water conservation	This budget will be used to sub-contract an organisation to construct infrastructure for topsoil and water construction. See below for details. <u>Component 3:</u> • Activity 3.3.3: at least 752 ha improved terraces (60 in each VDC) @ US$889/ha, 12 bio-engineering plans (1 for each VDC) @ US$2,220/plan, 36 filtering dams (3 in each VDC) @ US$2,220/dam, 36 water conservation ponds (3 in each VDC) @ US$889/pond and 24 community rainwater harvesting devices (2 in each VDC) @ US$556/device.
24	Training	This budget will be used for training. See below for details. <u>Component 1</u> • Activity 1.2.2: Training for institutional professionals on EbA best practices and UNEP decision support framework (includes venue hire, breakfast and lunch) in Year 1 @ US$5,000. • Activity 1.2.5: Annual technical "training for action" for on-the-ground activities (district officers, technicians and user groups) undertaken by NCASEE. Includes training on: i) using a GPS; ii) forest EbA; iii) rangeland EbA; and iv) maintaining infrastructure for soil and water conservation. Also includes annual "refresher" courses after the first year. Training in Year 1, 2, 3 and 4 @

		US$15,000/year (@ US$60,000 in total). <u>Component 2</u> • Activity 2.1.3: Training for policy- and decision-makers on recommended revisions to policies, strategies and sectoral budgets to promote EbA in Year 3 @ US$5,000. • Activity 2.2.3: Training for policy- and decision-makers on upscaling and financing plan for EbA in Year 4 @ US$5,000.
25	Meetings /conferences/ workshops	This budget will be used workshops/meetings to collate information. See below for details. <u>Component 1</u> • Activity 1.2.1: 1 workshop for all people involved in EbA in Year 1 @ US$2,000 • Activity 1.3.3: 2 learning days in 12 VDCs in Year 1,2,3 and 4 (96 in total) @ US$1000/learning day • Activity 1.3.5: Meetings to collect information on lessons learned in Year 1,2,3 and 4 @ US$1,000/meeting batch • Activity 1.4.3: 1 workshop to present educational toolkits in Year 3 @ US$5000 • Activity 1.4.4: 8 meetings with TU, the AFU, the NAST and the Department of Forest Resources and Survey (DoFRS) in Year 1 to define research topics to measure the short-, medium- and long-term impacts of EbA in Nepal @ US$100/meeting • Activity 1.4.5: 5 meetings in Year 1 to develop a Memorandum of Agreement (MoA) between - and set up systems within - between NAST and the Department of Forest Resources and Survey (DoFRS) to conduct medium- and long-term research @ US$100/meeting • Activity 1.2.3: Meetings with technical experts in Year 1, 2, 3 and 4 to prepare training material @ US$500/year (US$2,000 total) <u>Component 2:</u> • Activity 2.2.1: meetings with other projects conducting policy reviews in Year 3 @ US$400 • Activity 2.2.2: meetings with NPC and MoF in Year 4 @ US$1,000. • <u>Component 3:</u> • Activity 3.1.4: meetings with NCCSP to provide technical information for LAPAs in Year 1, 2, 3 and 4 @ US$200/year) • Activity 3.2.2: 1 workshop in each district (3 in total) in Year 1 to design EbA protocols using selected species @ US$500/workshop (@ US$1,500 in total). • Activity 3.2.3: 1 workshop at each nursery location (3 in total) in Year 1 to establish nursery management plans @ US$1,000/ workshop (US$7,000 in total) • Activity 3.2.6: update at least 100 user groups operational management plans @ 250/plan (US$25,000 in total) • Activity 3.3.2: workshop in each district (3 in total) in Year 1 to validate topsoil and water conservation infrastructure @ US$1,143/workshop (@ US$3,429 in total) • Activity 3.4.3: 10 meetings in Year 4 to establish market links @ US$100/meeting (US$1,000 in total)
26	Research grants	This budget will be used for research grants for 15 BSc, 10 MSc and 3 PhD students. Includes stipends for supervisor “top-ups”. See below for details. <u>Component 1</u> • Activity 1.4.7: Research grants (15 BSc @ US$6,000/grant; 10 MSc @ US$12,000/grant and 3 PhD @ US$27,500/grant)
27	Non-expendable equipment	This budget will be used to purchase equipment for the LDCF-financed project. See below for details. <u>Component 1</u> • Activity 1.4.6: purchase of equipment for long-term monitoring in Year 1 @ US$1000/VDC (US$12,000 in total)

		Component 3 • Activity 3.2.1: purchase of climate data for trajectories etc. in Year 1 @ US$1000 • Activity 3.2.3: purchase of 7 x nursery equipment in Year 1 @ US$2,000/nursery (@ US$14,000 in total) • Activity 3.2.4: purchase of equipment for implementing forest EbA in Year 1 (3 motorbikes for DFOs, GPS and software combination, truck for project activities) @ US$60,980 • Activity 3.2.5: purchase of equipment for implementing rangeland EbA in Year 1 (3 motorbikes for DLOs, GPS and software combination) @ US$6,780 • Activity 3.3.3: purchase of equipment for constructing topsoil and water conservation infrastructure in Year 1 (2 motorbikes for DSCOs, GPS and software combination) @ US$4,620 • Activity 3.4.2: purchase of equipment for developing CLIPS in Year 1 (62, CLIPS, 3 motorbikes for DADOs, GPS and software combination) @ US$9,570. • Activity 3.4.2: purchase of equipment (including training) for CLIPS in Year 1, 2, 3 and 4. Includes: i) fodder sapling harvesting and distribution (9 VDCs @ US$2778 each); ii) Timur processing (9 VDCs @ US$13333 each); iii) Allo processing (5 VDCs @ US$11111 each); iv) Cardamom processing (7 VDCs @ US$2778 each); v) Bee-keeping (3 VDCs @ US$4444 each); vi) processing other NTFPs (Asparagus, Taxus bacata, Swertia chiraita) (12 VDCs @ US$2778 each); vii) eco-homestays (3 VDCs @ US$4444 each); viii) Ghee production (9 VDCs @ US$3,333 each); ix) mushroom production (12 VDCs @ US$3333 each); x) turmeric cultivation and processing (4 VDCs @ US$4444 each); and xi) ginger production and processing (4 VDCs @ US$4444 each). (US$500,000 total). Project Management: • 13 laptops , 4 desktops and 4 printers and cartridge packs @ US$20,500 • Office supplies @ US$17,000
28	Expendable equipment	This budget will be used to purchase expendable office equipment. See below for details. Project Management: • Internet @ 4,000 • Phone calls @ US$8,000
29	Reporting costs	This budget will be used to develop reports/documents for the LDCF-financed project. See below for details. Component 1 • Activity 1.2.2: technical guidelines for training institutional professionals on EbA @ in Year 1 US$500 • Activity 1.4.2: printing of educational toolkits in Year 3 @ US$500 • Activity 1.2.4: technical guidelines to support annual training in Year 1,2,3 and 4 @ US$500/year (US$2,000 in total). • Activity 1.2.5: annual technical training reporting @ US$1,000/year (@ US$4,000 in total). Component 2 • Activity 2.1.1: reporting on reviews of policies, strategies and budgets in Year 3 @ US$500 • Activity 2.1.2: developing policy briefs on recommended revisions to policies, strategies and sectoral budgets to promote EbA in Year 3 @ US$1,000 • Activity 2.2.1: reporting on upscaling strategy in Year 4 @ US$500 • Activity 2.2.2: reporting on financing plan in Year 4 @ US$500 Component 3

		• Activity 3.2.1: reporting on selected species for EbA to restore forests and rangelands in Year 1 @ US$500 • Activity 3.3.1: reporting on managing livestock in the face of climate change in Year 2, and developing technical guidelines on managing livestock in the face of climate change in Year 2 @ US$1,000 • Activity 3.3.4: developing technical guidelines on maintaining infrastructure for soil and water conservation in Year 3 @ US$1,000
30	Hospitality and entertainment	This budget will be used for hospitality and entertainment for official visitors to intervetion sites. See below for details. <u>Component 1</u> • Activity 1.1.2: 12 District Officers attending MCCICC meeting every year @ US$100/DO/year (@ US$ 4,800 in total) • Activity 1.2.3: Site visits for 8 institutional professionals in Year 1 @ US$100 each (US$800 in total) • Activity 1.3.4: site visits for director generals (US$400 in total each year), environmental journalists (US$400 in total each year) and schools (US$800 in total each year) in Year 2,3 and 4. US$26,400 in total • Activity 1.4.6: Site visits for representatives setting up long-term monitoring points in Year 1 @ US$5,040 • Activity 1.4.8: Site visits for students and supervisors attending meetings in Year 4 @ US$3,240 in total
31	Operation and maintenance of equipment	This budget will be used for petrol and maintenance/repairs of equipment. See below for details. <u>Component 3</u> • Activity 3.2.4: i) maintenance and petrol for DFO motorbikes in Year 1,2,3 and 4 (39 months) @ US$200/month/bike; and ii) maintenance and petrol for truck in Year 1,2,3 and 4 @ US$3,600/year. • Activity 3.2.5: maintenance and petrol for DLO motorbikes in Year 1,2,3 and 4 (39 months) @ US$200/month/bike • Activity 3.3.1: Maintenance and petrol for DSCO motorbikes in Year 2,3 and 4 (36 months) @ US$200/month/bike • Activity 3.4.2: Maintenance and petrol for DADO motorbikes in Year 1,2,3 and 4 (48 months) @ US$200/month/bike
32	Inception workshop and report	This budget will be used to conduct the inception workshop and develop the inception report. <u>M&E</u> • Inception workshop @ 5,000; inception report @ US$3,000
33	Baseline, mid-term and terminal evaluations	This budget will be used for the baseline, mid-term and terminal evaluations. An independent M&E consultant will be contracted to conduct these assessments. <u>M&E</u> • Baseline assessment @ 40,000; mid-term and terminal evaluations @ US$35,000 each.
34	Annual audits and PSC meetings	This budget will be used for annual audits and PSC meetings. The audits will be conducted by an external auditing firm. <u>M&E</u> • Annual PSC meeting @ 2,000/meeting; annual audit @ US$5,000/audit
35	Consultancy contract: National Monitoring & Evaluation Expert (480 days @ US$120/day)	This budget will be used to contract an expert to monitor the overall project progress to enable adaptive management. He/she will be responsible for developing monthly reports to detail this progress. The particular roles of this expert will be detailed during the project inception workshop, during which the project supervision plan will be developed. See below for details. <u>M&E</u> 120 days every year @ US$120/day

ANNEX G: MONITORING AND EVALUATION BUDGET AND WORKPLAN

See Section C above.

ANNEX H: PROJECT IMPLEMENTATION ARRANGEMENTS

The LDCF-financed project will be implemented over a period of four years according the workplan. This workplan – and the project budget – will be validated at a project inception workshop. In addition, a baseline assessment will be conducted soon after project inception to collect outstanding baseline data and verify the project results framework. Implementation of the LDCF-financed project will be informed by lessons learned from ongoing restoration activities and EbA projects in Nepal.

MoSTE will be executing the project, in collaboration with the MoFSC and the MoAD. These ministries will work together to coordinate and implement project activities. The activities and budget will be channeled through the forestry sector and other relevant organizations. In addition, the fund flow mechanism will be on thematic basis. The MoF will be the ultimate authority in receiving the foreign support.

UNEP will be the IA and provide technical assistance for implementing the LDCF-financed project activities[57]. A Task Manager (TM) will be appointed for this technical role. The TM will be based in UNEP Department of Environmental Policy Implementation (DEPI/GEF) Climate Change Adaptation Unit (CCAU) and will be responsible for project supervision to ensure consistency with GEF and UNEP policies and procedures. The TM will formally participate in: i) yearly PSC meetings; ii) the mid-term review and terminal evaluation; iii) the clearance of half-yearly and annual reports; and iv) the technical l review of project outputs.

Management Structure

The management structure of the LDCF-financed project is presented in the table below and Section 4 in the project document.

Management structure of the proposed LDCF-financed project

Members	Mandate
Lead Project Agency	
MoSTE	MoSTE will house the project and will be responsible for its overall responsibility. The lead department within MoFSC will be DoSCWM.
PSC	
• Secretary MoSTE(chair) • Joint Secretaries x 1 MoSTE • Joint Secretary x 1 MoFSC • Joint Secretary x 1 MoAD • Joint Secretary x 1 MoFALD • Joint Secretary x 1 • MoF • Director General x 1 DoF • Director General x 1 DoSCWM • Director General x 1 DoA • Director General x 1 DoLS • Representatives from project districts	This committee will include: i) central level representatives from MoFSC, MoSTE, MoAD, MoF and MoFALD; ii) the PM as member secretary; iii) UNEP TM; and iv) TA. The mandate of the PSC will include: i) overseeing project implementation; and ii) reviewing annual workplans and project reports. The PSC will meet at least twice a year – with ad hoc meetings held as and when necessary – to discuss the project's main performance indicators and provide strategic guidance. Any changes made to the RBF or timeline of project activities by the PSC will be communicated to the PMU by the PM. At the discretion of the PSC, the following stakeholders will be invited to participate in the PSC: i) district officers; ii) leaders from indigenous and local communities; and iii) representatives from civil society organisations working in the same districts. These invitations will be extended to promote local ownership and guidance for the project.

[57] see Appendix 14 for information on UNEP's comparative advantage

• PM • Chief CC Section • (MoSTE) • UNEP TM • TA	
PMU	
• PM • Administration and Financial Officer (AFO) • National M&E expert	A full-time PM will be hired by MoSTE S/he will coordinate day-to-day management of the project. S/he will operate in a transparent and effective manner in line with all budgets and approved work plans by ensuring the aphorism "Value for Money". In addition, the PM will report on a fortnight basis to the TM and the TA on the progress and challenges encountered during the execution of activities. In particular, the PM will: i) lead the overall planning, implementation and monitoring of the project; ii) collate on-the-ground information for UNEP progress reports; iii) manage congenial relationships with stakeholders; iv) organise the PSC meetings; v) provide technical support to the project, including measures to address challenges to project implementation; vi) manage the project budget and resource allocation; and vii) participate in training activities, report writing and facilitation of consultant activities that are relevant to his/her area of expertise. Through a Decision of the Secretary MoSTE, the PM will be provided adequate execution authorities and accountabilities. The PM will be supported by an AFO to conduct day-to-day administration. This officer will also prepare quarterly financial reports to track internal expenditures that will be made available to the PSC for review. The PMU will also include national M&E experts to support the PM in monitoring project activities and progress. The duties of these experts will include: i) establishing and managing a performance-monitoring framework; and ii) supervising the district officers in each of the three main intervention areas. As part of his/her responsibilities, the national M&E specialist will oversee and monitor the application of gender-disaggregated indicators. The international M&E expert will provide oversight and guidance of monitoring. Budget disbursement will be managed by UNEP to facilitate timely expenditure, disbursement and transparency. Financial reports will be prepared quarterly based on the UNEP's Integrated Management Information System (IMIS), and will be made available to MoSTE and other members of the PSC for review
Supporting staff	
• National Technical Experts (NTEs) • Driver	National Technical Experts (NTEs) will be hired for specific tasks that cannot be carried out by existing government staff. The roles of the NTEs are described in the draft procurement plan (see Appendix 14). A driver will be hired by the LDCF-financed project to transport management and technical staff to the intervention sites.
DPMUs	
In each district: • District Forest Officer (DFO) • District Soil Conservation Officer (DSCO) • DLO • DADO • Five forest technicians • Two Soil Conservation Technicians • Two Livestock Support Technicians	Ministry-staffed DPMUs will be established in Achham, Dolakha and Salyan. These units will be the "implementing arms" in each of the districts. Therefore, they will work in close collaboration – and communicate frequently – with the central-level PMU. These units will be housed within the District Forest Offices – or any convenient place – in Achham, Dolakha and Salyan and will include the district officers from DoF, DoSCWM, DoLS and DoA (DFOs, DSCOs, DLOs and DADO) in each of the districts. The DPMUs will ensure: i) the timely execution of activities and achievement of expected deliverables; ii) dialogue between stakeholders particularly at district and local level; and iii) ensure greater participation of indigenous and local communities in project activities. To achieve this, the district officers will be required to visit the intervention sites regularly. Field technicians within each of these departments will support the district officers. This will include the following staff in each district: i) five forest technicians; ii) two soil conservation technicians; iii) two livestock support technicians; and iv) two agricultural development technicians. If the technicians that are currently working within these district departments is do not have capacity to take on more work, members of indigenous and/or

• Two Agricultural Development Technicians	local communities can be hired as technicians. A District Project Coordinator (DPC) will lead the DPMUs. This coordinator will likely be the DFO. The DPC will: i) develop progress reports for activities that will be implemented on the ground in each of the districts; and ii) synchronise activities within and between agencies, VDCs and other local-level stakeholders. The role that the officers and technicians play in each of the project activities is described in Section 5 (Stakeholder Participation).
Indigenous and Local Communities	
• WUGs • Leasehold Forestry User groups • CFUGs • Farmers User groups • Other existing User • LDCF Working User groups • Social mobilisers • DEECCCCs	Indigenous and Local Communities will participate in project planning and implementation at a VDC level. If possible, the technical capacity of existing user groups will be strengthened to implement project activities. Depending on the activity that is being implemented, the most appropriate user groups will be included in the design and implementation. For example, LFUGs or CFUGs will be involved in the design and implementation of EbA. In addition, WUGs will be encouraged to participate in as many project activities as possible. If appropriate user groups do not currently exist in a particular VDC, new user groups will be established by the LDCF-financed project. Champions of these user groups will be selected as social mobilisers. These individuals will work in close collaboration – and communicate frequently – with the relevant district officer/s. To promote intra- and inter-community dialogue and learning, the DEECCCC in Achham will include EbA in their dialogue. In Dolakha and Salyan, where these mechanisms do not currently exist, the LDCF-financed project will establish these committees.
Project Managers Coordination Working Group	
PMs and TAs of: • the LDCF-financed project; • the SCCF-funded project; • the BMUB-funded project; • baseline projects; • NCCSP; • SPCR; and • Other projects that are/will be being conducted in Achham, Dolakha and Salyan.	A Project Managers' Coordination Working Group (PMCWG) will be established to improve the coordination and dialogue between the ongoing initiatives including the SCCF-GEF funded project implemented by UNEP. The PMWG will include the TAs, the managers of the baseline projects and representatives of other aligned projects (see Section 2.7 in the Project Document). Meetings for the PMWG will be held twice a year. They will work towards: i) promoting synergy between projects; ii) avoiding the duplication of activities; iii) optimising the effects of the project interventions; and iv) sharing lessons learned.

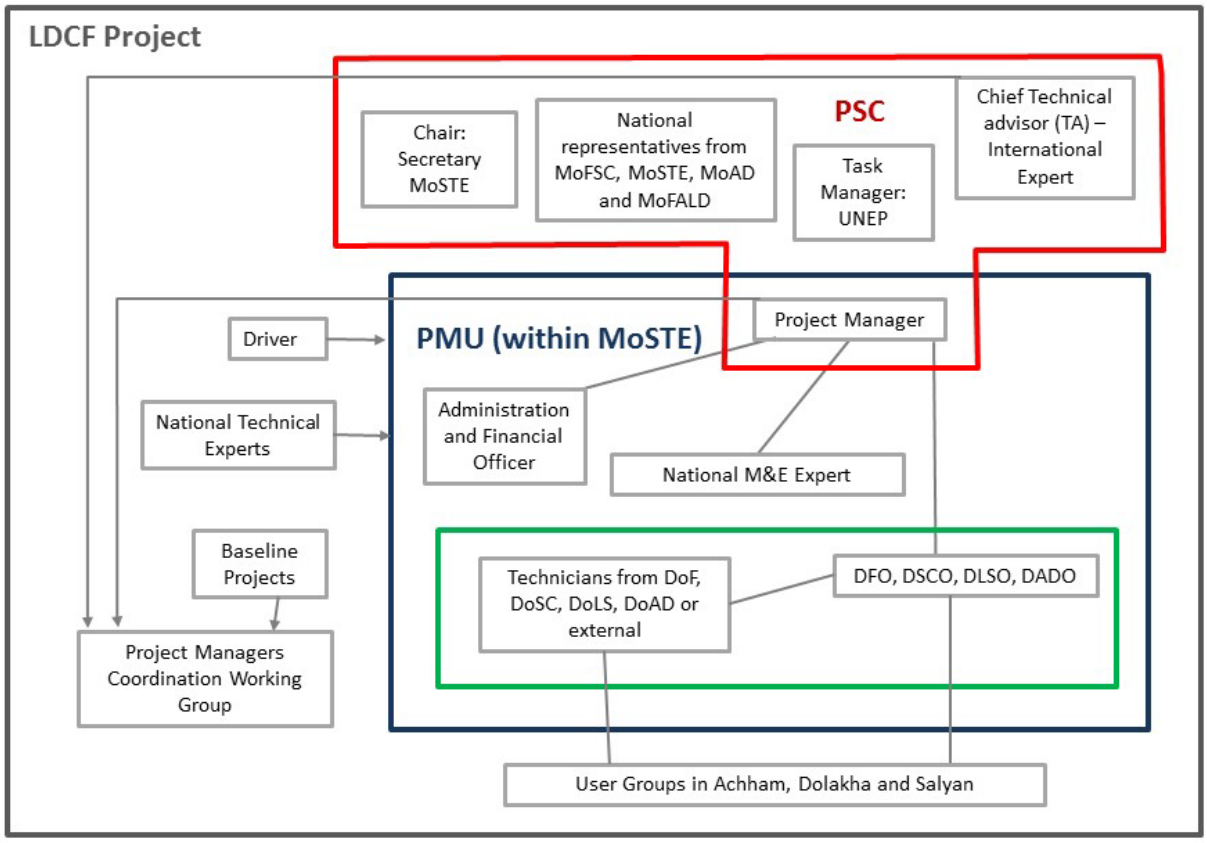

Figure 2. Organogram of the project management structure. The PMU will be housed within MoSTE.

ANNEX I: KEY DELIVERABLE AND BENCHMARKS

See Annex 1 (Results Framework) and Annex G (Monitoring and Evaluation budget and workplan).

ANNEX J: TRACKING TOOLS

Outcome and Output Indicators	Metric	Target at CEO Endorsement	Baseline
Objective 1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level			
Outcome 1.2: Reduced vulnerability in development sectors			
Indicator 1.2.14 **Vulnerability and risk perception index (Score) – Disaggregated by gender**[58]	**Score - Disaggregated by gender.** ***Score for this indicator will have to be assigned based on the results of a conducted survey. The score ranges from 1 to 5 and below are the explanations of the rankings:*** ***1. Extreme vulnerability*** ***2. High Vulnerability*** ***3. Medium Vulnerability*** ***4. Low Vulnerability*** ***5. No Vulnerability***	**Female: 4**	**Female: 2**
		Male: 4	**Male: 2**
Output 1.2.1: Vulnerable physical, natural and social assets strengthened in response to climate change impacts, including variability			
Indicator 1.2.1.5 **Sustainable water management practices introduced to increase access to irrigation water under existing and projected climate change**	**Type and level:**		
	Community rainwater harvesting devices	**At least 24**	**0**
	Filtering dams	**At least 36**	**0**
	Water conservation ponds	**At least 36**	**0**
Objective 2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level			
Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses			
Indicator 2.2.1 **No. and type of targeted institutions with increased adaptive capacity**	**Number and type**	**After**	**Before**
	National government institutions	**4**	**0**
	Local government institutions	**9**	**0**
	Community groups	**36**	**0**
Output 2.2.1: Adaptive capacity of national and regional centers and networks strengthened to rapidly respond to extreme weather events			
Indicator 2.2.2.1 **No. of staff trained on technical adaptation themes (disaggregated by gender).** **Themes:** **- Monitoring/Forecasting capacity (Early Warning System (EWS), Vulnerability mapping system)** **- Policy reform** **-Capacity development**	**Capacity development** **Sustainable forest management**	**Male: 70**	**Male: 0**
		Female: 25	**Female: 0**

[58]Results from Outcome Indicator 3 in the Results Framework (Appendix 3) will be used for this tracking tool.

Sustainable forest management **- Agriculture diversification** **- Improved resilience of agricultural systems** **- Strengthening infrastructure** **- Supporting livelihoods** **- Mangrove reforestation** **- Coastal drainage/irrigation system** **- Community-based adaptation** **- Erosion control/soil water conservation** **- Microfinance** **- Special Programs for women** **- Livelihoods** **- Water storage** **- Information and communication technologies (ICT) and information dissemination** **- Other**			
Objective 3: Promote transfer and adoption of adaptation technology			
Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer			
Indicator 3.2.1 **Policy environment and regulatory framework for adaptation-related technology transfer established or strengthened (Score)**	**Score (1-5) disaggregated by gender:** **1. No policy/regulatory framework for EbA in place.** **2. Policy/regulatory frameworks for EbA have been discussed and formally proposed.** **3. Policy/regulatory framework for EbA been formally proposed but not adopted.** **4. Policy/regulatory framework for EbA have been formally adopted by GoN but no enforcement mechanism.** **5. Policy/regulatory framework for EbA is enforced.**	**After** **3 (at least)**	**Before** **1**
Output 3.2.2: Skills increased for relevant individuals in transfer of adaptation technology			
Indicator 3.2.1.1 **No. of individuals trained in EbA (disaggregated by gender)**	**No. and type**	**After**	**Before**
	National and district government: National stakeholders and District Officers from MoFSC, MoSTE and MoAD. **Community members in selected VDCs in Achham, Dolakha and Salyan.**	**At least 150**	**0**

ANNEX K: OFP ENDORSEMENT LETTER

Government of Nepal
MINISTRY OF FINANCE
(Foreign Aid Coordination Division)

SINGHADURBAR
KATHMANDU, NEPAL

FACD/GEF/100/069/70

November 9, 2012

Dr. Maryam Niamir-Fuller
UNEP GEF Coordinator
PO Box 30552
00100 Nairobi, Kenya
Email: maryam.niamir-fuller@unep.org

Subject: **Endorsement Letter for Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal**

Dear Dr. Fuller,

In my capacity as GEF Operational Focal Point for Nepal, I confirm that the above project proposal (a) is in accordance with the government's national priorities, including the priorities identified in the national plan of action (profiles 5 and 7), Nepal's climate change policy 2011, ongoing interim national development plan and the national capacity Self Assessment and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stake holders, including the global environmental conventions focal points.

I am pleased to endorse the preparation of the above project proposal with the support of the GEF Agency (ies) listed below. If approved, the proposal will be prepared and implemented by UNEP. I request the GEF Agency (ies) to provide a copy of project document before it is submitted to the GEF Secretariat for CEO endorsement.

The total financing (from GEFTF, LDCF and/or SCCF) being requested for this project is US $ 5,871,122 inclusive of project preparation grant (PPG), if any, and Agency fees for project cycle management services associated with the total GEF grant.. The financing requested for Nepal is detailed in the table below:

Source of GEF Funds	GEF Agency	Focal Area	Amount In (US $)			
			Project Preparation	Project	Fee	Total
LDCF	UNEP	CC	100,000	5,246,475	524,647	5,871,122
Total GEF Resources			100,000	5,246,475	524,647	5,871,122

Sincerely yours,

S. Ghimire
Joint Secretary and GEF Focal Point

Copy to:
Mr. Keshab P. Bhattarai, Secretary, Ministry of Environment, Science and Technology

Tel: Minister 4211809, Secretary 4211332, Foreign Aid Division 4211372, 4211867
Fax No. 4211164, 4211165, Website:www.mof.gov.np

ANNEX L: COFINANCING COMMITMENT LETTERS FROM PROJECT PARTNERS

नेपाल सरकार

कृषि विकास मन्त्रालय

नीति तथा अन्तरराष्ट्रिय सहायता समन्वय महाशाखा

फोन नं. ४२११६३५, ४२११८०८, ४२११५३२, ४२११६६५, ४२११६८७, ४२११५१५, ४२११५४०

फ्याक्स: ४२११५३५

सिंहदरबार, काठमाडौं

पत्र संख्या:

च.नं.: नीअसस/GEF/०७१/७२/९७

मितिः २०७१/०६/४

नेपाल सरकार
विज्ञान,प्रविधि तथा वातावरण मन्त्रालय
दर्ता नं. 9262
दर्ता मिति 06/06/08

विषयः Co-financing सम्वन्धमा ।

श्री विज्ञान, प्रविधी तथा वातावरण मन्त्रालय
सिंहदरवार ।

तहाको च.नं २६१ मिति २०७१/०४/२८ को पत्रको सिलसिलामा लेखिदैंछ । सोसम्वन्धमा GEF को सहयोगमा दोलखा, सल्यान र अछाम जिल्लामा संचालन हुने गरी प्रस्तावित Catalyzing Ecosystem Restoration for Resilient Natural Capital and Rural Livelihoods on Degraded Forest and Rangelands विषयक आयोजनाको Project Identification Form (PIF) मा प्रस्ताव गरिए वमोजिम कृषि विकास मन्त्रालय अन्तर्गतका जिल्लास्थित निकाय, जिल्लामा कार्यान्वयनमा रहेका आयोजना र केन्द्रिय निकायवाट संचालन हुने कार्यालयहरुवाट तपसिलका शिर्षकहरुमा जम्मा ने.रु ५० करोड वरावरको Co financing in Kind को रुपमा उपलव्ध गराउन यस मन्त्रालयको सहमति रहेको व्यहोरा नेपाल सरकार सचिवस्तरको मिति २०७१०७/०४ को निर्णयानुसार अनुरोध गर्दछु ।

क्र.स	विवरण	आयोजना वर्ष				कैफियत
		पहिलो वर्ष	दोश्रो वर्ष	तेश्रो वर्ष	चौथो वर्ष	
१	अनुगमन मूल्याकन	१.५	१.५	२.५	२.५	
२	कर्मचारी तलव	४.०	६.०	६.०	६.५	
३	कार्यालय संचालनस्थल	१.०	१.०	१.०	१.०	
४	कार्यालय संचालन खर्च	१.५	१.५	१.५	१.५	
५	प्रयोगशाला उपकरण	१.५	१.५	२.५	२.०	
६	अन्य विविध खर्च	०.५	०.५	०.५	०.५	
	जम्मा (१-६)	१०	१२	१४	१४	५० करोड

महेन्द्र नाथ पौडेल
वरिष्ठ कृषि अर्थविज्ञ

वोधार्थः
श्री खाद्य सुरक्षा तथा वातावरण महाशाखा
कृषि विकास मन्त्रालय ।

(नोटः कृपया पत्राचार गर्दा प.सं., च.नं. र मिति अनिवार्य रुपमा उल्लेख गरिदिनु होला ।)
Email: memoad@moad.gov.np, Website: www.moad.gov.np

Date: 21 October, 2014

Ref. no: 97

Government of Nepal

Ministry of Agriculture Development

Policy and International Funding Co-ordination Division

Sub: *Co-financing*

Ministry of Science, Technology and Environment
Singhadurbar

This letter has been written based on your later dated 13 Aug., 2014 ref. no. 261 Ministry of Agriculture Development is prepared to co-funding the GEF funded "Catalyzing Ecosystem Restoration for Resilient Natural Capital and Rural Livelihoods on Degraded Forests and Rangeland of Nepal" based on the decision made by the Permanent Secretary Level (Government of Nepal) dated 21 October, 2014. The fund has been estimated with reference to the Programs of Central level and District Level Institutions and projects being implemented in the districts. The total co-funding will be equivalent to US $ 5.108 Million (500 Million Nepalese Currency) in kind as per the PIF document. The co-funding will be available in yearly basis as follows:

S.N.	Particulars	Project Year				Remarks (million) Nrs.
		1st	2nd	3rd	4th	
1.	Monitoring and Evaluation	15	15	25	25	US$ 1 = Nrs.97.88 (based on 21 October, 2014/ NRB, Buying rate)
2.	Salary of the Staffs	40	60	60	65	
3.	Office Space	10	10	10	10	
4.	Office management	15	15	15	15	
5.	Laboratory and Equipment	15	15	25	20	
6.	Miscellaneous	05	05	05	05	
	Total	100	120	140	140	500

Mahendra Nath Poudel
Senior Agriculture Economist

CC:

Food Security and Environment Division

Ministry of Agriculture Development

Attested by
R.K. Pokharel
26 Oct 2014
SECTION OFFICER

Government of Nepal
Ministry of Forests and Soil Conservation

Ph. 4211567, 4211892, 4211928, 4211936, 4211742
Fax. 4211862, 4211868

P.O.Box No. 3987
Singha Durbar, Kathmandu

Ref. No. 65

Date :- 20 Oct. 2014

Ministry of Science, Technology and Environment,
Singhadurbar, Kathmandu.

Sub: **Co-financing of the project "Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal".**

By the decision dated 20 October, 2014 of Ministry of Forests and Soil Conservation (Sectetary level), Government of Nepal (GoN), it is my pleasure to confirm to you our support for the above-mentioned project. The Ministry and Departments at national and regional level have been actively involved in all phases of the project's design and we are satisfied that it reflects our needs and aspirations with regards to much-needed adaptive action in Nepal's vulnerable mid- and high- mountain regions.

The proposed project is building on the baseline of ongoing and planned programming in various sectors – including forestry – and on ongoing operations for the various Departments in each of the three districts concerned. Our co-financing for this project is granted through the National Budget and through various donor-supported programmes in the forestry sector, and represents 4,431,000 US$ in total co-financing for the duration of the project.

The ongoing programmes from which this co-financing was identified are i) Multistakeholder Forestry Programme, ii) Leasehold forest and livestock development, iii) Tree Improvement, Plantation and Private Forest Program and iv) Building Climate Resilience of Watersheds in Mountain Eco-Regions Project. These programmes are well aligned to this proposed LDCF-GEF initiative, and seek to achieve complementary objectives on which the LDCF project will build. They provide as estimated 4,151,000 US$ in grant co-financing. In addition, the proposed LDCF project will rely on 280,000 US$ co-financing from the MoFSC, in-kind, through our own assets, personnel, and infrastructure, in the three districts and at a national level.

We are confident that the LDCF-GEF grant of 5,350,565 US$ over four years will serve to demonstrate the benefits of Ecosystem-Based Adaptation, and the economic relevance of healthy mountain ecosystems. We look forward to working with GEF, UNEP and all other partners in this project towards its successful implementation.

(Ram Bhakta Malla)
Planning Officer

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UNEP

Reference : DEPI/GEFCCAU

11 July, 2014

Subject: UNEP co-financing commitment to the LDCF project *"Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal."*

UNEP helps developing countries to reduce vulnerabilities and build resilience to the impacts of climate change. UNEP builds and strengthens national institutional capacities for vulnerability assessment and adaptation planning, and supports national efforts to integrate climate change adaptation measures into development planning and ecosystem management practices. The project entitled "***Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal.***" is built upon and contributes to the on-going projects and programs implemented by UNEP. More specifically, it will be aligned, build upon and provide mutual benefits to the following on-going initiative:

- The **Ecosystem-based Adaptation in Mountain Ecosystems** project is implemented by UNEP, UNDP and IUCN and funded by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). The total allocated resources for this project for the different agencies and the different countries (Nepal, Peru and Uganda) – from 2012 – 2015 – have been EUR 11.5 million. Its objective is to strengthen the capacities of Nepal, Peru and Uganda to promote EbA options in their adaptation strategies. The project's focus is on increasing the climate-resilience of ecosystems and reducing the vulnerability of local communities in mountain ecosystems. In particular, the EbA in Mountain Ecosystems project supports: i) the development of methodologies and tools for mountain ecosystems; ii) the application of these tools and methodologies at a national level; iii) the implementation of EbA pilots at the ecosystem level; and iv) the formulation of national policies and development of an economic case for EbA at a national level. This will be done through parallel and cooperative development; application of methodologies and tools; and the implementation of pilot projects. The proposed LDCF project will create synergies with the EbA - BMUB project by aligning with and building on the development of methodologies and tools, as well as on the preliminary work carried out to define a methodology for Vulnerability Impact Assessment (VIA). In addition, this project will build on the development of an economic case for EbA at a national level and facilitate capacity building of local level institutions over a wider area in different regions in Nepal.

Dr. Naoko Ishii
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UNEP

Please find below the budgets for the UNEP supported/led projects which the LDCF project will benefit from.

Project/ Network	Budget (US $)	Duration	Type of co-financing
UNEP- EbA in Mountain ecosystems	1,500,000	2012-2015	Grant
Total	*1,500,000*		

This letter serves to confirm UNEP's commitment of **USD 1,500,000** to the above-mentioned GEF LDCF project to provide co-financing through the projects detailed here for the amounts outlined in the table.

We look forward to your continued cooperation.

Yours sincerely,

Keith Alverson
Coordinator, Climate Change Adaptation & Terrestrial Ecosystem Branch

ANNEX M: ENVIRONMENTAL AND SOCIAL SAFEGUARDS CHECKLIST

As part of the GEF's evolving Fiduciary Standards, implementing agencies have to address "Environmental and Social Safeguards". The checklist was developed with the following steps as guidance.

- STEP 1: Initially assess E&S Safeguards as part of PIF development. The checklist is to be submitted for the PRC.
- STEP 2: Checklist is reviewed during the PPG phase and updated as required.
- STEP 3: Final checklist submitted for PRC showing which activities are being undertaken to address issues identified.

Project Title	**Catalysing ecosystem restoration for resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal**		
GEF project ID and UNEP ID/IMIS Number	GEF Agency Project ID: 5203 UNEP ID: 00992	***Version of checklist***	Two
Project status (preparation, implementation, MTE/MTR, TE)	Preparation	***Date of this version***	April 2014
Checklist prepared by (Name, Title, and Institution)	Atifa Kassam, TM, GEF CCAU, DEPI, UNEP		

In completing the checklist both short- and long-term impact will be considered.

Section A: Project location:

If a negative impact is identified or anticipated, the Comment/explanation field needs to include: i) the stage of LDCF 2 project in which the problem will be addressed; ii) who is responsible for addressing the issue; iii) budget implications of addressing the problem; and iv) other comments.

	Yes/No/N.A.	***Comment/explanation***
- Is the project area in or close to -		
- a densely populated area	No	The project interventions will be undertaken in rural areas, which are not densely populated.
- a cultural heritage site	No	
- a protected area	No	
- a wetland	No	
- mangroves	No	
- an estuarine zone	No	
- a buffer zone of a protected area	No	
- a special area for protection of biodiversity	No	
- Will the project require temporary or permanent support facilities?	No	
If the project is anticipated to affect any of the above areas an Environmental Survey will be needed to determine if the project is in conflict with the protection of the area or if it will cause significant disturbance to the area.		

Section B: Environmental impacts,

If a negative impact is identified or anticipated, the Comment/explanation field needs to include: i) the stage of the LDCF-financed project in which the problem will be addressed; ii) who is responsible for addressing the issue; iii) budget implications of addressing the problem; and iv) other comments.

	Yes/No/N.A.	Comment/explanation
- Are ecosystems related to project fragile or degraded?	Yes	The LDCF-financed project will restore – and build the resilience of – degraded forest and rangeland ecosystems using an EbA approach during the implementation

		phase. Note that the degradation of the rangeland and forest ecosystems where the project activities will be implemented is human induced.
- Will project cause any loss of precious ecology, ecological, and economic functions due to construction of infrastructure?	Not anticipated	To meet the objectives of the LDCF-financed project, EbA will be complemented by techniques for soil and water conservation. This will include rainwater harvesting devices and water conservation ponds. Consultations will be conducted by national experts before construction commences. The results of these consultations will be used to inform the construction of hard infrastructure, thereby minimising any negative environmental effects they may cause.
- Will project cause impairment of ecological opportunities?	Not anticipated	Ecological opportunities will be increased.
- Will project cause increase in peak and flood flows? (including from temporary or permanent waste waters)	Not anticipated	The resilience of indigenous and local communities to floods will be increased.
- Will project cause air, soil or water pollution?	Not anticipated	No pollution will be generated by the project activities.
- Will project cause soil erosion and siltation?	Not anticipated	Soil stability and water infiltration will be enhanced by planting climate-resilient trees and grass and fodder species in the project areas, thereby reducing erosion and siltation.
- Will project cause increased waste production?	Not anticipated	No increase in waste production will result.
- Will project cause hazardous waste production?	Not anticipated	No hazardous waste will be generated.
- Will project cause threat to local ecosystems due to invasive species?	Not anticipated	The project will focus on the control of invasive species. It will promote planting indigenous and/or non-invasive tree species instead of exotic tree species.
- Will project cause greenhouse gas emissions?	Not anticipated	Project activities are likely to reduce the atmospheric concentration of greenhouse gases at project sites. This will be achieved by planting both tree species in degraded forests and grass and fodder species in rangeland (e.g. by establishing multi-use forest and restoring rangelands). Consequently, carbon will be sequestered in soils and plant biomass.
- Other environmental issues, e.g. noise and traffic	Not anticipated	

Section C: Social impacts

If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	Yes/No/N.A.	*Comment/explanation*
Does the project respect internationally proclaimed human rights including	Yes	All project interventions have been developed in accordance with

dignity, cultural property and uniqueness and rights of indigenous people?		internationally proclaimed human rights, in conformity with UN guidelines. In addition, all activities were developed together with various stakeholders to ensure that no rights or laws are infringed by the proposed activities.
Are property rights on resources such as land tenure recognized by the existing laws in affected countries?	Yes	The project facilitates participatory approaches for avoiding any conflicts. In addition, the project will adhere to national and local laws on land rights and land tenure.
Will the project cause social problems and conflicts related to land tenure and access to resources?	Not anticipated	The project will be implemented in Community Forestry land. Consultations with community members have occurred during the PPG and will be continued throughout the implementation phase to avoid any problems. The project will adhere to national and local laws on land rights and land tenure.
Does the project incorporate measures to allow affected stakeholders' information and consultation?	Yes	The project has been designed to provide training and information to all targeted indigenous and local communities on adaptation to climate change. Throughout the project, on-the-ground interventions will be refined with local communities and district officers..
Will the project affect the state of the targeted country's (-ies') institutional context?	Yes	The project will be beneficial to Nepal's institutional context as it will strengthen the technical and institutional capacity of national stakeholders – from MoSTE, MoFSC and MoAD – for adaptation to climate change. New institutional mechanisms will be established to respond to climate change during implementation. Local institutions will also be provided with EbA training.
Will the project cause change to beneficial uses of land or resources? (incl. loss of downstream beneficial uses (water supply or fisheries)?	Not anticipated	
Will the project cause technology or land use modification that may change present social and economic activities?	Not anticipated	
Will the project cause dislocation or involuntary resettlement of people?	Not anticipated	
Will the project cause uncontrolled in-migration (short- and long-term) with opening of roads to areas and possible overloading of social infrastructure?	Not anticipated	
Will the project cause increased local or regional unemployment?	Not anticipated	The project – through various activities and interventions under Outcome 3 – will promote employment and local markets.
Does the project include measures to avoid forced or child labour?	Yes	The project conforms to all national and international guidelines and laws regarding forced labour. Extensive community engagement will prevent the use of forced labour, and all required labour (short term employment only for

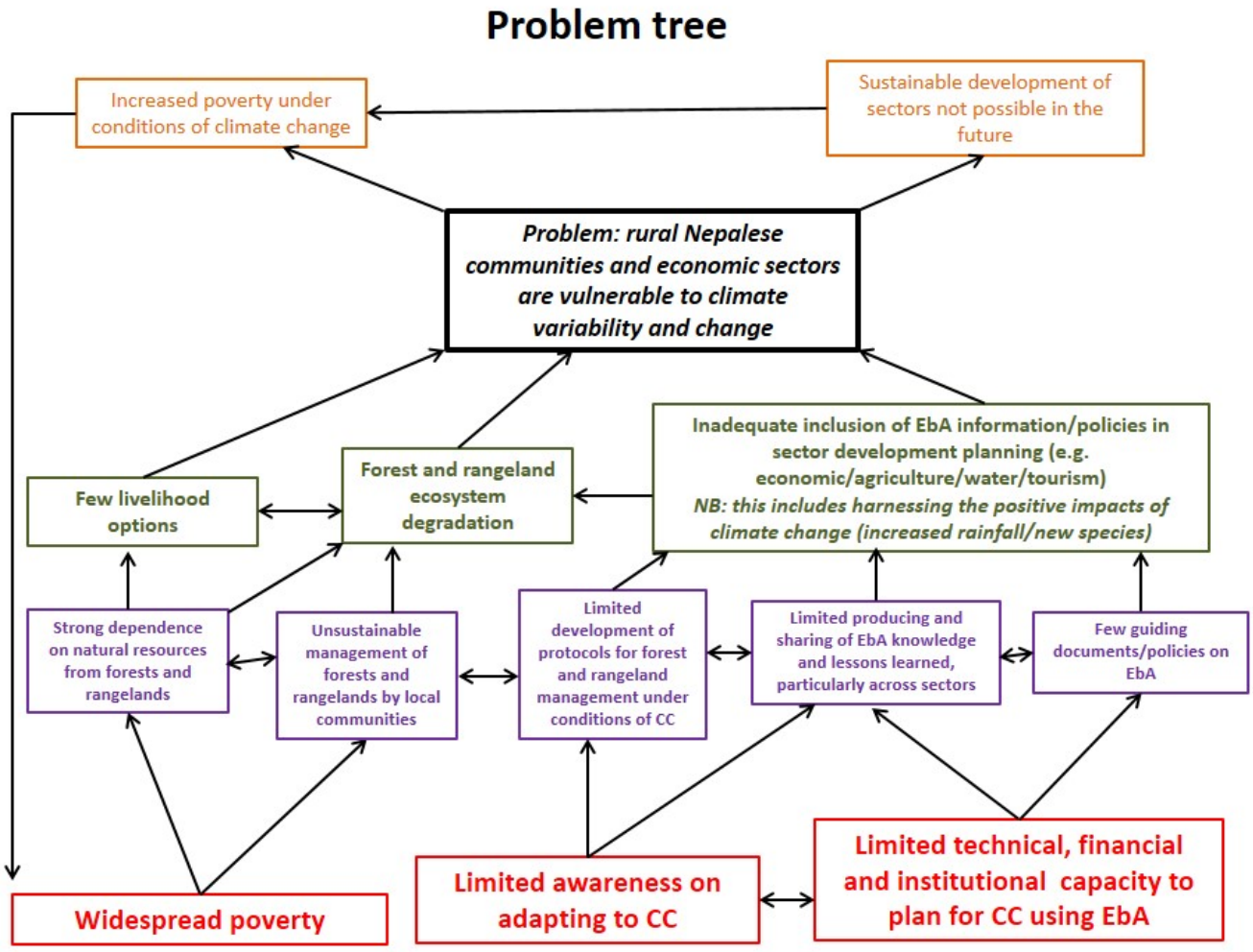
		establishing specific objectives) will be provided through community engagement and remunerated in accordance with national law.
Does the project include measures to ensure a safe and healthy working environment for workers employed as part of the project?	Yes	The project will conform to all national and international guidelines and laws regarding health and safety for workers employed as part of the project. Community training will ensure that health and safety regulations are understood.
Will the project cause impairment of recreational opportunities?	Not anticipated	The project will enhance ecosystem functioning of forests and rangelands despite the negative impacts of climate change.
Will the project cause impairment of indigenous people's livelihoods or belief systems?	Not anticipated	All project implementation will be carried out after stakeholder consultation and in accordance with local belief systems. Livelihoods of people in project sites will be improved through the project activities. In addition, the project will enhance understanding of the current and predicted effects of climate change, thereby allowing local communities to adapt to climate change effectively.
Will the project cause disproportionate impact to women or other disadvantaged or vulnerable groups?	Not anticipated	Women's rights will be promoted in accordance with national legislation, appropriate strategies and UN guidelines for interaction within Nepal. Gender has been taken into account throughout the project design and document including. Gender disaggregated indicators have also been incorporated. Additionally, the involvement of women in the project is considered in the results based management framework. Importantly, the project will help reduce the exposure of climate vulnerable groups including women.
Will the project involve and or be complicit in the alteration, damage or removal of any critical cultural heritage?	Not anticipated	No cultural heritage will be impacted through project operations.
Does the project include measures to avoid corruption?	Yes	As per UNEP's norms and standards, all project disbursements will be monitored by UNEP administrative structures. Regular reporting by the project management team will promote financial and transparency throughout the project. Corruption within the selected EA is limited due to strong internal governance and stringent protection measures.
Only if it can be carefully justified that any negative impact from the project can be avoided or mitigated satisfactorily both in the short and long-term, can the project go ahead.		

Section D: Other considerations

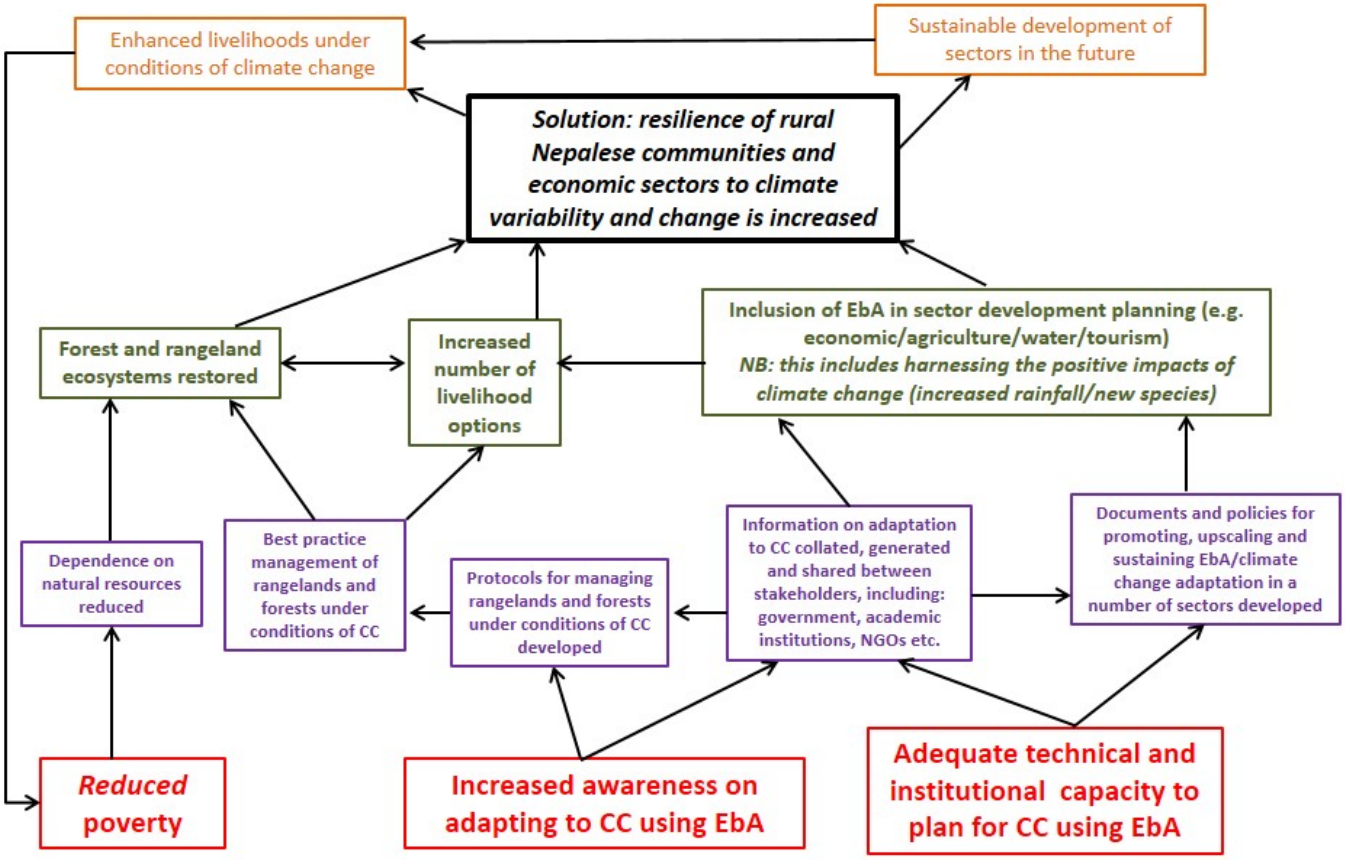
If negative impact is identified or anticipated the Comment/Explanation field needs to include: Project stage for addressing the issue; Responsibility for addressing the issue; Budget implications, and other comments.

	Yes/No/N.A.	*Comment/explanation*
Does national regulation in affected country (-ies) require EIA and/or ESIA for this type of activity?	Not anticipated	During the PPG, national stakeholders have stated that EIAs are not necessary for any project interventions.
Is there national capacity to ensure a sound implementation of EIA and/or SIA requirements present in affected country (-ies)?	N/A	
Is the project addressing issues, which are already addressed by other alternative approaches and projects?	Not anticipated	The project will implement activities that are additional to baseline activities. During PPG, workshops have been conducted to ensure that the project promotes complementarity with similar projects and avoids duplication of efforts. Importantly, areas in which similar interventions are being implemented have been avoided.
Will the project components generate or contribute to cumulative or long-term environmental or social impacts?	Not anticipated	The project will promote only positive, cumulative environmental and social impacts through EbA and sustainable agriculture.
Is it possible to isolate the impact from this project to monitor E&S impact?	Yes	The project will be implemented in targeted communities that are particularly vulnerable to climate change. The targets and indictors have been designed to monitor the impact of project outputs and outcomes in isolation.

ANNEX N: THEORY OF CHANGE



Solution tree



ANNEX O: ACRONYM LIST

ADB	Asian Development Bank
AFO	Administration and Financial Officer
AFU	Agricultural and Forestry University
APAN	Adaptation Knowledge Platform for Asia
AUG	Agriculture User Group
BCRWMER	Building Climate Resilience of Watershed Mountain EcoRegions
CAP	Community Adaptation Plan
CAPP	Community-based Adaptation Planning Programme
CCP	Climate Change Policy
CDES	Central Department of Environmental Science
CFP	Community Forestry Programme
CFUG	Community Forest User group
CLIP	Community Livelihood Improvement Plan
DADO	District Agriculture Development Officer
DAG	Disadvantaged Group
DECCCC	District Environment Energy Climate Change Coordination Committee
DFID	Department for International Development
DFOs	District Forest Officer
DLOs	District Livestock Extension Officer
DoA	Department of Agriculture
DoF	Department of Forests
DoFRS	Department of Forest Research and Survey
DoLS	Department of Livestock Services
DSCO	District Soil Conservation Officer
EbA	Ecosystem-based Adaptation
FSP	Forestry Sector Policy
FTF	Feed the Future
GoN	Government of Nepal
ICIMOD	International Centre for Integrated Mountain Development
IGA	Income Generating Activity
INCLUDE	Inclusive Development of the Economy
IOF	Institute of Forestry
IUCN	International Union for the Conservation of Nature
JFA	Joint Funding Agreement
KSLCDI	Kailash Sacred Landscape Conservation and Development Initiative
LAPA	Local Adaptation Programme of Action
LDSEP	Livestock Development Services and Livestock Services Extension Programmes
LFP	Leasehold Forestry Programme
LFUG	Leasehold Forestry User Group
LUG	Livestock User Group
MCCICC	Multi-sectoral Climate Change Initiative Coordination Committee
MDG	Millennium Development Goal
MoA	Memorandums of Agreement
MoAD	Ministry of Agricultural Development
MoE	Ministry of Education
MoFALD	Ministry of Federal Affairs and Local Development
MoFSC	Ministry of Forests and Soil Conservation
MoSTE	Ministry of Science, Technology and Environment
MPFS	Master Plan for the Forestry Sector
MSFP	Multi-Stakeholder Forestry Programme
NAEF	National Agro-ecosystem Expert in Forestry

NAER	National Agro-ecosystem Expert in Rangelands
NAP	National Adaptation Plan
NAST	Nepal Academy of Science and Technology
NB&EE	National Biodiversity and Ecosystem Expert
NBS	Nepal Biodiversity Strategy
NBSIP	Nepal Biodiversity Strategy Implementation Plan
NC	National Communication
NCASEE	National Climate Adaptation and Socio-Economic Expert
NCCSP	Nepal Climate Change Support Programme
NEPAP	Nepal Environment Policy Action Plan
NFE	National Forest Entity
NG&G	National Gender and Governance Expert
NH&SE	National Hydrology and Soil Expert
NPC	National Planning Commission
NRRC	Nepal Risk Reduction Consortium
NSDRM	National Strategy for Disaster Risk Management
NTE	National Technical Expert
NTFP	Non-timber Forest Product
NTNC	National Trust for Nature Conservation
PES	Payment for Ecosystem Services
PMWG	Project Managers Working Group
ROAP	Regional Office for Asia Pacific (UNEP)
SDA	Sustainable Development Agenda
SPCR	National Trust for Nature Conservation
TIP	Tree Improvement Programme
TU	Tribhuvan University
TWG	Technical Working Group
UNDAF	United Nations Development Assessment Framework
VDC	Village Development Committee
WRFD	Western Regional Forest Directorate
WUG	Women's User Group
WUPAP	Western Uplands Poverty Alleviation Project
WWF	World Wildlife Fund

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UNEP

PROJECT DOCUMENT

SECTION 1: PROJECT IDENTIFICATION

1.1 **Project title:** Catalysing ecosystem restoration for climate resilient natural capital and rural livelihoods in degraded forests and rangelands of Nepal.

1.2 **Project number:** 5203
PMS:

1.3 **Project type:** FSP

1.4 **Trust Fund:** LDCF

1.5 **Strategic objectives:** Climate Change Adaptation

1.6 **UNEP priority:** Climate Change Adaptation

1.7 **Geographical scope:** National

1.8 **Mode of execution:** External

1.9 **Project executing organization:** Ministry of Science, Technology and Environment; Ministry of Forests and Soil Conservation; and Ministry of Agricultural Development

1.10 **Duration of project:** 48 months
Commencing: September 2015
Technical completion: September 2018

Cost of project		**%**
Cost to the GEF Trust Fund	**5,246,475**	**32**
Co-financing		
Grant		**57**
National Government	**9,259,000**	
Sub-total		
In-kind	**280,000**	**2**
UNEP	**1,500,000**	**9**
Sub-total		
Total	**16,285,475**	**100**

Project summary

Nepal is a landlocked country in South Asia, located in the central part of the Himalayas. It covers an area of ~147,181 km^2. The country is bordered by the People's Republic of China in the north and the Republic of India in the south, east and west. Nepal is classified as a Least Developed Country (LDC). Natural resources in forest and rangeland ecosystems underpin many local industries in Nepal including non-timber forest product (NTFP) markets and ecotourism. High population density and widespread poverty in Nepal have led to an increase in pressure on the forest and rangeland ecosystems goods and services. Important resources are being over-exploited through excessive stocking of livestock and increased harvesting of firewood, timber and other natural resources. This is evident in the expansion of intensive agriculture along previously forested hill slopes. These unsustainable land use practices result in increased soil erosion which in turn: i) decrease water quality through increased sediment loads; ii) increase variability in water supply; and iii) reduce soil fertility thereby adversely affecting agricultural productivity. As a result, ecosystem degradation is the most consistent threat to the population and to the Nepalese economy.

The effects of climate change which include increasing temperatures, erratic and intense rainfall events, and increased frequency of extreme events including droughts, floods and avalanches are reducing the capacity of forests and rangelands in the mid-hills and high mountains of Nepal to provide ecosystem goods and services for indigenous and local communities. As a result, climate change is negatively affecting the indigenous and local communities of Nepal who rely on these ecosystem goods and services for their livelihoods. These problems are expected to increase in intensity and frequency under future climate change scenarios.

Currently, national and local government and local communities have limited technical and institutional capacity to plan for, finance and implement adaptation actions. To address this problem, this Least Developed Country Fund (LDCF) project aims to increase the capacity of national and local government institutions in Nepal to adapt to climate change by implementing ecosystem based approaches to adaptation (EbA) in degraded forests and rangelands in mid-hill and high mountain areas. EbA interventions will be implemented to restore more than 1000 hectares (ha) of forest and 450 ha of rangelands in 12 Village District Committees (VDCs) Achham, Dolakha and Salyan Districts.

Scientific research and traditional knowledge will be used to develop an integrated suite of adaptation interventions that will: i) improve livestock management in the face of climate change; ii) reduce soil erosion; iii) increase water harvesting; and iv) develop additional livelihood options from forests, rangelands and agro-ecosystems. EbA interventions will result in multiple benefits to the indigenous and local communities, economy and environment including: i) erosion control; ii) fodder production; iii) generation of NTFPs; and iv) improved water supplies. As such, these interventions will enhance the capacity of forest and rangeland ecosystems to adapt to climate change and provide important goods and services to indigenous and local communities. In so doing, these ecosystems will buffer the indigenous and local communities from extreme weather events and temperature increases, thereby improving communities' resilience to climate change.

Furthermore, to promote sustainability of EbA in Nepal, the LDCF-financed project aims to: i) strengthen the policy and strategy environment for EbA; ii) strengthen the technical capacity of local, district and national institutions to plan and implement EbA; iii) enhance public awareness on the benefits of using EbA to restore forests and rangelands; and iv) facilitate a dialogue on EbA among national stakeholders and indigenous and local communities in Achham, Dolakha and Salyan.

The LDCF-financed project will build on several ongoing baseline projects, including the Leasehold Forestry Programme (LFP), the Multi-Stakeholder Forestry Project (MSFP), the Tree Improvement Programme (TIP), the Building Climate Resilience of Watersheds in Mountain Eco-Regions project (BCRWMER) and the Livestock Service Development and Extension Programme (LDSEP). The project will be implemented by UNEP and executed by the Ministry of Science, Technology and Environment (MoSTE) of Nepal in partnership with the Ministry of Forests and Soil Conservation (MoFSC) and the Ministry of Agricultural Development (MoAD).

TABLE OF CONTENTS

Appendices attached in a separate document

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
ADK	Adaptation Knowledge Platform
AFO	Administration and Financial Officer
AFU	Agricultural and Forestry University
AIT	Asian Institute of Technology
AWPs	Annual Work Plans
BCRWMER	Building Climate Resilience of Watershed Mountain EcoRegions
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
CAPAs	Community Adaptation Plans of Action
CAPs	Community Adaptation Plans
CARE	Cooperative for Assistance and Relief Everywhere
CBD	Convention on Biological Diversity
CCAU	Climate Change Adaptation Unit
CCP	Climate Change Policy
CCRP	Climate Change Research Programme
CDES	Central Department of Environmental Sciences
CEDAW	Convention on the Elimination of all Forms and Discrimination Against Women
CEMPs	comprehensive environmental monitoring plans
CFAs	Community Forestry Areas
CFP	Community Forestry Programme
CFUGs	Community Forest User groups
CIF	Climate Investment Fund
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLIPs	Community Livelihood Improvement Plans
CPA	Comprehensive Peace Agreement
CS	conservation strategies
CSP	Country Strategic Plan
TA	Technical Advisor
DADO	District Agriculture Development Officer
DAG	Disadvantaged Group
DDCs	District Development Committees
DEECCCC	District Environment Energy Climate Change Coordination Committees
DEPI	Department of Environmental Policy Implementation
DFID	Department for International Development
DFOs	District Forest Officers
DLOs	District Livestock Extension Officers
DPMU	District Project Management Unit
DoA	Department of Agriculture
DoE	Department of Education
DoEnv	Department of Environment
DoF	Department of Forests
DoFRS	Department of Forest Research and Survey
DoHM	Department of Hydrology and Meteorology
DoHS	Department of Health Services
DoLS	Department of Livestock Services
DoNPWC	Department of National Parks and Wildlife Conservation
DoPR	Department of Plant Resources
DoSCWM	Department of Soil Conservation and Watershed Management
DRM	Disaster Risk Management
DSCOs	District Soil Conservation Officers

DTAs	District Technical Advisors
EbA	Ecosystem-based Adaptation
EIA	Environmental Impact Assessments
EPA	Environmental Protection Act
EPC	Environmental Protection Council
EPR	Environmental Protection Regulations/Rules
FAO	Food and Agriculture Organisation
FECOFUN	Federation of Community Forest Users Nepal
FO	Financial Officer
GCMs	General Circulation Models
GDP	Gross Domestic Product
GEF	Global Environmental Fund
GLOF	Glacial Lake Outburst Floods
GoF	Government of Finland
GoN	Government of Nepal
HE	hydrology expert
HLIPs	Household-level Livelihood Improvement Plans
H&SE	Hydrology and Soils Expert
HVAP	High-Value Agriculture Project
IA	Implementing Agency
ICIMOD	International Centre for Integrated Mountain Development
IEE	Initial Environmental Examinations
IFAD	International Fund for Agricultural Development
IGAs	Income Generating Activities
IGSNRR	Institute of Geographic Sciences and Natural Resources Research
ISET-N	Institute for Social and Environmental Transition
IUCN	International Union for the Conservation of Nature
JFA	Joint Funding Agreement
KSLCDI	Kailash Sacred Landscape Conservation and Development Initiative
LAPA	Local Adaptation Plan for Action
LDC	Least Developed Country
LDCF	Least Developed Country Fund
LDSEP	Livestock Development Services and Livestock Services Extension Programmes
LFLP	Leasehold Forestry and Livestock Programme
LFP	Leasehold Forestry Programme
LFUGs	Leasehold Forestry User groups
LGCDP	Local Government Community Development Programmes
LIPs	Livelihood Improvement Plans
M&E	Monitoring and Evaluation
Masl	mean sea level
MCCIC	Multi-sectoral Climate Change Initiative Coordination Committee
MDGs	Millennium Development Goals
MPFS	Master Plan for the Forestry Sector
MoAD	Ministry of Agricultural Development
MoAs	Memorandums of Agreement
MoEd	Ministry of Education
MoE	Ministry of Environment
MoF	Ministry of Finance
MoFALD	Ministry of Federal Affairs and Local Development
MoFSC	Ministry of Forests and Soil Conservation
MoHP	Ministry of Health and Population
MoLD	Ministry of Local Development
MoPE	Ministry of Population and Environment
MoSTE	Ministry of Science, Technology and Environment

MSFP	Multi-Stakeholder Forestry Programme
NAEF	National Agro-ecosystem Expert in Forestry
NAER	National Agro-ecosystem Expert in Rangelands
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NARC	Nepal Agricultural Research Council
NAST	Nepal Academy of Science and Technology
NBCC	National Biodiversity Coordination Committee
NB&EE	National Biodiversity and Ecosystem Expert
NBS	National Biodiversity Strategy
NBSIP	Nepal Biodiversity Strategy Implementation Plan
NCASEE	National Climate Adaptation and Socio-Economic Expert
NCCSP	Nepal Climate Change Support Programme
NDRC	National Development and Reform Commission
NEFEJ	Nepal Forum of Environmental Journalists
NEPAP	Nepal Environment Policy Action Plan
NFE	National Forest Entity
NG&GE	National Gender and Governance Expert
NH&SE	National Hydrology and Soil Expert
NGOs	Non-governmental organisations
NNRE	National Natural Resource Expert
NP&LE	National Policy and Legal Experts
NPC	National Planning Commission
NPEE	National Public Education Expert
NPWC	National Parks and Wildlife Conservation Act 2029 (1973)
NTE	National Technical Expert
NTFP	Non-timber Forest Product
NTNC	National Trust for Nature Conservation
NWP	National Water Plan
PES	Payment for Ecosystem Services
PIR	Project Implementation Review
PM	Project Manager
PMU	Project Management Unit
PMWG	Project Managers Working Group
PO	Project Officer
PPCR	Pilot Programme for Climate Resilience
PPG	Project Preparation Grant
PRSP	Poverty Reduction Strategy Paper
PSC	Project Steering Committee
RBF	Results-Based Framework
REDD RPP	Readiness Preparedness Proposal
ROAP	Regional Office for Asia Pacific
SCCF	Special Climate Change Fund
SDAN	Sustainable Development Agenda for Nepal
SEAs	Strategic Environmental Assessments
SEI	Stockholm Environment Institute
SENSA	Swedish Environmental Secretariat for Asia
Sida	Swedish International Development Corporation Agency
SIDS	Small Island Developing States
SPCR	Strategic Program for Climate Resilience
SRES	Special Report on Emissions Scenarios
TA	Technical Advisor
TAL	Terai Arc Landscape Implementation Plan
TIP	Tree Improvement Programme
ToRs	Terms of Reference

TM	Task Manager
TU	Tribhuvan University
TYP	Three-Year Plan
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VDCs	Village Development Committees
WB	World Bank
WECS	Water and Energy Commission Secretariat
WUGs	Women's User groups
WUPAP	Western Uplands Poverty Alleviation Project
WWF	World Wildlife Fund

SECTION 2: BACKGROUND AND SITUATION ANALYSIS (BASELINE COURSE OF ACTION)

2.1. Background and context

Nepal is a landlocked country in South Asia, located in the central part of the Himalayas. It covers an area of ~147,181 km^2. The country is bordered by the People's Republic of China in the north and the Republic of India in the south, east and west. Nepal is classified as a Least Developed Country (LDC). It has one of the highest population densities with Nepalese communities predominantly living in poverty and being dependant on subsistence agriculture.

1. The Government of Nepal (GoN) seeks LDCF funding for a Full-Sized Project (hereafter referred to as "the LDCF-financed project" or "the project") to implement priority activities as outlined in the National Adaptation Programme of Action (NAPA), submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in September 2010. The project will: i) strengthen the technical capacity of local and national institutions to plan and implement Ecosystem-based Adaptation (EbA); ii) establish a policy environment that promotes EbA; and iii) implement EbA in forests and rangelands to reduce the vulnerability of indigenous and local communities in the mid-hills and high mountains to the negative effects of climate change. Such effects include increasing temperatures, reduced water availability and intense rainfall events.

2. The LDCF-financed project will address three of the nine priorities identified by Nepal's NAPA: Priority 1 "Promoting community-based adaptation through integrated management of agriculture, water, forest and biodiversity sector"; Priority 5 "Forest and ecosystem management for supporting climate led adaptation innovations"; and Priority 7 "Ecosystem management for climate adaptation". The project is consistent with the "Revised Programming Strategy on Adaptation to Climate Change for the LDCF and SCCF[1]". In addition, it follows the Results-Based Framework (RBF). The project will be executed by the Ministry of Science, Technology and Environment (MoSTE) of Nepal in partnership with the Ministry of Forests and Soil Conservation (MoFSC) and the Ministry of Agricultural Development (MoAD). The United Nations Environment Programme (UNEP) will be the implementing agency (IA) providing technical support to the relevant ministries.

[1]Special Climate Change Fund (SCCF)

Figure 1. Nepal's geopolitical borders and main cities.

Political context

3. Nepal is in a state of political transition, from a monarchy to a federal democratic republic. Since the demonstrations of 2006, numerous political developments have occurred, including the signing of the Comprehensive Peace Agreement (CPA). This signing was followed by the declaration of a Federal Democratic Republic of Nepal on 28 May 2008[2].

4. The process of political change has been complex, although significant progress towards peace and good governance has been made. For example, the GoN has conducted forums and meetings with development partners to develop strategies that will: i) build an inclusive and democratic society in which basic fundamental rights are protected; and ii) create a social and economic system that can provide access to basic services – such as education and health – generate jobs, protect the environment and eradicate poverty.

5. The country is divided into five development regions, 14 administrative zones and 75 districts (see Figure 2). The districts are further divided into municipalities known as Village Development Committees (VDCs).

[2] European External Action Services. 2010. Nepal Country Strategy Paper 2007-2013. Mid-Term Review Document. IP 2011-2013.

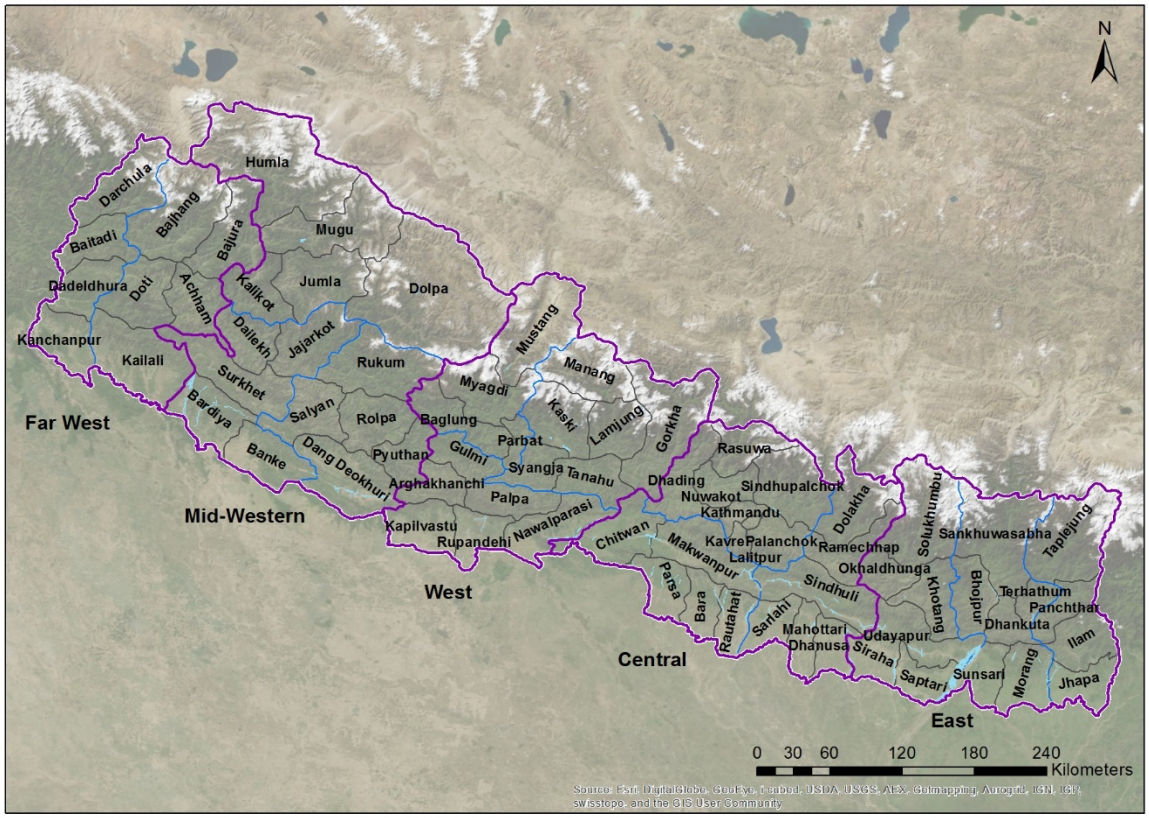

Figure 2. Nepal's development regions, zones and districts.

Geographical context

The country is divided into five physiographic regions as described below[3] (see Figure 3).

- The **Terai Region** has an altitude of 60-300 metres above mean sea level (masl). This region is an extension of the Indo-Gangetic plain, which is a flat and valuable stretch of fertile agricultural land in southern Nepal.
- The **Siwalik Region** (also referred to as the Churia Hills) varies between 300 and 700 masl**.** This region rises from the Terai plains, and includes forests and pasturelands that provide important sources of fodder and pasture for livestock.
- **The Mid-hills Region** (also referred to as the Mid-mountain region) varies between 700 and 2,000 masl. This region is moderately sloping and comprises diverse soil types and geology. Landscapes include dense forests, pasturelands and agricultural terraces. The mid-hills region is densely populated.
- **The High Mountain Region** (also referred to as the High-mountains) has an altitude of between 2,000 and 4,000 masl. This region has steeper slopes than the Mid-hills region. Consequently, agricultural terraces are common in many areas.
- **The High Himalayas Region** is located between 4,000 and 8,848 masl. This region includes Mount Everest and is sparsely populated.

6. The elevation of Nepal ranges from ~60 masl in the south to 8,848 masl at the peak of Mount Everest (Figure 4). In the High Himalayas, there are 240 peaks higher than 6,000 masl[4]. Moreover, eight of the world's ten highest peaks are found in this area. More than 6,000 rivers – which drain in a north-south direction[5] into the Ganges basin – are located in the country. Four major river basins include the Mahakali, Karnali, Gandaki and Kosi Rivers.

[3]GoN, National Adaptation Programme of Action (NAPA) to Climate Change, 2010.
[4]Nepal's Initial National Communication (INC) to the UNFCCC, 2004.
[5]GoN. 2010. NAPA.

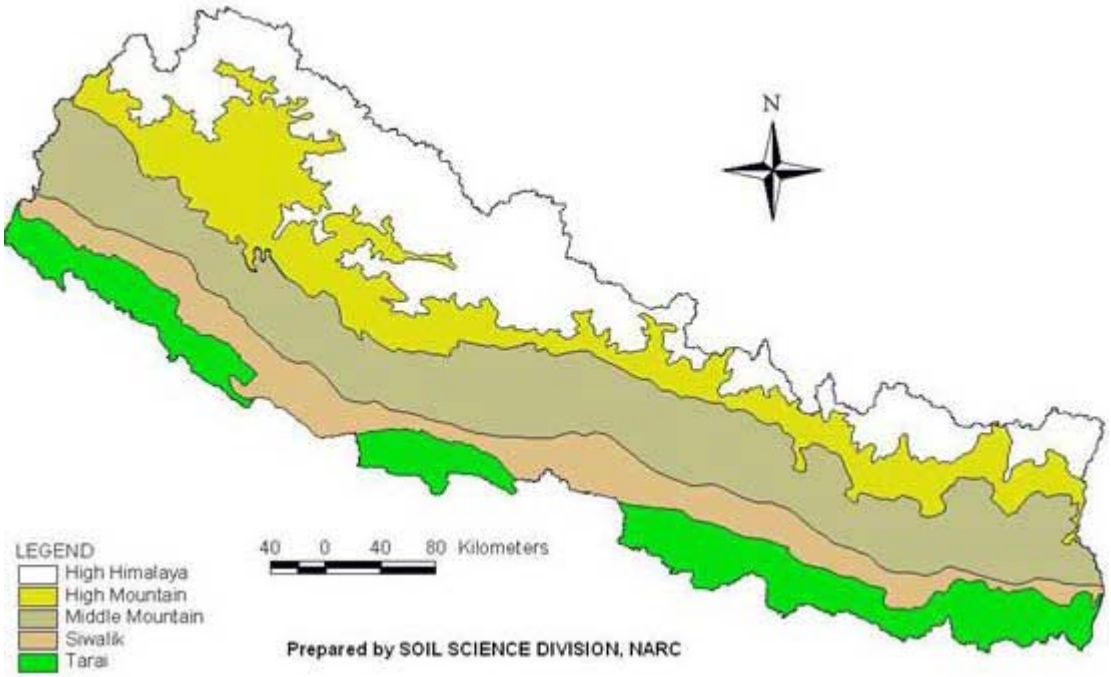

Figure 3. The five physiographic regions of Nepal[6]

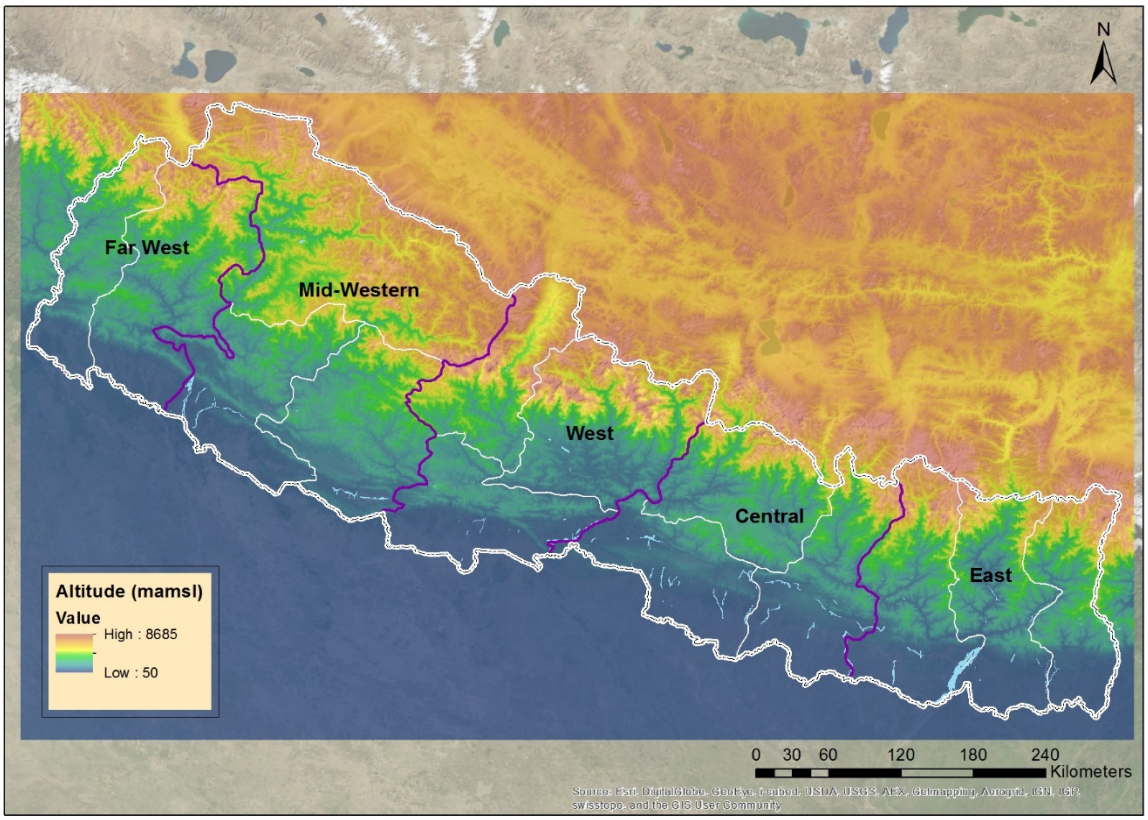

Figure 4. The topography of Nepal.

Socio-economic climate

[6] Pariyar, D. 2008. Nepal: Country Pasture/Forage Resource Profiles. FAO. Available at http://www.fao.org/ag/agp/AGPC/doc/Counprof/PDF%20files/Nepal.pdf. Accessed on 14 July 2014.

Economy

7. Approximately 74% of the population is dependent on agricultural activities including *inter alia* cropping and livestock production. Nepal's industrial sector relies mainly on processing agricultural products including jute, sugarcane, tobacco and grain. The main exports total US $907 million per annum and include carpets, clothing, jute goods, textile, pulses, juice and pashmina.

8. In 2013, Nepal's Gross Domestic Product (GDP) was calculated to be ~US$42 billion with an annual per capita GDP of US $1,500[7]. Unemployment and poverty are ubiquitous across the country, with more than 70% of the population living on less than US $2 per day[8].

Population

9. In 2011, Nepal's total human population was estimated to be about 30 million, and of this, 86% live in rural areas. The country has one of the highest population densities in the world relative to arable land[9]. However, only ~7% of the population inhabits the High Himalayas in the north. Approximately 46% of the population live in the hills and valleys in the Sawilik and Mid-hills regions of the country. The remaining 47% live in the Terai region in the south. Life expectancy at birth is 66 years, which is the lowest in South Asia. Infant mortality per 1,000 live births is 40[10]. Sixty different ethnic groups inhabit the country.

Education

10. The literacy rate of the total population is low at 60%. However, this is a substantial improvement from the estimated rate of 5% in 1952/54. Despite this increase, the literacy rate in rural areas remains low. Gender imbalances in the country are reflected in the lower literacy rate of women compared with men: 47% versus 71%, respectively. Primary school enrolment is low, with only 51% of children from the poorest quintile and 87% from the richest quintile attending school[11]. The main challenges for improving education in Nepal include *inter alia*: education management, quality and access. Presently there is no government policy on compulsory education. However, in 2009, free basic education was extended from five to eight years[12].

11. Although there are over 34,000 primary and secondary schools in Nepal, Tribhuvan University remained the sole university until 1985. Since then, there has been a significant expansion in the number of tertiary institutions, skilled researchers and personnel with a tertiary qualification. Currently, there are nine university-level institutions, and over 1,000 colleges and associated campuses[13]. However, many Nepalese students – with high grades – choose to study abroad, with the United States being the preferred destination. Many of these students studying abroad do not return to Nepal on completing their degree, which exacerbates the country's low human capacity.

Agriculture

[7] CIA World Factbook 2013. Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/np.html. Accessed on 2 February 2014.
[8] Ibid
[9] MoPE. 2000. Implementation of UN Convention to Control Desertification. Ministry of Population and Environment, HMG.
[10] CIA World Factbook 2013. Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/np.html. Accessed on 2 February 2014.
[11] WB. 2012. Education in Nepal. Available at: http://www.worldbank.org.np. Accessed on 24 February 2014.
[12] Academic Mobility and the education system of Nepal. World Education and News Reviews. 2013: Available at http://wenr.wes.org/2013/03/wenr-march-2013-academic-mobility-and-the-education-system-of-nepal/Accessed on 24 February 2014.
[13] Ibid

12. Over 60% of Nepal's agricultural production takes place on ~30% of the total land area in the Terai region. Most of the agricultural activities are based on the production of low value cereals. Other agricultural products include rice, tea, sugarcane, jute, root crops, milk and buffalo meat. Vegetable production contributes to approximately one third of the GDP in the agricultural sector[14].

13. Approximately 74% of Nepal's population rely on subsistence agriculture for their livelihood. Despite the large percentage of the population engaged in this sector, the food trade deficit is growing. Consequently, agriculture's contribution to the annual GDP has decreased by 11% over the last decade and currently contributes 32%. The stagnant performance of this sector – and an increasing population – has resulted in decreasing food availability. Consequently, 42 of Nepal's 75 districts experience a food shortage for a few months per annum. This is exacerbated by a small per-capita holding size of agricultural land, which is less than 0.8 hectares[15].

Energy sector

14. Nepal does not have its own gas, coal or oil reserves but it has the second largest potential for hydropower generation in the world[16]. Hydroelectricity accounts for more than 96% of total electricity generation[17] in the country. However, less than one percent of the potential megawatts that could be produced from rivers in Nepal are currently harnessed[18]. Because of a low production of energy, approximately 60% of households experience an electricity deficit. This has resulted in firewood being the primary fuel type for energy consumption in the country. In addition, the country imports fuel and electricity from India.

15. In 2008, the GoN declared a National Electricity Crisis. Subsequently, two taskforces were established to facilitate the generation of 10,000 Mega-Watt (MW) of hydropower in 10 years and 25,000 MW of hydropower in 25 years[19]. Nonetheless, the development of hydropower has been slow with only 750 MW of the required 1,200 MW of hydropower produced in the rainy season. As a result, local communities are experiencing the effects of load shedding (i.e. interrupted power supplies). In September 2013, the Asian Development Bank approved the Energy Sector Project Preparatory Grant of US $21 million[20]. The grant will make provision for hydropower and transmission projects. In so doing, these projects will contribute to the grant's objectives, which include: i) reducing local power shortages; and ii) supplying surplus electricity to India.

Water resources

16. The total annual runoff of the country is ~202 billion m^3[(21)]. Of this, ~9.5 billion m^3 is withdrawn[22] for use. The agricultural sector uses ~98% of the water that is withdrawn, while 2% is used for domestic consumption. In 2006, water use per capita was 334 m^3 per year.

[14] FAO. 2011. http://www.fao.org/fileadmin/templates/rap/files/epublications/NepaledocFINAL.pdf [Accessed 2013-10-16].
[15]Ministry of Agriculture and Cooperatives. 2010. National Agriculture Sector Development Priority (NASDP) for the Medium-Term (2010/11 - 2014/15). GoN.
[16] Nepal Republic Media. 2013. Available at: http://www.myrepublica.com/portal/index.php?action=news_details&news_id=60104 Accessed 2013-10-14
[17]FAO, Aquastat, 2013 http://www.fao.org/nr/water/aquastat/countries_regions/NPL/index.stmAccessed 2013-09-27.
[18] Nepal Energy Efficiency Programme 2013. Available at: http://wecs-neep.gov.np/article-energy_situation_nepal Accessed 11 October 2013.
[19] Renewable Energy for Rural Livelihood Programme. 2011. Available at http://www.rerl.org.np/situation/enengy.php
[20]http://www.adb.org/projects/47036-001/main Accessed on 17 October 2013.
[21]Nepal's INC to the UNFCCC, 2004.
[22]CIA World FactBook. Available at: https://www.cia.gov/library/publications/the-world-factbook/geos/np.html Accessed on 27 September 2013.

17. An estimated 80% of the population have access to water, although this is commonly from streams and rivers (Figure 5). Consequently, availability this water is unreliable and its quality is variable. Additionally, given the steep topography of the country, those living on slopes in hilly regions tend to fetch water from the valleys before carrying it uphill to their homes. This problem is worse during dry periods when smaller streams are empty and the only available surface water is further away in the larger rivers. Consequently, some families are restricted to using less than five litres of water per day[23].

18. Additional water resources in Nepal include inland water areas and groundwater. In 2009, total inland water capacity was ~85 million m^3. The largest of these areas are the Kosi and Gandaki Reservoirs. Although groundwater resources have yet to be fully assessed, they are estimated to be 20 billion m^3 [(24)]. The majority of these groundwater resources are located in the Terai Region.

19. In Nepal, water infrastructure is adversely affected by extreme weather events including monsoons that result in: i) flooding in valleys; and ii) landslides in the hills and mountains. Erosion exacerbates these effects resulting in an increase in sediment load and a decrease in water quality. Consequently, dams, irrigation canals and distribution networks fill with sediment. Such sedimentation in hydropower dams is known to damage associated infrastructure including turbines.

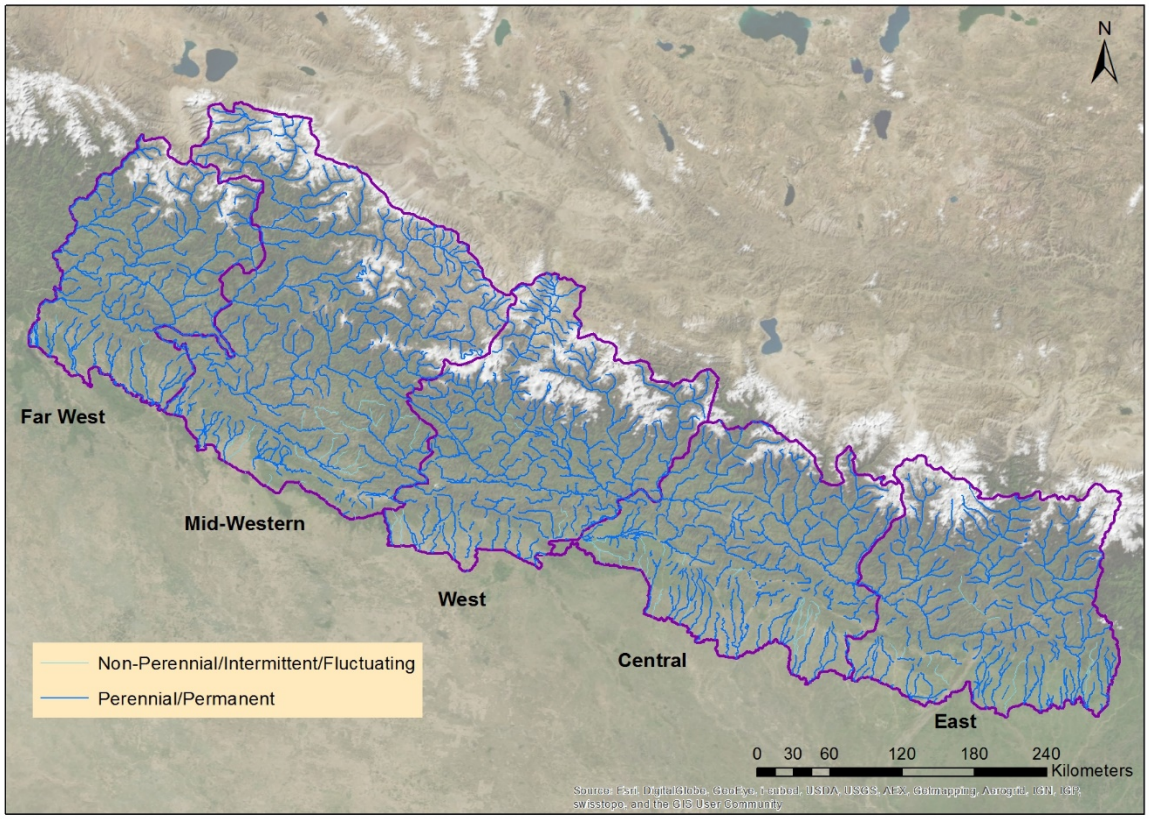

Figure 5. The river systems of Nepal.

Land cover

[23]Suresh, S. D., Water Crisis in Nepal Himalayas. Available at: http://www2.fiu.edu/~sukopm/seminar/Suresh.pdfAccessed on 27 September 2013.
[24]FAO. 2013. Aquastat. Available at: http://www.fao.org/nr/water/aquastat/countries_regions/NPL/index.stmAccessed on 27 September 2013.

20. Nepal has 110 different ecosystems, 75 vegetation types and 35 forest types. Forests constitute the largest land coverage, occupying ~40% of the country's total land area[25]. From 1978–1994, the percentage of forested areas decreased at a rate of 1.7% per annum[26]. However, the Community Forestry Programme (CFP) was initiated in 2000 to establish Community Forestry Areas (CFAs) for these areas. Consequently, the rate of deforestation decreased to 1.35% within the CFAs by 2005[27], although a faster rate of deforestation continues outside of these areas. Apart from these forested areas, Nepal is covered by 30% agricultural land, 10% bare areas, 8% snow or glacier, 8% grassland, 3% shrubland, with the remaining surface covered by rivers, lakes and built-up areas[28].

21. Approximately 11.5% of the total land resources in Nepal are rangelands[29]. These ecosystems include more than 180 native species of grasses and legumes. The main vegetation types in these areas are Tropical (*Phragmitis-Saccharum-Imperata* type), Sub-tropical (*Themeda-Arundinella* type), Temperate (*Andropogon* type), Sub-alpine (*Danthonia* type), Alpine (*Kobresia* type) and Steppe. Rangelands are important ecosystems[30] for supporting: i) the source of many streams and rivers; ii) indigenous biodiversity; and iii) the livelihoods of local communities[31]. Rangeland's have a carrying capacity of between ~0.06–1.4 small livestock units per hectare to support agricultural activities of indigenous and local communities. However, over 98% of these ecosystems are situated in the High Mountain and High Himalayan Regions, with only ~64% being accessible.

Conservation

22. Protected areas cover ~23% of Nepal (Figure 6). The system of parks and reserves includes ten national parks, three wildlife reserves, one hunting reserve, six conservation areas and eleven buffer zones[32]. The parks and reserves cover a land area of ~34,200 km^2. Nepal has a rich biodiversity. Consequently, species found in the country contribute a substantial percentage of the worlds' species[33]. The country includes one of the four biodiversity hotspots located in the Himalayan region.

23. Forest conservation was initiated in 1978 when the GoN introduced Community Forestry into policy. This allowed a participatory approach to forest management that started in the Panchayat Forest and the Panchayat Protected Forest[34]. In the following years, the Community Forestry concept was included in various policies, and strengthened through the Decentralization Act (1982) and the Master Plan for Forestry Sector (1988). The new Forest Act (1993) and Forest Regulation (1995) – introduced after the country's democratic transition – also included provisions for Community Forestry[35].

[25] GoN. 2010. NAPA.
[26] MoFSC. 2009. Nepal Forestry Outlook Study. Available at: http://www.fao.org/docrep/014/am250e/am250e00.pdfAccessed on 16 October 2013.
[27] Forest management in Nepal. UNEP. Available at: http://www.unep.org/greeneconomy/SuccessStories/ForestManagementinNepal/tabid/29869/Default.aspxAccessed on 16 October 2013.
[28] Rounded percentages derived from the ICIMOD. Nepal Land cover 2010. Mountain Geoportal. Available at: http://apps.geoportal.icimod.org/NepalLandCover/index.html#Accessed on 16 October 2013.
[29] Pande, RS, 2009. Review:Status of Rangeland Resources and Strategies for Improvements in Nepal, CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources 2009 4, No. 047. Available at: http://www.cababstractsplus.org/cabreviews Accessed on 16 October 2013.
[30] GoN. 1993. Nepal Environmental Policy and Action Plan.
[31] Although rangelands are unsuitable for producing crops, they are an important source of fodder for livestock. Moreover, there are a number of tourism ventures that support the local economy in the mountain rangelands.
[32] Available at: http://welcomenepal.com/promotional/tourist-destination/park-reserves/ Accessed on 23 October 2013.
[33] This includes 9.5% of birds, 4.5% of mammals, 1.9% of reptiles, 1.0% of fish, and over 2.0% of flowering plants of the worlds' total percentage.
[34] Uprety, D.R. 2006. Community Forestry, rural livelihoods and conflict: A case study of community forest users' groups in Nepal. Institute for Sustainable Economic Development.
[35] Uprety, D.R. 2006. Community Forestry, rural livelihoods and conflict: A case study of community forest users' groups in Nepal. Institute for Sustainable Economic Development.

24. Until 2009, less than 1% of the high Himalayan rangelands were conserved[36]. In the 1990s, the High Altitude Pasture and Fodder Development Project was active. However, limited progress has been made by this project since then. Multiple challenges to rangeland management and development have restricted conservation efforts. These challenges include: i) disputes over land ownership and users' rights in rangeland resources; ii) lack of information on rangelands; iii) increased degradation of rangelands and associated forests; iv) poor infrastructure; v) remoteness; vi) *ad hoc* collection of grazing fees; vii) over-stocking; viii) limited awareness of environmental problems by local communities and government officials; ix) limited support services[37]; x) invasive alien plants; xi) poor participation of local communities in rangeland improvement; xii) poor research on pasture and fodder development at high altitudes by local institutions ; xii) considerable cost of high altitude pasture and fodder development; and xiii) poor supply and production of planting materials for improved pastures[38].

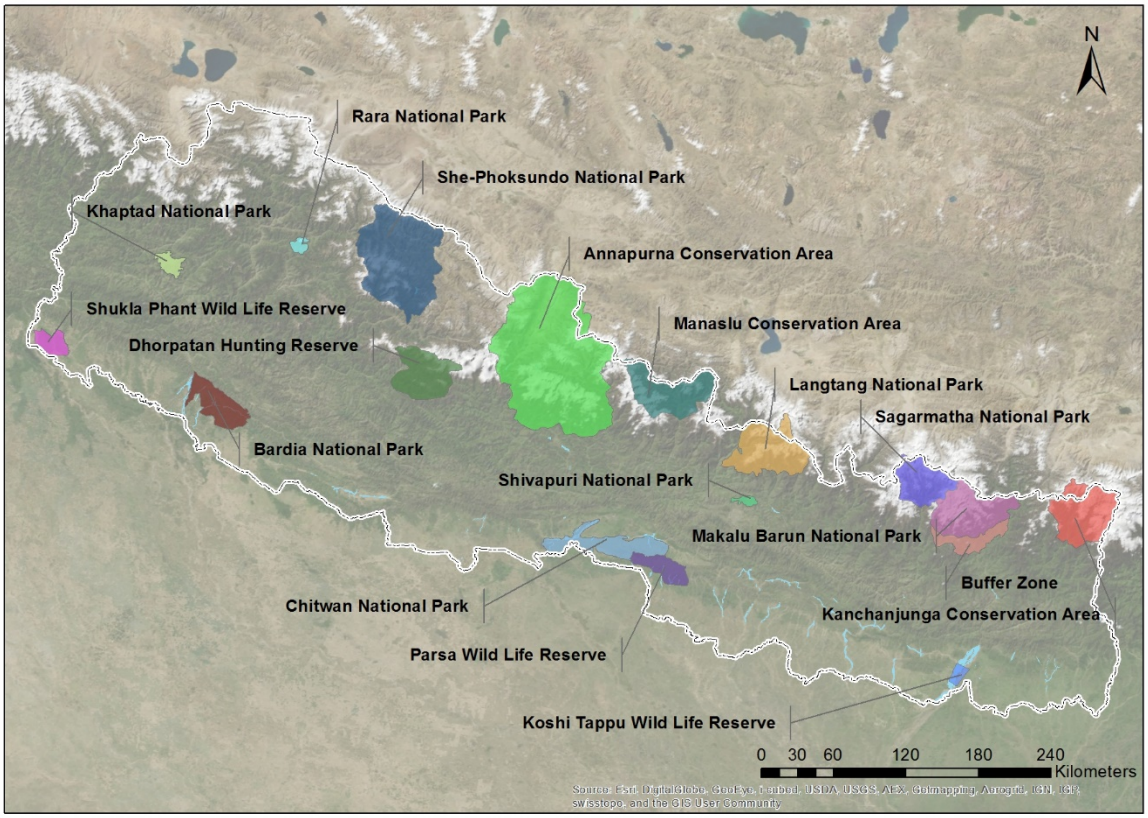

Figure 6. The protected areas of Nepal

General climatic conditions

25. Nepal has a varied climate. For example, the southern Terai has a subtropical climate while the northern high Himalayas experience arctic conditions. These differences are a consequence of the country's considerable range in elevation within a short north-south distance. In addition, the westerly Himalayan mountain range and the monsoonal alteration of wet and dry seasons contribute greatly to local variations in climate. Although the annual mean precipitation is ~1800 mm. This ranges from >5,000 mm per annum along

[36] Pande, RS, 2009. Review:Status of Rangeland Resources and Strategies for Improvements in Nepal, CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources 2009 4, No. 047. Available at: http://www.cababstractsplus.org/cabreviews Accessed on 17 October 2013.
[37] such as veterinary services, credit facilities and cold storage
[38] Ibid (Pande 2009)

the southern slopes of the Annapurna range in central Nepal to <250 mm per annum in the north-central area near the Tibetan plateau[39].

26. Nepal experiences summer monsoon rainfall between June and September. ~80% of the annual precipitation is recorded during this time. This seasonal phenomenon frequently results in: i) landslides; ii) subsequent loss of life, farmlands and other infrastructure; and iii) large-scale floods in the plains. Conversely, when there are prolonged breaks between these monsoon seasons, severe droughts often occur[40]. These droughts can result in famine.

27. October to November is considered the post-monsoon season in Nepal. In the pre-monsoon season (April to May), the country experiences a few thundershowers that particularly occur more frequently in the hilly regions than in the southern plains. The winter months occur from December to February and are relatively dry.

28. Temperatures in Nepal are variable depending on season, topography, altitude and aspect. The maximum temperature occurs in May or early June with the onset of the monsoon season. Thereafter, temperatures decrease rapidly from October reaching minimums in December or January. Temperature increases as altitude decreases from north to south. As a result, the Terai region is the warmest part of the country, where maximum temperatures may reach more than 45°C[41].

Observed climate variability and change

29. Observed temperature data for Nepal indicates continuous warming of annual temperatures. For example, maximum temperatures are increasing at an annual rate of 0.04–0.06°C. However, this warming trend is spatially variable across the country and is more evident at higher altitudes where Himalayan glacier melt and retreat have also been documented (Figure 7). As a result, the incidence of avalanche events has increased, thereby escalating the risk of Glacial Lake Outburst Floods (GLOFs). Such events may cause considerable and costly damage to hydro-electricity projects, transport infrastructure, homes and farmlands.

30. Unlike temperature trends, precipitation data for Nepal do not reveal any noticeable or large-scale trends. The inter-annual variation of rainfall – particularly the monsoon precipitation – is so large that observed trends are uncertain and could be part of natural cycles. Such cycles include El Nino phenomena or solar cycles. However, data from 166 stations across Nepal from 1976–2005 reveal an increasing trend in annual rainfall in eastern, central and far-western Nepal.

31. Notable changes in rainfall patterns associated with the monsoon season have not been uniform across Nepal. Monsoon precipitation shows a general decreasing trend in: i) the mid-western and southern parts of western Nepal; and ii) areas of central and eastern Nepal[42]. In the rest of the country, the trend for monsoon rainfall – in terms of the number of rainy days and rainfall magnitude – is generally increasing. Post-monsoon precipitation shows an increasing trend in most of the mid-western and southern parts of Nepal. However, a general decline in precipitation is observed in most of the far western and northern parts of the country. Overall, rainfall data between 1981 and 2001 show that the monsoon season is lengthening[43].

[39] GoN. 2004. Initial National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change.
[40] Ibid
[41] GoN. 2004. Initial National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change.
[42] GoN, NAPA, 2010.
[43] As such, this season is occurring earlier by 0.7 days per annum and withdrawing later by 0.15 days per annum.

32. Local perceptions of climate change vary across different eco-regions. Surveys show that local communities in Nepal perceive: i) an increase in temperature; ii) a shift of agro-ecological zones to higher altitudes; iii) changes in precipitation in terms of timing, duration and intensity; iv) a decrease in snowfall; v) a shift in wind, frost and dew patterns; and vi) increased frequency of extreme events including droughts, floods and avalanches[44]. Long, dry spells and cold spells have negatively affected crop production. Similarly, increased temperatures and humidity have created favourable environments for the growth of fungal and bacterial diseases and the proliferation of some insect and pest species. These species are increasing crop damage.

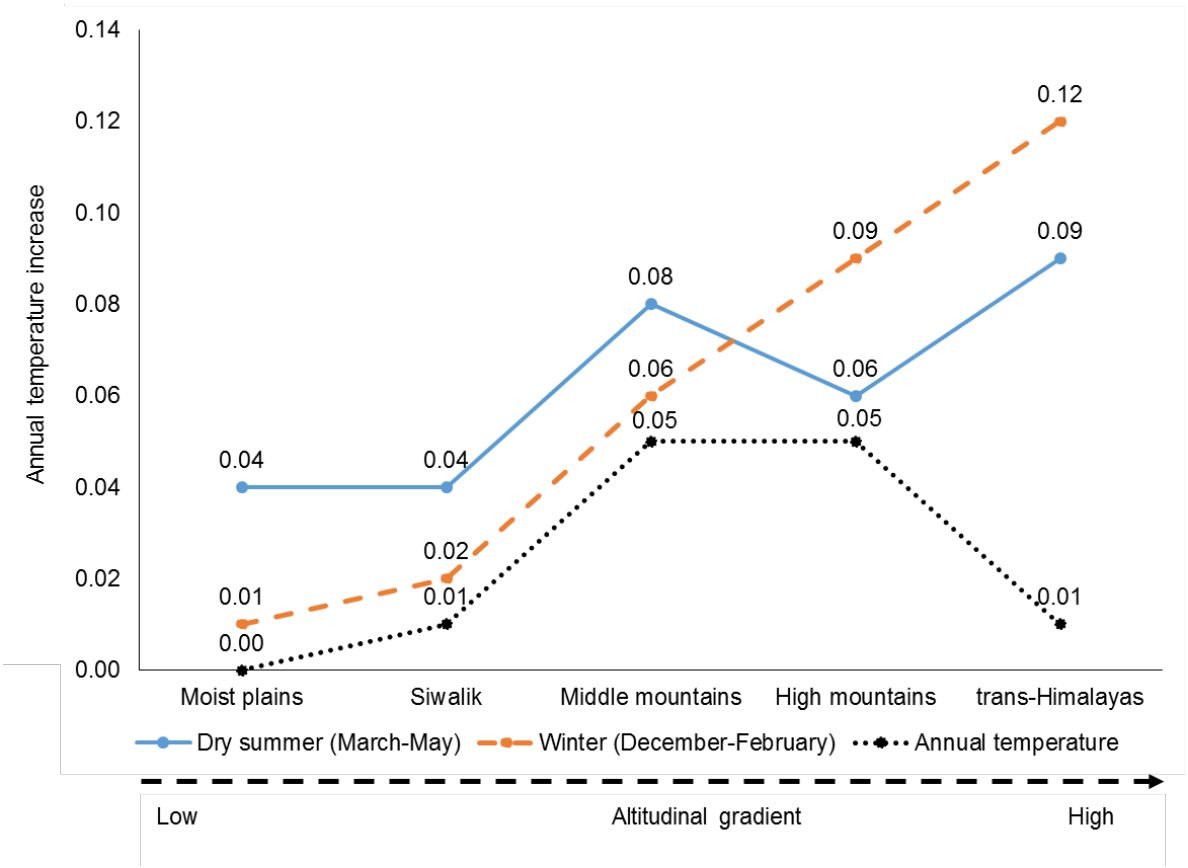

Figure 7. Annual temperature increase recorded across various altitudes in the Hindu Kush-Himalayas between 1970s and 2000[45].

Climate change predictions and predicted impacts.

33. General Circulation Models (GCMs) run with the Special Report on Emissions Scenarios (SRES) B2 scenario predict the conditions described below for Nepal under climate change:

- mean annual temperature will increase 1.2 °C by 2013, 1.7 °C by 2050 and 3 °C by 2100; increases in mean daily temperature will be greater in the winter than the summer monsoon season;
- greater warming over western and central Nepal compared with eastern Nepal, which will – at higher elevations – reduce snow and ice-coverage and increase vulnerability to avalanches and GLOFs;
- no change in winter precipitation for western Nepal, although up to 5–10% increase in winter rainfall for eastern Nepal[46];

[44] Ibid
[45] Derived from Singh, SP, Bassignana-Khadka, I, Karky, BS, Sharma, E. 2011. Climate change in the Hindu Kush-Himalayas: the state of current knowledge. Kathmandu: ICIMOD.

- an increase in precipitation during the summer monsoon months over the whole country in the range of 15–20%, with greater increases in monsoon rainfall for eastern and central Nepal compared with western Nepal;
- an increase in rainfall intensity; and
- an increase in the frequency of extreme weather events such as droughts and floods.

34. An alternative study[47] (using GCMs and regional circulation models) largely confirms the predictions listed above. However, the study shows no clear trend in mean annual precipitation and predicts a decline in winter rainfall.

35. The effect of the observed and predicted climate changes on relevant sectors in Nepal are described below.

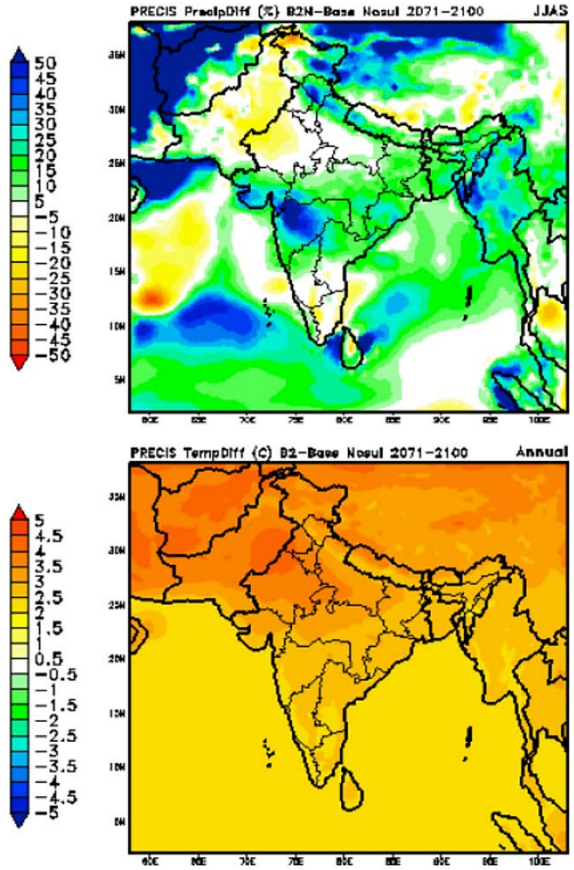

Figure 8. SRES projected changes in summer monsoon precipitation (top) and surface air temperature (bottom) towards the end of the 21st century under scenario B2[48].

Agriculture

36. Agriculture in Nepal is largely subsistence in nature. Therefore, this sector is vulnerable to the effects of climate change and climate-induced hazards that directly affect agricultural productivity. The effects are likely to have a negative effect on food security. For example, increased rainfall intensity will increase frequency and severity of flooding

[46]OECD. 2003. Development and climate change in Nepal: Focus on water resources and hydropower. Available at: http://www.oecd.org/environment/cc/19742202.pdfAccessed on 14 October 2013.
[47]NCVST. 2009. Vulnerability through the eyes of vulnerable: Climate change induced uncertainties and Nepal's development predicaments. Institute for Social and Environmental Transition-Nepal (ISET-N), Nepal Climate Vulnerability Study Team (NCVST), Kathmandu.
[48]Kumar, KR et al. 2006. High-resolution climate change scenario for India for the 21st century. *Current Science* 90(3): 334-345.

(particularly GLOFs[49]) and landslides. These events will damage farming areas and affect crop yields. Increasing temperature and rainfall variability are already resulting in shifts of agro-ecological zones and increasing incidences of pests and diseases[50]. In addition, crop yields such as rice have been negatively affected by climate stresses. Such stresses include: i) more severe and frequent droughts; ii) increasing temperatures; and iii) declines in rainfall, particularly between November and April. These stresses are threatening food security, income streams and the Nepalese economy as a whole.

Natural resources

37. Climate change is contributing to the degradation of Nepal's ecosystems. Increasing frequency of wildfires – because of increasing temperatures – has resulted in the degradation of vast areas of productive forest. This damage threatens the country's biodiversity and the availability of scarce fuel-wood. Furthermore, increasing temperature and rainfall variability are resulting in geographical shifts of ecological zones. In the future, forest cover in the country is likely to be adversely affected by increases in the concentration of carbon dioxide in the atmosphere[51.] This loss of forest diversity and biomass will reduce availability of natural resources. Consequently, the vulnerability of indigenous and local communities who rely strongly on these ecosystems for their livelihoods will increase. Indigenous and local communities who are poor and marginalized – and therefore more vulnerable – are likely to use alternative livelihoods as safety nets. These safety nets could increase the: i) exploitation of timber and NTFPs; and ii) pressure of grazing livestock. Moreover, climate change will also cause extinctions of endemic or localised plants and animals– and are therefore unable to adapt to the changed environmental conditions[52].

Energy

38. Given that over 90% of Nepal's electricity is generated through hydropower, the energy sector is particularly vulnerable to the effects of climate change. Therefore, an increase in frequency of GLOFs and variability of river flow poses major risks for this sector. Moreover, GLOFs, floods and landslides will damage infrastructure related to water supply and hydropower. For example, the 1985 Dig Tsho GLOF event destroyed the Namche Small Hydropower Plant with damages estimated to be ~US$ 1,500,000[53].

Water

39. The projected increases in rainfall intensity are expected to reduce soil infiltration rates. Consequently, rates of soil erosion will increase, thereby increasing sedimentation in rivers and dams. As a result, river flow will be slower, particularly in dry periods. Therefore, under anticipated climate change conditions, water management will become more difficult. This is because: i) the quality of water in rivers will be reduced by erosion; ii) dams will lose capacity as a result of siltation; iii) water supply from rivers will be decreased during droughts and low base flows will result in the dry season; and iv) flooding will increase as a result of enhanced snow or ice melt. Declines in water supply and quality will affect important economic sectors such as agriculture and hydropower.

[49] Gurung, B.D. and Bhandari, D. 2009. Integrated Approach to Climate Change Adaptation. *Journal of Forest and Livelihood* 8(1): 90-99.
[50] Ibid
[51] Sagun Program. 2009. Available at: http://www.careclimatechange.org/files/reports/Nepal_CC_Study.pdf. Accessed on 17 February 2014.
[52] WWF Nepal has for example studied the likely impacts of climate change on snow leopard populations. The research shows a major contraction in the range of the snow leopard. This is likely to have implications for tourism and community livelihoods based on tourism because the snow leopard is a species of iconic status for wildlife enthusiasts, and consequently a major attraction for many eco-tourists.
[53] Brittia Horstmann. 2004. Glacial Lake Outburst Floods in Nepal and Switzerland: New threats due to climate change. Germanwatch (www.climateresponsibility.org and www.germanwatch.org)

Health

40. Climate change in Nepal is predicted to have notable negative effects on the health sector. As changes in water flow and quality are experienced, the geographic range of a number of infectious diseases that are vector- and water-borne are likely to change. For example, projected warmer conditions at higher altitudes will create ambient conditions for mosquito breeding. As a result, local communities will be at an increased threat to mosquito-transmitted diseases. Such diseases include malaria, visceral leishmaniasis (Kala-azar), Japanese encephalitis and yellow fever. An increased prevalence of such diseases will intensify the vulnerability of local communities who are generally poor and have limited resources to prevent the spread of infectious diseases[54]. Malaria is already more prevalent in some higher-altitude mountain districts while other vector-borne diseases are beginning to emerge[55]. In addition, the prevalence of water-borne diseases such as typhoid and cholera is likely to increase with: i) increasing frequency and severity of floods; and ii) decreasing water quality. An increase in extreme climate hazards such as flooding and GLOFs will result in more injuries and, potentially, loss of human life. Already, floods and landslides are being experienced at an increasing frequency in Nepal, claiming an average of 200 lives annually since 1998[56]. Climate change will also reduce agricultural productivity, thereby increasing cases of malnutrition and hunger among local communities, and in turn compromising immunity to disease.

Infrastructure

41. The Nepalese transport sector is threatened by climate-induced hazards such as flooding and GLOFs. These hazards inflict physical damage to road and railway infrastructures. GLOFs are particularly damaging and can be triggered by numerous factors including[57]*inter alia*: i) ice or rock avalanches; ii) melting of ice buried in moraine dams[58]; iii) washing out of fine material by springs flowing through the dam; iv) earthquakes; and v) sudden inputs of water into the lake as a result of heavy rainfall.

Tourism

42. Tourism is an important sector for the Nepalese economy, particularly outdoor and nature-based tourism. Trekking is one of the most popular activities for international visitors. Other tourist activities that contribute to the economy include mountaineering, white-water rafting and safaris. Effects of climate change that result in loss of habitat or areas for outdoor tourism are likely to have a negative effect on this sector. Climate change-related factors likely to threaten the tourism sector include: i) a decrease in the duration and quality of tourist seasons; ii) reduced physical aesthetics of the country or attractions; and iii) reduced options for tourist-related activities.

2.2. Global significance

43. Although LDCF-financed projects are not required to comply with the global significance criteria, this LDCF-financed project will contribute towards several global benefits. For example, it will support the effective functioning of ecosystems by implementing EbA in forests and rangelands (refer to Section 3.3 for more details), located in the mid-hills and high mountains of Nepal. These ecosystems comprise rich biodiversity, endemism and endangered wildlife. For example, 131 endemic plants occur in the sub-alpine and alpine

[54]GoN, NAPA, 2010.
[55]Such as Chitiwan and Dahding Districts where mosquitos have previously not been reported.
[56] UNDP. 2002, Strengthening disaster preparedness capacities in Kathmandu Valley.
[57]Brittia Horstmann. 2004. Glacial Lake Outburst Floods in Nepal and Switzerland: New threats due to climate change. Germanwatch. www.climateresponsibility.org and www.germanwatch.org
[58] mass of earth and rock debris carried by an advancing glacier and left in its path as it retreats

rangelands. The project will promote conservation of this biodiversity by restoring these ecosystems and promoting sustainable and community-based management of them. Additionally, the restored forests will promote the sequestration of carbon and contribute to the mitigation of climate change globally. Furthermore, enhanced functioning of the ecosystems in water catchments at these high altitudes will contribute to regulating water availability and quality in Nepal. These benefits will accrue to users of the larger trans-boundary river basin in South Asia[59], particularly India. See Section 2.1 for more information on the Nepal's biodiversity and ecosystems.

2.3. Threats, root causes and barrier analysis

44. In Nepal, local communities rely strongly on ecosystems for their livelihoods. As a result, these local communities are particularly vulnerable to the negative effects of climate change on ecosystems. Moreover, climate-related effects exacerbate non-climate related threats[60]. These threats are described below.

Non-climate change related threats

Unsustainable resource use

45. The unsustainable use of natural resources in Nepal is resulting in ecosystem degradation. In particular, increased rates of harvesting fodder and wood fuel, combined with inappropriate livestock management are having a negative effect on ecosystems. Because rural communities rely strongly on ecosystems for their livelihoods, ecosystem degradation is the most consistent threat to these communities and to the economy of Nepal[61]. In drier months, this threat is exacerbated when local communities – who rely mostly on rain-fed agriculture – place additional demands on these ecosystems. In particular, farmers collect more fodder from forests and rangelands to feed their livestock, thereby reducing the vegetation cover of these ecosystems. This reduced vegetation cover contributes to: i) increased soil erosion; ii) reduced water infiltration into soils and subsequent water availability; and iii) reduced food availability and food security. Ecosystems are further degraded because of the threats described below.

Threats causing reduced base flows in rivers and reduced water quality because of soil erosion

46. Deforestation and ecosystem degradation cause soil erosion through the process described below.

- The vegetation biomass of trees, grasses and shrubs is reduced because of the unsustainable use of natural resources as previously detailed. This biomass is not replaced at the same rate as it is used. Therefore, rates of harvesting and grazing are not sustainable.
- Reduced vegetation cover exposes soils to raindrop impact. This impact results in clay dispersion and soil crusting[62], which results in increased surface runoff and erosion.
- Reduced vegetation cover means that the soil contains fewer root systems.
- As a result of soil crusting and limited root systems, rainwater is only able to penetrate shallow depths of soils. Consequently, it evaporates quicker when exposed to wind and

[59] Siwakoti, G. 2011. Trans-boundary River Basins in South Asia: Options for Conflict Resolution. International Rivers Report. Available at: http://www.internationalrivers.org/files/attached-files/transboundaryriverbasins.pdf Accessed on 17 October 2013.
[60] Climate change-induced causes and threats have been detailed in Section 2.1.
[61] Approximately 74% of the population of Nepal is employed in the subsistence agriculture sector.
[62] Soil crusting can also be exacerbated by compacting of exposed soils by the hooves of grazing animals. The soils in the mid-hills of Nepal are particularly vulnerable to this type of damage because they have chemical and physical properties that predispose them to clay dispersion and crusting.

sun. As such, there is less infiltration of rainwater into soil profiles, and the "sponge effect" of water catchments is reduced. As the rate of infiltration of rainwater into soils decreases, surface run-off increases. This reduced ability of soils to retain water – and the increase in rainwater runoff – results in increased flow in rivers during wet seasons. Conversely, during dry seasons, there is a reduced flow of water in rivers.

- As a result of the steep mountainous terrain, most of the country is vulnerable to increased rates of run-off and erosion.
- River flow increases in spring and early summer result in riverbank erosion and a loss of land that is available for grazing livestock or growing crops.

Threats causing a reduction in food availability and food security

47. Deforestation and ecosystem degradation reduce food production through the processes described below.

Ecosystem degradation results in erosion and limited infiltration of rainwater into the soil profile through the processes described above in the "*threats causing reduced base flows in rivers and reduced water quality because of soil erosion"* Section.

- Degraded and eroded soils reduce the availability of soil water for agriculture.
- Eroded soils in river systems accelerate the rate of siltation in dams. This constrains the effectiveness of hydropower or irrigation projects, should they be present.
- Agricultural productivity is reduced because: i) less water infiltrates into soils; and ii) irrigation systems or canals are not effective in dry periods when water flow in rivers and streams is reduced.
- Food security is also compromised because supplies of food – such as wild fruit, nut and tuber species – are reduced in degraded ecosystems.
- As agricultural yields are reduced, rural communities become increasingly dependent on these food supplies from ecosystems.

Additional threats

48. Deforestation and ecosystem degradation affects the availability and quality of water from rivers and streams for: i) domestic and agricultural use; and ii) hydropower generation. In addition, degraded ecosystems have reduced capacity to buffer local communities to extreme climate-related events. Indeed, ecosystem degradation has negative consequences on a number of other sectors including electricity, health and tourism. The chain of causal events that links this degradation to these sectors is detailed below.

- Reduced water retention in soils increases seasonal flows thereby increasing the risk of floods.
- Reduced water retention in soils also reduces groundwater recharge, which negatively affects groundwater supplies.
- Variable flow of rivers in the late dry season – because of poor infiltration rates – exacerbates the negative effects of droughts. These droughts threaten a variety of sectors including health, tourism[63], energy and agriculture.
- Decreased water supply encourages local communities to use sensitive wetlands and riverbanks for agriculture and grazing. Consequently, regulating services provided by wetlands – such as the capacity of riverine vegetation to mitigate flood surges – is reduced[64].
- Reduced vegetation and root systems result in decreased capacity of ecosystems to protect against natural disasters. Degraded ecosystems in Nepal's hilly and mountain

[63] In Nepal, white-water rafting is a popular tourist activity.

[64] Bradshaw, C.J. A., Sodhi, N.S., Peh, K.S.H. and Brooks, B.W. 2007. Global evidence that deforestation amplifies flood risk and severity in the developing world. *Global Change Biology* 13(11):2379–2395.

areas have reduced capacity to protect against the increased likelihood of landslides or slope failures[65]

- Silt from soil erosion reduces the quality of water in rivers. Therefore, the availability of drinking water is reduced.
- Hydroelectric power production is reduced because the: i) capacity of dams to store water is reduced by increasing levels of siltation; and ii) blades of the hydropower turbines are damaged by the increased silt load in the water.

Poverty

49. Poverty in Nepal is widespread (Section 2.1), mostly because of limited livelihood opportunities. The subsistence farming sector contributes most substantially to the country's economy (32%). Despite continued attempts to increase agricultural productivity in recent years, the per-capita food availability has decreased. This reduction is because of: i) an increasing population; and ii) a relatively stagnant performance of the agriculture sector. On average, the per-capita holding size of agricultural land is small, at less than 0.8 hectares (Section 2.1). In addition, approximately 42 districts (out of 75) in the country experience a food deficit each year. Many rural communities respond to such deficits by: i) migrating to areas that present opportunities for employment[66] or increased agricultural productivity; and/or ii) relying on natural resources for their livelihoods. With continued population growth, the rate of deforestation and degradation of ecosystems increases because natural resources are used unsustainably. The over-exploitation of the natural capital of these ecosystems further reduces their regenerative capacity. Therefore, this negative cycle both exacerbates and is exacerbated by poverty. Since the poor and marginalised have limited finances, technology and information to adapt, they are more vulnerable to the negative effects of climate change.

Dependence on rain-fed agriculture

50. Rain-fed agriculture is very vulnerable to increasing climate variability[67]. This vulnerability is a result of farmers being exposed to variations in rainfall, which prevents them from providing optimal amounts of water to crops through the growing season. In Nepal, most rural farmers do not have financial savings or access to capital to install irrigation systems. Moreover, uncertain land tenure makes investing in irrigation infrastructure unfeasible. As a result of the steep topography in the mid-hill and high mountain areas, pumping water from rivers towards agricultural plots for irrigation is difficult and requires investments in technology and energy supply. Furthermore, cold weather causes pipes to freeze and crack, particularly at these higher altitudes. In addition, this infrastructure for irrigation is at risk of being damaged by floods during monsoon seasons.

Conflict over land ownership and rights

51. In Nepal, land ownership underpins most economic livelihoods and is an important indicator of power and status[68]. Nepal has a high incidence of land disputes[69]with land ownership becoming increasingly complex during the political transition period to the current federal government (Section 2.1). This is evident in the fact that 31% of all legal cases filed

[65] In Nepal, landslides are referred to as slope failures.
[66] In a number of the more remote communities, the age distribution of the local population is not normal because a large proportion is older. This distribution is a result of the younger people moving to larger cities or out of the country in search of employment.
[67] Devendra, C. and Thomas, D. 2002. Smallholder farming in Asia. Agricultural Systems 71: 17-26.
[68]Allendorf, K. (2007). Do Women's Land Rights Promote Empowerment and Child Health in Nepal? World Dev, 35(11).
[69] USAID. 2010,Property Rights and Resource Governance: Nepal. Available at: http://usaidlandtenure.net/nepal Accessed on 24 January 2014.

from 1999-2003 were land disputes[70]. The former feudal system restricted access to resources and economic opportunities for many rural communities[71].

52. The Nepalese government has endeavoured to resolve conflict over land rights by revising the legal and policy framework governing land, and has committed to an agenda of land reform. However, land ownership remains complex with contestations exacerbated by: i) poverty; ii) poorly documented records of management systems on land tenure; iii) lack of awareness of land rights; and iv) limited institutional capacity to manage land ownership and rights[72].

53. Environmental stressors have also aggravated confusion over land ownership: deforestation and vegetation degradation are resulting in decreased availability of natural resources for local communities in some areas. Where this is the case, local communities are forced to travel onto land that they do not own in order to collect natural resources. Furthermore, in some regions sedentary indigenous and local communities are moving into areas that were traditionally used by migratory communities for winter grazing, resulting in conflicts over land rights.

Limited institutional capacity

54. Nepal has substantial guidelines and legal frameworks for the sustainable use of natural resources. However, there is limited institutional capacity to implement these programmes, strategies and plans. Institutional capacity is hampered by *inter alia*: i) low institutional memory as a result of high GoN staff turnover; ii) limited coordination within government departments; and iii) low technical capacity of government agencies to effectively manage natural resources[73].

Limited technical capacity of local communities

55. While local communities are actively involved in forest management (See Sections 2.1 and 3.6), they have restricted access to technical information on using tailored EbA to restore ecosystems. Therefore, their technical capacity to implement EbA interventions is limited. In addition, indigenous and local communities have limited information on diversifying their livelihoods through restoration of ecosystems, particularly in rural areas. Consequently, their dependence on rain-fed agriculture is enforced. These factors compound poverty and ecosystem degradation.

Increased vulnerability of communities after the 2015 earthquakes[74]

The earthquakes that were experienced on 25 April and 12 May 2015 increased the vulnerability of both rural and urban communities in Nepal. On 25 April, an earthquake of magnitude 7.8 occurred (see Figure 9 below). The epicentre of the earthquake was located in Ghorka, ~77 km northwest of Kathmandu. Since this original earthquake, ~60 aftershocks have occurred. These aftershocks have been concentrated in the area of the epicenter and over 150 km of landscape to the east. On 12 May, a second earthquake – with a magnitude of 7.3 (Figure 10) – was experienced in Nepal. The epicenter of the earthquake was located

[70] USAID. 2010. Property Rights and Resource Governance: Nepal, Available at: http://usaidlandtenure.net/nepal Accessed on 24 January 2014.
[71] Ibid
[72] International Organization for Migration Nepal, 'Catalytic Support on Land Issues'.2013.
[73] MoE, Science and Technology. National Capacity Needs Self Assessment for Global Environment Management Project (NCSA). GoN.
Available at: https://www.thegef.org/gef/sites/thegef.org/files/documents/document/ncsa-nepal-fr-ap.pdf. Accessed on 18 July 2014.
[74] WHO. 2015. Humanitarian crisis after the Nepal earthquakes 2015. Initial public health risk assessment and interventions. Available online at: http://www.searo.who.int/entity/emergencies/phra_nepal_may2015.pdf?ua=1. Accessed on 3 July 2015.

76 km east of Kathmandu. Of the 75 districts in Nepal, 35 were affected by the earthquakes. The Ministry of Health (MoH) has identified the following 14 districts as being worst affected: Gorkha, Dhading, Rasuwa, Sindhupalchok, Kavre, Nuwakot, Dolakha, Kathmandu, Lalitpur, Bhaktapur, Ramechhap, Sindhuli, Okhaldhungai and Makwanpu.

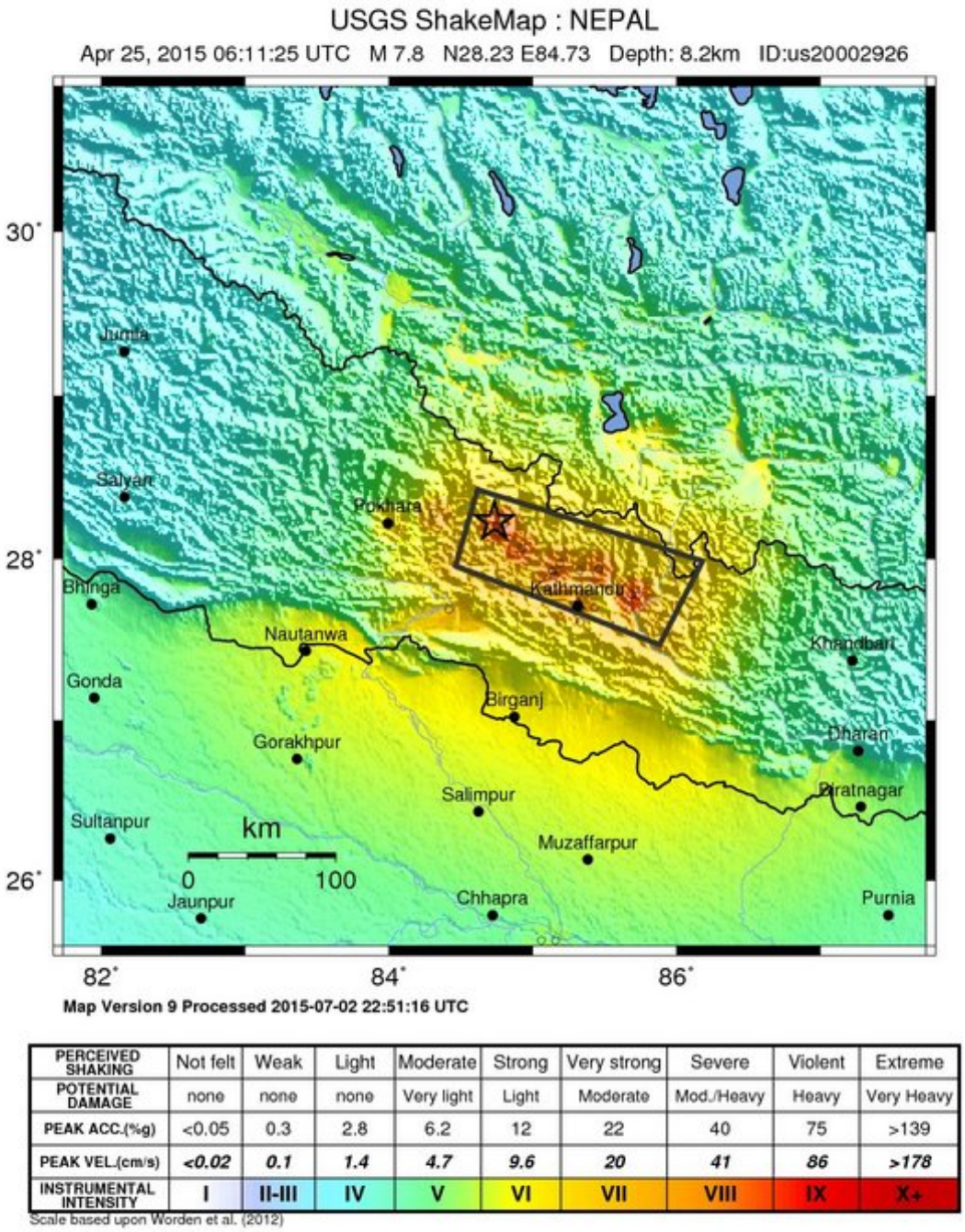

Figure 9. Shakemap of the magnitude 7.8 earthquake experienced in Nepal on 25 April 2015 (USGS 2015)[75].

[75] Available at: http://earthquake.usgs.gov/earthquakes/shakemap/global/shake/20002926/l/. Accessed on 6 July 2015.

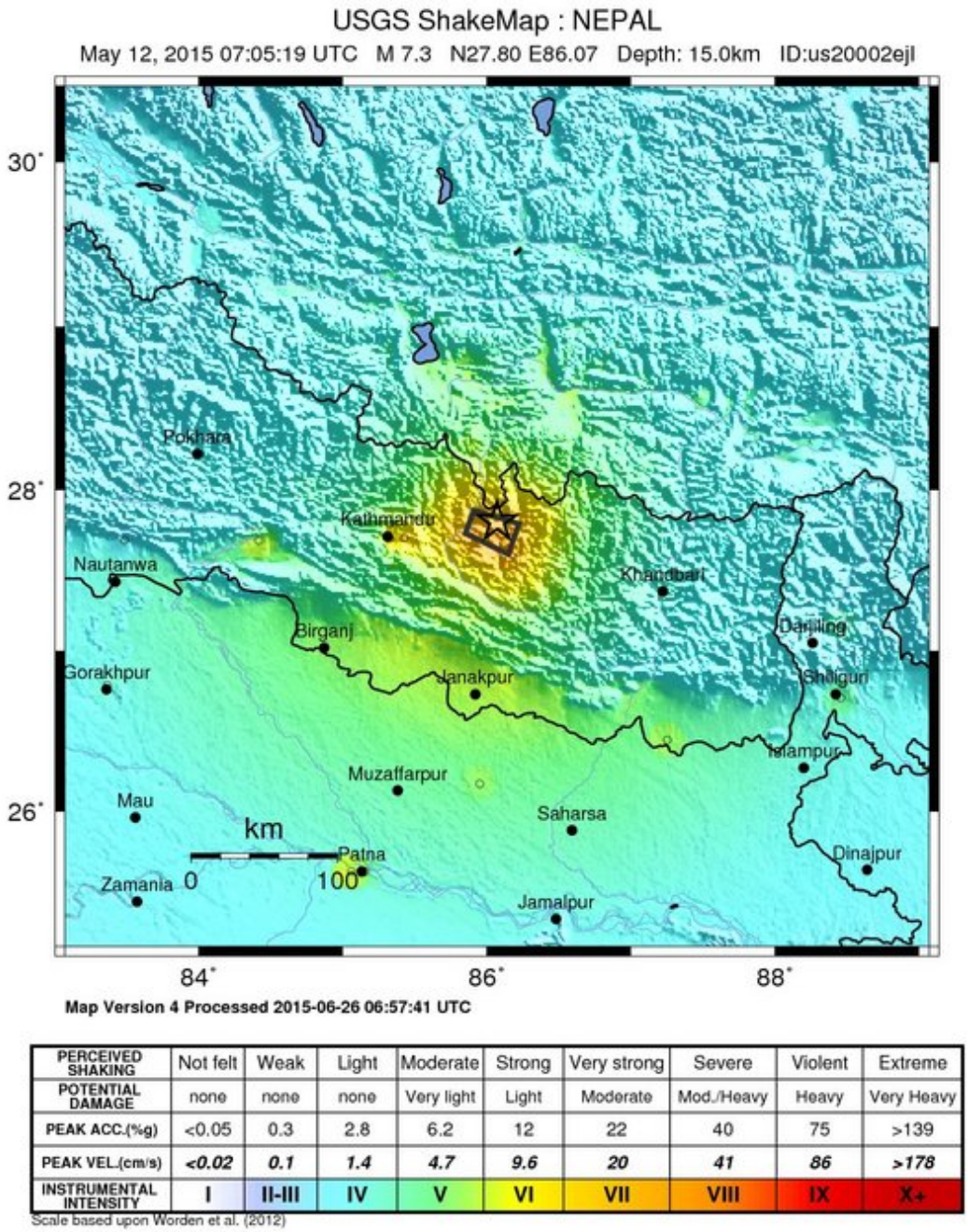

Figure 10. Shakemap of the magnitude 7.3 earthquake experienced in Nepal on 12 May 2015 (USGS 2015)[76]

These earthquakes have had a significant effect on the health of both rural and urban communities living in Nepal. In particular, ~8,219 deaths have been recorded as a direct result of these disasters. It is estimated that a further ~17,866 people have been injured. Because of the destruction of houses and other infrastructure, ~2,8 million people have been displaced in affected districts. The risk of contracting communicable and infectious diseases is also expected to increase because water and sanitation systems have been damaged, and displaced people are now living in crowded areas that are perceived to be safer.

[76] Available at: http://earthquake.usgs.gov/earthquakes/shakemap/global/shake/20002ejl/. Accessed on 6 July 2015.

The earthquakes described above have increased the vulnerability of communities in affected areas throughout Nepal. As Nepal is an LDC, development aid is necessary to decrease the vulnerability of these communities in the short term, and to build their resilience to similar disasters in the medium- and long-term. In particular, income from environmental resources has been identified as an important livelihood that contributes to building resilience of rural communities to disasters such as earthquakes[77].

Preferred solution

56. The preferred solution would see **increased capacity of government institutions and local communities living in the mid hills and high hills of Nepal to climate change**. This would be achieved by enhancing the functioning of ecosystems – on which these local communities strongly rely – under climate change conditions. In this scenario, local communities would have a predictable and sustained supply of natural resources – including water – to develop their economic livelihoods regardless of climate variability. To reach this desired state government institutions, local institutions and indigenous communities would have the technical and institutional capacity to plan and implement EbA throughout the country, as described below.

Enhanced technical and institutional capacity to manage ecosystems sustainably under conditions of climate change

57. The preferred solution would see the technical and institutional capacity of governing organisations and local communities enhanced to manage ecosystems sustainably under conditions of climate change. As such, EbA would be tailored for particular ecosystems using scientific research and traditional knowledge. Furthermore, EBA would be integrated into: i) development planning; and ii) the management of ecosystems. EbA on a national scale would be supported by enhanced national awareness on the benefits of EbA. This national awareness would be informed by evidence-based research on EbA, particularly in ecosystems in Nepal. Moreover, lessons learned from EbA would be frequently shared amongst: i) the public; ii) policy- and decision-makers at a central level; and iii) projects engaging in ecosystem management. As such, there would be continuous sharing of lessons learned and technologies between stakeholders from all sectors at a range of governing levels.

Enhanced policy context for climate change adaptation with EbA integrated in national policies and strategies

58. The preferred solution would see EbA thoroughly integrated into national policies and strategies. These policies would address the needs of sectors that are particularly vulnerable to climate change, but would also be cross-sectoral to support collective action. Strategies would be developed for short-, mid- and long-term goals to implement interventions for climate change adaption, particularly EbA. These policies and strategies would be aligned with national, regional and global programmes, plans and strategies on climate change and sustainable development.

Activities implemented across Nepal to conserve topsoil and water under conditions of climate change

[77] Smith-Hall, C., Larsen, H.O., Pouliot, M., Chhetri, B.B.K., Rayamajhi, Meilby, H. & Puri, L. 2015. Policy brief developed by the Copenhagen Centre for Development Research: Environmental resource income is important for earthquake-hit rural households. Available online at: http://www.forestrynepal.org/images/publications/ku_2015-06-08.pdf. Accessed on 3 July 2015.

59. The preferred solution would see EbA implemented across Nepal. Consequently, the livelihoods of local communities and economic sectors would be developed while adapting to climate change. By implementing EbA, topsoil and water would be conserved in all ecosystems throughout Nepal thereby increasing the productivity of goods and services. This would be achieved by restoring ecosystems using plant species that withstand climate change and produce products and natural resources that contribute to development of community livelihoods. To this end, ecosystems would be restored across the country using plant species that: i) have root systems that are effective at binding soils and promoting water infiltration; ii) are indigenous and presently used by local communities; iii) are climate-resilient[78]. In addition, adaptation technologies would be implemented to maximise benefits from climate change. These techniques could include *inter alia*: i) improved livestock management (see Appendix 27); and ii) constructing infrastructure for soil and water conservation (see Appendix 23). Such techniques would contribute to conserving topsoil and water thereby reducing erosion and promoting the development of livelihoods including *inter alia* livestock and crop production.

Barriers to implementing the preferred solution and contributions to overcoming these barriers

60. Given the current financial and institutional restrictions in Nepal, the preferred solution is not fully feasible in the short term. However, by identifying the barriers to its implementation, the LDCF-financed project will facilitate the development of skills, tools and frameworks to assist the country in achieving the preferred solution in the long term. These barriers are described below, as well as how the project will contribute to overcoming them.

Limited coordination between projects and departments involved in ecosystem restoration and management

61. In Nepal, a number of government departments and projects focus on research and/or activities for ecosystem restoration to reduce the vulnerability of local communities to climate change. However, communication between these organisations is uncoordinated and inadequate. Therefore, there is limited opportunity to: i) integrate scientific research and new technologies into ecosystem restoration; ii) address the complex and multi-sectoral problem of climate change; iii) share lessons learned between aligned projects; or iii) share resources between projects working in similar locations. In the absence of coordinated communication between projects that have similar objectives[79], opportunities to progress the science and practice of EbA in Nepal are limited.

62. The LDCF-financed project will establish frameworks under Component 1 to facilitate cross-sectoral coordination between relevant government ministries, projects and organisations to plan for EbA. To this end, dialogue on EbA will be integrated into the mandate of the Multi-sectoral Climate Change Initiatives Coordination Committee (MCCICC). Therefore, a platform will for be created for: i) consistent sharing of lessons learned and best practices on EbA in South Asia and Nepal; and ii) maximising opportunities for EbA in the development context of the country. In addition, a Project Managers Working Group (PMWG) will be established to share lessons learned on EbA interventions that are being implemented across Nepal (see Section 4).

Limited understanding, awareness and research on EbA

[78] For example, in the mid-hills and high mountains, climate-resilient species would be: i) suited to trajectories for temperature increases and consequent shifts in agro-ecological zones; or ii) better suited to cope with prolonged droughts.

[79] This includes two EbA projects that are being implemented in Nepal as follows: i) EbA flagship project; and ii) SCCF-funded project.

63. Currently, there is limited understanding among the general public on what constitutes EbA that synthesises indigenous and local knowledge with scientific research. In addition, few academic institutions – including schools and universities – include EbA in their curricula[80]. This is mostly because: i) EbA is a relatively new concept; and ii) there are limited resources available for research on EbA at a post-graduate level. Moreover, systems have not been established to: i) include scientific research into EbA planning; ii) guide research by the needs of EbA initiatives that are being implemented on the ground; nor iii) promote the dissemination of findings on EbA research to the public and policy- and decision-makers.

64. The limited education on EbA is a considerable barrier to promoting EbA at a national scale[81]. Although people at a central[82] and local level are conducting activities for ecosystem restoration and management, EbA is not prevalent. Therefore, there is limited understanding on the importance of integrating scientific research – including climate change trajectories – and adaptation technologies into EbA planning. There is also limited knowledge on: i) how to tailor EbA for particular ecosystems; ii) what constitutes EbA best practice; and iii) the costs and benefits of EbA.

65. Under Outcome 1, the LDCF-financed project will conduct an awareness campaign to build national understanding on EbA and its benefits. Funding research on EbA will further enhance understanding. Moreover, visits will be coordinated for relevant schools, environmental journalists and policy-and decision-makers to visit EbA intervention sites. In addition, primary and secondary school curricula will be reviewed and recommendations put forward with respect to integrating knowledge on EbA and principles for sustainable land use. Therefore, awareness on EbA will be enhanced amongst the youth and other influential members of the public.

Limited protocols/tools for implementing EbA in Nepalese ecosystems

66. To enhance adaptation to climate change and promote development of livelihoods, EbA should be tailored to particular ecosystems. However, protocols for EbA in different Nepalese ecosystems do not exist. This is mostly because there is limited integration of science into planning for ecosystem restoration while adapting to climate change. Therefore, people engaging in these activities do not have access to appropriate tools or documents to guide them to implement EbA.

67. The LDCF-financed project will develop particular protocols for EbA in forests and rangelands. Such protocols will be tailored by synthesising scientific research with traditional knowledge of local communities. Therefore, the protocols will contribute to: i) a database of tools or guidelines for EbA; and ii) an evidence-base of such projects that are being implemented in Nepal. These protocols will inform the training provided to district officers and user groups under Outcome 1. Moreover, lessons learned through implementing EbA in particular forest and rangeland ecosystems will be documented and shared with: i) the project team; ii) the MCCICC; and iii) user groups and community members in districts where interventions are being implemented. The dissemination of the EbA protocols and tools will further be supported through the activities of the awareness campaign.

[80] Approximately 20 students from the Department of Environmental Science, Tribhuvan University, are conducting research to collect baseline data at EbA intervention sites in the Panchase Area (the intervention site for the EbA flagship project). In addition, a few universities include EbA in their BSc. curricula.

[81] Tiwari, K.R., Rayamajhi, S., Pokharel, R.K. and Balla, M.K. 2014. Determinants of the Climate Change Adaptation in Rural Farming in Nepal Himlaya. International Journal of Multidisciplinary and Current Research. ISSN: 2321-3124
Available at: http://ijmcr.com

[82] For example, DoF conducts restoration through a number of projects including the baseline projects and the Community Forest Programme. By means of such programmes, user groups are established within indigenous and local communities to continue restoration activities.

Limited technical capacity of policy- and decision-makers and local communities to plan and implement EbA

68. Staff members within government ministries – including MoFSC, MoSTE and MoAD – do not receive frequent training on EbA. Therefore, these central-level institutions do not have the technical capacity for EbA planning and implementation. This is similarly the case with the district officers, who provide technical support to indigenous and local communities on the ground. Without the technical capacity to plan and implement EbA, these district officers are unable to share information on EbA with these communities. Therefore, indigenous and local communities have limited technical capacity to plan and implement the EbA approach.

69. The LDCF-financed project will strengthen EbA within Nepal by increasing the technical capacity of local and national institutions to plan and implement EbA. The project will train stakeholders within national government on: i) lessons that have been learned from other EbA projects; ii) best-practice EbA for Nepal; and iii) selecting EbA using the UNEP decision support framework. Furthermore, the technical capacity of district officers and user groups[83]in Achham, Dolakha and Salyan Districts to implement EbA will be strengthened through Outcome 1. This will include training on protocols for EbA that will be developed for the particular forest and rangeland ecosystems in which on-the-ground activities will take place.

Limited integration of scientific knowledge to inform ecosystem restoration and management under conditions of climate change

70. Historically, indigenous and local Nepalese communities have relied strongly on natural and agricultural ecosystems. As such, traditional systems have been developed to manage the landscapes in which these local communities live. In addition, district officers – such as District Soil Conservation Officers (DSCOs) and Forest Officers (DFOs) – work closely with these local communities to develop plans to restore and/or manage ecosystems through ongoing initiatives[84]. Examples of such initiatives include: i) MoSTE's framework for Local Adaptation Plans of Action (LAPAs) to implement NAPA priorities at a local scale (Section 3.6); and ii) DSCO's mandate comprising the development and continuous update of watershed management plans. Consequently, many local communities and district officers throughout the country have experience in restoring and managing ecosystems, including forests and rangelands. However, findings from scientific research on climate change are not integrated into these management plans. Therefore, this type of planning often occurs in the process of regular development[85]. As such, there is a risk that these plans will not be appropriate in the face of climate change.

71. The LDCF-financed project will develop EbA protocols to restore forests and rangelands by integrating both indigenous knowledge and scientific research. These protocols will be developed through Outcome 3 and will integrate local government norms for restoration. Consequently, this will involve the close collaboration with district officers and user groups.

Limited integration of EbA into development planning, frameworks and guidelines

[83]User groups will include LFUGs, Livestock User groups (LUGs) and Womens User groups (WUGs). Additional user groups will be identified during project inception

[84] The GoN has developed a framework for LAPAs to implement NAPA priorities at a local scale.

[85] Rupantaran Nepal. 2012. Consolidating learning of local and community based adaptation planning: implications for adaptation policy and practice. Synopsis paper prepared by Rupantra Nepal.

72. Policies and plans for adapting to climate change have been developed for Nepal[86]. However, these guiding frameworks exist in isolation and are not integrated into planning for development and management of relevant sectors including *inter alia* environment, water, forestry, conservation and tourism. Moreover, there are no opportunities to integrate tailored EbA – that is informed by scientific research[87] and traditional knowledge – into policies, strategies, guidelines or frameworks that are relevant to these sectors.

73. EbA will be integrated into development planning, adaptation and ecosystem management within Outcome 2 of the LDCF-financed project. The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUB-funded) EbA Project (Section 2.6) has initiated the process of reviewing relevant policies and strategies to integrate EbA. Therefore, the LDCF-financed project will build on this work. To do so, further reviews of these guiding frameworks for ecosystem, land and resource management will be reviewed to identify entry points for EbA. To promote EbA across the country, the project will develop a national upscaling strategy that is cognisant of: i) the multi-sectoral and complex approach that needs to be adopted to plan for EbA; and ii) existing plans for adaptation to climate change such as LAPAs.

74. Activities within Outcome 3 will also provide the opportunity to incorporate both scientific research and traditional knowledge in the development of EbA protocols. Consequently, these protocols will be contextualised to local conditions and requirements.

Few on-the-ground interventions where benefits are being measured/monitored (i.e. an evidence base being built)

75. Few EbA interventions have been implemented on the ground in Nepal. As a result, there are very few frameworks to monitor the positive impacts of such interventions in the long term. Therefore, there is a lack of an evidence base to demonstrate the benefits of EbA to local communities and policy- and decision-makers. Without this evidence, planners are not integrating EbA into development planning at a central level and it is likely that local communities will be reluctant to adopt EbA.

76. The LDCF-financed project will demonstrate the benefits of EbA through on-the-ground interventions to restore forests and rangelands. This will be achieved within Outcome 3. To this end, the majority of LDCF funds will be used to implement EbA in these ecosystems in Achham, Dolakha and Salyan. This will include the development of particular protocols for EbA in forests and rangelands. These protocols will inform the training provided to district officers and user groups under Outcome 1. Monitoring systems will be established to measure the benefits of such interventions. The lessons learned from implementing EbA will be documented and disseminated to user groups, the project team and the MCCICC within Outcome 1.

Limited financial resources to implement EbA

77. As an LDC, Nepal has limited financial resources to implement EbA. Although the GDP grew by 3.6% in fiscal year 2013[88], the economy is still relatively small. According to the CIA fact book, the GDP of Nepal is ~US $42.6 billion – ranked 104 in the world – and annual per Capita GDP is ~US $1,500 (2013) – ranked 205 in the world[89]. Given this, Nepal has limited financial resources without donor support to: i) undertake revisions of policies

[86] This includes the following: i) Climate Change Policy; ii) NAPA; iii) LAPA; and iv) the REDD Readiness Preparedness Proposal (REDD RPP).
[87] Nepal's Climate Change Policies and Plans: Local Communities' Perspective, Environment and Climate Series 2011/1. Helvetas Swiss Intercooperation Nepal & Rights and Resources Initiative. Lalipur, Nepal. P. 23.
[88] This is slower than the growth rate in Fiscal Year 2012 which was 4.5%. Available at: http://www.adb.org/countries/nepal/economy. Accessed on 25 March 2014.
[89] CIA World Factbook. 2014.

and strategies to promote EbA; ii) provide training for increasing capacity on EbA at central and local levels; and iii) implement on-the-ground EbA.

78. Within Outcome 2, the LDCF-financed project will develop a national financing plan for EbA with the National Planning Commission (NPC) and Ministry of Finance (MoF). This plan will focus on requirements to implement EbA into short-, medium- and long-term development planning.

Project activities

79. The LDCF-financed project will coordinate at a national level with: i) organisations and projects that are implementing EbA, ecosystem restoration and management; and ii) identified partner government agencies (MoFSC, MoSTE and MoAD) to facilitate dialogue and learning on EbA. The technical capacity of such agencies will be strengthened to: i) integrate EbA into development planning; and ii) implement EbA to adapt to climate change and develop livelihoods of local communities across the country. The project will also demonstrate EbA on the ground to increase the resilience of local communities in the mid-hills and high mountains to the negative effects of climate change. These local-level activities will be conducted in particular forest and rangeland ecosystems in Achham, Dolakha and Salyan (see Figure 11). District officers, user groups and members of the local community will be trained to implement EbA in these ecosystems. Although EbA will be demonstrated at a local level, project activities will address national components of climate vulnerability as identified by the NAPA.

80. The protocols for EbA interventions will be informed by: i) socio-economic and biodiversity assessments at intervention sites; and ii) local knowledge. The positive benefits of such interventions will be monitored and this data will be centralised thereby contributing to the evidence base for EbA. This enhanced evidence base will promote upscaling of EbA in forests and rangelands. In addition, demonstrations will be implemented using adaptive management and the lessons learned from these activities will be synthesised and disseminated at a central level.

81. The project will address the barriers identified above by implementing three separate components. These components are further detailed and described in Section 3.3.

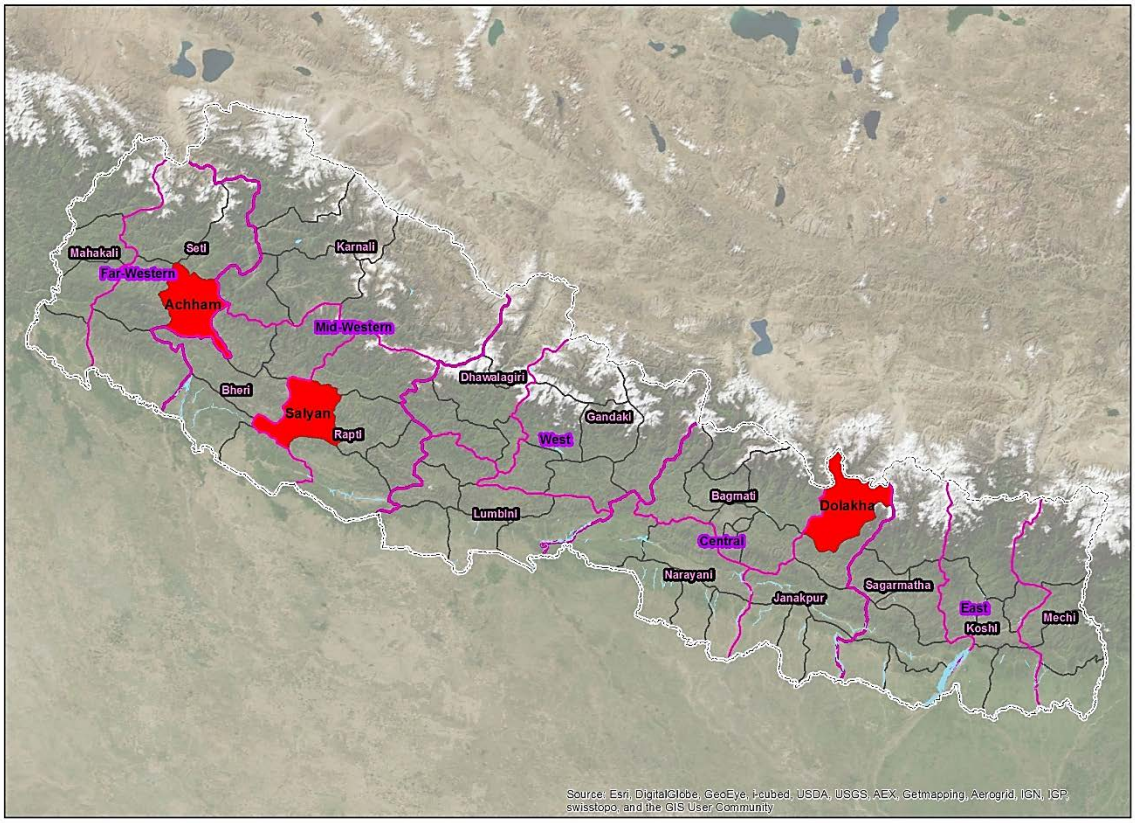

Figure 11. On the ground activities will be implemented in Achham, Dolakha and Salyan. These three districts are indicated in red

2.4. Institutional, sectoral and policy context

Institutional context

82. Within Nepal, a number of governmental ministries are responsible for developing and enforcing national environmental policies and development strategies. These include the MoFSC, MoSTE and MoAD. In 2012, the Department of the Environment (DoEnv) was established under MoSTE. DoEnv is responsible for addressing environmental issues in Nepal including water and soil pollution, deforestation and climate change. The department also assists in the development of policies and strategies to ensure they are aligned with: i) the regulations and guidelines of the GoN; and ii) the GoN's commitments, as stipulated in various treaties and conventions.

83. The MoFSC – and particularly the Department of Soil Conservation and Watershed Management (DoSCWM) and DoF within MoFSC – are predominantly involved in forest restoration initiatives in Nepal. Similarly, the MoAD is involved in rangeland management. Both of these ministries have line representatives in most districts that are actively involved in initiatives for forest and rangeland restoration. While MoSTE is responsible for the management of climate change matters within Nepal[90], this ministry does not have

[90]This includes the following responsibilities: i) preparing climate change-related plans and activities, and implementing approved programmes; ii) conducting climate change policy study and research activities; iii) preparing technical proposals to secure technical and financial support from foreign donor agencies for the implementation of climate change related activities; iv) organising and facilitating climate change-related seminars, workshops and trainings; and v) facilitating a conducive environment for prospective projects. For example, the MoSTE manages the Nepal Climate Change and Development Portal in collaboration with the climate change community of practice in Nepal. This portal provides a platform for climate change practitioners to conduct research, network, discuss, and share climate change knowledge

representatives at a district level that are involved in ecosystem restoration. However, the MoSTE's is involved in coordinating all adaptation and mitigation programs in Nepal.

Policy Context

84. The GoN is party to a number of national strategies, plans, policies and legislation relating to sound environmental management. These frameworks support sustainable development in the country and are described below.

Legislative Frameworks

85. The former constitution of the Kingdom of Nepal (1990) made it imperative for the State to incorporate environmental matters into its policy process. Consequently, Nepal has more than 40 legislative enactments that relate to the environment. The following laws and regulations are related to the LDCF-financed project.

86. The **Environmental Protection Act** (EPA), 2053 and **Environmental Protection Regulations/Rules** (EPR), 2054 – adopted in 1996 and 1997 respectively – enforce effective management for the conservation of the Nepalese environment. This act creates an enabling environment for: i) enforcing Initial Environmental Examinations (IEE) or Environmental Impact Assessments (EIAs) for developments, when necessary; ii) developing environmental standards for the prevention and control of pollution; iii) conserving national heritage and environment conservation areas; iv) creation and use of the environmental protection fund; and v) additional incentives for the use of environmentally-sensitive technologies.

87. The **Urban Construction Plan Implementation Act**, 2019 (1972) prohibits any activities that may impair natural beauty, tourist significance and public health, or cause atmospheric pollution in any other way in an urban area.

88. The **Municipality Act**, 2048 (1991) has stipulated legal provisions for: i) protection of the environment; ii) removal of objects detrimental to public health; iii) issuing directives for the control of atmospheric pollution; and iv) undertaking project screening to conserve and enhance the environment (Art. 15).

89. The **District Development Committee Act** (1991) ensures the cleanliness of the districts and empowers the District Development Committee to impose fines on those who break the directives (Art. 18 [1] and 39 [2]).

90. The **Village Development Committee Act** (1991) contains many provisions for improving the cleanliness and physical environment of villages (Art. 14).

91. The objectives of the **National Trust for Nature Conservation Act** (1982) are to protect natural resources.

92. The **Tourism Act,** 2035 (1978) stipulates that it is mandatory for mountaineers to keep the environment clean and abide by specified conditions (Art. 30).

93. The **Soil Conservation and Watershed Management Act**, 2039 (1982), laid down provisions for the proper protection and utilisation of land, natural resources and watersheds.

94. The **Pesticides Act** (1991) contains provisions for importing, exporting, producing and using pesticides for which government clearance is compulsory.

95. The **Water Resources Act**, 2049 (1992) prohibits any action that may pollute water resources or cause any damage to the environment through soil erosion, floods, landslides or any other similar reason (Art. 19 and 20).

96. The **Water Supply Corporation Act**, 2046 (1989) has empowered the Nepal Water Supply Corporation to take necessary steps to control water pollution, including penalising anyone found contaminating drinking water (Art 5.1.10; 18.1.2 & 19. 2.1).

97. The **Forest Act**, 2049 (1993) accounts for all forest values including environmental services and biodiversity, as well as production of timber and other products. Section 23 empowers the government to delineate any part of a national forest that has "special environmental, scientific or cultural importance" as a protected forest. Moreover, the GoN may allow any part of a national forest to be used for: i) leasehold forestry to produce raw materials required by industries; ii) tree planting and increasing the production of forest products for sale or use; and iii) tourism or agroforestry in a manner conducive to the conservation and development of forests.

98. The **National Parks and Wildlife Conservation Act** (NPWC), 2030 (1973) protects biodiversity within the protected areas system. Consequently, the following activities are prohibited within national parks or protected areas (Section 3 of the NPWC Act): i) hunting any animal or bird; ii) building any house, hut or other structure; iii) clearing or cultivating any part of the land; and iv) harvesting, cutting, burning or damaging any tree, bush or other forest product. The act recognises six categories of Protected Areas in Nepal, namely national park, conservation area, wildlife reserve, hunting reserve, strict nature reserve and buffer zone.

99. The **Himalayan National Park Regulations** (1979) have made special provisions for people living within national parks to collect natural resources for their daily requirements, such as firewood, leaf litter, small pieces of timber and fodder. As such, the regulations also allow people to continue to graze their domestic animals on park rangeland. Local communities organise harvests and grazing plans consistent with the park's objectives.

100. The **Seed Act** (1988) regulates seed quality, approval and registration of new seeds and determines seed standards.

101. The **Local Self-Governance Act** (1999) provides local governing bodies – such as District Development Committees (DDCs) and VDCs – with a mandate to carry out a number of local environment and development-related activities. This act enables indigenous knowledge, innovations and practices to form the basis of biodiversity and soil conservation practices.

Plans/Strategies

102. The **Environmental Protection Council** (EPC) developed the **Nepal Environment Policy Action Plan** (NEPAP) in 1993. NEPAP is organised around five policy objectives including: i) balancing the management of natural resources in a sustainable manner; ii) balancing development efforts with environmental conservation; iii) safeguarding national heritage; iv) mitigating adverse environmental impact; and v) legislation, institutions, education and public awareness.

103. The objectives of the GoN's series of **National Five-Year Plans and Three-Year Interim Plans** are to reduce poverty by providing a policy framework that encourages investment in primary sectors for rural development. The recently adopted Three-Year Plan (TYP) Approach Paper (2010–2012) strives to *inter alia*: i) strengthen the institutional capacity related to environmental policies and regulation; ii) internalise environmental

management into development; iii) prioritise planning for effective implementation of national and international environmental commitments; and iv) conduct research on climate change. Other plans include the Eighth-Plan (1992–1997), Ninth Plan (1997–2002) and the Tenth Plan/ Poverty Reduction Strategy Paper (PRSP) (2002–2007).

104. The third **Country Strategic Plan (CSP 3)** of Plan Nepal contributes to eradicating child poverty. To address issues facing Nepalese children, Plan Nepal will implement five programmes namely: i) health; ii) basic education; iii) household economic security; iv) child protection; and v) child centred risk management. All programmes are interconnected and designed to protect as well as promote child rights. The plan will expand the scope and reach of micro-finance, promote the productive use of communal resources among the landless and most marginalised, and promote the economic and overall empowerment of youths. The LDCF-financed project will build on the lessons learned from CSP 3 in increasing household incomes and employment opportunities, which will improve the standard of living.

105. Implementation of **NAPA** and the **LAPA** as described below.

- NAPA: In 2008, MoSTE signed a contract with the United Nations Development Programme (UNDP) to begin the formulation of NAPA in Nepal. In 2010, the GoN approved Nepal's NAPA. Through this process, nine project profiles were identified as urgent and immediate national adaptation priorities. These included project i) "promoting community-based adaptation through integrated management of agriculture, water, forest and biodiversity sector"; project v) "forest and ecosystem management for supporting climate-led adaptation innovations"; and project vii) "ecosystem management for climate adaptation".
- LAPA: This framework was developed by MoSTE to guide the implementation of NAPA priorities at local levels using a bottom-up approach.

106. The GoN is currently preparing to develop a **National Adaptation Plan** (NAP) to progress from the NAPA and LAPA interventions. The NAP process will enable the GoN to: i) identify priority adaptation needs in Nepal; ii) develop integrated adaptation strategies and programmes to address these needs; and iii) implement the strategies and programmes.

107. **Sustainable Development Agenda for Nepal** (SDAN) (2003) prepared by the NPC in collaboration with the Ministry of Population and Environment (MoPE) guides national level development plans and policies up to 2017.

108. **National Strategy for Disaster Risk Management** (2009) promotes disaster-resilient communities by mainstreaming disaster risk reduction into development planning and poverty reduction.

109. **Nepal Biodiversity Strategy** (NBS) (2002) and the **Nepal Biodiversity Strategy Implementation Plan** (NBSIP) (2006–2011) address the objectives of the United Nations Convention on Biological Diversity. A **National Biodiversity Coordination Committee** (NBCC) has recently been established under the MoFSC. The primary task of the NBCC is to develop policies for consideration by the GoN and provide institutional, political, and operational guidance for the implementation of the NBS through the NBSIP. The policies developed by the NBBC focus on the five themes identified in the Convention on Biological Diversity (CBD), namely: i) forest biodiversity (including protected area ecosystems and species); ii) agricultural biodiversity; iii) sustainable use of biological resources; iv) genetic resources; and v) biosecurity.

110. The GoN has engaged in initial steps to develop the Nepal **National Adaptation Plan** (**NAP)**. As part of this process, a preliminary timeline has been developed for the NAP.

Multilateral agreements

111. Nepal is signatory to a number of multilateral agreements as outlined below.

- **CBD** was signed in 1992, ratified by the GoN in 1993 and has been enforced in the country since 1994.
- **UNFCCC** was signed in 1992, and ratified and enforced in 1994.
- **Convention for the Protection of World Culture and Natural Heritage** was ratified in 1978.
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES) was signed in Washington in 1973.
- **United Nations Convention to Combat Desertification** (UNCCD) was ratified in 1996, and enforced in Nepal in 1997.
- **Convention on Wetlands** (Ramsar Convention) was signed in 1988.
- **United Nations Conference on Environment and Development** (UNCED) of 1992 put forward non-binding principles on forest regulation and management to which the GoN subscribes.
- **Kyoto Protocol** was signed by Nepal in 2005.

Other relevant sector-specific legislation and policies

112. Within relevant sectors, there are a number of relevant legal and policy documents, plans and strategies. These sectors – and the relevant frameworks – are detailed below.

Forests

113. The **Master Plan for the Forestry Sector** (MPFS) (1989) provides a 25-year policy and planning framework. The long-term objectives of the MPFS include: i) meeting the Nepalese local communities' basic needs for forest products on a sustainable basis; ii) conserving ecosystems and genetic resources of plants; iii) protecting land against degradation and other effects of ecological imbalance; and iv) contributing to local and national economic growth.

114. The **Forest Act** (1993) gives local communities the right to form Community Forest User Groups (CFUGs). These groups have the legal responsibility and right to manage and use the forest according to an approved management plan that promotes sustainable usage. The **first amendment to the Forest Act** (1999) has made it mandatory that at least 25% of the income from the community forest is spent on forestry development activities, while the remaining 75% can be spent on any community development activity, as decided by the user groups. All forest areas that have not been handed over to CFUGs as community forests or set aside as leasehold forests are either government-managed or protected forests. These forests are managed according to approved Operational Forest Management Plans. All responsibilities and rights of use of these forests remain with the Department of Forests (DoF). A number of rules accompany and support the legislature of the Forest Act (1993). These include the Forest Rules/Regulations (1995), the Private Forest Rules (1981), the Panchayat Forest Rules (1978), the Panchayat Protected Forest Rules (1978), and the Leasehold Rules (1978).

Rangelands

115. NEPAP (1993) was the first government document to recognise rangelands as being important ecosystems for supporting: i) the origin of many water sources; ii) indigenous biodiversity; and iii) local communities[91]. Therefore, this plan recognises the need to carefully manage these ecosystems. Rangeland management should conserve biodiversity

[91] Although rangelands are unsuitable for producing crops, they are an important source of fodder for livestock. Moreover, there are a number of tourism ventures that support the local economy in the mountain rangelands.

and sustain viable rural economies and livelihoods. Presently, management responsibility for rangelands is unclear. This confusion results from rangelands being owned by the MoFSC, whilst their use by local communities directly associates them with the MoAD through pasture development and livestock extension services. The Department of Livestock Services (DoLS) and the Nepal Agricultural Research Council (NARC) have also played important roles in rangeland management. Furthermore, northern rangelands are located within protected areas under the jurisdiction of the NPWC Act. NEPAP proposes that greater emphasis be placed on developing appropriate incentives and regulations for pastoralists to invest in rangeland development and sustainable livestock management practices.

Health

116. Under the **Health Sector Strategy** (2004) of Nepal, numerous policies and programmes are relevant to the LDCF-financed project in terms of planning and adapting to climate change. These include *inter alia*: i) the National Drinking Water Quality Standard (2006); ii) the early warning epidemic reporting systems in 28 districts; iii) the decentralisation of health services in districts and villages to ensure local community involvement; and iv) community health insurance schemes.

Agriculture

117. The main objective of the **Agricultural Perspective Plan** (1995) is to support the development of the agricultural sector over a 20-year period. The goal includes the alleviation of poverty and transforming the agricultural sector from subsistence to commercial. To achieve this, the plan promotes investment in irrigation, fertilizers, research and road infrastructure.

118. The **National Agricultural Policy** (2004) intends to establish a commercially-based and competitive farming system within Nepal that will support sustainable economic growth. This includes increasing agricultural production and productivity in a sustainable manner that conserves the environment and biodiversity. Overall, the policy will contribute to food security and poverty alleviation.

119. The **Irrigation Policy** (2003) was developed to establish irrigation facilities as well as the required knowledge, skill and institutional framework to support this technology. The policy also involves a participatory and sustainable management approach to the targeted water resources. The irrigation systems are intended to support the development of the agricultural sector.

Water

120. The **Water Resource Strategy** (2002) was developed to support the sustainable management of Nepal's water supply. It provides a systematic framework for the development of water resources and includes a 5-year, 15-year and 25-year strategy. Specific objectives are *inter alia* to: i) provide access to safe drinking water and sanitation; ii) increase agricultural production; iii) generate hydropower for national energy requirements and export for sale to neighbouring countries; iv) protect the environment and biodiversity; and v) prevent and mitigate water-induced disasters.

121. The **National Water Plan** (NWP) (2005) was prepared to support the implementation of the Water Resource Strategy. It is a framework to guide stakeholders on the development and management of water resources and water services. It includes short-, medium- and long-term action plans. Overall, the NWP's goal is to contribute to national goals of economic

development, poverty alleviation, food security, public health and safety, decent standards of living for the people and protection of the natural environment.

122. The **Water Induced Disaster Management Policy** (2006) supports the efficient and effective management of water-induced disasters, including interventions for both prevention and recovery. Its main objectives are to: i) prevent the loss of life and damage to property resulting from water-induced disasters; ii) develop infrastructure to conserve water resources; iii) reclaim land damaged by floods; iv) develop institutional capacity to manage water-induced disasters and flood plains; and v) prevent duplication of efforts and resources amongst stakeholders, including government agencies, Non-Governmental Organisations (NGOs) and the private sector.

123. The objectives of the **Hydropower Development Policy** (2001) are to promote hydropower development, extend standard electricity service throughout the country and export surplus power. This policy also provides for sharing benefits at the local level. It promotes the involvement of public and private stakeholders in the production, distribution and transmission of electricity.

Cross-sectoral strategies, policies and programmes

124. Nepal is a member of a number of international institutions that focus on protecting environmental resources. Such institutions include UNEP, UNDP, United Nations Educational, Scientific and Cultural Organisation (UNESCO), Food and Agriculture Organisation (FAO), World Bank (WB), International Union for the Conservation of Nature (IUCN), World Wildlife Fund (WWF) and Oxfam.

Cross-sectoral strategies, policies and programmes that relate to climate change, natural resource management, democracy and peace and development include the following:

- **National Five-Year Plans** and **Three-Year Interim Plans** which have the objective to reduce poverty by providing a policy framework that encourages investment in the agriculture and forestry sectors that form the foundation of rural development;
- **TYP** (2013/14–2016/17) which aims to support Nepal's graduation from the LDC category to a developing country status by 2022;
- The **Comprehensive Peace Accord** which was signed between the GoN and Unified Communist Party of Nepal on 21 November 2006 to formally end the Nepalese Civil War;
- **Nepal Peace and Development Strategy** (2010–2015) which is a peace-building framework for Nepal and its development partners to support the implementation of the Comprehensive Peace Accord;
- **NAPA** and **LAPA**s (as previously discussed in Section 2.4);
- **REDD Preparedness Programme** which is establishing the groundwork required for REDD Strategy to implement the REDD mechanism in Nepal;
- **Climate Change Policy (CCP)** (2011) which addresses the adverse effects of climate change and how to utilize opportunities to improve livelihoods and support climate resilient development within Nepal;
- The **United Nations Development Assistance Framework** (UNDAF) which is a strategic framework that describes the collective response of the United Nations Country Team (UNCT) to the priorities in Nepal's national development framework;
- The **Millennium Development Goals** (MDGs) which describe the United Nations' (UN) eight international development goals to be attained by 2015 within the Nepalese context; and
- The **Sustainable Development Goals** (SDGs) which will build upon the MDGs within the Nepalese context.

125. For further details on these cross-sectoral strategies, policies and programmes refer to Section 3.1.

2.5. Stakeholder mapping and analysis

126. The LDCF-financed project has been developed through extensive consultations with national and multilateral stakeholders[92]. These consultations included district officers and NGOs – such as Forest Action Nepal – who provide extension services/support to community user groups on different sectors including forests, livestock, soil conservation and agricultural development. Therefore, the activities of the project have been designed to address what have been identified by these stakeholders as priority adaptation needs. In addition, drivers, effects, impacts and causal pathways of project activities have been identified and considered (See Theory of Change in Appendix 18). This participatory approach to project design will promote ownership of the project by local communities during implementation. Participatory consultations included *inter alia:* i) the inception workshop in March 2014; ii) the validation workshop in July 2014; iii) multiple meetings with individual stakeholders during February and March 2014; and iv) workshops with the local government in Achham, Dolakha and Salyan. These consultations were conducted to identify: i) appropriate activities, ecosystem services and intervention sites based on the vulnerabilities and needs of local communities; and ii) government departments, initiatives and ongoing projects relevant to the project. As a result, the project is aligned with national policies and will be feasible in the local context.

127. For example, the Chief of the Climate Change Division under MoSTE played a considerable role in developing the LDCF-financed project. Moreover, representatives from this division were involved in most of the consultations that were undertaken, thereby contributing to the design of the project. The organisations and institutions that were consulted during the Project Preparation Grant (PPG) phase – and their main roles – are listed in Table 1 below.

Table 1. Stakeholder mapping during PPG

Organisation/institution	Role in PPG phase
Ministry of Science, Technology and Environment: Climate Change Division, Department of Environment (DoEnv)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level. • Coordinated project document development. • Co-developed the project implementation and management structures.
Ministry of Science, Technology and Environment: Department of Hydrology and Meteorology (DoHM)	• Provided information on initiatives that are being implemented.
MoFSC: DoF	• Provided information on the activities of the DoF in Achham, Dolakha and Salyan. • Participated in site selection workshops in Dolakha and Salyan to select VDCs based on Disadvantaged Group (DAG) and climate vulnerability ranking. • Participated in workshops in in Achham, Dolakha and Salyan to prioritise activities and potential livelihoods.
MoFSC: Department of Forest Research and Survey (DoFRS)	• Provided commitment and information for co-financing (Leasehold Forestry and Livestock Programme and Multi-Stakeholder Forestry Programme).

[92] including those who manage and benefit from ecosystem goods and services

	• Provided information on: i) initiatives that are being implemented; ii) coordination mechanisms of these initiatives at a national, regional and district level.
MoFSC: Department of Soil Conservation and Watershed Management (DoSCWM)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level. • Participated in site selection workshops to select VDCs based on DAG and climate vulnerability ranking. • Provided information on the activities of the DoLS in Dolakha and Salyan. • Participated in a workshops in Dolakha and Salyan to prioritise activities and potential livelihoods.
MoFSC: Department of Plant Resources (DoPR)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
MoFSC: Department of National Parks and Wildlife Conservation (DoNPWC)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district land level.
MoAD: DoLS	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level. • Provided information on the activities of the DoLS in Achham, Dolakha and Salyan. • Provided commitment and information for co-financing (Livestock Services Development and Extension Programme).
MoAD: Department of Agriculture (DoA)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level. • Provided information on the activities of the DoA in Achham, Dolakha and Salyan.
Ministry of Education (MoEd): Department of Education (DoE)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
Ministry of Federal Affairs and Local Development (MoFALD)	
Ministry of Health and Population (MoHP): Department of Health Services (DoHS)	
Multi-Stakeholder Forestry Programme (MSFP)	• Provided commitment and information for co-financing. • Provided information on project activities and implementation mechanisms.
Institute for Social and Environmental Transition (ISET-N)	• Provided information on policy and research context and needs.
NARC	• Provided information on research context and needs.
IUCN	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national,

	regional and district level. • Provided detailed information on the BMUB-funded EbA project.
UNFCCC	• Provided information on initiatives that are being implemented.
International Centre for Integrated Mountain Development (ICIMOD)	• Provided information on policy and research context and needs.
Forest Action Nepal	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
Department for International Development Nepal (DFID Nepal)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
Food and Agricultural Organisation (FAO) of the United Nations	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
World Wide Fund for Nature (WWF)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; and iii) coordination mechanisms of these initiatives at a national, regional and district level.
Nepal Climate Change Support Programme (NCCSP)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; iii) coordination mechanisms of these initiatives at a national, regional and district level; iv) LAPAs and the progress of these in VDCs in Achham, Dolakha and Salyan.
Strategic Program for Climate Resilience (SPCR)	• Provided information on: i) initiatives that are being implemented; ii) challenges and successes of these initiatives; iii) coordination mechanisms of these initiatives at a national, regional and district level; and iv) activities being implemented by “Building Climate Resilience of Watersheds in Mountain Eco-Regions” project in Achham.
Nepal Forum of Environmental Journalists (NEFEJ)	• Provided information on media campaigns and public awareness in Nepal.
Tribhuvan University: Central Department of Environmental Science	• Provided information on research that is currently being conducted by universities and implementation arrangements for funding research.
Climate and Development Knowledge Network	• Provided detailed information on the BMUB-funded EbA project.

128. A number of these stakeholders will be involved in project implementation. Details of the stakeholder involvement plan for project implementation are provided in Section 5.

2.6. Baseline analysis and gaps

Baseline situation

Component 1: Local and national institutional capacity development

129. The Multi-sectoral Climate Change Initiative Coordination Committee (MCCICC) – managed by MoSTE – will continue to function as a national platform for enabling regular dialogue and consultations on policies, plans, projects, activities and finance for climate change[93]. This committee will continue to focus on adaptation to climate change in the

[93] Ministry of Science, Technology and Environment. 2012. MCCICC. Available at:

broader context and as a result there will be limited cross-sectoral dialogue on EbA, in particular at a national level. Consequently, there will continue to be limited opportunities to: i) enhance the understanding on EbA; ii) share lessons learned and preliminary results from the various ongoing EbA projects; iii) increase the technical capacity of stakeholders at a national level to plan and implement EbA; and iv) provide feedback and updated information to project managers (PMs), policy-makers and decision-makers on EbA initiatives. In addition, the sharing of knowledge on lessons learned and tools developed by ecosystem management initiatives that are being implemented in the country will remain *ad hoc*. This will continue to result in fragmented planning for climate change between relevant sectors.

130. At a national level, capacity building initiatives will continue to focus mainly on climate change. For example: i) the *Nepal Climate Change Support Programme* (hereafter NCCSP) is focused on strengthening the technical capacity of local institutions to establish and monitor the effects of climate change as well as assess the effectiveness of interventions; and ii) *Enhancing Capacities on Climate Change Adaptation and Disaster Risk Management for Sustainable Livelihoods in the Agricultural Sector* is focused on capacity building for adaptation and disaster risk reduction at a national level. National stakeholders therefore will continue to have an understanding of the effects of climate change in Nepal. However, these stakeholders will have limited knowledge on selecting best-practice EbA for adapting to these effects. Consequently, opportunities to catalyse and upscale EbA will continue to remain limited, and the benefits of EbA will not be a priority for local communities and policy- and decision-makers in government.

131. Furthermore, capacity-strengthening and awareness-raising activities on EbA will continue to be localised and focused only in isolated areas of Nepal. For example the BMUB-funded project conducts training for representatives from Kaski, Parbat and Syangja Districts on appropriate EbA interventions for the Panchase Area. In particular, the representatives from the following government agencies in these districts were targeted: i) the Panchase Protected Forests; ii) the District Forest Offices (DFOs); iii) the Western Regional Forest Directorate (WRFD); and iv) the District Soil Conservation Offices (DSCO). In addition, the BMUB-funded project has improved local awareness on EbA through radio shows that have been aired on stations for Kaski, Parbat and Syangja Districts. However, without LDCF funding, the understanding of EbA among stakeholders will continue to remain limited to only the Panchase Area.

132. As climate change is currently integrated into Health, Population and Environmental studies in secondary school academic curricula, it will continue to be studied under the topic of pollution and therefore will not receive adequate attention. The NCCSP are developing recommendations for academic curricula on Climate Change and Environmental Management in order to promote integration of climate change into academic curricula. However, the focus will still remain on climate change in general and lack an EbA focus. Following the activities supported by the BMUB-funded project to raise awareness of schoolchildren in the Panchase area schoolchildren in the remainder of the country – i.e. outside the Panchase area – will continue to have limited awareness on EbA, and tools to support integration of EbA into school curricula will not be developed. At a tertiary level, research and monitoring of EbA will only be limited to the nine students funded through the BMUB-funded project. Measurements of the impacts of EbA will only be limited to the lifespan of the BMUB-funded project, while the benefits of implementing EbA to restore ecosystems in Nepal are likely to accrue 10-15 years after these restoration interventions are implemented. The full range of benefits from using EbA as an approach will not be documented over a longer period of time as there are currently no agreements or mechanisms in place to promote monitoring of EbA impacts in the long term.

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http://moste.gov.np/संस्थाहरु/mccicc Accessed on 26 March 2014.

133. Under the business as usual scenario, representatives from initiatives such as the LFP, LDSEP, MSFP and TIP will continue to have limited understanding of EbA in Nepal. There will continue to be a lack of information on EbA to inform the design of these initiative including: i) scientific research to inform EbA; ii) evidence of the long-term benefits of EbA; and iii) information on how EbA fits into relevant government and private sector development plans. Moreover, the sharing of knowledge on lessons learned and tools developed by these projects will continue to be *ad hoc*. As a result, planning for climate change between relevant sectors will remain fragmented.

Component 2: Policy and strategy strengthening

134. The policy environment in Nepal will not adequately promote EbA in forests and rangelands, and stakeholders at a national and local level will be unaware of the tasks that need to be conducted and coordinated to upscale EbA. Government initiatives to restore and manage forest and rangeland ecosystems will continue to occur in isolation from different sectors as there are few policies and strategies in Nepal that provide an enabling environment for large-scale EbA that are informed by expert scientific research and traditional knowledge.

135. Whilst the fourth component of the BMUB-funded project aims to review policies and strategies to identify entry points for EbA in Nepal, and develop training material for national stakeholders on systematically integrating EbA into relevant policies and strategies. EbA will continue to not be explicitly integrated into policies, strategies and plans of national related, climate-vulnerable sectors. In addition, representatives from relevant government ministries – including the MoFSC, MoSTE and MoAD – will continue to lack a framework for implementing EbA across the country.

136. Lastly, there will continue to be a lack of budget allocated to EbA in particular in climate-vulnerable sectors. Whereas, adaption to climate change is included in Nepal's national budget, in 2013/2014, this made up ~10% of the country's budget of US $5.3 billion[94], opportunities for accessing funds for EbA from these sources and from a number of other sources – including the private sector – will not been identified. There will consequently continue to be limited financial provisions to implement EbA across the country.

Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital

137. Initiatives that promote improved productivity of forests and rangelands in Nepal – and sustainable management of these ecosystems – will continue to be undermined by the negative effects of climate change. In particular, increasing temperatures in the mid-hills and high mountains of Nepal, and decreasing rainfall in the mid-hills during the dry months will reduce forest productivity. This reduced productivity will compromise the livelihoods of local communities. In rangelands, increasing temperatures and decreasing rainfall during drier months will continue to diminish rangeland productivity. In particular, livestock production will continue to reduce because of: i) increasing incidence of livestock parasites; ii) shifting geographic distributions of pest and fodder species; and iii) decreasing availability of water[95] for livestock and fodder production. Ecosystem management initiatives – including the LFP, TIP and LDSEP – will continue to be undermined under the current and predicted effects of climate change.

[94] NPC. 2013. Climate Change Budget Code, Application Review. Kathmandu, Nepal. Available at: http://www.unpei.org/sites/default/files/e_library_documents/Nepal_Climate_Change_Budget_Code_Application_Review_2013.pdf Accessed on 26 March 2014.

[95] This includes the reduced availability of soil moisture, ground water, stream flow and water levels in ponds, reservoirs and lakes.

138. Restoration of forests and rangelands on which local communities in Achham, Dolakha and Salyan strongly rely will continue to take place without taking climate change into consideration. In particular, protocols for restoration of forests will continue to be developed without taking into account historical climate data and climate trajectories for the specific project areas. Under this scenario, climate-resilient species – e.g. species that can withstand increasing temperatures and more severe droughts – will not be prioritised for EbA interventions. Adaptation benefits of these ecosystems for local communities will consequently not be maximised.

139. In addition, with only two relatively small scale EbA projects underway in the Western Development region of Nepal- the BMUB-funded project; and ii) the GEF/SCCF-funded project, the benefits of EbA will continue to be localised and comprehensive national frameworks to monitor the impacts of EbA over the long-term will not be established.

140. Furthermore, local communities in the mid-hill and high mountain areas will continue to experience climate-related changes in the distribution of plant and pest species that effect livestock productivity and livelihoods. For example, landowners at higher altitudes are currently noticing a reduction in the availability of fodder for their livestock. In addition, diseases – such as leptospirosis and blue tongue that negatively affect buffalo and cattle – are observed in areas outside of their historical geographic range. These climate-related effects are predicted to worsen in the future. Without LDCF resources, community-based plans for livestock management will continue to be uninformed by expert research on climate change and scientific findings for particular ecosystems. Consequently, suitable adaptation measures – such as altered stocking rates for more severe droughts, and provision of additional shade and water for increasing temperatures – will not be integrated into these plans.

Overall

141. The livelihoods of most local communities in Nepal are based on rain-fed rural agriculture. This type of agriculture includes pastoral herding of goats, cattle, buffalo and yak as well as growing rice, tea, sugarcane, jute and root crops. Unsustainable use of wood, soil and water resources, and the consequent degradation of natural ecosystems in Nepal is jeopardising the livelihoods of rural communities and ultimately the Nepalese economy as a whole. The projected increase in frequency and severity of extreme weather events under climate change (Section 2.1) will: i) further decrease agricultural productivity; and ii) degrade ecosystems that support local communities' livelihoods.

Baseline projects

142. Throughout Nepal, a number of initiatives are being implemented by MoFSC and MoAD to address the baseline problems described above. The LDCF-financed project will build on these baseline initiatives to increase the capacity of national and local government institutions in Nepal to implement EbA in degraded forests and rangelands in mid-hill and high mountain areas, thereby reducing the vulnerability of local communities who are experiencing the negative effects of climate change and who rely strongly on these ecosystems. See Appendix 21 for a description of the expected benefits from the LDCF-financed project. The LDCF project will build on the baseline projects detailed below.

143. The **MoFSC** has provided a total grant co-financing amount of US$4,151,000 from the four initiatives described below. In addition, this ministry has committed US$280,000 in-kind co-financing.

The DoF within MoFSC is implementing the ongoing **Leasehold Forestry Programme** (LFP) (budget per annum: ~US$281,700) (co-financing: ~US$922,444 over four years) which is funded by the GoN. This programme focusses on restoring degraded forests and community-based management of these forests. It targets 22 mid-hill districts in Nepal – including Achham, Dolakha and Salyan – where on-the ground activities will be implemented by the LDCF-financed project. The overall goal of the programme is sustained reduction in the poverty of 44,300 poor households through increased production of forests on allocated leasehold forestry plots. The major components of the programme are: i) leasehold forestry and group formation of Leasehold Forestry User Groups (LFUGs); ii) rural finance; and iii) project management and coordination.

144. Initially – between 2005 and 2013 – the programme was jointly implemented by DoF and DoLS, and was called the Leasehold Forestry and Livestock Programme (LFLP). During this time, the programme focused on restoring ecosystems and improving livestock productivity. However, since the beginning of 2014, only the DoF has been involved in implementing activities through this programme. Consequently, DoLS will not be involved in activities in the future and livestock development will no longer be a focus of the programme[96].Therefore, the programme will only focus on leasehold forestry.

145. Several major constraints that hinder the success of LFP have been identified. These constraints include: i) limited technical capacity of district officers to implement the programme; ii) difficulties associated with managing a range of agro-ecosystems; iii) limited coordination and consistency of implementation protocols across districts; and iv) limited knowledge on the contribution of tree species to poverty reduction. To address these constraints, the following approaches have been adopted: i) increased technical support to local forestry institutions; ii) provision of financial support to LFUGs and cooperatives; and iii) establishment of a project management and coordination facility. The Food and Agriculture Organisation (FAO) of the United Nations has been providing Technical Assistance (TA) to the LFP since 2009. The main objective of this TA role is to support the DoF to improve the effectiveness of the LFP by building up appropriate institutional and technical capacities to support the institutionalisation of leasehold forestry in the country.

146. Climate change – and consequent climate variability – will hinder the activities of the LFP. In particular, the following two effects of climate change will reduce the efficacy of efforts to restore and manage forest ecosystems: i) increasing temperatures in the mid-hills and high mountains; and ii) decreasing rainfall in the mid-hills during the dry months. The consequences of these negative climate effects are described below[97]:

- **reduced forest productivity** as a result of: i) the shifting distribution of agro-ecological zones; iii) decreasing availability of water; and iv) over-harvesting of natural resources by local communities when other livelihoods are compromised; and
- **compromised livelihoods of local communities**[98] that rely on forests for food, energy and income.

147. The LDCF-financed project will build on the LFP to increase the climate-resilience of the project activities. To provide feedback on the successes and challenges of the project, District Forest Officers (DFOs) that are implementing the LFP in Achham, Dolakha and Salyan will participate in the Multi-sectoral Climate Change Initiative Coordination Committee (MCCICC) meetings annually under Output 1.1 (Activity 1.1.2). At these meetings, they will share knowledge with similar projects and initiatives. National stakeholders that make decisions for the LFP will receive training on planning and implementing EbA, including

[96] Although livestock development will not be a strategic focus of the programme, forest restoration will have direct benefits for livestock productivity.
[97] See Appendix 21 for links between baseline projects, negative effects of climate change and impacts that the LDCF-financed project will have.
[98] In the mid-hills in Achham and Salyan Districts and in the high mountains in Dolakha District

topics on selecting best practice EbA (Activities 1.2.2). The activities under Output 1.2 will support capacity building and extension services that are implemented by LFP for forest management and restoration. Within this output, district officers and user groups committee members will be trained on the technical aspects of selecting species for tailored EbA in forests and rangelands (Activity 1.2.5). These species will be selected within the LDCF-financed project by synthesising scientific information and indigenous knowledge (Activity 3.2.1)[99]. In addition, DFOs that are implementing the LFP will be trained to propagate, monitor and conserve these selected species. Under Output 3.4, the LDCF-financed project will develop sustainable livelihoods from forests and rangelands, thereby promoting the importance and conservation of ecosystems that are targeted by LFP among communities in Achham, Dolakha and Salyan. Awareness campaigns that will be implemented at a national scale (Activity 1.3.2) will include information on the benefits of using EbA to restore forests and rangelands. Application of this approach to reforestation will increase the resilience of the LFP under the effects of climate change.

148. The findings of the LDCF-financed project will support the development of LAPAs by making available all scientific and technical findings (Activity 3.1.3). The project will provide scientific information on: i) the socio-economics and biodiversity of demonstration sites (Activities 3.1.1 and 3.1.2); ii) trajectories of climate change (Activity 3.2.1); and iii) EbA protocols and other techniques to conserve soil and water to adapt to the negative effects of climate change (Activities, 3.2.2, 3.3.1 and 3.3.2). This information will be provided in conjunction with insights from traditional knowledge, because district officers[100] involved in LFP and user groups will be engaged with during this process. The technical and expert information provided by the project – particularly related to EbA – will aid user groups to manage leasehold forestry plots under conditions of climate change. Moreover, EbA (Activities 3.2.4 and 3.2.5) will complement activities for forest restoration that are being conducted by LFP in Achham, Dolakha and Salyan.

149. The **Multi Stakeholder Forestry Programme (MSFP)** (total budget: US$150,000,000[101] between 2011 and 2021) (of which co-financing provided to the LDCF project: ~US$1,153,056 over four years) is a Joint Funding Agreement (JFA) between the MoFSC (GoN), DFID, Swiss Agency for Development and Cooperation (SDC) and Government of Finland (GoF). MoFSC provides strategic direction for the programme and leads the multi-stakeholder steering committee. The programme is building on 20 years of achievements in forestry work by the GoN. It is designed to run over 10 years and is currently in its second phase that is anticipated to extend until 2021. The programme benefits rural communities[102] who are dependent on forest resources and are most vulnerable to the effects of climate change. Firstly, MSFP will improve inclusive forest governance by: i) establishing a National Forest Entity (NFE) in line with the GoN approach paper (2010); ii) revising policies, plans and guidelines for the forestry sector to promote a multi-stakeholder approach; and iii) strengthening the capacity of government and non-state actors to implement policies for multi-stakeholder governance of forests. Secondly, the project is facilitating to increase the number of investments and jobs in the forestry sector by: i) identifying opportunities and challenges related to private sector investment; and ii) establishing partnerships between private sector, local forestry groups and farmers for forest-based enterprises. Thirdly, through the MSFP, indigenous and local communities will realise benefits from good governance and investments in forest resources. To enhance

[99] Historically, species that grow quickly and produce natural resources for indigenous and local communities have been selected for reforestation

[100] District officers in Achham, Dolakha and Salyan will be involved in project activities. For the duration of the project, the core of the district officer team will be representatives from MoFSC and MoAD. However, other district officers will participate when necessary. Although district officers have been detailed for project activities in Section 5, other district officers might be added to the list at inception and during the project.

[101] For the first financial phase, these donors provided approximately US$62,000,000. For the second phase, they are providing approximately US$88,000,000.

[102] in particular, poor and disadvantaged households

these benefits, MSFP will improve structures and practices for local forest governance. To promote sustainable management, MSFP will focus on restoring, managing and enhancing forest ecosystems. In addition, Payment for Ecosystem Services (PES) and similar carbon market initiatives will be piloted.

150. The LDCF-financed project will support all of the major objectives of the MSFP. By conducting a stocktaking exercise of EbA that has been implemented in Nepal, the most cost-effective EbA interventions will be identified (Activity 1.2.1). The MSFP can integrate the findings of this research in planning for adaptation to climate change through restoration and management of forest ecosystems throughout Nepal[103]. Importantly, the project will demonstrate the benefits of EbA on the ground for the most vulnerable communities in Achham, Dolakha and Salyan (Activity 3.2.4 and 3.2.5). Lessons learned through this on-the-ground implementation will also be integrated into MSFP activities throughout the country. In addition, the LDCF-financed project will design protocols – that are in line with local government norms – for particular forest and rangeland ecosystems (Activity 3.2.2). These protocols will complement the MSFP because they will be based on both scientific findings and indigenous knowledge (Activity 3.2.1). The LDCF-financed project will also support the objectives of MSFP by enhancing awareness of the benefits of EbA in forests and rangelands at a national, district and local level (Activity 1.3.2). The research frameworks that will be established by the LDCF-financed project to measure impacts of EbA will support the objective of MSFP to manage forests scientifically and sustainably so that they benefit vulnerable local communities (Activities 1.4.4, 1.4.5, 1.4.6 and 1.4.7). Moreover, the MSFP will benefit from the technical training that will be provided by the LDCF-financed project (Activity 1.2.5). As a result of this activity, district officers and user groups will be trained on the technical aspects of selecting species for tailored EbA in forests. In addition, these stakeholders will be trained to propagate plant, monitor and conserve these selected species.

151. The ongoing **Tree Improvement Programme** (TIP) is implemented by the MoFSC and has an annual budget of ~US$3,024,640 (funded by the GoN) of which co-financing provided to this project is ~US$1,614,278 over four years. The objective of this programme is to improve productivity of forests through technological advances in tree breeding and propagation. Moreover, the TIP contributes to the conservation of genetic diversity of forests by: i) selection of plus trees from different geographic regions and ecosystems of Nepal[104]; and ii) establishing gene banks. The major activities of the TIP are: i) identification of seed stands for conserving genetic resources; and ii) establishing breeding seed orchards. Within this programme, breeding and propagation research is conducted on nationally important tree species. In addition, training is conducted for local government across different departments and user groups on improving conservation and sustainable forest resources. At a national scale, a database has been established for extant forest tree species.

152. The LDCF-financed project will complement research conducted by TIP on important plant species for Nepal. To this end, climate-resilient and useful species will be identified for restoration of forests and rangelands (Activities 3.2.4 and 4.2.5) based on scientific information – including climate change trajectories – and indigenous knowledge (Activities 3.2.1). Moreover, funding will be made available through the LDCF-financed project for students from local universities to conduct research on EbA (Activity 1.4.7). The TIP will benefit from the technical training that will be provided by the LDCF-financed project on implementing EbA to restore degraded forests and rangelands (Activity 1.2.5). In particular, district officers and user groups will be trained on the technical aspects of selecting species for EbA that is tailored to particular forests and rangelands. In addition, these stakeholders will be trained to propagate, plant, monitor and conserve these selected species.

[103] Ultimately, the MSFP will be implemented in all 75 districts of Nepal.
[104] A plus tree is a species that is selected for a forest breeding program because it has a superior phenotype

153. **Building Climate Resilience of Watersheds in Mountain Eco-Regions** (BCRWMER) has a total budget: US$30,110,000, funded by ADB, the Nordic Development Fund (NDF) and the GoN. Total co-financing provided to the LDCF project is ~US$461,222 over four years. This project is being implemented from 2014-2020 by the DoSCWM within MoFSC, and is one of the components of **Nepal's Strategic Program for Climate Resilience** (SPCR) (see Section 2.7). The objective of the project is to provide access to more reliable water sources for domestic purposes and irrigation for communities living in watersheds of Nepal's river systems that are vulnerable to climate change. To achieve this overall objective, the program will: i) demonstrate activities for participatory watershed management planning; and ii) strengthen the capacity of government at all levels for this approach to water conservation. The program will implement activities to achieve four major outputs: i) participating communities have strengthened capacity to manage catchments and improved water storage infrastructure; ii) communities and government manage water in an inclusive manner; iii) government implements knowledge-based approaches for integrated water and land management; and iv) project management support is provided. The program is being implemented in six districts including Achham.

154. Although the BCRWMER project targets vulnerable communities and watersheds, the interventions that are implemented are business-as-usual activities for watershed management. For example, approaches to increase the resilience of watersheds are not informed by scientific research that considers the current and predicted effects of climate change. Therefore, the design of activities – including participatory watershed management plans and vegetation regeneration – does not include predicted effects of climate change that are particular to Achham, namely drought and landslides.

155. The LDCF-financed project will build on the activities of the BCRWMER and support its major objective to improve watershed management that is implemented through a participatory approach with vulnerable communities. To this end, the LDCF-financed project will develop particular protocols for EbA that are based on scientific findings, indigenous knowledge and government norms (Activities 3.2.1 and 3.2.2). Therefore, the EbA interventions that the LDCF-financed project will implement in Achham (Activities 3.2.4 and 3.2.5) will climate proof the activities for vegetation restoration that are implemented by the BCRWMER. Moreover, the DFO or District Soil Conservation Officer (DSCO) that will be responsible for executing activities in Achham will participate in the MCCICC meetings annually under Output 1.1 of the LDCF-financed project (Activity 1.1.2). At these meetings, the LDCF-financed project will share knowledge with similar projects and initiatives. The activities under Output 1.2 will support capacity building and extension services that are implemented by BCRWMER. Within this output, district officers and user groups will be trained on the technical aspects of selecting species for tailored EbA in forests and rangelands. This approach to reforestation will increase the resilience of the BCRWMER under the effects of climate change.

156. To avoid duplication and promote complementarity, the BCRWMER will be consulted when designing activities that are implemented within Output 3.3 of the LDCF-financed project.

157. The **MoAD** has provided a **total co-financing** amount of **US$5,108,000**. This amount includes co-financing for its ongoing initiatives. In particular, for the **Livestock Development Services** and **Livestock Services Extension Programmes** (LDSEP) described below.

158. The Ministry of Agricultural Development is implementing the ongoing LDSEP, which has an annual budget of ~US$4,604,500. Within these ongoing programmes, a wide range of activities – with a focus on rangelands – is conducted in all 75 districts. The main objective

of these programmes is to reduce poverty in rural communities by increasing livestock productivity through the appropriate management of ecosystems. Activities of the LDSEP include: i) establishing a grass seed centre and distributing these seeds to district resource centres; ii) managing a system for livestock feed quality; iii) managing local community resources to increase supply of pasture and fodder; iv) increasing productivity of local community pasture land; v) involving the private sector in the production and marketing of grass seeds; and vi) assisting in the establishment of livestock markets. By means of these activities, grass seeds are distributed and degraded pasturelands are restored. In particular, the condition of rangeland ecosystems is enhanced. These restored ecosystems result in an increase in palatable grass cover thereby enhancing livestock production.

159. The predicted effects of climate change – including increasing temperatures and decreasing rainfall during the dry months – are expected the diminish rangeland productivity. Consequently, these effects will notably restrict the LDSEP's interventions to restore rangelands. Particularly, livestock production will be reduced because of: i) increasing incidence of livestock parasites; ii) shifting geographic distributions of pest and fodder species; and iii) decreasing availability of water[105]for livestock and fodder production.

160. The LDCF-financed project will climate-proof the LDSEP by restoring rangelands using EbA. To provide feedback on the successes and challenges of the project, District Livestock Extension Officers (DLOs) that are implementing the LDSEP in Achham, Dolakha and Salyan will participate in the MCCICC meetings annually under Output 1.1 (Activity 1.1.2). As such, these district officers will share knowledge with aligned initiatives. Moreover, national stakeholders that make decisions for the LDSEP will receive training on planning and implementing EbA, including topics on selecting best practice EbA (Activities 1.2.2). In addition, at a local level, district officers and user groups involved in LDSEP will receive training to strengthen their technical capacity to restore rangelands using EbA (Activity 1.2.5).

161. District officers and user groups involved in LDSEP will benefit from the training on EbA to restore rangelands that the LDCF-financed project will provide. This training will be based on the EbA protocols that will be informed by: i) the socio-economics and biodiversity of demonstration sites (Activities 3.1.3); and ii) climate change trajectories (Activity 3.2.1). In addition, these stakeholders will be trained on techniques to conserve topsoil and water, thereby further increasing the adaptive capacity of local communities at intervetion sites to the negative effects of climate change (Activities, 1.2.5). Furthermore, the EbA interventions (Activities 3.2.4 and 3.2.5) will build on rangeland restoration activities conducted by LDSEP in Achham, Dolakha and Salyan.

2.7 Linkages with other GEF and non-GEF interventions

162. Numerous Global Environmental Fund (GEF) and non-GEF national projects that focus on adaption to climate change have been or are currently being implemented in Nepal. The LDCF-financed project will focus on collating, synthesising and disseminating the lessons learned from these projects using a standardised approach. This approach will maximise synergies and avoid duplication of activities. To achieve this collaboration, the PM will be responsible for coordinating efforts and establishing linkages between similar projects. This collaboration will be coordinated through the PMWG (see Section 4).

163. At project inception, the list of ongoing/relevant projects will be updated to include any new and relevant initiatives. In particular, the list will be updated to include initiatives that

[105] This includes the reduced availability of soil moisture, ground water, stream flow and water levels in ponds, reservoirs and lakes.

are focussed on disaster relief for communities living in Dolakha District in particular that were affected by the earthquakes that were experienced on 25 April and 12 May 2015.

164. The **Ecosystem-based Adaptation in Mountain Ecosystems** project (BMUB-funded project) is implemented by UNEP, UNDP and IUCN. It is funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany (BMU). MoSTE and MoFSC are executing the project. The total allocated resources for this project in Nepal – from 2012-2015 – have been US $3,372,637 (of which parallel co-financing for the LDCF-financed project is US$1,500,000 over four years). The objective of the BMUB-funded project is to strengthen the capacities of Nepal, Peru and Uganda to promote EbA options in their adaptation strategies. In Nepal, this objective will be achieved through four major outcomes: i) the development of methodologies and tools for mountain ecosystems; ii) the application of these tools and methodologies at a national level; iii) the implementation of EbA pilots at the ecosystem level; and iv) the formulation of relevant national policies and development of an economic case for EbA at a national level. Within Component 1, a set of tools and methodologies for best-practice EbA are being developed. These tools and methodologies have been used to develop an EbA plan within Component 2. Importantly, detailed field assessments have been undertaken to inform these plans. Within Component 3, these plans have been implemented by the DoF to pilot EbA tools and methodologies on-the-ground in Kaski, Parbat and Syangja Districts in the Panchase Area. To promote EbA mainstreaming, Component 4 includes activities to: i) build a business case for this approach; ii) strengthen the capacity of the government and local stakeholders in Kaski, Parbat and Syangja Districts to plan and implement EbA; iii) support the process to integrate EbA into sectoral policies, strategies and plans; and iv) disseminate lessons learned on EbA. The LDCF-financed project will collaborate with the BMUB-funded project, building on the research and EbA knowledge that has been produced already. The project will also conduct a stocktaking of the EbA that has been implemented by the BMUB-funded project and use those that are applicable in the LDCF project. District officers and user groups in Achham, Dolakha and Salyan will be trained by the LDCF-financed project on the technical aspects of EbA in forests and rangelands using training material that has been developed by the BMUB-funded project. The BMUB-funded project has implemented EbA in different regions from the LDCF-financed project, and lessons learned will feed into EbA implementation to be undertaken by the LDCF project. The LDCF-financed project will work closely with representatives from the BMUB-funded project to undertake reviews of relevant policies and strategies and recommend revisions to these documents to promote EbA upscaling (Component 2). The fourth component of the BMUB-funded project is closely aligned with the second component of the LDCF-financed project. These two projects will therefore work closely to ensure complementarity of activities and to avoid duplication. In addition, the projects will share information on EbA tools and lessons learned through implementing EbA on the ground.

165. The Asian Development Bank **Community-based Adaptation Planning Programme** focuses on strengthening the capacity of Nepal to: i) manage its environment; and ii) adapt to climate change. The programme will achieve its objective by establishing a sustainable institutional framework. In particular, the LDCF-financed project will conduct in-country assessments of climate change projections and modelling programs to develop local models for Nepal's three climate zones. Additionally, researchers for action planning and community-based vulnerability assessments will develop a scalable tool. Furthermore, maps and adaptation plans in pilot communities will be created and training modules will be designed to increase the climate-resilience of local communities. The vulnerability assessments and risk-mapping exercises conducted by this programme will potentially assist in site selection for the project. Moreover, information generated from the Community-based Adaptation Programme on climate change projects for climatic zones will be used to inform EbA protocols that will be developed through the project, where possible.

166. LDCF-financed **Enhancing capacity, knowledge and technology support to build climate resilience of vulnerable developing countries** is a **GEF/SCCF**-funded project. The National Development and Reform Commission (NDRC) of China through the Institute of Geographic Sciences and Natural Resources Research (IGSNRR) is the executing agency for this project, which has been ongoing since 2012. The main aim of the project is to build climate resilience using EbA in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) in the Asia-Pacific region and Africa. This will be achieved by: i) increasing institutional capacity; ii) mobilising knowledge; and iii) transferring appropriate technologies on climate change adaptation to Mauritania, Nepal and Seychelles. Best-practice EbA technologies will be transferred from China to the pilot countries. As such, this represents China's first major adaptation project. The LDCF-financed project will collate information on EbA interventions that have been implemented by the SCCF-funded project for a stocktaking exercise of best practice EbA in South Asia, with particular reference to Nepal. In addition, information on lessons learned through implementation of the SCCF-funded project will be collated and disseminated to the project team and local communities through awareness campaigns. To promote complementarity and avoid duplication, the LDCF-financed project will build synergies with the SCCF-funded project to measure long-term impacts of EbA that will be implemented by both projects. These synergies will be supported through the PMWG.

167. **Feed the Future** (FTF) is a global initiative to reduce poverty and hunger. In Nepal, the initiative is funded by USAID and has objectives to improve: i) inclusive growth in the agricultural sector; and ii) nutritional status of local communities, particularly of women and children. Importantly, FTF considers the effects of climate change in the design on its strategies and particular activities. Core investment activities that are implemented by this initiative are grouped into four major types: i) improved agricultural productivity; ii) increased agriculture value chain productivity resulting in more on- and off- farm jobs; iii) improved access to diverse and quality foods and improved nutritional behaviours; and iv) increased resilience of vulnerable communities and households. To assist in achieving its objectives, FTF has established an Innovative Lab for Collaborative Research on Adaptive Livestock Systems to Climate Change (LCC-CIL).Activities will be implemented by FTF in 16-20 districts in Nepal, including Achham. To complement activities that are implemented by this initiative, the LDCF-financed project will consult representatives from FTF. In particular, the LDCF-financed project will build on the knowledge gathered and generated by FTF to refine interventions for agro-EbA and appropriate livestock management in the face of climate change in Achham, Dolakha and Salyan. To this end, methods for managing livestock in the face of climate change will be informed by the findings of the research that is conducted within LCC-CIL. Within the FTF framework, an **Innovation Lab for Collaborative Research: Adapting Livestock Systems to Climate Change** (USAID) has been established. Colorado State University was awarded the research support in 2010. Since then, a number of research initiatives and activities have been conducted in Nepal. The LDCF-financed project will collaborate closely with this research institute, building on the research findings for livestock management in the face of climate change.

168. **The Hariyo Ban Nepal ko Dhan (Hariyo Ban) United States Agency for International Development (USAID) Programme** is implemented by Cooperative for Assistance and Relief Everywhere (CARE), WWF, National Trust for Nature Conservation (NTNC) and Federation of Community Forest Users Nepal (FECOFUN). This five-year project[106] supports climate change adaptation and natural resource management to reduce threats to biodiversity and vulnerability to climate change. The majority of the project's efforts[107] are focused on the North-South Landscape connecting Annapurna Conservation

[106]This project started in 2011.
[107] See the planned activities available at: http://climatechange-asiapac.com/projects/nepal-hariyo-ban-green-forests-program Accessed on 12 September 2013.

Area to the Chitwan National Park in central Nepal. In addition, a second project site stretches across the western Terai in an east-west direction. Although the Hariyo Ban project has not implemented EbA interventions that are designed based on climate projections, it recognises the importance of an ecosystem-based approach for adaptation to climate change. Currently, combinations of EbA and Community-Based Approaches are being piloted in Nepal by the Hariyo Ban Programme. Therefore, the LDCF-financed project will consult this programme during the stocktaking exercise to identify the most cost-effective EbA interventions for Nepal.

169. **The Nepal Climate Change Support Programme** (NCCSP) is funded by the UK DFID and has a budget of US$17,189,684[108] over the period October 2012–October 2015. MoSTE[109] is implementing the programme and UNDP is providing technical assistance. The programme will increase the climate-resilience and reduce vulnerability of poor communities using adaptation interventions. The specific objective of the programme is to increase the capacity of the GoN to develop, cost, budget and implement evidence-based policy that will mainstream climate change adaptation into development sectors[110]. Activities in this programme include: i) developing baselines that are effective and relevant to climate change to support decision making; ii) mapping and strengthening the technical capacity of local institutions to establish and monitor the effects of climate change as well as assess the effectiveness of interventions; iii) preparing and implementing policies, plans and strategies; iv) enhancing the negotiation skills of the government and non-government actors; and v) developing the skills required to access, manage and disburse climate change financing in support of adaptation, mitigation and the promotion of low-carbon development. This programme is promoting local involvement in adaptation planning. As such, it is establishing District Environment Energy Climate Change Coordination Committees (DEECCCCs) to promote local dialogue on topics related climate change. In addition, the programme is developing LAPAs for a number of VDCs across 14 districts in Nepal, including Achham. The LDCF-financed project will support – and be implemented within the norms of – the NCCSP. Firstly, intra- and inter-community dialogue on EbA will be integrated into the DEECCCC in Achham. A DEECCCC has not been established in Dolakha nor Salyan. Therefore, to promote local dialogue, the LDCF-financed project will establish these committees in these two districts. Secondly, the LDCF-financed project will make available all technical information to the NCCSP to be integrated into LAPAs.

170. **The Pilot Programme for Climate Resilience** (PPCR) **– SPCR** is funded by the Climate Investment Fund (CIF), which is led by the Asian Development Bank, International Finance Corporation and WB. The SPCR – implemented by the MoSTE– will integrate climate resilience into development planning. The SPCR has four components namely: i) increasing the climate resilience of watersheds and water resources in mountain eco-regions; ii) increasing the resilience of local communities to climate-related extreme events; iii) mainstreaming climate change risk management in development planning; and iv) supporting climate-resilient communities through private sector participation. Each component of the SPCR has a Coordination Committee[111] and Project Management Units (PMUs) with whom the LDCF-financed project will collaborate. Activities for increasing the climate resilience of watersheds and water resources are being implemented in VDCs in Achham District. One of the components of the SPCR (**Building Climate Resilience of Watersheds in Mountain Eco-Regions**) has been included as a baseline project (See Section 2.6). Moreover, LDCF-financed project will collaborate with the SPCR to: i) promote

[108] £10,879,547 converted to dollars based on rates of 12/09/2013.
[109] Implementing partners include MoFALD, DDCs, District Energy, Environment and Climate Change Sections (DEECCS)
[110] Sectors include agriculture, forestry, water, energy and private-public partnerships.
[111] The Coordination Committees are chaired by secretaries to the Ministry of Forests and Soil Conservation (MoFSC, Component 1), Ministry of Agriculture and Cooperatives (MoAC, Component 2) and Ministry of Environment (MoE, Component 3) or IFC Nepal (Component 4).

complementarity of activities for soil and water conservation; and ii) validate suitable infrastructure for soil and water conservation in the VDCs.

171. **The first phase of the Regional Climate Change Adaptation Knowledge Platform for Asia** (the Adaptation Knowledge Platform or ADK) ran from 2009 to 2012. The platform is currently in its second phase. The project is supported by the Swedish International Development Cooperation Agency (Sida)[112]. The ADK supports: i) research and capacity building; ii) policy making; and iii) the assimilation, generation, management and sharing of information to assist Asia in climate change adaptation. It also aims to strengthen the adaptive capacity of countries in the region at regional, national and local levels. These aims will be achieved by bringing policy-makers, adaptation researchers, practitioners and business leaders together to work on a range of activities on climate change adaptation. The three components that these activities will work towards are: i) a regional knowledge-sharing system regarding adaptation to climate change; ii) the generation of new knowledge by promoting understanding and providing guidance relevant to development and implementation policy, plans and processes; and iii) the application of existing and new knowledge to sustainable development practices. The ADK will facilitate these activities while working with existing and emerging networks. This provides a platform for the LDCF-financed project to integrate EbA into these activities in collaboration with the ADK.

172. **Enhancing Capacities on Climate Change Adaptation and Disaster Risk Management for Sustainable Livelihoods in the Agricultural Sector** is implemented by the FAO. This ongoing project began in 2008 and focuses on district- and community-level activities as well as establishing capacity building at a national level. It will demonstrate viable adaptation practices for climate change in the Banke and Surkey Provinces. The LDCF-financed project will collaborate with this programme – where possible – to collate information on community-level activities and interventions.

173. The **CFP** has been running since 1981 under Nepal's forestry department, in cooperation with GON, UNDP and FAO. This programme represents an innovative approach to forest management by local communities that has a future-orientated focus. Activities of the programme include: i) protecting existing forests; ii) establishing tree nurseries; and iii) introducing improved cooking stoves. It is widely celebrated as one of the most progressive policy examples of devolving control over forest resources to CFUGs. To date approximately 15,000 CFUGs are legally established. The LDCF-financed project will train user groups in selected VDCs to implement project activities. The project will prioritise user groups that have been established for leasehold forestry, livestock support or agricultural development. Most importantly, Women's User groups (WUGs) will be included in all training. However, CFUGs are the most well established user groups throughout Nepal and – if there are few user group options in some particular VDCs – could play a role in planting and/or monitoring EbA interventions that are implemented by the LDCF-financed project to restore forests.

The **Non Timber Forest Products (NTFPs) Conservation Project (Far West Nepal)** is implemented by the IUCN. The project promotes the sustainable use of medicinal plants and other NTFPs. The focus of the NTFPs project is on fostering local institutions and enabling local communities to conserve forests sustainably in the Doti District. The project has established nurseries and demonstration sites in 10 VDCs[113]. In addition, it has supported income generation and strengthened tenure rights for poor and landless people. The LDCF-financed project will consult the NTFP Conservation Project to collate and assess lessons that have been learned by the project while establishing nurseries.

[112] Implementing partners include: i) the Stockholm Environment Institute (SEI), ii) the Swedish Environmental Secretariat for Asia (SENSA), iii) the UNEP; and iv) the Asian Institute of Technology (AIT)/UNEP.
[113] Available at: http://www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/nepal/past_projects/ Accessed 13 September 2013.

174. **Terai Arc Landscape (TAL) Implementation Plan**[114] is implemented by MoFSC and is supported by WWF Nepal. The plan was initiated in 2004 with the objective of implementing the broader strategies of the TAL Nepal Strategic Plan. In 2006, it was handed over to MoFSC to be completed in 2014. It focuses on five thematic areas namely: i) governance; ii) sustainable forest management; iii) species and ecosystem conservation; iv) soil conservation and Churia Watershed Conservation; and v) sustainable livelihoods. The LDCF-financed project will build on lessons learned from sustainable forest management including the ecosystem and soil conservation aspects of the TAL Implementation Plan.

175. The **Community-Based Flood and Glacial Lake Outburst Risk Reduction** project is implemented by the UNDP and is being funded by GEF-LDCF for the period 2013–2017. Total indicative costs for this project are US $102,000. The project focuses on GLOF risk reduction and flood risk management at a local community level. The outcomes of the project include: i) reducing the risks of human and material losses from GLOF events from Imja Lake; and ii) reducing the human and material losses from recurrent events in four flood-prone districts of the Terai and Churia Range. The LDCF-financed project will build on these outcomes to explore the opportunities of incorporating EbA into Disaster Risk Management (DRM) and GLOF risk reduction interventions that affect forest and rangeland ecosystems.

176. The **Nepal Risk Reduction Consortium** is based on the Hyogo Framework and Nepal's National Strategy for DRM. Five flagship priorities have been identified for sustainable disaster management. These priorities include: i) school and hospital safety; ii) emergency preparedness and response; iii) flood risk management in the Koshi River Basin; iv) community-based DRM; and v) policy and institutional strengthening. The LDCF-financed project will build on assessments that have been conducted by the consortium including those for policy and institutional strengthening.

177. **Practical Action Nepal Office** has numerous ongoing projects related to climate change in Nepal. The organisation has three main objectives[115]namely: i) to reduce vulnerability of local communities with regards to food security, risks from disaster and climate change; ii) to promote access to markets for smallholder farmers; and ii) to promote infrastructure for impoverished local communities. Practical Action's programmes promote: i) access to energy; ii) agriculture, forestry and food security; iii) urban waste, water and sanitation; iv) disaster risk reduction; v) climate change; and vi) markets. Accordingly, the LDCF-financed project will consult with representatives from this office to develop climate-resilient livelihoods and strengthen market links.

178. The **Koshi River Basin Management** project is implemented by WWF Nepal, and the Water and Energy Commission Secretariat (WECS). It is funded by WWF. The project is the first initiative guided by the NWP (1998). It uses an integrated approach to water resource and river basin management. The project's main objective is to formulate a vision for the management of the Koshi River Basin management and explore partnerships for coordinated water resource management. Information collated by the Koshi River Basin Management Project on this type of management will be sourced and used when the LDCF-financed project implements techniques for topsoil and water conservation.

179. The **Western Uplands Poverty Alleviation Project (WUPAP)** is funded by the International Fund for Agricultural Development (IFAD) and implemented by the Ministry of Local Development (MoLD). The project started in 2003 with a project timeframe of 11 years. WUPAP promotes the increased resilience of livelihoods, and basic human dignity of poor

[114] This is different from the TAL Programme in the PIF, which ended in 2006.
[115] Further details of these objectives are discussed in: The Practical Action Nepal Office Annual report 2011/2012. Available at http://practicalaction.org/media/view/29459 Accessed on 15 September 2013.

and socially disadvantaged groups[116] in the Western Uplands region[117] in which 115,000 households (632,500 individuals) intend to be reached. The Uplands region is characterised by widespread poverty, a harsh climate and terrain, and poor infrastructure. In addition, local communities are often isolated. WUPAP's objectives are to strengthen the livelihoods of the most vulnerable communities affected by these challenges. These objectives will be achieved by: i) improving access to services and resources; ii) promoting livelihoods development[118]; and iii) empowering women and other marginalised people. The LDCF-financed project will support WUPAP's objectives, which include the development of alternative livelihoods based on the benefits of functional forests and rangelands. In addition, the project will collaborate and build on lessons learned with regard to empowering women and marginalised communities.

180. The **Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI)** is a transboundary collaborative programme between China, India and Nepal. This 5-year programme is funded by the DFID, UK aid and German Agency for International Cooperation. ICIMOD is the regional PMU and will have the overall responsibility for monitoring and evaluation. The transboundary nature of both ecosystem services and environmental changes in the region means that risks, challenges, and opportunities are shared. The aim of the programme is to achieve long-term conservation of ecosystems, habitats, and biodiversity while encouraging sustainable development, enhancing the resilience of communities in the landscape, and safeguarding the cultural linkages between local populations. The programme has five major components namely: i) innovative livelihoods; ii) ecosystem management; iii) access and benefit sharing; iv) long-term conservation and monitoring; and v) regional cooperation, enabling policies and knowledge management. Recognizing the global and regional significance of the Kailash Sacred Landscape, ICIMOD has been working closely with partner institutions in the three member countries to facilitate the development of a regional cooperation framework and prepare feasibility assessment reports, conservation strategies (CS) and comprehensive environmental monitoring plans (CEMPs). The LDCF-financed project will build on the lessons learned from ICIMOD for sharing benefits of ecosystems within local communities, particularly for livelihoods development within Component 3.

181. **Inclusive Development of the Economy (INCLUDE)** is a joint Nepali and German programme, which targets the poor and very poor in five districts. The objectives of this programme are to build entrepreneurship, develop value chains and support public private dialogue. This will be undertaken by upgrading institutional capacities and developing services. Include has shown tangible results in terms of increased income and employment opportunities and facilitated linkages with commercial markets. There is emphasis on the cooperative sector where there is a high potential for inclusiveness and the levels of investment required to become a producer are low. The programme will focus on the honey, dairy, medicinal and aromatic plant subsectors. The LDCF-financed project will build on the lessons learned from this project, including on creating socially balanced economic development through institutional capacity building and creating linkages between the public sector, private sector and difference levels of governance. Importantly, INCLUDE is implementing activities in in Banke, Dang, Kailali, Pyuthan and Surkhet Districts, which neighbour Salyan and Achham Districts.

SECTION 3: INTERVENTION STRATEGY (ALTERNATIVE)

3.1. Project rationale, policy conformity and expected global environmental benefits

[116] The target group includes small and marginal farmers, and the landless in the project area particularly women, youth, children, and socially and economically disadvantaged groups.
[117] The project intends to cover 11 districts.
[118] with regards to livestock, forestry and crops

Project rationale

182. In Nepal, local communities and economic sectors are experiencing the negative effects of climate change. These communities are particularly vulnerable to such effects because they rely strongly on forest and rangeland ecosystems for their livelihoods. Currently, tailored EbA is not being implemented in degraded forest and rangeland ecosystems. This is because: i) local, district and central-level institutions have limited capacity to plan and implement EbA; ii) policies, strategies and legislation in Nepal do not promote EbA; and iii) there are few on-the-ground EbA interventions that demonstrate the effectiveness of this adaptation measure.

183. The LDCF-financed project aims to increase the capacity of national and local government institutions in Nepal to adapt to climate change by implementing EbA in degraded forests and rangelands in mid-hill and high mountain areas. To achieve this objective: technical capacity of these stakeholders to implement EbA will be strengthened, revisions to relevant policies and strategies will be recommended to promote EbA, and EbA demonstrations will be implemented in selected VDCs.

184. Targeted VDCs are located in the mid-hill districts of Achham and Salyan and high mountain district of Dolakha that are most vulnerable to: i) prolonged droughts; ii) increasing temperatures; and iii) heavier rainfall impact. The vulnerability of local communities living Dolakha has also been exacerbated by the earthquakes that were experienced in April/May 2015.

185. The barriers to reducing the vulnerability are described in Section 2.3. The LDCF-financed project is designed to address these barriers by implementing the interventions detailed in Section 3.3.

186. EbA in degraded forests and rangelands – such as those in Dolakha, Salyan and Achham Districts – will have multiple social and economic benefits for local communities. Once restored, these ecosystems will act as a buffer against the negative effects of climate change. In addition, enhanced ecosystems will provide marketable NTFPs, food for livestock and increased agricultural productivity under projected conditions of climate change. It has also been noted that income from environmental resources has been identified as an important livelihood that contributes to building resilience of rural communities to disasters such as earthquakes[119]. By promoting an EbA approach, the LDCF-financed project will benefit the rural communities that have been affected by the earthquakes throughout Nepal, contributing to post-earthquake relief for these targeted communities.

187. The LDCF-financed project will generate sustainable benefits after the implementation period by disseminating lessons learned on EbA to communities outside of the intervention sites. This will be enabled by: i) establishing frameworks for intra- and inter-community dialogue[120]; and ii) conducting national awareness campaigns on the approach. The lessons learned during the project will be routinely collated and documented. Moreover, this information will be shared with national, district and local stakeholders. In so doing, the national capacity to plan, implement and upscale EbA to other areas across Nepal will be increased.

Policy conformity

[119] Smith-Hall, C., Larsen, H.O., Pouliot, M., Chhetri, B.B.K., Rayamajhi, Meilby, H. & Puri, L. 2015. Policy brief developed by the Copenhagen Centre for Development Research: Environmental resource income is important for earthquake-hit rural households. Available online at: http://www.forestrynepal.org/images/publications/ku_2015-06-08.pdf. Accessed on 3 July 2015.

[120] This could build on existing cross-community forums such as the DEECCCC.

188. The LDCF-financed project is aligned with GEF Focal Area/LDCF/SCCF strategies. In particular, the following "Focal Area Objectives" are addressed in the project.

- *CCA-1, Outcome 1.2: Reduced vulnerability to climate change in development sectors* – EbA interventions within Component 3 will: i) contribute to increasing water availability through improving the stability of water catchments and reducing erosion; and ii) increase the resilience of livelihood activities to climate variability. Consequently, communities will have reduced vulnerability to: i) increasing temperatures and impacts of rainfall; and ii) more frequent and severe droughts. Providing training on techniques for soil and water conservation, developing livelihoods and strengthening market links will also increase food security (Section 3.3 Components 1 and 3).
- *CCA-2, Outcome 2.2: Strengthened adaptive capacity to reduce risks to climate-induced economic losses* – The LDCF-financed project will provide training to national and local authorities as well as community members. This training will be focused on the use of EbA for the management of natural ecosystems and on climate-resilient practices to increase agricultural productivity, and conserve water and topsoil (Component 1). Consequently, the technical capacity to implement EbA to adapt to climate change will increase.
- *CCA*-3, *Outcome 3.2: Enhanced enabling environment to support adaptation-related technology transfer* – Within Component 2, the LDCF-financed project will review policies and strategies to identify entry points for EbA. In addition, an upscaling strategy and financing plan for EbA will be developed. Therefore, the policy environment for EbA will be strengthened.

189. The LDCF-financed project is consistent with the GoN's national priorities and plans that focus on adaptation to climate change and management of ecosystem services. These include the **NAPA, LAPAs** and **Community Adaptation Plans of Action** (CAPAs)[121]. The following priority profiles of the NAPA will be addressed: i) priority 1 "Promoting community-based adaptation through integrated management of agriculture, water, forest and biodiversity sector"; ii) priority 5 "Forest and ecosystem management for supporting climate-led adaptation innovations"; and iii) priority 7 "Ecosystem management for climate adaptation".

190. The LDCF-financed project activities are aligned with the GoN's series of **National Five-Year and TYPs** that include the **Tenth Plan/PRSP**[122]. The objective of these plans is to reduce poverty by providing a policy framework that encourages investment in the agriculture and forestry sectors that form the foundation of rural development.

191. **UNDAF** for Nepal was recently updated for the period 2013–2017. The LDCF-financed project will promote outcomes under all three components of the framework. In particular, the project is well aligned with Outcome 7 under Component 2 "People living in areas vulnerable to climate change risk and disasters benefit from improved risk management and are more resilient to hazard-related shocks".

192. The LDCF-financed project is consistent with **Priority 1** "Sustainable Management of Natural Resources: Forest and Rangeland Management and Water Resource Management" included in the five policy objectives under the **NEPAP** (1993).

[121] CAPAs do not yet have a recognised framework but are based on the LAPA framework. NGOs, iNGOs and some other organisations are assisting communities to develop these plans.

[122] The recently adopted TYP Approach Paper (2010–2012) includes the following objectives: i) strengthen the institutional capacity related to environmental policies and regulation; ii) internalise environmental management into development; iii) prioritise planning for effective implementation of national and international environmental commitments; and iv) conduct research on climate change.

193. Nepal's **Initial National Communication** to the UNFCCC (2004) details the vulnerability of local communities in Nepal to climate change. In addition, it proposes strategies for adaptation. In particular, the UNFCCC refers to development of agroforestry and forage (Section 5.3.5 on Policy Framework and Adaptation Strategies). The LDCF-financed project will support restoration of forests that produce fodder, fuel wood and other useful natural resources. Currently, the second National Communication is being produced.

194. Nepal's **Fourth National Report to the CBD** (2009) includes suggestions to: i) initiate the NAPA process; ii) initiate climate change research and monitoring; iii) extend the study of climate change effects on the livelihoods of local communities; and iv) finalise, endorse and implement a REDD policy. The LDCF-financed project will support such policy plans by: i) restoring degraded ecosystems; ii) developing LAPAs for areas in which demonstrations will be implemented; and iii) building the knowledge base on effects of climate change and benefits of EbA and PES for indigenous and local communities.

195. These documents all promote sound environmental management as critical for the sustainable development of Nepal. By implementing and promoting EbA, the LDCF-financed project conforms to such guidelines.

LDCF conformity

196. Nepal is party to the UNFCCC and the Kyoto Protocol. Accordingly, the LDCF-financed project is aligned with the guidance and eligibility criteria defined in these documents, as described below.

197. **Participatory approach**: activities and demonstration sites were selected through extensive stakeholder consultations at both local and national levels (Section 2.5).

198. **NAPA priorities**: the LDCF-financed project will address priority profiles 1, 5 and 7 of the Nepal NAPA.

199. **"Learning-by-doing" approach**: the LDCF-financed project will build on the knowledge base on ecosystem restoration that has been established in Nepal. Therefore, lessons learned by other projects have been considered in the design of the project. In addition, tools that have been designed by the BMU EbA project will inform the development of EbA that will be tailored for particular forest and rangeland ecosystems. Lessons learned throughout the project will be used to apply adaptive management and showcase successes at a national scale to will promote EbA across Nepal.

200. **Multi-disciplinary approach**: adaptation through ecosystem restoration is relevant to a wide range of sectors including water, agriculture and ecosystem conservation. Therefore, the LDCF-financed project has been designed using a multi-sectoral approach. During the implementation phase, this approach will be further promoted by: i) establishing a multi-sectoral committee on EbA; and ii) including technical experts from a range of sectors[123] in the design of project activities. In addition, a wide range of stakeholder groups will be engaged throughout project implementation including central government, district officers, academia, NGOs and user groups.

201. **Complementary approach**: the LDCF-financed project will work in conjunction with relevant ongoing and adaptation projects in Nepal (Section 2.6). It will build on the activities of the identified baseline projects, increasing their capacity to achieve their objectives under

[123]Research will be conducted by experts on sectors including: i) natural resource management; ii) public education; iii) climate adaptation; iv) socio-economics; v) biodiversity; vi) policy and law; vii) networking; vii) agro-ecology (forests and rangelands); and viii) hydrology and soils.

conditions of climate change. It will also exchange information with other EbA and ecosystem management projects. In so doing, valuable lessons will be shared and duplication of efforts will be avoided. In addition, the existing knowledge base on EbA will be enhanced thereby promoting EbA in Nepal.

202. **Gender equality**: in least developed countries, women tend to have lower incomes and fewer opportunities compared to men, and their capacity to adapt to the effects of climate change is therefore constrained[124]. In the context of Nepal, women play a central role in managing livelihoods often relying on climate-sensitive natural resources for their livelihoods[125]. Currently, women in Nepal have insufficient access to relevant information and skills to manage the negative effects of climate change on these natural resources[126].

203. Despite their capability to innovate and lead, Nepalese women have historically been marginalised from local and national decision-making processes[127]. Therefore, gender considerations will be mainstreamed into LDCF-financed project activities to ensure that women are included in activities to increase their resilience and capacity to adapt to climate change[128]. For example, implications for women and men of any recommended policy action will be assessed in Component 2. This approach to gender mainstreaming is in alignment with Nepal's Three-Year Interim Plan 2007/08–2009/10, as well as gender-specific policies and strategies such as the Gender and Social Inclusion Strategy and Action Plan (2012), and Working Paper 2 on Mainstreaming Gender and Climate Change in Nepal (2012).

204. Climate-resilient livelihoods will be developed with a focus on including female-headed households. To ensure that the progress of gender mainstreaming can be monitored throughout the project, gender disaggregated targets will be developed and used to monitor indictors.

205. LDCF-financed project activities will be informed by Gender and Governance Assessments. These assessments will inform project activities and training at a national scale and at each intervention site. Moreover, within these assessments, targets and metrics to measure gender equity in project activities will be defined. These targets and metrics will be integrated into the project Results Framework. Importantly, Nepalese gender action groups will be consulted when: i) public awareness campaigns are designed; and ii) information materials are disseminated. These consultations will ensure that information reaches female stakeholders within their networks.

206. Gender sensitivity will be incorporated into training topics so that: i) female participants are empowered to participate meaningfully in the trainings; and ii) all participants are made aware of their responsibility to respect the views of all of their colleagues during training workshops. Trainers will be required to have the skills and experience necessary to plan and facilitate gender-sensitive training.

Overall GEF conformity

207. The LDCF-financed project has been designed to meet overall GEF requirements in terms of implementation and design. The following core GEF criteria have been addressed.

- **Sustainability**: training and capacity building of central government, district line ministries and user groups are project priorities. As such, EbA will be implemented in forests and rangelands using a country-driven approach that promotes sustainability. Moreover,

[124]Lambrou, Y., & Piana, G. 2006. *Gender: the missing component of the response to climate change*. Food and Agriculture Organisation, Gender and Population Division.
[125]Mainlay, J., & Tan, S. F. 2012. Mainstreaming gender and climate change in Nepal (pp. 1–24). London, UK.
[126]Leduc, B. 2009. Climate Change in the Himalayas: The Gender Perspective. Background paper for the e-discussion.
[127]Mainlay, J., & Tan, S. F. 2012. Mainstreaming gender and climate change in Nepal (pp. 1–24). London, UK.
[128]Denton, F. 2002. Climate change vulnerability, impacts, and adaptation: Why does gender matter? *Gender & Development*, *10*(2), 10–20. doi:10.1080/13552070215903.

results and best practices will be documented thereby enabling EbA to be upscaled and extend beyond the project's lifetime. See Section 3.8 on sustainability for more information.
- **Replicability**: the project will systematically document the activities, management decisions, strategies, results and lessons learned. Such information will be used to guide the design and implementation of future similar projects (refer to Section 3.9 for more information on replicability).
- **Monitoring and evaluation** (M&E): the project design includes an effective M&E framework that will enable ongoing adaptive management. This will support the learning and dissemination of lessons by producing regular progress reports for stakeholders. See Section 6 on M&E for more information.
- **Stakeholder involvement**: the project design was developed through extensive stakeholder consultations (Section 5). Moreover, the design of the LDCF-financed project will ensure that a range of stakeholders is engaged throughout the project implementation phase.

3.2. Project goal and objective

208. The overarching goal of the LDCF-financed project is to reduce the climate vulnerability of local communities in Nepal. The objective of the project is to increase the capacity of the government and local communities in Nepal to adapt to climate change by implementing EbA in degraded forests and rangelands in mid-hill and high mountain areas.

3.3. Project components and expected results

209. The LDCF-financed project will build on baseline projects identified during the PPG phase and outlined under section 2.6. Consequently, the project will contribute to the long-term sustainability of these baseline projects in the face of climate change. The project has three components. Component 1 will strengthen the capacity of local, district and national institutions to plan and implement EbA. Component 2 will support a policy environment that promotes EbA across Nepal. In addition, activities under this component will contribute to the stocktaking exercise that is scheduled as part of the NAP in 2015. Component 3 will demonstrate on-the-ground EbA interventions to restore degraded forests and rangelands. Sites for these demonstrations were selected within the most vulnerable VDCs in Achham, Dolakha and Salyan Districts using a set of criteria (see Appendix 8). Importantly, the project will build on existing knowledge and frameworks in the country including: i) traditional practices of indigenous and local communities; ii) best-practices from other EbA projects in South Asia, with a focus on Nepal; iii) information on managing ecosystems, enhancing livelihoods and adapting to climate change; and iv) plans or frameworks for sustainable development and climate change[129]. This knowledge will be synthesised with expert research and scientific findings to inform training and develop on-the-ground activities.

Components, outcomes and activities that will be implemented by the LDCF-financed project are detailed below.

Adaptation alternative

Component 1: Local and national institutional capacity development

210. The main outcome for this component is increased capacity of government institutions and local user groups to implement EbA through enhanced institutional arrangements, intersectoral collaboration and research. Application of this approach will

[129] The LDCF-financed project will support the LAPA process.

reduce the vulnerability of local communities to the negative effects of climate change given their strong reliance on ecosystems for their livelihoods. At a national level, dialogue on EbA will be integrated into a coordination mechanism for adaptation to climate change. This dialogue on EbA will promote synergy between ministries to plan and implement EbA. In addition, District officers from Achham, Dolakha and Salyan that will be involved in the LDCF-financed project will attend MCCICC forums to share lessons that they learn through on-the-ground EbA. Furthermore, at a national level, the capacity of national stakeholders in MoSTE MoFSC and MoAD to select best-practice EbA projects for Nepal will be increased.

211. The public understanding and awareness on EbA and its benefits will be enhanced. To achieve this, information on this approach – including lessons learned through the LDCF-financed project – will be collated and shared with a variety of target groups. This will include *inter alia*: i) indigenous and local communities throughout Nepal; ii) national stakeholders in MoSTE MoFSC and MoAD; iii) youth enrolled in primary, secondary and tertiary education programmes; and iv) environmental journalists. This increased public awareness of EbA will support the national upscaling of project activities and increase human capacity to plan and implement EbA at a national level. In addition, novel research on EbA will be conducted to build an evidence base of this approach.

212. At a local level, the technical capacity of stakeholders to implement EbA in forests and rangelands will be strengthened. Such stakeholders will include district officers in Achham, Dolakha and Salyan and user groups in selected VDCs. In addition, these stakeholders will be trained on complementary techniques for topsoil and water conservation. These techniques will include: i) sustainable management of livestock in the face of climate change; and ii) maintaining infrastructure for rainwater harvesting. All technical training will be supported by relevant guidelines that will be developed within the LDCF-financed project

<u>Outcome 1: Increased capacity of government officials and local user groups to implement EbA through enhanced institutional arrangements, intersectoral collaboration and research.</u>

<u>Output 1.1. Technical working group on EbA established within the MCCICC.</u>

To promote crosscutting national dialogue on EbA, a technical working group for EbA will be established within the Multi-Sectoral Climate Change Initiatives Coordination Committee (MCCICC). In 2012, the GoN constituted this committee to serve as a national platform for dialogue on policies, plans, finance, programmes/projects, and activities for adaptation to climate change. Currently, MCCICC is chaired by the Secretary of MoSTE and includes a range of representatives from: i) national and local government institutions; ii) NGOs; and iii) National Project Coordinators of projects with a climate change focus[130]. The mandate of the committee includes the following:

- establish a communication mechanism for institutions concerned with and working in the field of climate change;
- coordinate climate change responses at a programmatic level to foster synergy and avoid duplication of activities, optimise benefits from existing programs, and coordinate activities related to policies, plans, strategies, financing programmes and projects;
- provide inputs for developing consensus on climate related issues under international climate change negotiation; and
- provide inputs for project financing in order to effectively implement, monitor and evaluate the adaptation actions including those identified in the NAPA (Nation Adaptation Programme of Action) process.

[130]GoN. MCCICC: Ministry of Science, Technology and Environment. Available at: http://moste.gov.np/%E0%A4%B8%E0%A4%82%E0%A4%B8%E0%A5%8D%E0%A4%A5%E0%A4%BE%E0%A4%B9%E0%A4%B0%E0%A5%81/mccicc. Accessed on 16 Mach 2014.

213. To date, two EbA projects have been implemented in Nepal. To integrate lessons learned from these projects into planning for climate change at a national scale, it is important that this approach be frequently discussed amongst decision-makers from relevant sectors. MCCICC is a suitable platform for this kind of discussion. Therefore, the National Climate Adaptation and Socio Economic Expert (NCASEE) will coordinate with the Secretary of MoSTE to establish the working group within this committee. Consequently, at every MCCICC meeting, time will be allocated for discussion on EbA projects in Nepal. Moreover, stakeholders from districts in which projects are being implemented will be invited to attend MCCICC to share lessons from on-the-ground EbA activities. These stakeholders will include DFO, DSCO, DLO and District Agriculture Development Officer (DADO) from Achham, Dolakha and Salyan Districts who will play an integral role in coordinating the execution and monitoring of on-the-ground activities for the LDCF-financed project. To achieve this, the district officers will be required to travel to Kathmandu biannually to share the lessons they have learned with MCCICC. National stakeholders from MoFSC and MoAD (in particular, DoSCWM, DoF, DoLS, DoA) should be invited to attend these MCCICC meetings.

The activities to be implemented under Output 1.1 follow below.

1.1.1 Establish an EbA technical working group within MCCICC.
1.1.2 Coordinate visits for DFOs, DSCOs, DLOs and DADOs from Achham, Salyan and Dolakha to attend MCCICC discussions on EbA to share lessons learned from EbA that is implemented on the ground through Component 3.

Output 1.2. Training provided for national, district and local stakeholders on identifying, prioritizing, implementing, monitoring and evaluating EbA interventions.

214. To enhance capacity of national, district and local stakeholders to plan and implement EbA, training will be conducted. At a national level, training will be conducted for national stakeholders within MoSTE, MoFSC and MoAD. This training will be on: i) best practices for EbA in South-Asia, with a focus on Nepal; and ii) selecting EbA using the UNEP EbA decision support framework. This training will be informed by research that will be conducted by the National Natural Resource Expert (NNRE). Initially, the NNRE will conduct a stocktaking exercise of EbA projects that have been implemented in Nepal and other countries in South Asia that have similar ecosystems, particularly the BMUB-funded project. In so doing, this expert will identify EbA that has the most favourable cost to benefit ratio. After conducting these EbA-related studies, the NNRE will work with sub-contracted trainers to develop training material for the national stakeholders in MoSTE , MoFSC and MoAD. To support this training, trainees will visit at least one EbA intervention site in Nepal. In addition, technical guidelines will be developed by the NNRE and trainers, and distributed at training sessions.

215. At a local level, this output includes all technical training that will be conducted in Achham, Dolakha and Salyan, excluding the community-level training that will be conducted to develop Community Livelihood Improvement Plans (CLIPs). Therefore, content of this training will differ from year-to-year as the LDCF-financed project progresses. For a detailed description of the training schedule for the project, see Appendix 19. Local-level training will be directed at: i) relevant district officers and field technicians within DoF, DoSCWM, DoLS and DoA in Achham, Dolakha and Salyan; and ii) user groups in VDCs in which interventions will be implemented. District officers and field technicians will mobilise and coordinate user groups to execute on-the-ground activities for the project. Therefore, a “technical training for action” approach will be adopted by the project. As such, the content of the training will be stipulated by: i) the workplan; and ii) the deliverables of the national and international experts. Firstly, technical training on restoring forests and rangelands using EbA will be

conducted for the DFO, DSCO and relevant user groups in each of the three districts. This training will include: i) suitable plant and grass species for EbA in degraded forests and rangelands; ii) planting techniques for these species; and iii) management and monitoring of these restored ecosystems. Within the first year of the project, once the national experts for forest and rangeland ecosystems – the National Agro-ecosystem Expert in Forestry (NAEF) and National Agro-ecosystem Expert in Rangelands (NAER) – have selected the species, training will be conducted. District officers and user groups will apply this training to restore forests and rangelands at intervention sites.

216. The DLO, DADO and livestock user groups in Achham, Dolakha and Salyan will receive technical training on managing livestock in the face of climate change. This training will be informed by the research conducted by the NAER and will include information on: i) using shade to manage effects of increasing temperatures; ii) pasture management and carrying capacity for shifting agro-ecosystems; iii) improved management of water resources; and iv) local breeds of livestock that are more resilient to increasing temperatures and severe drought conditions (See Appendix 27)[131,132,133,134.] During the second year of the project, research on these topics will be conducted by the NAER. Thereafter, this research will be used to inform the training that will be conducted for the relevant local stakeholders. Lastly – once research has been conducted by the national soil and hydrology expert (NS&HE) in the second year of the project – the DSCO and relevant user groups at the intervention sites will be trained on maintaining infrastructure for topsoil and water conservation that will be constructed by the project. This infrastructure will include: i) improved terraces; ii) bio-engineering mechanisms to control embankment of rivers; iii) filtering dams; iv) water conservation ponds; and v) community rainwater harvesting devices. Currently, there is no Soil Conservation Office in Achham. Therefore, the DFO will attend these training sessions in Achham.

217. All of the annual technical training in Achham, Dolakha and Salyan will be conducted by the NCASEE. Therefore, the technical experts will work closely with NCASEE to develop the training content that will guide implementation of these activities, including technical guidelines. Thereafter, the NCASEE will travel to the districts to deliver the technical training on an annual basis, or when necessary. Importantly, a representative from the relevant national government ministries will observe the technical training sessions to promote connectivity of skills between stakeholders at various levels.

218. District officers and field technicians will receive additional training on GPS and GIS software to monitor interventions that are implemented by the LDCF-financed project.

The activities to be implemented under Output 1.2 follow below.

1.2.1. Conduct a stocktaking exercise of EbA interventions that have been implemented in South Asia, with particular reference to Nepal, and analyse the cost to benefit ratios of these interventions to identify the most cost-effective approaches.
1.2.2. Train national stakeholders in MoSTE, MoFSC and MoAD on: i) cost-effective EbA for Nepal; and ii) selecting EbA using the UNEP EbA decision support framework.
1.2.3. Coordinate visits for national stakeholders to EbA intervention sites in Nepal.

[131] Poudel, D. 2011. Challenges of climate change and sustainable livestock production in Nepal. Available at: http://www.telegraphnepal.com/national/2011-08-17/challenges-of-climate-change-and-sustainable-livestock-production-in-nepal.html
[132] Poudel, D. 2012a. Adapting livestock production systems to climate change: community capacity-building for better animal health, feed, soil and water. Available from: http://lcccrsp.org/wp-content/uploads/2012/02/Poudel_RB02_2012.pdf. Accessed on 14 May 2014.
[133] Poudel, D. 2012b. Adapting livestock production systems to climate change: assessing feed, nutrition and animal health. Available at: http://lcccrsp.org/wp-content/uploads/2012/03/Poudel_RB05_2012.pdf. Accessed on 14 May 2014.
[134] Poudel, D. 2013. Climate change and other factors degrade Nepalese livestock systems. Available at: http://lcccrsp.org/wp-content/uploads/2013/08/RB-12-2013.pdf. Accessed on 14 May 2014.

1.2.4. Work with the NAEF, NAER and National Hydrology and Soil Expert (NH&SE) to develop training material and technical guidelines on: i) implementing EbA to restore degraded forests and rangelands; and ii) managing livestock and maintaining infrastructure to conserve topsoils and water.
1.2.5. Train district officers and user groups at intervention sites on: i) implementing EbA to restore degraded forests and rangelands; and ii) managing livestock and maintaining infrastructure to conserve topsoils and water.

Output 1.3. National campaigns implemented and district-level collaboration facilitated on EbA approaches and benefits, including lessons learned in Component 3.

219. Two national campaigns will be conducted within the LDCF-financed project – using radio and/or television shows – to enhance public awareness of EbA. The first campaign will be conducted in the second year of the LDCF-financed project to build a basic understanding of EbA and its benefits. The second campaign will be conducted in the last year of the project and will include lessons learned throughout its lifespan. Currently, the NEFEJ creates programmes with an environmental focus that are aired four times a week. In addition, the forum manages a radio station that is focused on environmental issues. Therefore, the National Public Education Expert (NPEE) will work closely with national campaign planners such as NEFEJ to design an effective national campaign to enhance awareness on EbA.

220. At a local level, the LDCF-financed project will promote learning on EbA and its benefits by promoting intra- and inter-community dialogue on using this approach to restore degraded forests and rangelands. The NPEE will be responsible for designing and coordinating mechanisms for this dialogue. Firstly, open days will be organised at the EbA intervention sites in selected VDCs. At these open days, indigenous and local communities that live in nearby villages and neighbouring VDCs will visit the intervention sites. User groups who will be involved in executing EbA in forests and rangelands within the project will share lessons learned with these visitors. Secondly, the project will strengthen or establish mechanisms for local dialogue on EbA. In line with the LAPA framework, the NCCSP has established a DEECCCC in Achham. This committee was established for VDC representatives to meet frequently and engage in environmental and climate-related discussions. The NPEE will work with this committee to integrate an EbA discussion into its mandate. DEECCCCs have not yet been established in Dolakha and Salyan. Therefore, these committees will be established within the LDCF-financed project, with a mandate to include EbA discussions. Lastly, the NPEE will coordinate workshops for user groups at intervention sites and from surrounding VDCs. At these workshops, these user groups will discuss lessons learned through implementing EbA in degraded forests and rangelands.

221. To enhance further understanding of EbA for a range of stakeholders across a range of age groups, the NPEE will coordinate overnight visits to the EbA demonstration sites for national stakeholders, environmental journalists and schools. These visits will occur in the second, third and last year of the LDCF-financed project, once EbA activities have been initiated. The national stakeholders will include the director generals of departments within MoSTE, MoFSC and MoAD. Therefore, the NPEE will consult with representatives from each of these ministries to identify a list of national-level stakeholders to visit the project's intervention sites each year. This expert will also consult with NEFEJ to identify environmental journalists to visit the intervention sites. These journalists will travel from the major cities in Nepal including Kathmandu, Biratnagar, Pokhara and Bharatpur. Such visits will be arranged on condition that the journalists write articles on EbA – based on the lessons that they learn from their visits to the intervention sites – to be published in local newspapers. Furthermore, visits will be coordinated for schoolchildren and teachers from villages and cities – including Kathmandu and Nepalgunj – to those intervention sites that are nearest to their hometown. During all of the organised visits, the District Project

Management Unit (DPMUs) will give presentations on EbA and its benefits. In addition, the visitors should be involved in EbA planting activities.

222. The NCASEE will collate all the lessons that are learned while implementing on-the-ground EbA in Component 3 by visiting intervention sites. This information will be disseminated through all of the awareness raising activities that are described above.

The activities to be implemented under Output 1.3 follow below.

1.3.1 Produce radio shows and magazine articles to enhance national awareness on the benefits of EbA in forests and rangelands.
1.3.2 Air radio shows on national stations and publish articles in "face-to-face" magazine to enhance awareness on the benefits of EbA in forests and rangelands.
1.3.3 Facilitate intra- and inter- community dialogue on EbA in forests and rangelands by: i) coordinating open learning days for indigenous and local communities in selected VDCs; and ii) integrating an EbA discussion in the DEECCCCs in Achham, Dolakha and Salyan[135].
1.3.4 Coordinate visits for the director generals of DoF, DoLS, DoSCWM and DoA, school environmental clubs and environmental journalists to selected VDCs in Achham, Dolakha or Salyan.
1.3.5 Collate information on lessons learned during the implementation of the LDCF-financed project to disseminate to: i) other UNEP implemented projects that include EbA through PMWG meetings; and ii) the public through radio shows or magazine articles.

Output 1.4. Primary, secondary and tertiary educational programmes developed on EbA best practices.

223. To enhance the awareness of the youth of Nepal on EbA, tools for integrating EbA into school curricula will be developed by the NPEE. A stocktaking exercise will be conducted to identify entry points for learning on EbA[136] in both primary and secondary schools. Based on this exercise, toolkits will be developed to: i) enhance the understanding of EbA amongst the Nepalese youth; and ii) strengthen their technical capacity to implement EbA. These tools will include: i) workplans that can be integrated into subjects within the current school curricula; and ii) designs for small-scale EbA projects that can be implemented by schoolchildren. Examples of such projects include the creation of school gardens and rehabilitation of river ecosystems using climate-resilient species. These toolkits will be presented by the NPEE to the MoEd during workshops.

224. Frameworks will be established to measure the short-, medium- and long-term effects of EbA that has been implemented by other projects and that will be implemented by the LDCF-financed project. As such, representatives from the BMUB-funded project, the Ministry of Forests and Soil Conservation (MoFSC), Nepal Academy of Science and Technology (NAST), the Department of Forest Resources and Survey (DoFRS), Tribhuvan University (TU) and the Agriculture and Forestry University (UAF) will work with the PMU and NCASEE to define research topics that will increase the evidence base for EbA in Nepal. To promote sustainability of this research, Memorandums of Understanding (MoUs) will be developed between institutions for collecting, processing and analysing data for measuring long-term research. Thereafter, monitoring points will be established at the EbA intervention sites.

[136] A component of the NCCSP is “Mainstreaming climate change risk management in development.” One of the activities being conducted under this component is the development of recommendations for Academic Curricula on Climate Change and Environmental Management.

225. The LDCF-financed project will fund 15 undergraduate Bachelor of Science, 10 Master of Science and three Doctor of Philosophy (PhD) research studies on topics selected. The PMU for the LDCF-financed project will consult with Tribhuvan University and The Agricultural and Forestry University (AFU) to refine research topics that will increase the technical and practical capacity for EbA initiatives in Nepal. Thereafter, students will be selected to conduct this research. These students should be from a variety of disciplines including: i) botany; ii) climatology; iii) environmental science; iv) forestry; and v) livestock research. Importantly, these findings will be communicated by the students to national stakeholders. To this end, students – and their supervisors – will attend national and regional meetings that are coordinated by MoSTE, MoFSC and MoAD. In addition, the students will be encouraged to publish their findings in international and national journals.

The activities to be implemented under Output 1.4 follow below.

1.4.1 Assess primary and secondary school curricula to identify entry points for learning on EbA[137].
1.4.2 Design educational toolkits for primary and secondary schools on EbA for adaptation to climate change. These toolkits should include: i) lesson plans to enhance understanding of the role of EbA in climate change adaptation; and ii) guidelines for small-scale EbA projects that can be implemented on school premises to strengthen the technical capacity of the Nepalese youth to plan and implement EbA.
1.4.3 Present the educational toolkits on EbA to the MoEd at a workshop.
1.4.4 Work with representatives from the BMUB-funded project and academics from relevant institutions – including MoFSC, TU, the AFU, the NAST and the DoFRS – and the BMUB-funded EbA project to define research topics to measure the short-, medium- and long-term impacts of EbA in Nepal.
1.4.5 Develop a Memorandum of Understanding (MoU) between NAST and the Department of Forest Resources and Survey (DoFRS) to conduct medium- and long-term research. Set up systems in these institutions to collect, process and analyse long-term data for this research.
1.4.6 Establish monitoring points in selected VDCs to collect data to measure the long-term impacts of EbA in Nepal.
1.4.7 Select and fund 15 BSc, 10 MSc and three PhD research studies through TU or AUF on the impacts EbA that is implemented through Component 3. Students conducting this research should be selected from a variety of disciplines including: i) botany; ii) climatology; iii) environmental science; iv) forestry; and v) livestock research.
1.4.8 Disseminate information on the findings of the research studies through national and regional meetings that are coordinated by MoSTE, MoFSC and MoAD.

Component 2: Policy and strategy strengthening

226. This component will contribute to strengthening policies and strategies to promote EbA. Enabling a policy environment to facilitate EbA and integrating this approach into relevant planning frameworks will increase the resilience of ecosystems in the face of climate change. Therefore, the vulnerability of indigenous and local communities that rely strongly on these ecosystems will be decreased. To do this, sectoral, sub-sectoral and cross-sectoral policies documents that are relevant to ecosystem management will be collated and reviewed. Based on the review, revisions to policies and strategies will be recommended to promote EbA in Nepal. Relevant, climate-vulnerable sectors include those

[137] This work will build on to that done by NCCSP: "Mainstreaming climate change risk management in development." One of the activities being conducted under this component is the development of recommendations for Academic Curricula on Climate Change and Environmental Management. Moreover, it will build on the stocktaking exercise that is scheduled to take place for the NAP process.

for agriculture, forestry and water[138]. The budgets for these sectors will also be reviewed, and revisions to these budgets recommended. Importantly, this component will build on assessments undertaken on policies and strategies that have been conducted by the BMUB-funded project, the SCCF-funded project and the SPCR. For example, Component 4 of the BMUB-funded EbA project focuses on the formulation of national policies and building an economic case for EbA at the national level. Considerable work has been done under this component of the BMUB-funded project[139]. The recommended revisions to proposed policies, strategies and sectoral budgets will be communicated to policy- and decision-makers through workshops and policy briefs.

Outcome 2: National policies and strategies are strengthened to promote EbA implementation.

Output 2.1. Policy briefs developed and training provided on recommended revisions to policies, strategies and relevant sectoral budgets – including for the forestry, agriculture and water sector – to promote EbA in forests and rangelands.

227. Within this output, the National Policy and Legal Expert (NP&LE) will begin by collating and reviewing existing sectoral, sub-sectoral and cross-sectoral policies documents that are relevant to EbA (see Section 2.4. for relevant sectors, policies, strategies and plans). Importantly, this review will build on the policy review activities that are being conducted by similar initiatives such as the BMUB-funded EbA project.

228. Based on the review, the NP&LE will recommend revisions to the policies, strategies and relevant sectoral budgets to promote EbA. The suggested revisions will be aligned with the gender mainstreaming approach to be adopted by the LDCF-financed project (section 3.1). Therefore, the implications of recommendations and plans for women and men will be assessed. Consequently, gender balanced EbA will be promoted. Thereafter, the NP&LE will develop policy briefs on these recommended revisions. These revisions will be presented to policy- and decision-makers during training sessions. During these workshops, the policy briefs on recommended revisions will be disseminated.

The activities to be implemented under Output 2.1 follow below.

2.1.1 Review existing: i) policies and strategies related to general ecosystem management, national development and adaptation to climate change to identify entry points for EbA; and ii) policies, strategies and sectoral budgets for forestry, agriculture and water. Based on this review, recommend revisions that will promote EbA in forests and rangelands.
2.1.2 Develop policy briefs on the revisions that are recommended in Activity 2.1.1.
2.1.3 Present the recommended revisions to policies and strategies that will promote EbA to policy- and decision-makers in MoSTE MoFSC and MoAD at training sessions. Disseminate the policy briefs developed in Activity 2.1.2 at these training sessions.

Output 2.2. Frameworks that support upscaling of EbA in forests and rangelands developed and presented to relevant national institutions

229. Initially, the NP&LE will develop an upscaling strategy for EbA. This upscaling strategy will include sections on: i) the benefits of EbA; ii) the need for multi-sectoral

[138] Relevant policies and strategies to be reviewed include *inter alia:* the Nepal Environment Policy Action Plan (1993); Nepal Biodiversity Strategy (2002) and the Nepal Biodiversity Strategy Implementation Plan; The Master Plan for the Forestry Sector (1989); Agricultural Perspective Plan (1995); National Agricultural Policy (2004); Water Resource Strategy (2002); National Water Plan (2005); Water Induced Disaster Management Policy (2006); Climate Change Policy (2011).
[139] Shrestha, M. 2014. Pers. Comm.

research to inform EbA; iii) the need for coordinated approach to upscaling; iv) cost-effectiveness of EbA relative to other approaches for adapting to climate change; v) recommendations for mainstreaming EbA into development planning (strongly linked to Output 2.1); vi) the role of stakeholders in the upscaling strategy; and vii) research topics to support upscaling of EbA. This strategy will be informed by research on EbA that will be conducted through the LDCF-financed project including *inter alia*: i) lessons learned from existing projects; ii) best practices; and iii) business plans developed in Component 1.

230. After the upscaling strategy is developed, the NP&LE will work with the NPC and MoF to develop a financing plan for EbA. This process will involve an assessment of the national budget that is allocated to: i) climate change in particular; and ii) climate vulnerable sectors. Therefore, this output will link closely with and build on Output 2.1. In addition, the NP&LE will identify additional sources of finance for EbA in Nepal including through direct access and the private sector. To access adaptation funds directly, national stakeholders within the GoN will need to develop proposals. Therefore, the NP&LE will assess the proposal-writing skills of national stakeholders from MoSTE, MoFSC and MoAD. Based on these assessments, training needs for these professionals will be included in the financing plan.

The activities to be implemented under Output 2.2 follow below.

2.2.1 Use information from Outcomes 1 and 3 to develop an upscaling strategy for EbA in forests and rangelands.
2.2.2 Work with the NPC and MoF to develop a financing plan for EbA in Nepal. This financing plan should include: i) recommendations on the portion of the national climate change allocation that should be dedicated to EbA; ii) proposals for accessing international adaptation funds for EbA including through direct access; and iii) training needs to develop the proposal-writing skills of national stakeholders in MoSTE, MoFSC and MoAD.
2.2.3 Present the upscaling strategy and financing plan to policy- and decision-makers in MoFSC, MoSTE, MoAD and MoF at training sessions.

Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital

231. This component includes on-the-ground EbA to restore forests and rangelands in three districts of Nepal namely Achham, Dolakha and Salyan. Using this approach, forests and rangelands will be restored by planting indigenous tree and grass species that: i) are climate-resilient; and ii) provide benefits to indigenous and local communities. EbA will be tailored for each particular ecosystem at the LDCF-financed project's intervention sites. These tailored designs will be based on: i) local knowledge; ii) expert research on socio-economic status and biodiversity of intervention sites; and iii) predicted climate trends[140]. Once EbA has been tailored for particular forest and rangeland ecosystems, this approach will be implemented in five VDCs in Achham, three in Dolakha and four in Salyan (see Table 2). Moreover, EbA protocols that are developed through the LDCF-financed project will be integrated into operational management plans of local user groups who manage these ecosystems. Using this approach to restoration, the LDCF-financed project will increase the resilience of forests and rangelands to climate change in these VDCs. Therefore, the vulnerability of indigenous and local communities who rely strongly on these ecosystems will be reduced. These interventions will build on EbA tools that have been developed by other projects in Nepal and South Asia. Consequently, the project will contribute to the progress of EbA science, application of technologies and adaptive management in the country.

[140] Research will be conducted to identify plant species that are resilient under predicted conditions of climate change including drought, increased rainfall intensity and increasing temperatures.

Table 2. VDCs for LDCF-financed on-the-ground interventions

District	VDC	Climate vulnerability status	DAG ranking status	Forest area available (ha)	Rangeland area available (ha)	Remarks
Achham	Babla		III	26	3	
	Bhata Katiya	Medium	II	78	75	SPCR is working in these VDCs
	Rama Roshan	High	II	116	88	
	Rishi Daha	High	III	22	11	
	Sodasha	Medium	II	23	1	
Dolakha	Khare	High	I	0	225	This VDC is within the Gaurishankar Conservation Area
	Lakuri Danda	Medium	II	199	0	
	Lapilang	Medium	III	238	5	
Salyan	Devasthal	High	II	121	10	
	Ghanjihari Pipal	High	II	268	1	
	Sui Kot	Very high	II	83	1	
	Mul Khola	Medium	II	100	5	
TOTAL (ha)				1260	427	

232. Techniques that complement EbA by conserving topsoil and water will be implemented in these same VDCs. These interventions will contribute to topsoil and water conservation. Therefore, they will contribute to the overall project objective of reducing the vulnerability of indigenous and local communities to the climate change-related effects of: i) decreased rainfall in the mid-hills in the dry months; and iii) more intense impact of rains in mid-hills and high mountains during wet seasons. These techniques will include: i) managing livestock in these ecosystems in the face of climate change; and ii) maintaining infrastructure for improved topsoil and water conservation.

233. The LDCF-financed project will further reduce vulnerability of indigenous and local communities at intervention sites to climate change by developing CLIPs for natural resources from forests, rangelands and agro-ecosystems. To develop these CLIPs, workshops will be conducted with district officers and user groups within the first year of the

project to validate the potential IGAs that have been identified at PPG phase. These CLIPs will be developed with – and institutionalised within – the user groups in selected VDCs in Achham, Dolakha and Salyan. The plans will follow the Livelihood Improvement Plan (LIP) process to select user groups based on: i) the proportion of women or socially excluded people; ii) the willingness of user groups to allocate funds for very poor members; and iii) the extent of access to organisational support in the past[141]. These CLIPs will be piloted by the project. In addition, where links between indigenous and local communities and markets for feasible natural resources exist, they will be strengthened[142]. Moreover, new links will be explored and established, if feasible.

234. The outputs under this component will also contribute to increase Nepal's overall adaptive capacity to climate change by providing learning-by-doing knowledge. This knowledge will be shared with: i) MCCICC by means of forums; ii) the PMWG during meetings; and iii) the public using awareness campaigns.

Outcome 3: EbA implemented and monitored by user groups to restore forests and rangelands in the mid-hills of Achham and Salyan and high mountains of Dolakha to decrease sensitivity of local communities to climate change.

Output 3.1. Social, economic and biodiversity site-specific information produced to support identification, prioritization, implementation, monitoring and evaluation of EbA in forests and rangelands.

235. Within this output, local-level information will be collated and assessed to support tailored EbA in forests and rangelands. Although VDCs for the LDCF-financed project's intervention sites have been selected, at project inception the NCASEE will travel to the districts to validate these VDCs with the DFOs, DSCOs, DLOs and DADOs. Thereafter, to tailor EbA for particular forest and rangeland ecosystems, expert research will be conducted at the intervention sites. This research will include socio-economic assessments of the indigenous and local communities at these sites. The National Climate Adaptation and Socio-Economic Expert (NCASEE) will conduct this research. These assessments should have a strong focus on social inclusion. At the same time, a National Gender and Governance Expert (NG&GE) will undertake assessments at the intervention sites particular to these topics. This data will inform training and implementation of on-the-ground interventions at these sites. In addition to collecting this site-specific data, the NG&GE will assess the gender and governance frameworks at a national level within MoSTE, MoFSC and MoAD to inform training within Component 1 and policy reviews within Component 2. Importantly, the NG&GE will define appropriate gender and governance targets – and appropriate metrics to measure these metrics – to be incorporated into the M&E plan and Results Framework (see Appendix 3). To collect ecological data, a National Biodiversity and Ecosystem Expert (NB&EE) will conduct detailed biodiversity assessments at intervention sites. These assessments will contribute to the database on biodiversity for Nepal. In addition, they will inform the selection of species for EbA to restore forests and rangelands.

236. LAPAs have not been developed for any of the VDCs in which the LDCF-financed project interventions will take place. The project will support the LAPA process by conducting expert research and designing technologies for climate change – including EbA to restore forests and rangelands – for ecosystems in particular VDCs. Therefore, the LDCF-financed project will make all technical reports and findings available to the NCCSP for integration into the LAPAs for the VDCs in which interventions will be implemented.

The activities to be implemented under Output 3.1 follow below.

[141] See Appendix 24 for a description of LIPs and indicative LIPs that have been identified during the PPG.
[142] Including markets for medicinal plants and NTFPs.

3.1.1 Conduct socio-economic assessments with a focus on gender and social inclusion in selected VDCs to inform on-the-ground interventions.
3.1.2 Conduct Gender and Governance Assessments: i) at each intervention site to inform on-the-ground training and interventions; and ii) within MoSTE, MoFSC and MoAD to inform national training and policy review activities.
3.1.3 Conduct biodiversity assessments in selected VDCs to: i) enhance the database on biodiversity in Nepal; and ii) inform on-the-ground interventions that will be implemented within Component 3.
3.1.4 Support the LAPA process in selected VDCs by making available all technical information to the NCCSP.

Output 3.2. EbA demonstrations implemented to increase water infiltration and fodder production during drought conditions and intense rainfall events, and integrated into operational management plans of user groups.

237. VDCs for on-the-ground interventions have been selected based on: i) vulnerability and DAG ranking; and ii) availability of degraded forest and rangeland areas to implemented EbA (see Appendix 8 for site selection process). In these VDCs, degraded forest and rangelands areas will be restored using tailored EbA. Using this approach, forest ecosystems will be restored to increase water, fodder and livelihood availability. Rangelands will be restored using climate-resilient species that provide fodder for livestock in areas where fodder production has declined because of the effects of climate change. Therefore, the vulnerability of indigenous and local communities that rely strongly on these ecosystems for their livelihoods will be reduced.

238. The NAER and NAEF will work together to collate information on: i) species preferences of indigenous and local communities for forest and rangeland restoration; ii) findings from the biodiversity and socio-economic assessments for each intervention site; and iii) climate data on predicted trends for intervention sites. Based on this information, the NAEF will identify tree species for forest restoration and the NAER will identify grass and tree species for rangeland restoration. For EbA in forests, indigenous species will be selected that: i) grow quickly under conditions of drought; ii) are broad-leaved, thereby reducing rainfall impact on the soil; iii) have deep root systems, thereby increase water infiltration into the soil; and iv) produce natural resources that provide benefits for indigenous and local communities including fodder, NTFPs and medicinal products. For EbA in rangelands, indigenous grass species that grow quickly despite conditions of drought and/or can withstand warming temperatures will be selected. In addition, an agrosivopastoral approach to rangeland restoration will be adopted. Therefore, fast-growing and useful tree species will be planted intermittently in restored rangelands.

239. Based on the species that are identified for EbA to forests, the NAEF will establish protocols for EbA including planting, monitoring, conservation and evaluation by local user groups. The NAER will establish similar protocols for EbA in rangelands. These protocols will be developed with the DFOs and DLOs in Achham, Dolakha and Salyan. Therefore, they will be in line with local government norms. This information will be used to develop technical guidelines on EbA in forests and rangelands (see Output 1.5). In addition, the NAEF and NAER will work with the NCASEE to develop training content for the district officer, technicians and user groups to implement EbA in forests and rangelands.

240. The NCASEE will visit the districts to workshop with the DFO and DSCO to establish nurseries and systems to manage the nurseries within the indigenous and local communities. Because of the spatial distribution of selected VDCs, three nurseries will be constructed in both Achham and Dolakha. In Salyan, the selected VDCs are clustered in the northwest of the district. Therefore, one nursery will be constructed in this district. These

nurseries will be constructed within the first year of the LDCF-financed project. Saplings that will be used for EbA in forests and rangelands will be propagated in these nurseries. After termination of the project, indigenous and local communities will continue to use these nurseries to propagate: i) tree species for EbA in forests and rangelands; ii) crop species; and iii) fodder species.

241. Using species propagated in the nurseries, EbA will be implemented in at least 1000 ha of forests and 450 ha of rangelands. To provide technical guidance to the DFO and DLO, relevant technicians and user groups, the NAEF and NAER will visit the intervention sites when planting activities begin and on an annual basis thereafter. However, the district officers and technicians will mobilise user groups and coordinate activities for day-to-day planting, monitoring, conservation and evaluation of forests and rangelands that are restored using EbA. Using the protocols and guidelines that are developed within the LDCF-financed project, these district officers and technicians will also update the operational management plans of user groups in selected VDCs – and VDCS that surround intervention sites – to include EbA. Therefore, this approach will be maintained in the areas that the project will target and upscaled to other areas.

The activities to be implemented under Output 3.2 follow below.

3.2.1 Collate and assess information to identify plant and grass species for EbA interventions in forests and rangelands including: i) preferences of indigenous and local communities at the LDCF-financed project's intervention sites; ii) the socio-economic and biodiversity assessments; and iii) predicted climate trends. Species that are climate-resilient and/or useful to indigenous and local communities will be prioritised.
3.2.2 Workshop with DFOs and DLOs from Dolakha, Achham and Salyan to design protocols for implementing EbA in forests and rangelands that are in line with local government norms.
3.2.3. Establish nurseries and nursery management plans within local communities in selected VDCs.
3.2.4 Restore degraded forests (at least 1000 ha) using the plant species identified in Activity 3.2.1 and the protocols designed in Activity 3.2.1.
3.2.5. Restore degraded rangelands (at least 450 ha) using the grass and plant species identified in Activity 3.2.1 and the protocols designed in Activity 3.2.2.
3.2.6. Update operational management plans of user groups at intervention sites to include protocols for EbA in forests and rangelands.

<u>Output 3.3. Adaptation techniques introduced to complement EbA through conservation of topsoils and water in the face of droughts and increased rainfall intensity.</u>

242. EbA in degraded forests and rangelands will increase water infiltration and fodder production under drought conditions and intense rainfall events. This approach will be complemented by techniques for topsoil and water management in selected VDCs. Firstly, the NAER will visit sites and identify livestock that is kept by indigenous and local communities. Thereafter, he/she will research methods to manage these livestock at the LDCF-financed project's intervention sites under drought conditions and increasing temperatures. The NAER will then work with the NCASEE to develop training content and material on these methods. This material will be used to train relevant user groups from indigenous and local communities at the project's intervention sites within Output 1.5.

243. Infrastructure for water conservation will also be constructed to complement EbA in the selected VDCs. To identify appropriate infrastructure, the National Hydrology and Soil Expert (NH&SE) will conduct hydrology and soil assessments at intervention sites. Consultations that were conducted during the PPG phase with the DFOs, DSCOs, DADOs

and DLOs in Achham, Dolakha and Salyan indicated that the following infrastructure is suitable for topsoil and water conservation in selected VDCs: i) water conservation ponds; ii) community rainwater harvesting devices; iii) filtering dams; iv) improved terraces; and v) bio-engineering activities to control embankment of rivers that flow through these VDCs. Construction of these items will also promote topsoil conservation by directing, slowing down and/or conserving water runoff, thereby reducing erosion. Once the NH&SE has designed this infrastructure, it will be constructed in line with mechanisms that the District Soil Conservation Office uses. Therefore, infrastructure will be constructed under the supervision of the DSCO and relevant technicians. The NH&SE will work with the NCASEE to develop training content and material on maintaining this infrastructure. Thereafter, this material will be used to train relevant user groups from indigenous and local communities at intervention sites on maintaining infrastructure within Output 1.5.

The activities to be implemented under Output 3.3 follow below.

3.3.1 Assess pastoral activities in selected VDCs and climate trajectories to develop technical guidelines on managing livestock in the face of climate change (to be distributed at training under Output 1.2).
3.3.2 Conduct a hydrology and soil assessment in selected VDCs to inform the design of improved terraces, filtering dams, bio-engineering plans to stabilise riverbanks, water conservation ponds and community rainwater harvesting devices.
3.3.3 Construct at least 720 ha improved terraces, 36 filtering dams, 36 water conservation ponds and 24 community rainwater harvesting devices in selected VDCs.
3.3.4 Develop technical guidelines on maintaining terraces, filtering dams, water conservation ponds and community rainwater harvesting devices (to be distributed at training under Output 1.2).

Output 3.4. Community Livelihood Improvement Plans (CLIPs) produced from forests, rangelands and agro-ecosystems and implemented with local communities.

244. Implementing EbA to restore degraded forests and rangelands at LDCF intervention sites will enhance ecosystem services in selected VDCs. Given the strong dependency of indigenous and local communities upon such ecosystems for their livelihoods, the vulnerability of these communities to climate change will be accordingly reduced. To reduce the vulnerability of the indigenous and local communities in selected VDCs further, CLIPs will be developed for livelihoods from climate-resilient ecosystems. The LDCF-financed project will implement these CLIPs to develop livelihoods from forests, rangelands and agro-ecosystems and promote conservation of these ecosystems.

245. To develop and implement these plans, the NNRE will work with indigenous and local communities at selected VDCs to develop CLIPs from identified Income Generating Activities (IGAs). CLIPS and Household-level Livelihood Improvement Plans (HLIPs) are participatory processes that are conducted with indigenous and local communities to understand and improve livelihoods. The LIP concept considers livelihoods to comprise of five assets namely social, human, physical, natural and financial. Each community or household assesses the present status as desired future status of each asset type. Their ability to adapt to and manage natural hazards is also considered. Generally, a local resource person assists the community or household in this process. The NNRE will play this role through the LDCF-financed project, thereby working closely with indigenous and local communities in selected VDCs to develop LIPs. Importantly, this expert will conduct research on methods to make the identified livelihoods training and relevant equipment will be provided to develop these CLIPs in selected VDCs. Importantly, there will be a strong focus on developing LIPs with women-headed households.

Potential IGAs from forest, rangeland and agro-ecosystems for selected VDCs have been identified during the PPG phase through consultations with the DFOs, DSCOs, DADOs and DLOs in Achham, Dolakha and Salyan. IGAs from forest and rangeland ecosystems include: i) fodder sapling harvesting and distribution; ii) Timur collection and processing[143]; iii) Allo collection and processing[144]; iv) cardamom collection and processing[145]; v) bee-keeping and honey processing; vi) miscellaneous NTFPs harvesting and processing; vii) eco-homestays and viii) ghee production. IGAs from agro-ecosystems include mushroom, turmeric and ginger cultivation and processing. The NNRE will research methods to increase the climate-resilience of these IGAs. The findings of this research will be used to develop CLIPs with user groups. Importantly, there will be a strong focus on developing the CLIPs with women-headed households. Moreovoer, the potential for private sector involvement will be assessed, and included if relevant. To promote sustainability of CLIPs developed through the LDCF-financed project, opportunities to strengthen or establish links between the targeted communities and nearby markets will be explored. For example, a hotel nearby might be interested in sourcing mushrooms or honey that will be produced by local communities at intervention sites.

The activities to be implemented under Output 3.4 follow below.

3.4.1 Develop CLIPs with user groups for IGAs from forests, rangelands and agro-ecosystems in selected VDCs in Achham, Dolakha and Salyan. These IGAs will include: i) fodder sapling harvesting and distribution; ii) Timur collection and processing; iii) Allo collection and processing; iv) cardamom collection and processing; v) bee-keeping and honey processing; vi) miscellaneous NTFPs harvesting and processing; vii) eco-homestays and viii) ghee production. IGAs from agro-ecosystems include mushroom, turmeric and ginger cultivation and processing.
3.4.2 Implement CLIPs to develop climate-resilient livelihoods in selected VDCs in selected VDCs in Achham, Dolakha and Salyan.
3.4.3 Strengthen or establish links between indigenous and local communities in selected VDCs and markets for IGAs.

246. See Figure 12 below for a summary of activities under each of the LDCF-financed project components. This figure also illustrates the linkages between project components, outcomes and outputs in relation to the project goal and objective.

[143] The fruit of timur (*Zanthoxylum amatum DC*.) is used in the form of condiments, spices and medicine. In addition, the fruit, sticks and young shoots are used to treat a variety of ailments including common cold, cough and fever. In addition, some indigenous and local communities in Nepal value the tree for religious purposes.
[144] The fiber obtained from allo (*Girardinia diversifolia*), also known as the Himalayan Nettle, is used for woven products including tablecloths, porter straps, bags and sacks. These products are marketed in Kathmandu and are exported to foreign countries including *inter alia*: USA and Japan.
[145] Cardamom (*Amomum subulatum*) spice is used in a variety of products including coffee, curries, pickles and essential oils. In Nepal, black cardamom seeds are chewed to freshen the breath and palate.

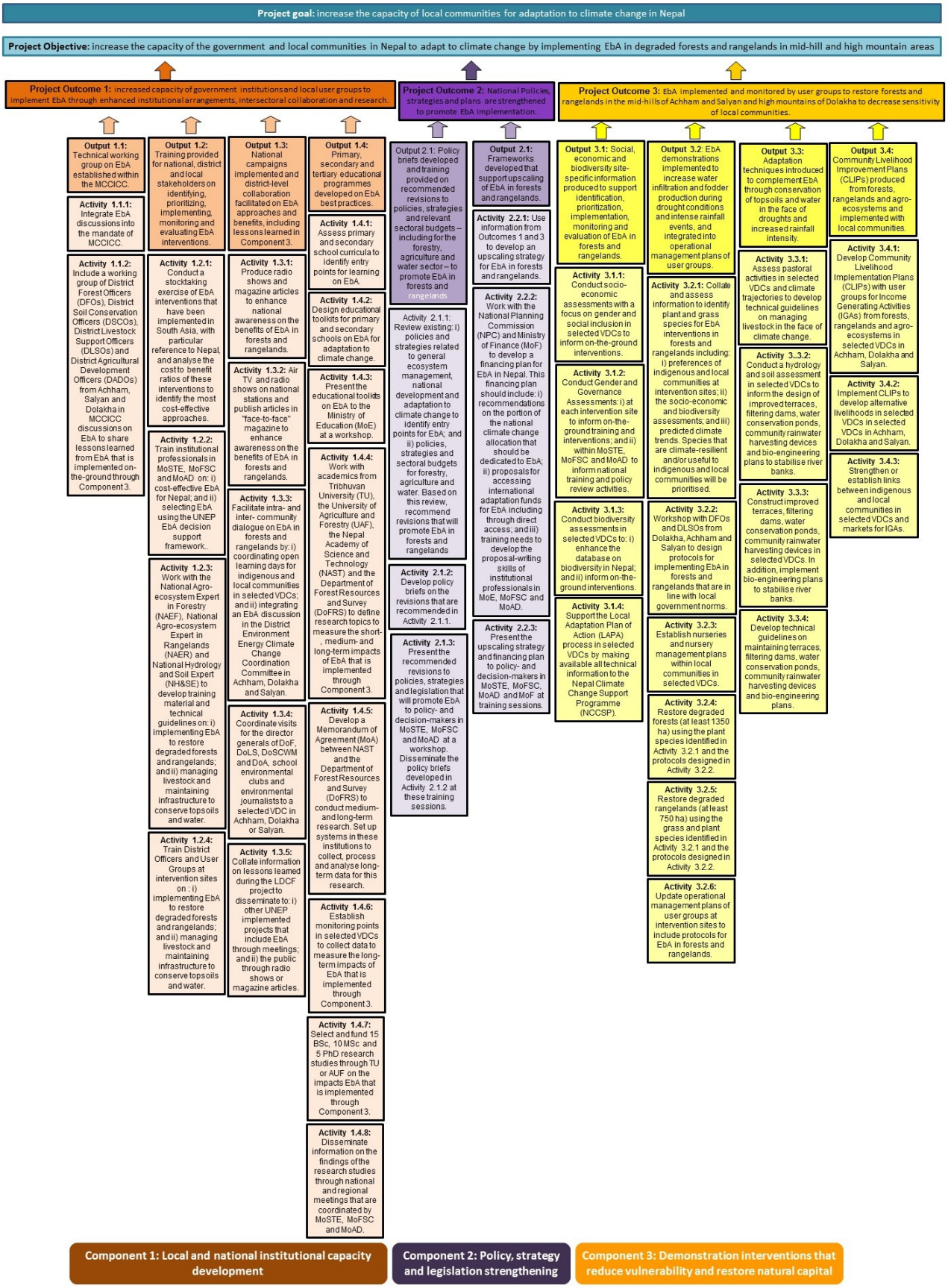

Figure 12. Linkages between LDCF-financed project Components, Outcomes and Outputs including related activities.

3.4. Intervention logic and key assumptions

247. The activities of the LDCF-financed project will strengthen the technical capacity of stakeholders at a national, district and local level to plan and implement EbA to restore forests and rangelands. Implementation of this approach will reduce the vulnerability of indigenous and local communities who rely strongly on these ecosystems for their livelihoods to climate change. The technical capacity of these stakeholders will be strengthened by: i) enhancing awareness of indigenous and local communities district officers, user groups and policy- and decision makers on EbA; ii) enabling a policy environment that promotes EbA; and iii) developing livelihoods[146] from climate-resilient ecosystems. These project interventions are a hybrid approach to climate change adaptation, including EbA and complementary techniques for soil and water conservation.

248. The LDCF-financed project was designed in consultation with multiple local stakeholders and interventions will involve a participatory approach. This participation of local communities, user groups and government institutions (Section 2.5) will promote buy-in and ownership of the project stakeholders at a central and local level. This local support will enhance the long-term sustainability of the interventions.

249. The LDCF-financed project interventions are considered “low regret” or “no regret” options. This is because they will benefit government and local communities regardless of the severity of climate change. For example, activities that focus on strengthening the technical capacity of the government and local communities (Outcomes 1 and 2) will support improved planning and management[147], particularly with respect to natural resources and ecosystems. In addition, activities that focus on funding post-graduate research will increase the human resources capacity of Nepal. In addition, activities to restore forests and rangelands and improve management of these ecosystems (Outcome 3) will benefit biodiversity and generate multiple ecosystem goods and services[148].

250. The following assumptions underlie the project design:

- Project activities are unlikely to be undermined by extreme climate events during implementation.
- Indigenous and local communities in selected VDCs will take ownership of activities on the ground.
- There is sufficient surface water and groundwater available, with appropriate management, to meet local demand.
- Infrastructure constructed will be safe from theft and vandalism.
- If indigenous and local communities participate in developing project interventions they will accept infrastructure, climate-resilient livelihoods and management practices proposed by the project
- Governmental institutions will have sufficient capacity to support the project’s activities.
- Sufficient national financial resources will be available to maintain the project’s interventions in the long term.
- There is sufficient technical capacity to conduct the preliminary studies and to design the implementation of activities.
- Baseline project activities will be implemented as planned.
- Adaptation priorities for climate change are unlikely to be undermined by national emergencies or civil unrest.
- Large-scale infrastructural developments – that would disrupt project activities – will not take place within the project areas during project implementation.

[146] for example, NTFPs, climate-resilient agriculture, community-managed mini hydropower plants, business plans for REDD+, the voluntary carbon market, PES and ecotourism
[147] within the structures of national and local government and indigenous and local communities
[148] Indigenous and local communities will benefit from ecosystem goods and services such as NTFPs.

- Forest and rangeland ecosystems – in which EbA will be implemented – remain with a margin of productivity and are not completely degraded.

3.5. Risk analysis and risk management measures

251. A summary of risks identified and their associated impacts and countermeasures can be found in the table below. A score has been given for the probability of the risk happening (P), and the impact this risk would have on the LDCF-financed project (I). Probability and Impact for these risks are scored between 1 and 5, with 1 being the lowest score and 5 being the highest. Appropriate countermeasures and management responses to minimize the negative effect posed by the potential risk will be implemented. Monitoring, re-assessing and updating these project risks will be done throughout project implementation.

Table 3. Risk matrix table for the LDCF-financed project

#	Description	Potential consequence	Countermeasures	Risk category	Probability & impact (1–5)
National-level risks					
1	Disagreement between stakeholders on the allocation of roles in the project.	Project inventions delayed or duplicated because of uncertain role allocation. Effectiveness of project management is reduced.	• Institutional representatives at the validation meeting will agree upon the roles and responsibilities of each participating stakeholder.	Organisational	P= 2 I = 4
2	Limited capacity of institutions to undertake scientifically rigorous research.	Effectiveness of project management is reduced.	• Institutional representatives at the validation meeting will agree upon the roles and responsibilities of each participating government institution. • The TA will provide substantial support to the PM. This will include two to three field visits per year by the TA to ensure that the project workplan is applied.	Institutional	P = 2 I = 3
3	Lack of inter-institutional data sharing or collaboration.	Limited transfer of relevant project information amongst role players and end-users resulting in delayed or ineffective implementation of interventions.	• Information technologies and telecommunication systems implemented or used throughout the LDCF-financed project are best suited to the local context and do not restrict the transfer and communication of information.	Organisational	P = 4 I = 4
4	Lack of political will to implement	Loss of government support may result in	• Ensure that government	Organisational	P = 1 I = 4

	project activities.	lack of prioritisation of LDCF-financed project activities.	maintains its commitment and considers the LDCF-financed project as a support to its forestry and agriculture programmes by undertaking regular stakeholder consultations.		
5	High turnover of staff members in implementing agencies	Changes in project-related government priorities and poor institutional memory result in disruptions or delays in project implementation and coordination.	• Deputies and alternative representatives within the institutions will be recommended at inception to ensure that sufficient membership continuity is available. • The Project Steering Committee (PSC) will make use of established government structures to capitalise on functioning systems. • Where possible, handbooks will be developed in English and Nepalese. These handbooks will guide new staff that become involved in the LDCF-financed project	Organisational	P = 4 I = 4
6	Lengthy procurement process	The procurement process in Nepal generally takes between 3-6 months. This lengthy process has knock-on effects and has delayed the implementation of activities for other projects.	• The procurement process should begin as soon as possible. • The PM should check regularly on the progress of the procurement of national consultants	Organisation	P=5 I=5
Local level risks					
7	Limited acceptance of EbA by local communities.	Communities may not adopt ecosystem restoration for adaptation activities during or after the LDCF-financed project resulting in continued unsustainable use of	• The LDCF-financed project will be institutionalised within MoSTE, MoFSC and MOAD to ensure sustainability into the future. • Alternative livelihood	Social	P = 1 I = 4

		resources.	projects – that have been deemed financially, technically and socially viable or feasible – will be implemented within the LDCF-financed project to reduce reliance on intensive land uses such as agriculture and grazing. • Capacity building and training of indigenous and local communities to understand the benefits of ecosystem restoration for adaptation in activities they are undertaking.		
8	Disagreement over allocation of land for implementation of project activities.	Disagreement among stakeholders about site selection.	• VDCs have been selected in line with the norms of other projects and the government. • District officers have been included in the VDC selection process.	Social	P = 1 I = 3
9	Extreme climatic events and climate variability.	Current climate and seasonal variability and/or hazard events result in poor restoration results.	• Ensure that current climatic variability is taken into account in restoration processes. • Focus on resilient species and promote techniques to assist plant growth particularly in the seedling and sapling stages.	Environmental	P = 2 I = 4
10	Limited local technical capacity hinders project interventions.	Capacity constraints of local institutions and experts may limit the ability to undertake the research and demonstration activities.	• Identify and develop human resources capacity as required (training on EbA and techniques to conserve topsoil and water for district officers and user groups). • Initiate collaboration and exchange between local institutions and international research institutes.	Technical	P = 3 I = 3

			• A TA and a Nepalese technical expert will work closely with the PM to ensure timely delivery of project outputs.		
11	Limited commitment/buy-in from local communities.	Lack of commitment/buy-in from indigenous and local communities may result in failure of demonstration projects.	• A stakeholder engagement plan has been drawn up during the PPG phase. This plan will be validated at project inception. • Community stakeholders from the PPG phase will be engaged with to ensure their buy-in into the LDCF-financed project. • Actively engage indigenous and local communities during implementation	Social, Environmental	P = 2 I = 4
12	Unsustainable land and natural resource use.	Unsustainable use of natural resources continues, leading to further degradation of ecosystems.	• Local dialogue on the benefits of EbA will be promoted by integrating a discussion in the DEECCCC. In addition, awareness raising events – including open days and campaigns – will be conducted.	Environmental	P = 3 I = 4
13	Limited understanding of the difference between "business-as-usual" reforestation/restoration of rangelands and EbA by indigenous and local communities.	Failure to integrate EbA effectively into policies, strategies and interventions.	• Awareness-raising campaigns will be conducted to define EbA and describe its benefits. These campaigns will highlight the importance of appropriately designed EbA, using traditional knowledge and climate data.	Technical	P = 4 I = 4
14	Insufficient surface water and groundwater availability at intervention sites.	Failure to effectively carry out reforestation interventions.	• Infrastructure for water conservation will be constructed at intervention sites, thereby contributing to water security.	Environmental	P = 3 I = 4

3.6. Consistency with national priorities or plans

252. The LDCF-financed project is aligned with the primary development strategies and rural development programmes of Nepal. These national priorities or plans are described below.

253. The **Comprehensive Peace Accord** was signed in 2006. This accord promotes democracy, peace and progress for communities throughout Nepal. The LDCF-financed project contributes to realising the objectives for political, economic and social transformation and conflict management as described in the accord. In particular, the project is aligned with the accord's objective to "follow a policy to protect and promote national industries and resources".

254. The LDCF-financed project will have a positive effect on peace building in the country in terms of the **Nepal Peace and Development Strategy** (2010–2015). This is because the project supports: i) agricultural development to improve food security; and ii) additional livelihood opportunities for poor rural households. The project will also promote the participation of women and other vulnerable groups in decision-making and project activities.

255. The GoN's series of **National Five-Year Plans** and **Three-Year Interim Plans** are directed at reducing poverty by providing a policy framework to encourage investment in primary sectors that form the foundation of rural development. The recently adopted **TYP** (2013/14–2016/17) has the following objectives: i) including environmental considerations into development planning; ii) prioritising the development of a plan to implement national and international environmental commitments; iii) conducting research on climate change; iv) developing and expanding climate change adaptation technologies to support food security; and v) promoting the sustainable use of forest resources. The LDCF-financed project will support these objectives by strengthening Nepal's institutional and technical capacity for EbA.

256. The LDCF-financed project will contribute to realising the objectives of national plans for climate change adaptation including the NAPA (2010). In particular, the project is aligned with the priorities listed below.

- Priority 1: Promoting Community-based Adaptation through Integrated Management of Agriculture, Water, Forest and Biodiversity Sectors.
- Priority 5: Forest and Ecosystem Management for Supporting Climate-Led Adaptation Innovations.
- Priority 7: Ecosystem Management for Climate Adaptation.

257. The LDCF-financed project is aligned with the first **NAPA** priority because it will engage indigenous and local communities in mid-hill and high mountain areas living around the intervention sites. Consequently, the design of EbA will be informed by indigenous and local community preferences and recommendations. NAPA priorities 5 and 7 will also be addressed by implementing on-the-ground EbA, thereby enhancing the resilience of forest and rangeland ecosystems. These ecosystems will buffer the indigenous and local communities to natural disasters related to climate change such as flooding and landslides.

258. Following the establishment of the NAPA, the GoN developed a framework of **LAPAs**. This framework promotes the achievement of the NAPA priorities at the local level by using an approach that is bottom-up, inclusive, responsive and flexible[149]. Although these plans are developed for specific VDCs, they follow objectives of the NAPA framework. These general objectives are to:

[149] GoN. 2011. National Framework on Local Adaptation Plans for Action. Government of Nepal, Ministry of Science Technology and Environment. Singha Durbar, Nepal.

- identify the VDCs, municipalities, wards and local communities that are most vulnerable to climate change, and their adaptation challenges and opportunities, including possible activities;
- identify and prioritise adaptation actions so that the needs of indigenous and local communities are prioritised;
- prepare LAPAs and integrate them into local and national plans in accordance with the local self-governance act;
- identify and mobilise appropriate service delivery agents and necessary resources for the implementation of the LAPAs;
- adopt and/or implement adaptation actions sequentially by the service providers in a timely and resource efficient manner;
- conduct monitoring and evaluation by ensuring effective implementation of the LAPA; and
- identify cost-effective adaptation alternatives that can be upscaled into local and national planning.

259. The LDCF-financed project has followed LAPA guidelines – including DAG and Climate Vulnerability Ranking – to select VDCs for project interventions. These political units have been identified as "the most appropriate unit for integrating climate change resilience into local-to-national development planning processes and outcomes"[150]. In addition, the findings from scientific and technical assessments that are conducted through the LDCF-financed project will be made available to local government and the NCCSP to integrate into the LAPA process.

260. **The UNDAF** for Nepal was updated for the period 2013–2017. The LDCF-financed project will promote outcomes under all three components of this framework. In particular, the project is aligned with Outcome 7 under Component 2 "*People living in areas vulnerable to climate change risk and disasters benefit from improved risk management and are more resilient to hazard-related shocks*".

261. The GoN has also established priorities for attaining **Nepal's MDGs**. The LDCF-financed project will contribute towards achieving MDG 1: "eradicating extreme poverty and hunger" by developing and promoting climate-resilient livelihoods from restored forest and rangeland ecosystems. MDG 3 "promoting gender equality and empowering women" will be supported by emphasising the participation of women in the project's committees and training events. The overall objective of the project will contribute to MDG 7 "ensuring environmental sustainability" through implementing EbA interventions as well as strengthening the institutional capacity and legislative framework for ecosystem management and climate change adaptation.

262. In 2011, the GoN adopted the **CCP** in response to the International Climate Change Regime to which Nepal is a signatory. The CCP has been introduced to protect indigenous and local communities from the effects of climate change through the consideration of climate justice-related approaches such as environmental conservation, human development and sustainable development. The main objectives of this national policy include:

- establishing a Climate Change Centre within one year to conduct climate change research and monitoring and provide regular policy and technical advice to the GoN;
- initiating community-based actions for local adaptation by 2011 as mentioned in the NAPA;
- preparing a national strategy for carbon trade in order to benefit from the Clean Development Mechanism by 2012;

[150] GoN. 2011. National Framework on Local Adaptation Plans for Action. Government of Nepal, Ministry of Science Technology and Environment. Singha Durbar, Nepal.

- formulating and implementing a low-carbon economic development strategy that supports climate-resilient socio-economic development by 2014;
- assessing losses from climate change in various geographical areas and development sectors by 2013;
- promoting the adoption of effective measures to address adverse impacts of climate change using technology development and transfer, public awareness raising, capacity building, and access to financial resources;
- developing a reliable impact forecasting system to reduce the adverse impacts of climate change to natural resources and people's livelihood in vulnerable areas of the mountains, hills, Churia, and Terai; and
- promoting low carbon growth.

263. Additionally, the CCP prioritises sustainable forestry that is in line with the LDCF-financed project. The policy also identifies the importance of indigenous and local communities as stakeholders and has a number of aims and opportunities for local community enhancement, which include *inter alia*:

i) enhancing livelihood opportunities;
ii) conducting adaption-based programmes;
iii) increasing the capacity of indigenous and local communities to manage natural resources;
iv) associating climate change adaptation activities and programmes with income generation;
v) identifying the most vulnerable indigenous and local communities and conducting adaptation programmes with local knowledge, skills, and technology;
vi) using the benefits of climate change mitigation for poverty alleviation; and
vii) promoting the participation of the indigenous and local communities and stakeholders on the climate change mitigation and adaptation activities.

264. The LDCF-financed project is aligned with the above objectives for indigenous and local communities, particularly i), ii), iii) and vii).

3.7. Additional cost reasoning

265. In Nepal, climate change is affecting indigenous and local communities in rural mid-hill and high mountain areas. These communities are reliant on ecosystem services for their livelihoods. In addition, they are poor and have limited finances to adapt to the effects of climate change. For example, livestock rearing[151] in forests and rangelands is an important livelihood for these communities. However, increasing temperatures and decreasing water availability are already resulting in: i) shifts in suitable areas for some useful tree, fodder and grass species[152]; ii) increased prevalence of livestock pests and shifts in their distribution[153]; and ii) lower fodder availability[154]. These climate-related changes are negatively affecting development of livestock productivity, which is the main component of both the LFP and the LDSEP. These baseline projects also conduct revegetation[155]activities that will be negatively

[151] Livestock include cattle, buffalo and goats in the mid-hills and yak in the high mountains. Buffalo-rearing is particularly important because this activity supplies 66% of Nepal's meat and 70% of its milk.
[152] Older members of indigenous and local communities in Salyan District have reported observing plant species within the past ten years that did not previously occur in the area.
[153] In particular, vector-borne diseases such as leptospirosis and catarrhal fever are contracted by livestock in areas in the mid-hills and high mountains where they did not previously occur. Pers. Comm. 2014. Senior Livestock Officer, DoLS. Government of Nepal.
[154] This is particularly in the rangelands in the mid-hills and mountains where the only source of fodder is thorny bushes. In these areas, farmers have reduced the number of livestock because they are unable to provide sufficient fodder. Su, Y., Lu, J., Manandhar, S., Ahmad, A. and Xu, J. 2013. Policy and Institutions in Adaptation to Climate Change: Case study on tree crop diversity in China, Nepal and Pakistan. ICIMOD Working Paper.
[155] The LFP focuses on revegetation using an "agrosilvopastoral" approach is a type of agroforestry that combines growing of

affected by climate change. Without the interventions of the LDCF-financed project, there will be limited adaptation actions that are informed by scientific research in forest and rangeland restoration, including the baseline projects. Therefore, there is a risk that such activities will fail under anticipated climate change conditions.

266. The LDCF-financed project will increase the climate-resilience of the baseline projects in Nepal by implementing EbA – that is informed by scientific research and traditional knowledge – in forests and rangelands. Consequently, ecosystem services – including vegetation production and soil fertility regulation – will be enhanced regardless of climate-related effects. Each of the project's components will also support the baseline projects as described below.

- Component 1 will support baseline activities by improving Nepal's capacity to plan and implement EbA in forests and rangelands.
- Component 2 will strengthen policies and strategies to promote EbA. This will provide a supportive environment to upscaling EbA for restoration across the country.
- Component 3 will: i) use climate-resilient tree species that are useful to indigenous and local communities to establish forests; ii) restore grasslands with indigenous grass species that are climate-resilient and; and iii) promote ecosystem management informed by scientific research on livestock and climate trajectories.

Component 1: Local and national institutional capacity development

267. Under the business as usual scenario, there is limited understanding of EbA in Nepal. This includes a lack of: i) scientific research to inform EbA; ii) evidence of the long-term benefits of EbA; and iii) information on how EbA fits into relevant government and private sector development plans. Although there are EbA projects and multiple ecosystem management initiatives in the country, the sharing of knowledge on lessons learned and tools developed is *ad hoc*. Therefore, limited dialogue exists between stakeholders on EbA. This results in fragmented planning for climate change between relevant sectors. Moreover, there are very few systems in place to: i) generate new information on EbA from scientific research; ii) share information on the benefits of this approach with the public; and iii) demonstrate these benefits.

268. Within Component 1 (LDCF funding: US$934,680) the LDCF-financed project will be used to: i) promote national awareness and cross-sectoral dialogue on EbA; ii) increase public awareness of EbA as a means of adaptation; iii) establish a long-term research framework and educational environment to promote learning on EbA; and iv) strengthen the technical capacity of user groups and district officers on this approach. At a central level, LDCF funds will be used to strengthen the MCCICC by integrating an EbA discussion into their mandate. Moreover, training will be provided for national stakeholders from MoSTE, MoFSC and MoAD to facilitate planning and implementation of EbA across Nepal. LDCF finances will also be used to conduct national awareness campaigns on EbA approaches and benefits. In particular, this funding will be used to develop media material on EbA to be: i) aired on radio and television; and ii) published in magazines that are distributed nationally. Moreover, LDCF funding will be used for overnight visits for director generals of MoSTE, MoFSC and MoAD, schoolchildren and environmental journalists to the project intervention sites in Achham, Dolakha and Salyan. To promote upscaling and adaptive management of EbA in Nepal, LDCF finances will be used to develop: i) educational toolkits on EbA for primary and secondary schools; and ii) a long-term research strategy to measure the benefits of this approach. Moreover, research on EbA will be catalysed by providing funding for BSc, MSc and PhD students to conduct relevant studies. At a district and local level, LDCF finances will be used to strengthen the technical capacity of district officers and user

crops, fodder trees and forest species with animal keeping within the same areas of land. Pers. Comm. 2014. Technical Assistant and Programme Coordinator of the LFP, DoF, Government of Nepal.

groups to plan and implement EbA. Local technical capacity will be strengthened through training on EbA interventions that will be implemented by the LDCF-financed project. In addition, LDCF finances will be used to facilitate sharing of lessons learned among user groups and other stakeholders that are involved in district-level committees for adaptation to climate change.

269. Without LDCF funding, EbA will remain a term that is not well understood among policy- and decision-makers and the public. In addition, these stakeholders will not be aware of: i) the importance of integrating expert scientific research into EbA planning; and ii) the full range of benefits that result from EbA. Consequently, the objectives of existing and proposed EbA projects to upscale this approach will be hindered and research priorities for EbA will not be identified. Importantly, there will be limited capacity among relevant stakeholders to implement and integrate EbA into planning at a local and national scale.

Component 2: Policy and strategy strengthening

270. In Nepal, EbA is a relatively new concept. Although there are many government initiatives to restore and manage forest and rangeland ecosystems, planning for these often occur in isolation in different sectors. This is because there are few policies and strategies in Nepal that provide an enabling environment for large-scale EbA that are informed by expert scientific research and traditional knowledge.

271. Additional funding (LDCF funding: US$148,920) is required to provide recommendations revisions of sectoral and cross-sectoral policies and strategies within Nepal to promote EbA. Importantly, the LDCF-finances will be used to conduct assessments that build on and expand the work that has already been done by existing aligned projects[156]. To promote endorsement of these recommendations by policy- and decision-makers, LDCF finances will be used to develop policy briefs and provide training for these national stakeholders. Upscaling of EbA in Nepal will be promoted by using LDCF finances to design a national strategy for this approach. Importantly, the strategy will be informed by research conducted under Outcome 1 and lessons learned within Outcome 3 of the LDCF-financed project. To support this strategy, LDCF resources will be used to conduct workshops and meetings with MoF and the NPC to develop a financing plan for EbA across the country.

272. Without the LDCF-financed project, EbA will continue to be excluded from the policy- and decision-making process. Moreover, planning for ecosystem restoration will continue in isolated sectors that have a biodiversity focus. Consequently, the policy environment will not enable coordination of EbA on a large scale to realise the social and economic benefits of this approach. Moreover, the national planning approach to adaptation through ecosystem restoration will remain *ad hoc*. In addition, national budget allocations will not be made for EbA research and activities.

Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital

273. The restoration of degraded rangeland and forest ecosystems in Nepal is currently undertaken in an *ad hoc* manner by a range of stakeholders. Moreover, particular methods to restore forests and rangelands using EbA have not been developed[157]. Currently, limited integration of science and technology is a major constraint of adaptation interventions for climate change that are community-based[158]. Furthermore, the opportunities for developing

[156]Such as the BMUB-funded project.
[157] For example, research has not been conducted on climate-resilient plant species for multi-purpose ecosystems by means of reforestation or re-seeding of rangelands
[158] Rupantaran Nepal. Consolidating learning of indigenous and local and community based adaptation planning: implications

livelihoods using EbA in these ecosystems have not been studied. Several restoration programmes in Nepal – including all the baseline projects – do focus on improving rural livelihoods. However, tailored EbA is not widely adopted by these initiatives as an approach that can be used to improve livelihoods while addressing the effects of climate change. Without the LDCF-financed project, restoration initiatives in forests and rangelands in Nepal will continue to be implemented without using EbA informed by scientific research.

274. Additional funding (LDCF funding: US $4,162,875) is required to implement EbA in a variety of degraded forests and rangelands. To develop protocols for particular EbA interventions in forest and rangeland ecosystems, LDCF finances will be used to conduct relevant assessments that include scientific and indigenous knowledge. Workshops will also be conducted with relevant district officers to ensure that these protocols are in line with government norms. Thereafter, LDCF finances will be used to establish nurseries, and implement EbA to restore degraded forest and rangeland ecosystems using the protocols developed. Moreover, based on protocols and guidelines developed within the LDCF-financed project, operational management plans will be updated to include this approach. To complement EbA interventions, LDCF finances will be used to construct infrastructure and implement livestock management to conserve topsoils and water. Moreover, livelihoods will be developed from healthy forests, rangelands and agro-ecosystems in a participatory manner with local communities at intervention sites.

275. Without LDCF funding, protocols for EbA in particular forest and rangeland ecosystems are unlikely to be developed. Therefore, ecosystem restoration and management will continue with the potential to fail under conditions of climate change. Moreover, on-the-ground EbA that integrates traditional knowledge and expert scientific research in these ecosystems will be limited. This will result in limited: i) on-the-ground benefits from EbA interventions to restore forests and rangelands; ii) collection of long-term data on these benefits; and iii) development of livelihoods from healthy forest, rangeland and agro- ecosystems that support conservation.

Table 4 below depicts the business-as-usual, baseline situation versus the adaptation alternative scenario for Nepal.

for adaptation policy and practice.

Table 4. Comparison of the business-as-usual scenario and the adaptation alternative scenario

	Business-as-usual scenario	Adaptation alternative scenario
Overall problem description	Currently, increasing temperatures and decreasing rainfall – along with widespread degradation of natural ecosystems in the mid-hill and high mountain areas of Nepal – is reducing rangeland and forest productivity and livestock production. Consequently, the effects of climate change are threatening the livelihoods of rural Nepalese communities. The Nepalese economy will also be affected because the degradation of forests and rangelands in Nepal has negative impacts on a wide range of sectors, including water, agriculture, energy, transport, tourism and conservation. The vulnerability of local communities and economic sectors is exacerbated by factors such as widespread poverty, a strong dependence on rain-fed agriculture, conflict over land-use rights, and limited technical capacity of government at a national and district level.	The LDCF-financed project will promote the establishment of ecosystems that are: i) more resilient to climate variability; and ii) more beneficial to the local community than the original ecosystem. This scenario will be achieved through EbA. Ecosystems that are enhanced through EbA will provide local communities with alternative sources of income and increased food security under conditions of climate change. The specific benefits of EbA in forests and rangelands in the mid-hills and high mountains in Nepal include: i) increased water availability; ii) reduced loss of top soils; iii) increased fodder available to livestock; and iv) availability of non-timber forest products (NTFPs). The improvements to the livelihoods of indigenous and local communities are beneficial as these communities are reliant on their natural environments and are not currently resilient to climate-induced stressors.
Project outcomes	Component 1: • Limited mechanisms for promoting detailed cross-sectoral dialogue on EbA at national and local levels. Therefore, limited frameworks to share EbA information and experiences including *inter alia*: i) lessons learned; ii) best-practices; iii) opportunities to implement EbA. • Adaptation interventions involving ecosystem management are largely *ad hoc* without the synergies and benefits that could be created by involving a wide range of sectors. • Limited technical capacity of line ministries to develop the full suite of benefits that can arise from EbA. • Limited integration of scientific knowledge in EbA. • Limited involvement of women and youth in development and implementation of EbA interventions. • Appropriate methodologies for planning and implementing EbA– and benefits of this approach – are unknown among the public.	Component 1: The LDCF-financed project will promote cross-sectoral dialogue, develop technical capacity and increase public awareness of EbA. The interventions in this outcome will create a platform for promoting large-scale EbA in Nepal across a wide range of sectors. This will be done through the activities listed below. • Establishing a framework for national, cross-sectoral dialogue on EbA. This step will culminate in a committee for taking strategic national decisions on EbA for adaptation to climate change; • Building the technical capacity of a wide range of stakeholders – with a particular focus on women and youth – to plan and ultimately implement large-scale EbA; • Promoting awareness of the benefits of EbA to restore forests and rangelands among the public. • Promoting short-, medium-, and long-term scientific research within Nepalese institutions on EbA –including scientific studies and research into indigenous knowledge – for maximising the benefits of EbA in different ecosystems.
	Component 2: • Policy- and decision-makers in Nepal are largely unaware of the benefits of EbA. • Policies and strategies within Nepal do not provide an environment conducive for EbA on a large scale. • Lack of clarity on which polices and/or strategies should be amended to facilitate	Component 2: The LDCF-financed project will promote a policy and strategy environment within Nepal that promotes EbA by *inter alia*: • reviewing existing policies, strategies and sectoral budgets that are relevant to ecosystem management or adaptation; • developing the following:

	EbA, because it requires cross-sectoral planning. • EbA is not a strategic priority on the development agenda. • Limited capacity and skills for accessing international funds for EbA that hinders upscaling of EbA.	o recommended revisions to policies, strategies and budgets for climate-vulnerable sectors such as forestry, agriculture and water; o a national EbA upscaling strategy; o a financing plan for large-scale EbA, including feasible national budget allocations and proposals for accessing international funds; and o ultimately, an enabling policy environment that strongly promotes EbA on a large scale.
	Component 3: • Restoration of degraded ecosystems is undertaken in an *ad hoc* manner by a range of stakeholders – including government, NGOs and the private sector - focusing on conservation of biodiversity that is threatened by deforestation, overgrazing and/or climate change. • Restoration is not tailored to maximise adaptation benefits for indigenous and local communities. • The appropriate plant species to use for restoring forests and rangelands have not been systematically documented or researched. • Opportunities for developing livelihoods – from ecosystems that have been restored using EbA in particular – have not been studied. • Some government projects such as LFP and LDSEP undertake restoration of degraded ecosystems with limited consideration of climate change.	Component 3: The LDCF-financed project will implement EbA to restore a wide range of degraded forest and rangeland ecosystems that focus primarily on reducing vulnerability of Nepalese communities to climate change, resulting in evidence-based, tailored restoration protocols for EbA in different forest and rangeland ecosystems. This will be achieved through *inter alia*: • implementing tailored EbA to restore forests and rangelands in the most vulnerable VDCs in Achham, Dolakha and Salyan; • integrating scientific research and traditional knowledge to identify particular methods to manage livestock in the face of climate change in selected VDCs.; • developing livelihoods from forests, rangelands and agro-ecosystems with indigenous and local communities in selected VDCS that promote conservation of forest and rangeland ecosystems and adaptation to climate change; and • undertaking all demonstrations in a 'learning-by-doing' approach, thereby generating information for: i) increasing the technical capacity of stakeholders under Outcome 1; ii) informing the policy and strategy revisions under Outcome 2; and iii) developing protocols for EbA across a wide range of ecosystems in Nepal.
Cost	Business-as-usual development cost	Additional Adaptation Cost

3.8. Sustainability

276. The LDCF-financed project was developed by consulting a range of stakeholders including: i) central government ministries and departments; ii) local government representatives; and iii) local communities in Dolakha and Salyan (Section 2.5). This participatory approach has promoted ownership of the project by stakeholders. As a result, project interventions will be sustained beyond the project implementation period. A participatory approach will be used during the implementation of the project that will further promote: i) stakeholder ownership and ii) the sustainability of the project interventions.

277. The LDCF-financed project will increase the technical capacity of stakeholders at a district and local level to plan, implement and maintain project activities that are implemented in Achham, Dolakha and Salyan. This training will include technical details of selected species, planting protocols and monitoring and conservation plans for EbA in forests in rangelands. This technical training will be supported by enhanced awareness among these stakeholders and the public on the benefits of tailored EbA in forests and rangelands. In addition, the technical skills that the district officers and user groups acquire will be shared with the public through open days at intervention sites during which lessons learned will be shared. Therefore, district officers, user groups and the public can apply this knowledge for restoration of forest and rangeland ecosystems in the future. These governance structures currently exist and are therefore likely to remain in place during and after the project. Technical training on methods to manage livestock in the face of climate change, maintaining infrastructure for soil and water conservation and developing livelihoods will also be conducted through the LDCF-financed project. Consequently, these activities will also be sustained beyond the project.

278. Additional activities will be implemented that promote the sustainability of the LDCF-financed project. Firstly, EbA discussions will be integrated into the mandate of MCCICC and DEECCCC. Secondly, the on-the-ground EbA interventions in forests and rangelands will demonstrate proof of concept. Moreover, EbA will be integrated into the operational management plans of user groups at (and surrounding) intervention sites. By implementing project interventions, local communities will be mobilised to: i) implement EbA in forests and rangelands; ii) integrate EbA into LAPAs; and iii) develop alternative climate-resilient livelihoods[159].

279. The LDCF-financed project will benefit from UNEP's previous experiences in Nepal (see Appendix 12), particularly the BMU EbA project. Therefore, the project will build on the lessons learned from this project – and other initiatives for ecosystem restoration and management – to avoid pitfalls that have been experienced.

280. By strengthening the institutional capacity of national government – including policy- and decision-makers – to plan and implement EbA, this approach will be integrated into planning for Nepal. In addition, recommendations for revisions to policies and strategies will promote an enabling policy environment for EbA. This will contribute to the sustainability of the LDCF-financed project interventions and upscaling EbA across Nepal.

3.9. Replication

281. The LDCF-financed project will implement interventions in forests and rangelands in three districts in Nepal. Relative to other land-cover types in Nepal, forests cover the largest area of the country. Within the project, protocols and tools for interventions will be tailored to particular types of forest ecosystems. However, the methods used to develop these protocols and tools can be replicated throughout the country in degraded forests. In contrast, rangelands cover a relatively small area of land within Nepal. However, rangelands are recognised[160] as important ecosystems for supporting: i) the origin of many water sources; ii) indigenous biodiversity; and iii) local communities[161]. Moreover, mountain rangelands are particularly vulnerable to the negative effects of climate change, including shifting agro-ecological zones. The methods used to develop tools for EbA in rangelands can be tailored

[159] For example: i) the establishment of nurseries managed by indigenous and local communities that will contribute to establishing multi-use forest and restoring rangelands; and ii) the development of LIPs and business plans for the voluntary carbon market and PES.

[160] Shrestha, N.P. Important aspects of technology developed for the improvement of rangeland production systems. Kathmandu University, Kathmandu, Nepal. Available at http://www.fao.org/ag/AGP/AGPC/doc/pasture/peshawarproceedings/importantaspects.pdf Accessed on 21 May 2014.

[161] Although rangelands are unsuitable for producing crops, they are an important source of fodder for livestock. There are also tourism ventures that support the local economy in the mountain rangelands.

to vulnerable ecosystems in other parts of the country. Therefore, there is considerable potential for replication of forest and rangeland EbA throughout Nepal. To facilitate effective replication, lessons learned during project implementation will be documented and disseminated.

EbA will be promoted at national, district and local levels through dialogue on this approach that will be facilitated by the LDCF-financed project. Integrating EbA into the mandate of the MCCICC will promote planning for this approach in other areas on Nepal. Moreover, the working group of district officers from Achham, Dolakha and Salyan will share lessons that they learn through implementing on-the-ground EbA in selected VDCs with MCCICC. These lessons will inform the national-level planning for EbA. Similarly, district-level mechanisms will be strengthened or established to include EbA discussions. To this end, a discussion on this approach will be integrated into the DEECCCC meetings that take place in Achham. The LDCF-financed project will facilitate the development of this mechanism in Dolakha and Salyan. Therefore, the technical skills and lessons that are learned in the VDCs that have been selected for LDCF-financed project interventions will be shared with representatives from all other VDCs in Achham, Dolakha and Salyan. Consequently, these skills and lessons on the benefits of using tailored EbA to restore forests and rangelands will be shared among 169 VDCs. Indigenous and local communities from these VDCs will also be invited to attend the open learning days that will take place annually at LDCF-financed project intervention sites.

The campaigns that will be conducted in the second and fourth years of the project will enhance understanding of EbA in forests and rangelands and awareness of the benefits of this approach at a national scale. Therefore, these campaigns will promote replication of this approach throughout Nepal.

3.10. Public awareness, communications and mainstreaming strategy

282. Local communities have limited knowledge on increasing climate resilience using EbA. To address this limitation, the LDCF-financed project will increase public awareness of EbA by conducting national awareness campaigns. The campaign will focus on explaining: i) the meaning of EbA; ii) how EbA contributes to adaptation to climate change; iii) current EbA projects; iv) best practices; and v) basic EbA tools and technical guidelines that can be used to implement this approach. Moreover, lessons learned and information generated during the project will be integrated into the public awareness campaign.

283. The LDCF-financed project will build on existing media networks to conduct the national awareness campaigns. For example, the NEFEJ works closely with MoSTE to develop media on environmental issues, including the negative effects of climate change. Such media currently includes: i) two magazines that are published frequently[162]; ii) newspaper articles; iii) a local radio station; and iv) television programmes for adults and children. As most local communities throughout Nepal listen to the radio, it will be the primary media resource for national awareness campaigns.

284. Open learning days at intervention sites in selected VDCs will also be conducted. These learning days will communicate information on the protocols for EbA in particular forest and rangeland ecosystems. In addition, lessons that are learned through implementing EbA will be shared with indigenous and local communities from neighbouring VDCs.

[162] "Face to Face" is the English version of the magazine that is published every two months, while the Nepalese version is published every month.

285. Cross-community forums established in Achham, Dolakha and Salyan would facilitate the sharing of lessons learned. During these forums, user groups that are implementing activities in selected VDCs will share information with user groups from surrounding VDCs.

286. With a view to publicising EbA, visits to the LDCF-financed project intervention sites will be coordinated for schools, policy- and decision-makers and journalists. Representatives from NEFEJ will be included. During these visits, the project staff will conduct presentations on the project's progress and lessons learned. Thereafter, the students, journalists, policy- and decision-makers will be invited to report on their visits by means of presentations to institutions or articles in newspapers or magazines. Where possible, these visitors will be involved in planting activities.

287. The LDCF-financed project will facilitate the mainstreaming of the EbA approach into relevant policies and national development plans by: i) recommending revisions to existing policies and strategies; and ii) developing a national upscaling strategy and financing plan.

3.11. Environmental and social safeguards

288. The interventions to be implemented by the LDCF-financed project will have positive environmental impacts. This is because the principal foci of the project include: i) restoring degraded forests and rangelands; and ii) enhancing the capacity of user groups and indigenous and local communities to plan and implement EbA in these ecosystems. It is expected that the project will result in benefits such as: i) reduced soil erosion; ii) regular water flow in rivers; iii) increased NTFPs and natural resources; and iv) improved livelihoods that are climate-resilient. TAs such, these project activities can be considered as 'no regrets' interventions because they will improve upon the baseline conditions regardless of the severity of anticipated climate change effects.

289. The UNEP checklist for Environment and Social Safeguards (Appendix 11) reflects the positive environmental and social impacts of the LDCF-financed project. The PM, TA and UNEP Task Manager (TM) will be responsible for overseeing adherence to these guidelines throughout the implementation of the project. This checklist will be reviewed and updated annually by the PM in conjunction with the UNEP TM. All activities implemented by the project will be designed to improve environmental conditions in the short- to long-term. According to information collected from national stakeholders during the PPG, none of the project activities will trigger Strategic Environmental Assessments (SEAs) or EIAs. Nevertheless, environmental legislation will be checked during project inception to verify this. If necessary, assessments will be undertaken to determine the environmental effects generated by the project's interventions. In addition, mitigation measures will be undertaken to ameliorate any related negative social or environmental effects.

290. To meet the objectives of the LDCF-financed project, EbA will be complemented by techniques for soil and water conservation. Such techniques include: i) techniques to manage livestock in the face of climate change; and ii) infrastructure such as rainwater harvesting devices and water conservation ponds. This combination of EbA and complementary techniques will conserve topsoils and water under predicted conditions of climate change including reduced water availability and intense rainfall events. The perceptions of user groups and district officers will be considered when designing such techniques or infrastructure.

291. The LDCF-financed project will adopt a gender-sensitive approach (Section 3.1). As such, gender equality, women's rights and the empowerment of women will be promoted. Therefore, the project will support Nepal's moral and legal obligations as described in the

Interim Constitution (2007)[163]. This constitution advocates legal action to protect and advance the interests of women and does not condone discrimination based on sex. In addition, Nepal has committed to a number of international conventions that have strong gender policies. These include: i) the United Nations Millennium Declaration; ii) the Beijing Platform for Action; and iii) the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)[164]. In addition, the Beijing Platform for Action led to the establishment of the Ministry of Women, Children & Social Welfare (MWCSW) in 1995[165]. MWCSW facilitates the development and coordination of all activities related to women, children and social welfare in Nepal.

292. In accordance with social upliftment, the LDCF-financed project adopted a participatory approach to vulnerability mapping to identify VDCs for interventions. This information will guide the design of all on-the-ground project activities. Therefore, gender equality will be addressed in the development of EbA protocols. Furthermore, women and youth will be a focus of technical capacity strengthening for implementing EbA in degraded forests and rangelands.

SECTION 4: INSTITUTIONAL FRAMEWORK AND IMPLEMENTATION ARRANGEMENTS

293. The LDCF-financed project will be implemented over a four-year period (2015-2018) according to the agreed upon workplan[166]. This workplan – and the project budget – will be validated at a project inception workshop. In addition, a baseline assessment will be conducted soon after project inception to collect outstanding baseline data and verify the project results framework (see Appendix 3). Implementation of the LDCF-financed project will be informed by lessons learned from ongoing restoration activities and EbA projects in Nepal.

294. MoSTE will be executing the project, in collaboration with the MoFSC and the MoAD. These ministries will work together to coordinate and implement project activities. The activities and budget will be channelled through the forestry sector and other relevant organizations. In addition, the fund flow mechanism will be on thematic basis. The MoF will be the ultimate authority in receiving the foreign support.

295. UNEP will be the IA and provide technical assistance for implementing the LDCF-financed project activities[167]. A TM will be appointed for this technical role. The TM will be based in UNEP Department of Environmental Policy Implementation (DEPI/GEF) Climate Change Adaptation Unit (CCAU) and will be responsible for project supervision to ensure consistency with GEF and UNEP policies and procedures. The TM will formally participate in: i) yearly PSC meetings; ii) the mid-term review and terminal evaluation; iii) the clearance of half-yearly and annual reports; and iv) the technical l review of project outputs.

Management structure

The management structure of the LDCF-financed project is presented in Table 5 and Figure 13.

[163] Three Year Interim Plan 2007/08-2009/10, NPC, p. 102
[164] Mellemfolkeligt Samvirke / Danish Association for International Cooperation. Country Programme Strategy, Gender Stratergy.
[165] Ibid
[166] according to the workplan in Appendix 4
[167] see Appendix 14 for information on UNEP's comparative advantage

Table 5. Management structure of the LDCF-financed project

Members	Mandate
Lead Project Agency	
MoSTE	MoSTE will house the project and will be responsible for its overall responsibility. The lead department within MoFSC will be DoSCWM.
PSC	
• Secretary MoSTE(chair) • Joint Secretaries x 1 MoSTE • Joint Secretary x 1 MoFSC • Joint Secretary x 1 MoAD • Joint Secretary x 1 MoFALD • Joint Secretary x 1 MoF • Director General x 1 DoF • Director General x 1 DoSCWM • Director General x 1 DoA • Director General x 1 DoLS • Representatives from project districts • PM • Chief CC Section • (MoSTE) • UNEP TM • TA	This committee will include: i) central level representatives from MoFSC, MoSTE, MoAD, MoF and MoFALD; ii) the PM as member secretary; iii) UNEP TM; and iv) TA. The mandate of the PSC will include: i) overseeing project implementation; and ii) reviewing annual workplans and project reports. The PSC will meet at least twice a year – with *ad hoc* meetings held as and when necessary – to discuss the project's main performance indicators and provide strategic guidance. Any changes made to the RBF or timeline of project activities by the PSC will be communicated to the PMU by the PM. At the discretion of the PSC, the following stakeholders will be invited to participate in the PSC: i) district officers; ii) leaders from indigenous and local communities; and iii) representatives from civil society organisations working in the same districts. These invitations will be extended to promote local ownership and guidance for the project.
PMU	
• PM • Administration and Financial Officer (AFO) • National M&E expert	A full-time PM will be hired by MoSTE S/he will coordinate day-to-day management of the project. S/he will operate in a transparent and effective manner in line with all budgets and approved work plans by ensuring the aphorism "Value for Money". In addition, the PM will report on a fortnight basis to the TM and the TA on the progress and challenges encountered during the execution of activities. In particular, the PM will: i) lead the overall planning, implementation and monitoring of the project; ii) collate on-the-ground information for UNEP progress reports; iii) manage congenial relationships with stakeholders; iv) organise the PSC meetings; v) provide technical support to the project, including measures to address challenges to project implementation; vi) manage the project budget and resource allocation; and vii) participate in training activities, report writing and facilitation of consultant activities that are relevant to his/her area of expertise. Through a Decision of the Secretary MoSTE, the PM will be provided adequate execution authorities and accountabilities. The PM will be supported by an AFO to conduct day-to-day administration. This officer will also prepare quarterly financial reports to track internal expenditures that will be made available to the PSC for review. The PMU will also include national M&E experts to support the PM in monitoring project activities and progress. The duties of these experts will include: i) establishing and managing a

	performance-monitoring framework; and ii) supervising the district officers in each of the three main intervention areas. As part of his/her responsibilities, the national M&E specialist will oversee and monitor the application of gender-disaggregated indicators. The international M&E expert will provide oversight and guidance of monitoring. Budget disbursement will be managed by UNEP to facilitate timely expenditure, disbursement and transparency. Financial reports will be prepared quarterly based on the UNEP's Integrated Management Information System (IMIS), and will be made available to MoSTE and other members of the PSC for review
Supporting staff	
• National Technical Experts (NTEs) • Driver	National Technical Experts (NTEs) will be hired for specific tasks that cannot be carried out by existing government staff. The roles of the NTEs are described in the draft procurement plan (see Appendix 14). A driver will be hired by the LDCF-financed project to transport management and technical staff to the intervention sites.
DPMUs	
In each district: • District Forest Officer (DFO) • District Soil Conservation Officer (DSCO) • DLO • DADO • Five forest technicians • Two Soil Conservation Technicians • Two Livestock Support Technicians • Two Agricultural Development Technicians	Ministry-staffed DPMUs will be established in Achham, Dolakha and Salyan. These units will be the "implementing arms" in each of the districts. Therefore, they will work in close collaboration – and communicate frequently – with the central-level PMU. These units will be housed within the District Forest Offices – or any convenient place – in Achham, Dolakha and Salyan and will include the district officers from DoF, DoSCWM, DoLS and DoA (DFOs, DSCOs, DLOs and DADO) in each of the districts. The DPMUs will ensure: i) the timely execution of activities and achievement of expected deliverables; ii) dialogue between stakeholders particularly at district and local level; and iii) ensure greater participation of indigenous and local communities in project activities. To achieve this, the district officers will be required to visit the intervention sites regularly. Field technicians within each of these departments will support the district officers. This will include the following staff in each district: i) five forest technicians; ii) two soil conservation technicians; iii) two livestock support technicians; and iv) two agricultural development technicians. If the technicians that are currently working within these district departments is do not have capacity to take on more work, members of indigenous and/or local communities can be hired as technicians. A District Project Coordinator (DPC) will lead the DPMUs. This coordinator will likely be the DFO. The DPC will: i) develop progress reports for activities that will be implemented on the ground in each of the districts; and ii) synchronise activities within and between agencies, VDCs and other local-level stakeholders. The role that the officers and technicians play in each of the project activities is described in Section 5 (Stakeholder Participation).
Indigenous and Local Communities	
• WUGs • Leasehold Forestry User Groups • CFUGs • Farmers User Groups • Other existing user groups	Indigenous and Local Communities will participate in project planning and implementation at a VDC level. If possible, the technical capacity of existing user groups will be strengthened to implement project activities. Depending on the activity that is being implemented, the most appropriate user groups will be included in the design and implementation. For example, LFUGs or CFUGs will be involved in the design and implementation of EbA. In addition, WUGs will be encouraged to participate in as many project activities

• LDCF Working user groups • Social mobilisers • DEECCCCs	as possible. If appropriate user groups do not currently exist in a particular VDC, new user groups will be established by the LDCF-financed project. Champions of these user groups will be selected as social mobilisers. These individuals will work in close collaboration – and communicate frequently – with the relevant district officer/s. To promote intra- and inter-community dialogue and learning, the DEECCCC in Achham will include EbA in their dialogue. In Dolakha and Salyan, where these mechanisms do not currently exist, the LDCF-financed project will establish these committees.
Project Managers Coordination Working Group	
PMs and TAs of: • the LDCF-financed project; • the SCCF-funded project; • the BMUB-funded project; • baseline projects; • NCCSP; • SPCR; and • Other projects that are/will be being conducted in Achham, Dolakha and Salyan	A Project Managers' Coordination Working Group (PMCWG) will be established to improve the coordination and dialogue between the ongoing initiatives including the SCCF-GEF funded project implemented by UNEP. The PMWG will include the TAs, the managers of the baseline projects and representatives of other aligned projects (see Section 2.7). Meetings for the PMWG will be held twice a year. They will work towards: i) promoting synergy between projects; ii) avoiding the duplication of activities; iii) optimising the effects of the project interventions; and iv) sharing lessons learned.

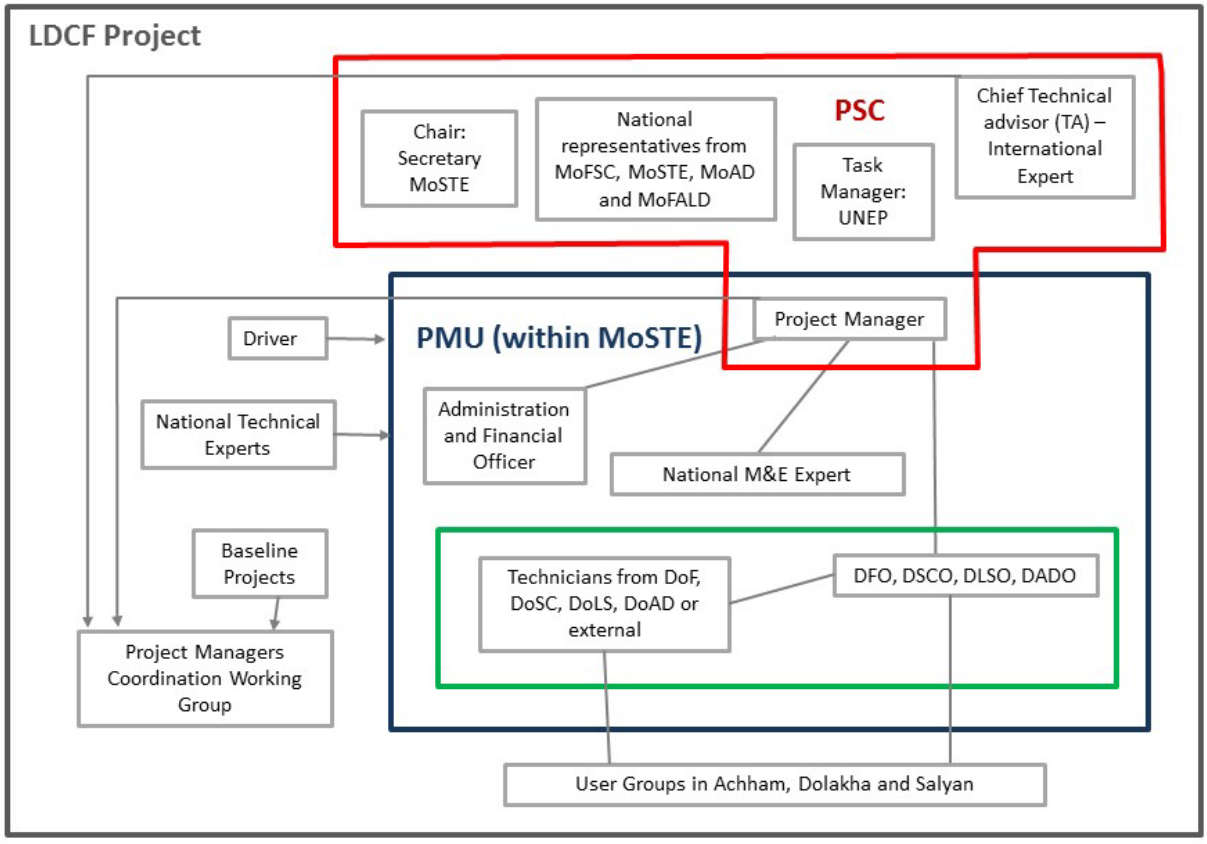

Figure 13. Graphic illustration of the management structure of the LDCF-financed project

SECTION 5: STAKEHOLDER PARTICIPATION

296. The implementation strategy for the LDCF-financed project includes extensive stakeholder participation. Details of the stakeholder participation during the PPG phase are provided in Appendix 20. In addition, the role of stakeholders in site selection is detailed in Appendix 8. A stakeholder engagement plan to be used during the implementation phase will be developed during the project inception workshop. Stakeholders will be consulted throughout the implementation phase to: i) promote community understanding of the project's outcomes; ii) promote local community ownership of the project through engaging in planning, implementing and monitoring of the interventions; iii) communicate to the public in a consistent, supportive and effective manner; and iv) maximise complementation with other ongoing projects.

297. The mechanisms for stakeholders consultations will include: i) initial meetings with local government (i.e. VDC- and district-level government) and national government ministries (i.e. MoSTE, MoFSC, and MoAD) during the project inception workshop (see Section 2.5); ii) consultation meetings with the coordinators of the baseline projects and co-financing institutions (see Sections 2.6 and 2.7); iii) consultation meetings with aligned projects (See Section 2.7); iv) consultation meetings with local NGOs and user groups and community leaders; and v) consultation meetings with indigenous and local communities with the beneficiaries of the LDCF-financed project.

298. District officers – including DFO, DLO, DADO and DSCO – were engaged with during the development of this project document. Therefore, the LDCF-financed project will address the priority needs of indigenous and local communities in Achham, Dolakha and Salyan. Furthermore, indigenous and local communities will be involved in the implementation of the project activities and in decision-making processes for project interventions. For example, the preferences of indigenous and local communities with inform the selection of species for all restoration interventions using EbA. Community members will also receive training – through a learning-by-doing approach – on: i) EbA in forests and rangelands; ii) techniques that promote topsoil and water conservation; and iii) developing livelihoods from forest, rangeland and agro-ecosystems. Additionally, community leaders and user groups from the intervention sites will be invited to participate in PSC meetings.

299. During project implementation, stakeholder consultations will be divided into three phases. Firstly, the 'mobilisation phase' will take place during the first year of the project. This phase includes the following: i) developing time specific details of the activities and local management structures for implementation; ii) forging partnerships for action; and iii) developing and agreeing to the extent of stakeholder engagement in each activity. Secondly, the 'consultative implementation' phase will run during the main implementation phase of the LDCF-financed project. This phase involves applying the stakeholder involvement plan to each of the activities defined during the first phase. Thirdly, the 'completion and upscaling' phase will start during the last year of project implementation. This phase will support the sustainability of the project by transferring responsibility for management of the LDCF-financed project's investments to the stakeholders.

300. The specific stakeholders to be engaged at each stage of project implementation are presented in Table 6. Memorandums of Understanding (MoUs) will be signed between the different government institutions participating in the implementation of LDCF-financed project. The corresponding budget for the activity will then be transferred to the partnering government institutions in charge.

Table 6. Stakeholder participation for each activity

Activity	Coordination	Implementation	Groups/ organisations involved
1.1.1	MoSTE	PMU, NNE	MCCICC
1.1.2	MoSTE	PMU, NNE	DFO, DSCO, DLO and DADO in Achham, Dolakha and Salyan, MCCICC
1.2.1	MoSTE	PMU, NNRE	BMUB-funded project, SCCF-funded project, other EbA projects in South Asia, GIZ, FAO, WWF, NCCSP, SPCR
1.2.2	MoSTE	PMU, NNRE	MoSTE, MoFSC and MoAD
1.2.3	MoSTE	PMU, NCASEE	MoSTE, MoFSC and MoAD
1.2.4	MoSTE	PMU, NCASEE	DFO, DSCO, DLO, technicians and user groups (WUGs)
1.2.5	MoSTE	PMU, NCASEE	NAEF, NAER, NH&SE
1.3.1	MoSTE	PMU, NPEE	NEFEJ, production company, radio stations in every district, NCCSP
1.3.2	MoSTE	PMU, NPEE	NEFEJ, production company, radio stations in every district
1.3.3	MoSTE	PMU, NPEE	DoLS, DEECCCC, NCCSP
1.3.4	MoSTE	PMU, NPEE	DoF, DoLS, DoSCWM, DoA, environmental school clubs, environmental journalists
1.3.5	MoSTE	PMU, NCASEE	PMU, DMPU, production company for awareness campaigns
1.4.1	MoSTE	PMU, NPEE	MoE, NCCSP, schools
1.4.2	MoSTE	PMU, NPEE	MoE, NCCSP, schools
1.4.3	MoSTE	PMU, NPEE	MoE
1.4.4	MoSTE	PMU	TU, UAF, NAST, DoFRS
1.4.5	MoSTE	PMU	NAST, DoFRS
1.4.6	MoSTE	PMU, NCASEE	NAST, DoFRS
1.4.7	MoSTE	PMU	TU, UAF
1.4.8	MoSTE	PMU	TU, UAF, MoFSC, MoAD
2.1.1	MoSTE	PMU, NP&LE	BMUB-funded project, MoFSC, MoAD, UNDP, GIZ, Nepal Risk Reduction Consortium
2.1.2	MoSTE	PMU, NP&LE	
2.1.3	MoSTE	PMU, NP&LE	MoFSC, MoAD
2.2.1	MoSTE	PMU, NP&LE	
2.2.2	MoSTE	PMU, NP&LE	NPC, MoF
2.2.3	MoSTE	PMU, NP&LE	MoFSC, MoAD, MoF
3.1.1	MoSTE	PMU, NCASEE	

3.1.2	MoSTE	NB&EE	
3.1.3	MoSTE	PMU, NCASEE	DoLS, NCCSP
3.2.1	MoSTE	PMU, NAEF, NAER	DFOs, DLOs, user groups (WUGs)
3.2.2	MoSTE	PMU, NAEF, NAER	DFOs, DLOs
3.2.3	MoSTE	PMU, NCASEE	DFOs, DLOs, user groups (WUGs), NTFPs Conservation Project
3.2.4	DoF	PMU, NAEF, DoF	DFOs, technicians, user groups (WUGs), CFP
3.2.5	DoLS	PMU, NAER, DoLS	DLOs, technicians, user groups (WUGs), CFP
3.2.6	DoF/DoLS	DFOs, DLOs, technicians, user groups	
3.3.1	MoSTE	PMU, NAER	DSCOs, user groups, indigenous and local communities, FTF, Kosi River Basin Management Project
3.3.2	MoSTE	PMU, NH&SE	DSCO[168], technicians, user groups (WUGs), SPCR
3.3.3	DoSCWM	PMU, NH&SE, DoSCWM	DSCO[169], technicians, user groups (WUGs)
3.3.4	MoSTE	PMU, NH&SE	
3.4.1	MoSTE	PMU, NNRE	DFO, DSCO, DLO, DADO, Practical Action Nepal, KSLCDI
3.4.2	MoSTE	PMU, NNRE	DFO, DSCO, DLO, DADO
3.4.3	MoSTE	PMU, NNRE	DoLS, Practical Action Nepal, KSLCDI, INCLUDE

SECTION 6: MONITORING AND EVALUATION PLAN

301. UNEP will be responsible for managing the mid-term review/evaluation and the terminal evaluation. The Project Manager and partners will participate actively in the process.

302. The project will be reviewed or evaluated at mid-term (tentatively in 04/17 as indicated in the project milestones). The purpose of the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE) is to provide an independent assessment of project performance at mid-term, to analyse whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way. In addition, it will verify information gathered through the GEF tracking tools. [Note: For a short duration project, PIR will serve as the project Mid-Term Review (MTR).

303. The project Steering Committee will participate in the MTR or MTE and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented. An MTR is managed by the UNEP Task Manager. An MTE is managed by the Evaluation Office (EO) of UNEP. The EO will determine whether an MTE is required or an MTR is sufficient.

[168] DFO in Achham
[169] IBID

304. An independent terminal evaluation (TE) will take place at the end of project implementation. The EO will be responsible for the TE and liaise with the UNEP Task Manager throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes:

- to provide evidence of results to meet accountability requirements, and
- to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and executing partners.

305. While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions.

306. The TE report will be sent to project stakeholders for comments. Formal comments on the report will be shared by the EO in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scheme. The final determination of project ratings will be made by the EO when the report is finalised. The evaluation report will be publically disclosed and will be followed by a recommendation compliance process.

307. The direct costs of reviews and evaluations will be charged against the project evaluation budget.

SECTION 7: PROJECT FINANCING AND BUDGET

7.1 Overall project budget

308. To achieve the objective and outcomes presented above, LDCF resources of US $5,246,476 in total is being requested for the period of 2015-2018. The breakdown of the budget across the outcomes is presented below in Table 6. For further detail, see the full project budget in Appendix 1, as well as details on co-financing in Appendix 2.

Table 6. Breakdown of total project financing

Component	LDCF Funds (US$)	Co-Financing (US$)	Total Costs (US$)
Component 1: Local and national institutional capacity development *Outcome 1: Strengthened technical capacity of local and national institutions to plan and implement EbA.*	866,180	4,047,057	4,913,237
Component 2: Policy and strategy strengthening *Outcome 2: National policies and strategies are strengthened to promote EbA implementation.*	80,420	1,590,490	1,670,910
Component 3: Demonstration interventions that increase adaptive capacity to climate change and restore natural capital. *Outcome 3: EbA implemented to restore forests and rangelands and develop climate-resilient livelihoods, thereby decreasing sensitivity of local mid-hill communities in Achham and Salyan Districts and high-mountain communities in the Dolakha District to the effects of climate change.*	4,094,375	4,849,504	8,943,879
Project Management	205,500	551,950	757,450
Total cost	5,246,475	11,039,000	16,285,475

7.2 Project co-financing

Table 7. Breakdown of project co-financing by funder

	US$	%
LDCF Funds	5,246,475	32
Co-financing: national government (LFP, TIP, MSFP, BCRWMER and LDSEP projects)	9,539,000	59
Parallel co-financing: UNEP	1,500,000	9
Total	16,285,475	100

7.3 Project cost-effectiveness

309. The LDCF-financed project is based on the NAPA priorities as identified by the GoN in 2010. One of the guiding elements that were considered during the development of Nepal's NAPA was cost-effectiveness. Consequently, this principle has guided the development of the LDCF-financed project. Furthermore, the project will adopt an approach of additionality and will build on three existing national projects: LFP, LDSEP and MSFP, which reduces costs of the project. Furthermore, it will complement and align with a number of current initiatives to not duplicate efforts.

310. For example, the technical capacity enhanced through Component 1 will build on the existing knowledge and capacity that has been developed at regional and national levels. This is a cost-effective approach to building technical capacity that will facilitate planning and implementation of EbA.

311. A growing body of scientific research indicates that increasing numbers of EbA projects will deliver favourable benefit-cost ratios. For example, the restoration and rehabilitation of grasslands and woodlands reportedly have internal rates of return of 20-60% and benefit-cost ratios of up to 35:1[170]. Such promising benefit-cost ratios have also been reported for comparisons between EbA projects and projects that use only hard interventions for adaptation to climate change. For example, an economic analysis of watershed management and engineering interventions was undertaken in Lami, Fiji[171]. This study included assessments of the costs and benefits of measures based on watershed management for options for DRM, engineering options and a hybrid approach combining both 'hard' engineering and 'soft' watershed management interventions. The analyses demonstrated that watershed management options are at least twice as cost-effective as hard engineering options (benefit cost ratio of US $10.5 compared to US $4.80). Moreover, it investigated hybrid approaches using complementary watershed management and engineering measures. Irrespective of the proportional emphasis on watershed management for DRM relative to engineering, strategies that combined both watershed management and engineering options were likely to reduce damages by 25% with a benefit cost ratio of US $4.30–8.00. See Table 8 below for further examples of successful EbA compared to hard infrastructure to address climate change.

Table 8. Examples of the cost of successful EbA compared with hard infrastructure for addressing climate change[172].

EbA for adaptation to climate change	Hard infrastructure for adaptation to climate change
Sustainable water management	

[170] De Groot et al. 2013. Benefits of investing in ecosystem restoration. *Conservation Biology* 27: 1286-1293.

[171] Rao et al. 2013. *An economic analysis of ecosystem-based adaptation and engineering options for climate change adaptation in Lami Town, Republic of the Fiji Islands*. A technical report by the Secretariat of the Pacific Regional Environment Programme. Apia, Samoa.

[172] Jones et al. 2012. Harnessing nature to help people adapt to climate change. Nature. Published online: 26 June 1012. DOI: 10.1038/nclimate1463

Approximately 9 million New York City residents receive 1.3 billion gallons of water per day – 90% of their water requirement – from the Catskill-Delaware watershed. Protection of the watershed has cost the city US$ 150 million per annum over the past 10 years.	To address the water needs of New Yorkers without this type of natural watershed, a water filtration plant would need to be built. A water filtration plant capable of processing 1.3 billion gallons of water for New York City would cost between US$ 6–8 billion. In addition, the plant would have operating costs of US$ 300 million per annum.
Food security	
In Roslagen, Switzerland, smallholder farmers have developed EbA practices to buffer against climatic variability. These practices include: i) diversifying crops; ii) intercropping and crop rotations; and iii) using multiple sowing dates to maintain a diversity of crops that are likely to survive in an uncertain climate. They also use crops and trees for shade to conserve moisture, and forests to protect groundwater sources. All of these approaches result in negligible direct costs.	Much of Europe uses micro-irrigation or drip irrigation to cope with drought. Micro-irrigation is likely to increase the efficiency of water use in conventional irrigation. However, the average cost of this technique ranges from US$ 416-950 per hectare.
The use of sustainable land-management practices such as agroforestry (using trees and shrubs in pastures and croplands) can increase farmers' resilience to climate change through sustaining or increasing food production. By intercropping maize with a nitrogen fixing tree, *Gliricidia sepium,* Malawi farmers increased average yields fourfold, at minimal cost	To increase average yields fourfold by using nitrogen-based inorganic fertilizers would cost Malawi farmers US $11,600,000 annually.

312. Although hard infrastructure can protect indigenous and local communities against climate-related hazards, these approaches are unsustainable without costly maintenance and repairs. Moreover, construction of hard infrastructure that covers a large surface area transforms the natural landscape. This negatively affects the functioning of ecosystem, which reduces the ecosystems' ability to provide services.

313. A study on Return on Investment (ROI) from watershed conservation was undertaken by MacDonald and Shemie in 2014[173]. This study assessed the ROI from watershed conservation activities surrounding 534 large cities around the world. A simple methodology was applied .to understand ROI for watershed conservation projects in different parts of the world. In particular, the study showed that the greatest potential for such projects to have an ROI greater than one is in Asia (Figure 14).

[173] MacDonald, R. and Shemie, D. 2014. Urban water blueprint: mapping conservation solutions to the global water challenge. Report available at: http://water.nature.org/waterblueprint/#/intro=true. Accessed on 25 April 2015.

Figure 14. Potential ROI for watershed conservation by continent.

314. Within Outcome 3 of the LDCF-financed project, EbA in forests and rangelands will be complemented by techniques for soil and water conservation. These techniques will include: i) appropriate management in the face of climate change to promote sustainable land management; and ii) infrastructure to reduce rainwater run-off and erosion, and increase storage capacity for rainwater. Therefore, project activities will implement both soft and hard infrastructure[174] for adaptation to climate change. This combination is effective because: i) soft interventions are more flexible in the long-term; and ii) hard infrastructure has benefits that are more direct in the short- to medium-term[175]. Therefore, this complementary approach to climate change promotes cost-effectiveness[176].

315. The LDCF-financed project will implement EbA in forests and rangelands to reduce the vulnerability of indigenous and local communities to: i) droughts in the dry seasons; ii) shifting agro-ecological zones; and iii) increased rainfall impact in the monsoon seasons. To this end, the project will transfer knowledge on ecosystem restoration and management under conditions of climate change to indigenous and local communities. In addition, a strategy – that includes lessons learned within Component 3 – will be developed to upscale this approach to other areas in Nepal. Scientific and technical information that is produced by the LDCF-financed project will be incorporated into LAPAs, thereby promoting appropriate land uses by these indigenous and local communities under the predicted effects of climate change. Integration of this type of information into plans for local ownership will promote improved governance of restored ecosystems by indigenous and local communities, thereby reducing the need for constant monitoring and maintenance of these areas. Importantly, the principles of EbA are grounded in ecosystem restoration and management. By adopting EbA, “no-regrets” activities will be implemented. Therefore, indigenous and local communities will benefit from enhanced ecosystem services regardless of the severity of the negative effects of climate change.

[174] For example, rainwater harvesting tanks, water conservation ponds, sand dams and improved terraces.
[175] Hallegate, S. and Dumas, P. 2009. Adaptation to climate change: soft vs. hard adaptation. C.I.R.E.D. Available at: http://www.oecd.org/env/cc/40899422.pdf. Accessed on 1 April 2014.
[176] CARE. 2011. Policy brief: climate change – why community based adaptation makes economic sense. Available at: http://www.careclimatechange.org/files/adaptation/PolicyBrief_Why_CBA_Makes_Economic_Sense_July12.pdf. Accessed on 1 April 2014.

316. EbA has benefits that will contribute towards mitigation commitments and other development goals of the GoN. While the EbA approach reduces vulnerability, it simultaneously provides a range of co-benefits such as carbon sequestration and storage, biodiversity conservation, livelihoods and poverty reduction. Furthermore, ecosystems that are enhanced through EbA are less likely to reach their tipping points, after which ecosystem degradation becomes irreversible under conditions of climate change[177].

[177] Jones et al. 2012. Harnessing nature to help people adapt to climate change. Nature. Published online: 26 June 1012. DOI: 10.1038/nclimate1463