

**PROJECT INFORMATION DOCUMENT (PID)
CONCEPT STAGE**

Report No.:75640

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Project Name	Enhancing Resilience of Endangered Species to Climate Change
Region	South Asia
Country	Nepal
Sector	Environment
Lending Instrument	Specific Investment Loan
Project ID	P130015
Borrower(s)	Ministry of Forests and Soil Conservation
Implementing Agency	(i) Department of Forests and (ii) Department of National Parks and Wildlife Conservation
Environmental Screening Category	[]A [X]B []C []FI []TBD (to be determined)
Date PID Prepared	February 19, 2013
Estimated Date of Appraisal Completion	June 7, 2013
Estimated Date of Board Approval	October 3, 2013 (First grant funding request approval)
Concept Review Decision	Following the review of the concept, the decision was taken to proceed with the preparation of the operation

I. Introduction and Context

A. Country Context

Nepal is a small land-locked country in the heart of the Himalayas, with China on its northern border and India to the south. The country is about 850 km across along its east-west axis, and about 200 km north to south. It can be divided into three ecological regions that run like horizontal strips dividing the country into three roughly equal areas: (i) the high mountains (35% of total area), (ii) the middle hills (42% of total area), and (iii) the lower altitude Terai (23% of total area). Each region has distinct altitude and climatic characteristics, varying from alpine to sub-tropical conditions. Altitudes range from over 8800 meters in the north at the peak of Mount Everest, to just 60 meters above sea level in the southern plains. Although Nepal only comprises about 0.1% of Earth's terrestrial area, it harbors a high share of the world's biodiversity, confirming its unique geographic nature. A total of 118 ecosystems have been identified, with 75 vegetation types and 35 forest types. Both its floral and faunal diversity is unique.

In 2006, Nepal emerged from a prolonged internal conflict with the signing of the Comprehensive Peace Accord laying out a roadmap to a lasting peace and the construction of a new governance structure. In 2008, a constituent assembly (CA) was voted into power, the monarchy was abolished, and a president and a prime minister were formally elected. A series of coalition governments have been formed and the process of writing a new constitution remains underway. The CA was dismissed in May 2012 without completing the constitution. New elections are yet to be announced.

Nepal attained the first Millennium Development Goal (MDG), to halve extreme poverty, ahead of time. The percentage of people living below the international line for extreme poverty (people earning less than US\$1.25 per day) has halved in only seven years. At this measure of poverty, the percentage of poor people declined from 53.1 percent in 2003/2004 to 24.8 percent in 2010/2011. Despite the progress in poverty reduction, Gross National Income per capita remains low at US\$540 (2011) and Nepal remains among the poorest countries in the world.

B. Sectoral and Institutional Context

In 2011, the global risk analysis firm Maplecroft ranked Nepal the 4th most climate-vulnerable country in the world. Nepal's extremely varied and challenging geography, its poor resource dependent population and its weak institutional capacity all combine to create this vulnerability.

There is growing evidence that climate change is one of the most serious threats to global biodiversity, environmental services and livelihoods of natural resource dependent communities. According to the Millennium Ecosystem Assessment, climate change is likely to become one of the most significant drivers of biodiversity loss and ecosystems change by the end of the century.

Nepal's unique geographic position and variations in altitude and climate are reflected in its rich biodiversity. The dense tropical forests of the Terai, the deciduous and coniferous forests of the subtropical and temperate, and the sub-alpine and alpine pastures and snow-covered Himalayan peaks are all habitat to a wide variety of flora and fauna. Several internationally important flagship species of which several are critically endangered, including the Snow Leopard, Asian One-horned Rhinoceros, Bengal Tiger, Red Panda, and Crocodile are found in Nepal. Important flora is birch, rhododendron, Jatamansi (*Nardostachys grandiflora*), Kutki *Neopicrorhiza scrophulariiflora* and Paanch-Aunle (*Dactylorhiza hatagirea*).

Faunal biodiversity is a key tourism asset which is important to Nepal's sustained economic growth. Floral biodiversity is also critically important for the livelihoods of rural people across Nepal. For example, high value medicinal and aromatic plants are an important source of household income for people in the Himalayas/high Mountains. They are in fact important instruments for addressing poverty issues for the marginalized, forest dependent communities as they contribute to livelihoods, including food security, income and health.

The impact of climate change on the health of ecosystems is a key risk to Nepal. Climate change threatens ecosystems, biodiversity and people's livelihoods in a number of ways. With the increase in temperatures, vegetation is expected to shift upward, water cycles will change, encroachment of invasive species is expected to increase, flowering patterns will change, and prevalence of disease and pests is expected to increase. The prolonged winter dry spells have increased and more frequent forest fires have destroyed large forest areas and forest biomass, thereby hastening the emission of carbon dioxide into the atmosphere. Many observations suggest that recent climate change has already influenced animal and plant populations in a number of ways. The influence can be seen in the timing of seasonal events (e.g. flowering, migration), in rates of growth and reproduction, and in the distribution of species. Because species react differently to climate change, climate change is also influencing species interactions (e.g. predation, parasitism, competition, symbiosis). This results in serious vulnerability to biodiversity and is a threat to the people who depend on biodiversity for their livelihoods. It is expected to have a disproportionate effect on vulnerable communities. Women, whose daily activities are largely associated with natural resources such as fetching water, collecting firewood and grasses etc., are particularly vulnerable.

Mountain ecosystems especially are highly sensitive to climate change. These same ecosystems provide up to 85% of the water humans depend on as well as a host of other ecosystem services such as timber, unique flora and fauna, and critical habitat for rare and endangered species. Climate change poses special problems for mountain protected areas, such as national parks and wilderness areas, because most of the land area within their boundaries is at higher elevations. The above provides a clear overview of the vulnerability of Nepal's mountain ecosystems to climate change and the impacts on livelihoods.

C. Relationship to CAS

The proposed project is fully consistent with the FY 12 - 13 Interim Strategy Note (ISN). The ISN is organized around three main pillars, namely: (i) Enhancing Connectivity and Productivity for Growth, (ii) Reducing Vulnerabilities and Improving Resilience, and (iii) Promoting Access to Better Quality Services. The proposed project contributes to the second ISN pillar on reducing vulnerabilities and improving resilience. As the ISN recognizes, Nepal is highly susceptible to climate change risks. The proposed project also aligns with the new Country Assistance Strategy (CAS) for Nepal, which is currently under preparation.

The proposed project also aligns with the World Bank's (WB) commitment as an implementing agency of the Climate Investment Fund's Pilot Program for Climate Resilience (PPCR). The proposed project is one of the 5 projects identified in Nepal's Strategic Program for Climate Resilience (SPCR) that was developed by the Government with support from the Asian Development Bank (ADB), International Finance Corporation (IFC), and World Bank through an extensive consultative process with development partners, civil society, and private sector. Other PPCR projects are: (i) Building Resilience of Watersheds in Mountain Eco-Regions (to be implemented by ADB), (ii) Building Resilience to Climate Related Hazards (to be implemented by WB), and (iii) Mainstreaming Climate Risk Management in Development (to be implemented by ADB), and (iv) Building Climate Resilient Communities through Private Sector Participation (to be implemented by IFC). It also aligns with Nepal's National Adaptation Programme of Action to Climate Change that identifies ecosystem health as a key priority area.

II. Proposed Development Objective(s)

II. Proposed PDO/Results

A. Proposed Development Objective(s)

The development objective of the proposed project is to assist the Government of Nepal (GoN) to develop and implement climate-resilient biodiversity plans for selected protected areas and to improve the livelihoods of communities in the buffer zones.

The project will be implemented in the habitats of endangered species in the mountain regions. Key faunal and floral species which are considered to be critically endangered and vulnerable to climate change in high altitude mountain regions have been identified as target species under the proposed project. The potential project sites have been selected on the basis of physiographic representativeness of mountain ecosystems, elevation zones, high vulnerability to climate change, eco-regional diversity, species diversity, presence of endangered and charismatic species and cultural diversity. This is in line with Nepal's selection as one of the PPCR pilot countries because of its unique and vulnerable mountain ecosystems which are more impacted by climate change than the ecosystems in lower altitudes. Climatologists believe that the changes occurring in mountain ecosystems provide an early

glimpse of what may come to pass in lowland environments. Information on the health of mountain environments will undoubtedly assist governments and international organizations as they develop management strategies and mount strong campaigns to reverse current global warming trends. The lessons learnt from this project will be of tremendous importance in enhancing global knowledge and experience on climate change resilience measures in mountain ecosystems.

B. Key Results

Progress towards the development and implementation of climate-resilient biodiversity plans for selected protected areas and the improvement of livelihoods of communities in the buffer zones would be indicated through proposed indicators (to be refined and developed) such as:

- Climate sensitive management plans prepared and key priorities implemented in the priority Protected Areas (PA) and the surrounding landscapes;
- Conservation strategies to enhance climate resilience of endangered focal species prepared and implemented;
- The livelihood of natural resource dependent communities improved while reducing the decline in biodiversity.
- Area brought under enhanced biodiversity protection
- New areas outside PAs managed as biodiversity-friendly

III. Preliminary Description

A. Concept

1. Description

The proposed project would be designed to assist the GoN to develop and implement climate-resilient biodiversity plans for selected protected areas and to improve the livelihoods of communities in the buffer zones in two pilot protected areas and its surrounding landscape.

The proposed project would be implemented in two mountain protected areas and the surrounding landscapes. The PAs are Shey-Phoksundo National Park (SPNP) and Dhorpatan Hunting Reserve (DHR). The PAs were identified based on specific criteria (II A above). They have high vulnerability to climate change, contain habitats of endangered species, such as snow leopard and red panda and habitats of high value and threatened medicinal plants, such as yarcha gunbu and kutki (both have a high livelihood relevance). The selected PAs include areas affected by human activities and also contain wilderness areas. Despite the ecological importance, the harsh conditions and increasing threats to conservation, these PAs have received little conservation attention. Therefore, these are PAs with limited information and data and low funding allocated for conservation and adaptation to climate change, not due to the lack of importance, but due to constrained resources.

SPNP, established in 1984 is an International Union for the Conservation of Nature (IUCN) Management Category II (National Park) located in the Mid-Western development region of Nepal. The park supports the prime habitat for the highest number of the snow leopard in Nepal. In addition to climate vulnerability, SPNP is threatened by habitat destruction, over grazing, poaching of snow leopard and musk deer, hunting of blue sheep and over harvesting of medicinal plants. The buffer zone is jointly managed by the park and local communities. DHR is an IUCN Management Category VIII (Game Production/Multiple Use Management Area) located in the Dhaulagiri Himal range in

West Nepal. DHR was established in 1983 under the National Parks and Wildlife Act of Nepal. Hunting of blue sheep, himalayan tahr, barking deer, wild boar and some other common bird species is permitted in the reserve, based on a formal hunting license issued by the Department of National Parks and Wildlife Conservation (DNPWC). The reserve contains the prime habitat for blue sheep, which are the main prey species of the snow leopard and has sizable populations of red panda and snow leopard. The Red Panda are found in three hunting blocks in DHR and have a declining population in Nepal.

Component 1: Climate resilient biodiversity management plan development

A better understanding of climate change impacts on ecosystems and species is key in terms of responding to adverse impacts of climate change on ecosystems and species. Instrumental for this are knowledge building and adaptation as well as development of institutional and human resources. The proposed project would provide technical assistance for improved information, knowledge and capacity regarding climate change and resilience measures on the natural habitats of endangered species by supporting the following indicative activities:

- Climate vulnerability assessments for SPNP, DHR and surrounding conservation landscapes focusing on climate vulnerability of terrestrial biodiversity and the communities living in the surrounding landscapes;
- Preparation and/or updating of Protected Area Management Plans for SPNP and DHR to be climate sensitive;
- Development of a framework for wildlife conservation and ecologically responsible livelihood development for communities in the landscape outside SPNP and DHR;
- Preparation of conservation strategies to enhance climate resilience of the focal species;
- Capacity assessment of conservation agencies (DNPWC and Department of Forests), local government bodies and buffer zone communities for participatory management of conservation landscapes;
- Institutional and human resource capacity building, conservation education and community awareness programs.

Component 2: Management plan implementation

New approaches to the management of ecosystems and biodiversity are required to respond to the emerging threats of climate change. In response to the anticipated effects of climate change adaptation, strategies to facilitate the adjustment of human society and ecological systems to altered climate regimes would be identified during the climate vulnerability assessments of the pilot PAs. Adaptation measures would involve a landscape level approach to wildlife conservation since wildlife populations are not restricted to protected areas. Since conservation landscapes susceptible to climate change would require targeted support for conservation and recovery programs of endangered species, implementation of conservation strategies developed for the focal species becomes important. Management of endangered species, natural habitats and improvements in eco system health will be supported through the following indicative activities:

- Implementation of priority actions of the climate sensitive protected area management plans;
- Investments for key actions of the conservation strategies developed for enhancing climate resilience of the focal species;
- Support for habitat improvement activities in the conservation landscapes outside the focal PAs as identified in the climate vulnerability assessment;

Component 3: Livelihood enhancement

The rich ecological landscape surrounding the pilot PAs has been integral to the lives, well-being and livelihoods of the local community in the buffer zones. Community livelihoods are derived in large part from forestry, fishery, and tourism and the services performed by its ecosystems support life (through soil formation, nutrient cycling, primary production, oxygen production, and habitats) and regulate processes crucial to well-being (air quality, climate, water flow, soil retention, water purification, and biological and disease control). The ability to adapt to changes in the environment is also determined in great part by the variation and resilience of species and ecosystems. Appropriate management of natural systems can therefore play a critical role in contributing to cost effective adaptation. Since the natural habitats of endangered species are changing as a result of climate change, the livelihoods of the dependent communities are also affected. It is therefore important to enhance the livelihoods of communities by providing alternative livelihood options. Improving the well-being of natural habitat dependent communities would be supported through the following indicative activities:

- Based on the findings of the climate vulnerability assessment, support would be provided for activities such as community based eco-tourism, diversification of local products, marketing high value products such as fruits, Non-timber forest products, medicinal plants, animal breeds and on-farm fodder and forage support;
- Due to the changing habitats there may be an increased incidence of human wildlife conflict. Support for specific activities that could be initiated to reduce such incidence, includes introducing or strengthening insurance or compensation schemes towards crops and livestock loss, fencing, and awareness/education would be provided;

Component 4: Project coordination and management

This component would support project management/coordination activities such as the day-to-day coordination and supporting the implementation of the project components, including technical, fiduciary, and monitoring and evaluation responsibilities.

2. Key Risks and Issues

The overall risk rating is assessed at substantial at this stage. The more significant risk is related to the project design as there is currently a significant amount of work ongoing on biodiversity related issues throughout most parts of Nepal. Most of the approaches focus very much on business as usual interventions whereas the PPCR calls for transformational change and what this means in terms of climate resilience biodiversity is yet not clearly defined. The design of the project shall therefore be made flexible enough to incorporate new approaches, build on best practices and use techniques of adaptive management. In order to reduce stakeholder risks broad based stakeholder consultations will be held throughout the preparation and implementation of the project.

B. Implementing Agency Assessment

While the ministry responsible for the sector and the project is the Ministry of Forests and Soil Conservation (MoFSC), the project will be implemented by the Department of National Parks and Wildlife Conservation (DNPWC) and the Department of Forest. The implementation of the proposed project would be coordinated through a Project Coordination Unit (PCU) already in existence for coordination of the Strengthening Regional Cooperation for Wildlife Protection Project. The PCU function has been delegated to the National Trust for Nature Conservation (NTNC) under the

Strengthening Regional Cooperation for Wildlife Protection Project. The PCU will be responsible for the day-to-day coordination and supporting the implementation of the project components. The PCU is led by a Project Chief and supported by a team of professional staff, including technical specialists and a finance/disbursement officer and a procurement officer to handle the fiduciary responsibilities together with a few support staff. Overall project oversight would be provided by a project specific steering committee, chaired by the Secretary, MoFSC.

The overall coordination of the PPCR program (with all 5 PPCR sub-projects) would be managed by the Ministry of Science, Technology and Environment (MoSTE). A Climate Change Coordination Committee, chaired by the Honorable Minister for MoSTE and the National Planning Commission (NPC) member responsible for Environment, to provide oversight and guidance for all climate related projects in Nepal is being established. The PCU will work closely together with the Mainstreaming Climate Risk Management in Development Project (the third sub-project of PPCR) to ensure knowledge and results management across the 5 PPCR sub-projects.

IV. Safeguard Policies that might apply

Safeguard Policies Triggered by the Project	Yes	No	TBD
Piloting the Use of Borrower Systems to Address Environmental and Social Issues in the Bank-Supported Projects (OP/BP 4.00)		X	
Environmental Assessment (OP/BP 4.01)	X		
Natural Habitats (OP/BP 4.04)	X		
Pest Management (OP 4.09)		X	
Physical Cultural Resources (OP/BP 4.11)		X	
Involuntary Resettlement (OP/BP 4.12)	X		
Indigenous Peoples (OP/BP 4.10)	X		
Forests (OP/BP 4.36)	X		
Safety of Dams (OP/BP 4.37)		X	
Projects in Disputed Areas (OP/BP 7.60)*	Not applicable		
Projects on International Waterways (OP/BP 7.50)	Not applicable		

V. Tentative financing

Source:	US\$ million
Borrower/Recipient	0.00
Strategic Climate Fund Grant	5.00
Total	5.00

VI. Contact point

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* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

Borrower/Client/Recipient

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VII. For more information contact:

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