



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: MEDIUM-SIZED PROJECT

TYPE OF TRUST FUND: NPIF

PART I: PROJECT INFORMATION

Project Title:	Implementing the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing in Bhutan		
Country(ies):	Bhutan	GEF Project ID:	5448
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5239
Other Executing Partner(s):	National Biodiversity Centre (NBC), Ministry of Agriculture and Forests	Submission Date:	May 28, 2013
		Resubmission Date:	July 1, 2013
		2 nd resubmission Date:	August 13, 2013
GEF Focal Area (s):	Biodiversity	Project Duration(Months)	48
Name of parent program (if applicable):	N/A	Agency Fee (\$):	95,000
<ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> 			

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
BD-4: Build Capacity on Access to Genetic Resources and Benefit Sharing	NPIF	1,000,000	2,000,000
Total Project Cost		1,000,000	2,000,000

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: To develop and implement a national Access and Benefit Sharing (ABS) framework, build national capacities and facilitate the discovery of nature-based products						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing(\$)
1.Strengthened National Regulatory and Institutional Framework on ABS	TA	<ul style="list-style-type: none"> ▪ Nagoya Protocol ratified by the parliament ▪ Strengthened national ABS regulatory framework in compliance with the Nagoya Protocol ▪ Implementation framework under the national ABS policy fully operational 	<ul style="list-style-type: none"> ▪ Increased knowledge in Bhutanese legislature of the potential benefits for the country of prompt ratification of the Nagoya Protocol. ▪ Legal framework for ABS strengthened with approved national ABS policy, revised Biodiversity Act of Bhutan with rules and regulations specific to ABS. ▪ An institutional framework, administrative systems, rules and procedures in place 	NPIF	90,000	350,000

			facilitate implementation of the national ABS framework			
2. Capacity building and awareness raising for implementation of the National ABS Framework	TA	<ul style="list-style-type: none"> ▪ Improved capacities of the National Biodiversity Centre (NBC) for facilitating ABS agreements and handling issues under the Nagoya Protocol, indicated by: (i) Increased capacity in NBC for monitoring of bio-prospecting projects; (ii) Increased capacity to add value to genetic/biological resources in the country; (iii) Improvement of the capacity of NBC for negotiating ABS agreements as recorded in the UNDP ABS Capacity Scorecard. (Baseline is to be established during the PPG). ▪ Enhanced understanding of the ABS regime and the value of traditional knowledge associated with genetic and biological resources for improved policy making and on the ground implementation of conservation, sustainable use and fair and equitable sharing of benefits 	<ul style="list-style-type: none"> ▪ Improved facility and capacity for bio-prospecting and traditional knowledge documentation, including establishment of bio-prospecting laboratory and emplacement of national capacities on bio-prospecting and ABS including legal expertise ▪ Mechanisms and methodologies for ABS operationalized clarifying rules and procedures for NBC and genetic resource providers and users ▪ Staffing structure of NBC enhanced with co-financing (GEF will not pay salaries of staff) and ten staff members of NBC and 15 other relevant partners trained in different stages of bio-prospecting processes and in negotiation of ABS agreements with users ▪ Awareness of the public on ABS and conservation and sustainable use of genetic/biological resources enhanced through a range of outreach activities. 	NPIF	290,000	420,000
3. Piloting agreements on ABS	TA	<ul style="list-style-type: none"> ▪ Effective working of a national ABS regime demonstrated by: (i) Two ABS agreements compliant with the Nagoya Protocol; (ii) Five lead compounds are identified and 	<ul style="list-style-type: none"> ▪ At least 2 new ABS agreements established between national and international companies including traditional knowledge associated with biological resources to be negotiated between the companies, NBC and 	NPIF	530,000	1,025,000

		considered for the development process of manufacturing , cosmetic, and pharmaceutical products; (iii) Two trial products for the manufacturing , cosmetic, cosmeceutical and pharmaceutical industries .	communities; through a range of support measures including capacity building of national companies and communities; provision of technical assistance for negotiation and legal drafting; and consolidation of TK registry. <ul style="list-style-type: none"> ▪ Over 1250 extracts tested for the identification of biological activity relevant for developing manufacturing, cosmetic and pharmaceutical products. ▪ 25 active compounds purified and their structure elucidated in facilities of project partners as candidates for developing two-trial products. ▪ Up to three prior informed consent (PIC) processes with indigenous and local communities (ILCs) implemented, with clear benefit sharing provisions ▪ Facilitate knowledge and technology transfer from the international companies to Bhutanese companies, allowing the latter to discover new enzymes and other genetic resources for use in various biochemical application 			
		Subtotal			910,000	1,795,000
		Project Management Cost (PMC)		NPIF	90,000	205,000
		Total Project Cost			1,000,000	2,000,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	National Biodiversity Centre	Grant	320,000
National Government	National Biodiversity Centre	In-kind	350,000
National Government	Ministry of Agriculture and Forestry	Grant	390,000
National Government	Ministry of Agriculture and Forestry	In-kind	100,000
National Government	Bhutan Trust Fund for Environmental Conservation	Grant	390,000
National Government	Bhutan Trust Fund for Environmental Conservation	In-kind	150,000
GEF Agency	UNDP	Grant	100,000
Private Sector	Nimura Genetic Solutions	Grant	200,000
Total Cofinancing			2,000,000

D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$)(a)	Agency Fee (\$)(b)	Total (\$) c=a+b
Total Grant Resources						

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.

E. PROJECT PREPARATION GRANT (PPG)¹

Please check in the appropriate box for PPG as needed for the project according to the GEF Project Grant:

Amount Requested (\$) Agency Fee for PPG (\$)²

\$50k for projects up to& including \$1 million

45,000 4,275

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

Trust Fund	GEF Agency	Focal Area	Country Name	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
NPIF	UNDP	Biodiversity	Bhutan	45,000	4,275	49,275
Total PPG Amount				45,000	4,275	49,275

PART II: PROJECT JUSTIFICATION³

A. PROJECT OVERVIEW

A.1. Project Description.

Bhutan is situated in the eastern Himalayas bordered by India to the south, east and west and by China to the north. It is one of the smallest nations in Asia with a size of 38,394 km² and an estimated population of 742,700. The country forms part of the WWF 200 Eastern Himalayan Broadleaf and Conifer Forests Ecoregion, which is also the Eastern Himalayas Global Biodiversity Hotspot. The terrain is some of the most rugged in the world, characterised by huge variations in altitude. Within the 220 kilometres between the southern and northern borders, Bhutan's elevation rises from 150 to more than 7,500 metres. This geographical diversity combined with many climate conditions, contributes to Bhutan's outstanding range of floral and faunal diversity. Bhutan's forests are home to a number of extraordinary mammals such as the highly endangered tiger, golden langur, lesser panda, clouded leopard and Takin. There are more than 5,603 vascular plant species of which as many as 750 are endemic to the region, with 100 or more endemic to Bhutan itself. More than 400 ferns, 200 mammals, and 770 species of bird have been recorded in the country, resulting in an impressive directory of genetic diversity. In fact, Bhutan has long been referred to as "Lhomenjong" (lit. southern valley of medicinal herbs) because of the diversity of medicinal plants that are found at different altitudes ranging from 200 to 7800 meters above sea level. Traditional medicine has been an official part of Bhutan's public health system along with western medicine for more than four decades. The country also has a large degree of crop plant diversity with estimated 250-300 rice varieties including at least two wild relatives, as well as wild relatives of buckwheat, foxtail millet, oats, apples and citrus.

The country's development is guided by the philosophy of Gross National Happiness (GNH), with the four pillars of GNH being: promotion of sustainable development; preservation and promotion of cultural values; conservation of natural environment; and establishment of good governance. Bhutan is largely an agrarian country and agriculture is the single largest sector providing a livelihood to over 69% of the population. The largest foreign income earner is hydroelectricity providing 5,309.86 GWh to India.

¹ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

² PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

³ Part II should not be longer than 5 pages.

Problem: Although the country’s natural environment is relatively pristine, the globally significant genetic diversity of Bhutan is under increasing threats. Overharvesting of non-timber forest is a serious concern, in particular for medicinal and aromatic plants, forest foods such as mushrooms, ferns and wild greens, bamboo, cane and plant bark and pulp for local handicrafts. For instance, bamboo and cane in the Monpha area of Jigme Singye Wangchuck National Park, which were once abundantly available in the immediate vicinity of the villages, now have to be collected from three to four hours of walking distance. Wildlife poaching and trade are prevalent along the remote borders. The main species targeted for poaching are musk deer and Chinese caterpillar fungus that are both valued for their medicinal properties. Habitats for fauna and flora are being degraded. Extraction rates for fuel wood and timber for construction are increasing rapidly, leading to forest degradation in areas near human settlements. There is a serious concern that the increasing demand for timber and fuel wood caused by population increase will lead to unsustainable extraction of wood accelerating forest degradation and biodiversity loss. Forest land degradation is also caused by mining and quarrying activities. Forest fires are a recurrent and widespread phenomenon in Bhutan. Nearly 70,000 hectares of forest lands were affected in the 10 years up to 2009. Land conversion, although relatively small scale is also an issue in the country. Forests are cleared for infrastructure development, agriculture and urbanization. Root causes include population growth at the rate of 1.3 % per annum which will double the current population by 2059 if the trend continues. Poverty with 30.9 % of rural population living below the total poverty line compared to 1.7% in the urbanized areas is another underlying cause. Increasing affluence and modernizing lifestyle of the Bhutanese has increased consumption of natural resources and products. Consumer demands for cheaper agricultural produce has also led farmers to grow high-yielding, but often imported varieties of crops such as paddy rice, maize and wheat.

Concurrent to the pressures on the environment mentioned above, Bhutan also bears the huge responsibility of maintaining 60 per cent forest cover for all time to come as per the constitution. This underlies the need to gauge the increasing pressures on the environment vis-a-vis the goal to conserve the forests for perpetuity and identify critical measures that need to be put in place to enable a win-win situation. In this regard, Bhutan sees great potential in sustainably utilising its vast wealth of genetic resources through a far-sighted vision which enables the fair and equitable sharing of benefits through access to genetic resources, part of which in turn is ploughed back into a conservation fund to sustain conservation initiatives in the country. It is hoped that with civic and community engagement in implementing the Access and Benefit Sharing (ABS) regime, there will be a paradigm shift from state-centric conservation to people-centric conservation thereby enabling the future of conservation in Bhutan as well as empowering rural communities and livelihoods. Furthermore, the underlying problem related to the ABS is that the potential benefit which developing nations such as Bhutan can receive from the exploration and exploitation of their genetic resources for drugs and other uses is not fully explored. This results in undervaluing the genetic resources the country harbours and their overexploitation, which in turn threatens the genetic resources. At the same time, spending worldwide on drug discovery research (amounting to tens of billions of dollars per year) is virtually all conducted in developed countries rather than the host countries where the biodiversity occurs naturally. As a result, the benefits that host countries receive from the exploration and exploitation of their genetic resources are very limited, both in terms of financial income and trickle-down benefits such as training and employment: this in turn limits their motivation and abilities to invest in the conservation of biodiversity.

Long-term Solution: In order to safeguard Bhutan’s diverse genetic resources, the potential of genetic resources in the country must generate tangible local and national economic benefits. The benefits will be in the form of business, employment and capacity building opportunities, through the discovery and development of new medicines or **cosmetics**, thereby providing a rationale for the preservation of the biological resources that contain the genetic material. This will represent a paradigm shift from the situation described above, to one in which biodiversity-rich nations such as Bhutan are fully and equitably involved in this lucrative research process with the primary goal of promoting people-centric conservation and sustainable use. The ultimate goal is to contribute to Article 5 of the Constitution of Bhutan mandating the maintenance of 60% of forest cover in perpetuity.

Barriers: The achievement of the solution proposed above, however, has to date been impeded by a number of barriers.

Barriers	Description
Suboptimal National Regulatory and Institutional Framework on ABS	Although Bhutan enacted the Biodiversity Act in 2003, was a signee to the Nagoya Protocol in 2011 and has drafted the ABS policy, progress has been somewhat slow due to the suboptimal institutional framework for implementation, and an absence of clear rules and regulations for implementation of the policy. In the meantime, there have a number of initiatives by international companies to access biological resources in Bhutan for product development. There is an urgent need for fully establishing the national ABS framework to ensure that bioprospecting and product development will accrue tangible and fair benefits to the country and concerned institutions and

	communities. Limited awareness of existence, use and option values of biodiversity is also hampering progress. There are insufficient levels of awareness of the value of biodiversity and its genetic resources among decision- and policy-makers. To ensure political support for assigning the levels of resources that are required for their conservation, it will be essential to drastically improve the level of knowledge in the country.
Limited institutional and individual technical capacities	Insufficient financial and human resources also result in the sub-optimal status of the national regulatory and policy framework. Without adequate expertise in the field of ABS and the lack of legal expertise at NBC, the progress of national framework development has been slow. Although the Royal Government of Bhutan (RGoB) initiated a bioprospecting programme in 2009, capacity limitation in terms of human, technical, financial and infrastructure (facilities for HPLC and GCMS etc.) resources has been apparent. There is an urgent need for strengthening the institutional set up of the NBC and individual capacity to enable better implementation of the ABS Policy, ensuring sufficient competence for monitoring bio-prospecting projects and facilitate value addition to biological resources in the country. There is a need for accelerating documentation of traditional knowledge (TK) associated with genetic resources, in order to ensure that an adequate PIC process will be conducted and MAT will be assured to ensure that the holders of the TK will be able to derive tangible and fair benefits from the ABS deals.
Limited experience with the negotiation and implementation of ABS agreements	A number of bioprospecting activities are on-going and companies have indicated formal interests in accessing biological resources of Bhutan. However, given the new nature of the topic and inadequate capacity of the NBC and stakeholders, there is limited expertise in actually developing ABS agreements that are fully compliant with the Nagoya Protocol. Without model agreements and realisation of actual benefits to the country and concerned communities which can be replicated and up-scaled, the progress of advancing the ABS agenda in the country will remain slow.

Baseline: The Royal Government of Bhutan (RGoB) has been making enormous efforts to conserve forest areas and genetic biodiversity by implementing the National Biodiversity Action Plan of 2009. The Constitution of the Kingdom of Bhutan mandates the maintenance of a minimum forest cover of 60% for perpetuity. The current forest cover is over 70% with more than 51%, secured as protected areas and biological corridors. The National Biodiversity Centre (NBC) was established in 1998 under the Ministry of Agriculture and Forests (MoAF) as an implementing agency of the Convention on Biological Diversity (CBD) and to coordinate biodiversity conservation and sustainable use programmes in the country. The current annual operational budget for the NBC is US\$ 429,074. In order to safeguard the country's genetic diversity, NBC houses more than 10,000 specimens of Angiosperms, Gymnosperms, Pteridophytes and Bryophytes in its herbarium. The National Gene Bank offers an *ex-situ* conservation facility for plant genetic resources for food and agriculture. It holds a total of 1,268 accessions of cereals, legumes, oil seeds and vegetables, as well as over 3,500 doses of semen from local poultry and sheep breeds for research and long term use. The national biosafety framework was also established in 2006 in response to the need for a framework focusing on the safe transfer, handling and use of modern biotechnology products.

A great deal of national capacity has been built in the Bioprospecting programme and implementation of the ABS regime. The baseline capacity of the NBC Bioprospecting program is:

- Capacity to carry out extraction techniques like solvent extraction, aqueous extraction and also essential oil extraction.
- Moderate capacity to carry out bio-activity tests but needs further capacity building. \Capacity in drafting and execution of the ABS agreements.
- Capacity in documenting Traditional Knowledge associated with Bhutanese Genetic Resources.
- Currently there are about four proposals that are being considered as potential ABS collaborations. The GEF supported project will support development of natural products using Bhutanese genetic resources.

The NBC will invest US\$ 600,000 for the 4 years of project implementation including salary, transportation, travelling and daily allowances, facility running costs (capital and recurrent) and capacity building of staff.

The Bhutan Trust Fund for Environmental conservation was established in 1992 with an endowment of US\$ 20 million, as a collaborative venture between the RGoB, UNDP, and World Wildlife Fund (WWF). It funds conservation projects including discovery and inventories of flora and fauna and traditional knowledge in the areas of environmental conservation. With an investment portfolio of US\$ 44.18 million, the Fund has to date provided over 120 grants amounting to US\$ 2.65 million.

As the key agency for coordinating biodiversity activities in the country, the NBC is spearheading the process of

exploration of biological resources and working on establishing national mechanisms for the implementation of the ABS regime. The NBC is the authorized agency that facilitates ABS agreements and Material transfer agreements as per the Biodiversity Act (2003) and the draft ABS policy.

The draft National ABS policy was developed by the centre, covering the utilization of Bhutanese genetic resources and traditional knowledge associated with biological resources when used for commercial and/or research purposes. The draft policy is going through the process of formal endorsement by the Gross National Happiness Commission and the Cabinet. As the implementing agency for the CBD objectives and also the National Focal point for the International Treaty on Plant Genetic Resources for Food and Agriculture and also for the Commission on Genetic Resources for Food and Agriculture, the centre is working closely on harmonisation of mechanisms to address ABS issues under all the legal instruments as well as harmonisation of conservation plans and strategies in the country. The centre is also currently updating the National Biodiversity Strategic Action Plan to align the national plan with the Aichi targets and establish national indicators and targets.

The NBC also established the Bhutan Access and Benefit Sharing (BABS) Fund⁴ with the first payment received from the sale of orchid (*Cymbidium erythraeum*) flowers to Quantum Pharmaceuticals Limited (QPL), Switzerland as one of the ingredients for the production of a cosmetic product called REDEEM (the world's first anti-aging plasma) in a collaborative undertaking with the MoAF. The BABS fund has since collected a total of US\$ 12,727.27 from the sale of orchids. Royalties that accrue based on the sales of the product will be deposited in the fund. These funds focus directly on communities and conservation activities and have supported a number of community level projects for orchid propagation in order to promote community income generation and strengthen the capacity of farmers in orchid propagation and management while discouraging wild orchid collection. The principle behind the establishment of the fund was to operationalize the ABS regime in a small way to strengthen national capacities to understand and learn from the challenges and the positives that such an initiative results in. The aspiration is to channel funds through bioprospecting initiatives in the future to the communities as well as the ABS fund so that there is a sustained financing mechanism for conservation in the country as well as strengthening the relationship between the communities and conservation.

There have been a number of collaborative initiatives between the NBC and international and national private sector companies. NBC has an ABS agreement with the private company Bhutan Pharmaceutical Private Limited (BPPL) on *Ophiocordyceps sinensis* and other insect fungi where BPPL is granted non-exclusive access to *Ophiocordyceps sinensis* and other insect fungi for research and product development. The agreement was initiated in 2011 to build the national capacity in the field of biotechnology and biodiscoveries. Through this project, NBC will work on strengthening capacities of NBC as well as BPPL in order to enable fair mechanisms are established and opportunities identified to strengthen the national private sector engagement in research and commercialisation of genetic resources.

NBC is also in discussion with international companies such as Nimura Genetic Solutions (NGS) and others, exploring the possibility for developing formal collaboration in the field of bioprospecting and natural product development.

Since the inception of the Bioprospecting program, there have been two MoAs with a national company (BPPL) and with an international company (QPL). There was one MoU with NGS. The MoA with BPPL is still ongoing and more on research on insect-fungi. The MoA with QPL has resulted in a cosmetic product with early payments received channeled into communities. The royalties on the sale of the product are still to be realised but it is expected to happen soon. A great deal of national capacity has been built in the Bioprospecting program and implementation of the ABS regime. Currently there are about four proposals that are being considered for potential as ABS collaborations. The GEF supported project will support development of natural products using Bhutanese genetic resources.

NBC was supported in establishing its basic bioprospecting laboratory through technical assistance and support from NGS through a 5-year Memorandum of Agreement on Technical Collaboration between Royal Government of Bhutan RGoB and NGS in 2009 for collaborative research of the screening of natural resource. Under the agreement, NGS has been supporting the establishment of the bio-exploratory laboratory at the NBC through provision of technology and the business know-how, in support of the NBC bioprospecting programme. NGS has so far invested approximately US\$ 300,000 for technology transfer in research and development and collaborative research on Bhutanese *Star anise*. It is expected that NGS will continue to invest a minimum of US\$ 200,000 in the coming four years through direct technical support for Bhutan, in addition to other investment in Japan related to this support. The support will include transfer of technology related to research and development including DNA extractions, sequencing etc. It will also

⁴BABS was set up to channel the benefits acquired from the access and utilization of genetic resources into local communities and conservation activities. The fund is managed by the NBC. It currently receives upfront payments in the form of scoping fees and deposits as well as revenue from the sales of products. However, it currently does not receive royalties at this stage. The primary beneficiaries of the Fund are communities in general and in particular the communities where the GR or TK has been accessed.

include support for the development of Nagoya Protocol compliant agreements, and the identification of potential buyers/partners from various industries such as pharmaceuticals, cosmetics, health food, chemical and energy.

The government is in the process of signing a scoping agreement with Yves Rocher (France) recently on collaborating in genetic resources exploration for cosmetic use.

Alternative Scenario: The project objective is to: develop and implement a national ABS framework, build national capacities and facilitate the discovery of nature-based products. The project will remove the aforementioned barriers and emplace necessary capacity within the NBC and other related stakeholders. The project will also enable smooth and successful agreements on different products from Bhutanese genetic resources, ensuring full compliance with the provisions of the Nagoya Protocol. The project will enable Bhutan to achieve ratification and implementation of the Nagoya Protocol, upgrading the Bioprospecting Programme and the laboratory as well as technical and legal capacities to carry out isolation and identification of bio-active compounds, legal expertise to enter into negotiations and execute ABS agreements, and develop community protocols and capacities to enter into ABS negotiations.

Component 1- Strengthened National Regulatory and Institutional Framework on ABS⁵

This component will support strengthening of the national ABS regulatory framework in compliance with the Nagoya Protocol and provide support for timely ratification of the Protocol by the Parliament through awareness raising and provision of necessary information targeting the legislature. In addition, the implementation framework under the national ABS policy will be fully established and made operational under this component. The draft ABS policy is fully compliant with the Nagoya Protocol, with necessary provisions including protection of traditional knowledge (TK), mutually agreed terms (MAT) and prior informed consent (PIC) including protocol for PIC. However there is still a need to enhance understanding of the ABS regime and the value of TK associated with genetic and biological resources among the decision makers and stakeholders. The project will provide support for this in order to improve policy decision making and on-the-ground implementation of conservation, sustainable use and fair and equitable sharing of benefits. Legal framework for ABS strengthened with approved national ABS policy, revised Biodiversity Act of Bhutan with rules and regulations specific to ABS. Envisaged activities will include support for: deposition of the instrument of ratification of the NP and designation of NFP for NP (Art. 13, 33); Formal endorsement of the ABS policy of Bhutan (compliant with the NP) by the ruling government (Art.5, 6, 7, 8, 9, 12, 13) ; Revisit the Biodiversity Act of Bhutan 2003 for necessary amendments (Art. 15, 16); Formulation of the rules and regulations for the implementation of the Act (Art. 15,16); Identification and designation of competent/authorised agencies for the implementation and regulation of the ABS regime in compliance with the NP.(Art. 13), and establishment of an institutional framework, administrative systems, rules and procedures to facilitate implementation of the national ABS framework.

Component 2 - Capacity building and awareness raising for implementation of the National ABS Framework

This component will focus on building the capacity of the NBC for facilitating ABS agreements and handling issues under the Nagoya Protocol. Emphasis will also be placed upon monitoring of bio-prospecting projects and facilitating value addition to genetic/biological resources in the country. Capacity improvement will be gauged using the UNDP ABS Capacity Scorecard which has been developed specifically for ABS projects. The project will also support improving facility and capacity for bio-prospecting and traditional knowledge documentation, including the full establishment of a bio-prospecting laboratory. Currently the BP laboratory has the capacity to carry out basic extraction. Through this project, the BP laboratory will be upgraded to enable it to isolate and identify bio-active compounds in potential genetic resources. Envisaged activities include: Procurement and installation of required equipment such as HPLC and GCMS (to be co-financed); Training of relevant staff in biochemical analysis; Capacity building in negotiations and contract agreement drafting; Community protocol development etc; Active exploration of committed partners to enter into ABS agreements etc.; Procurement of technical assistance on ABS and intellectual property issues.

The capacity-building activities in Output 1 will increase national capacity to add value to GR in the country through the isolation and identification of bio-active compounds with the support of TK as well as based on the collaborator's GR of interest along with legal expertise. This value addition will expedite the process of bioprospecting as well as make a wider range of options available to all potential collaborators including NGS. To achieve the outcome on awareness-raising, a series of workshops/seminars/consultative meetings/televised panel discussions, exhibitions/fairs/publications etc will be carried out over the next four years. The target audience will be the members

⁵The potential genetic resources to be accessed are expected to be identified medicinal and aromatic plants and insect fungi as well as our extract library with 250 extracts based on TK.

of parliament, policymakers, scientists, researchers, communities, academia, the private sector, civil society etc.

Component 3 - Piloting agreements on ABS

This largest component will provide targeted support in piloting ABS agreements in the manner that is compliant with the Nagoya Protocol. The project will support BPPL to build local capacity and to find potential partners in the field of insect fungi research, which in turn, will contribute towards achieving the outcomes of component 2. The role of BPPL in this project is to build national capacity on insect fungi with private sector collaboration as well as to enable the implementation of the ABS regime between the government as the provider and a national company as the user to ensure the ABS regime works at all levels- national and international. The project will enable NBC and BPPL to scout for potential international partners as well as provide legal expertise to facilitate ABS agreements between BPPL and the companies. The work will be based on the memorandum of agreement signed between RGoB and BPPL, on ensuring that benefits from product development and marketing by BPPL (and the partners) will flow back to the country and into conservation. In addition, through at least two pilots, effective working of a national ABS regime will be demonstrated. The project will support the agreement between Nimura Genetic Solution (NGS) and NBC: Currently there is a Memorandum of Agreement between RGoB and NGS on Technical Collaboration which will expire by August 2014. The main outcomes of this agreement were the establishment of the BP program as well as the laboratory and technical capacities to the current level. NGS has indicated its interest to support the NBC to tie up with other potential committed and ethical partners in Japan. The project will support development of a new ABS agreement between NBC and the NGS for use of genetic resources from Bhutan, as well as possibly other agreements between NBC and other affiliated companies from Japan. Focus will be on research on high altitude medical plants for possible discovery of lead compounds for medical products, food supplements and cosmetics. Based on the research results the project will support the development of actual products. GEF project funding will cover screening of potential genetic resource and identification of the prioritized genetic resource, consultations, negotiations and drafting of the new ABS agreements, with the inclusion of communities, and supporting community protocol development where indicated. The project will also support Nagoya Protocol compliant agreements between the NBC and other qualified companies aiming to develop lead compounds or products. GEF funding will be used to facilitate consultations and negotiations with national and international counterparts; technical support for collections and laboratory analysis and processing (to be co-financed by the private sector and the government), and for providing technical assistance in the legal field as well as for biochemical analysis. Cost for actual product development and marketing will be borne by co-financing. A strong focus of GEF support will be placed on building strong technical and legal capacity to put us on a footing that enables the country to negotiate fair benefit-sharing for the country while ensuring that the government will gain a positive reputation as a reliable partner as a resource provider.

The ventures to be supported by the project include identification of genetic resources and resource providers in a process including consultation meetings, and fee/terms negotiation and drafting and finalisation of ABS agreements. Up to three prior informed consent (PIC) processes will also be supported with indigenous and local communities (ILCs) with clear benefit sharing provisions. In addition, at least two trial products of natural/**manufacturing**/cosmetic products will be produced. The project will develop capacity of stakeholders on sustainable harvesting and use of resources/capacity building of stakeholders on preliminary processing of genetic resources, which will be co-financed with the private sector contribution. In order to identify at least five lead compounds, the project will consolidate the TK reserves and make full use of them to focus on potential GR which already have a known history of use and efficacy to be isolated and identified at the bio-active compound level. NBC has a collection of 250 extracts backed with TK which the project will build on and be the foundation for the analysis of additional 1,250 biological extracts in search of properties for the development of **manufacturing**, cosmetic and pharmaceutical products. It is expected that about 25 active compounds will be purified and their structure elucidated in facilities of project partners as candidates for developing two-trial products. The GEF support will facilitate transfer of necessary knowledge and technology from the international companies to Bhutanese companies, allowing the latter to discover new enzymes and other genetic resources for use in various biochemical applications.

The following table summarises the key elements of the pilot component.

Industry sector	Private sector company	Baseline project activities without GEF grant	Organism under study	Targets for R&D
Manufacturing industry	BPPL	Inventory, documentation, collection and identification of insect fungi	Insect fungi	Targeting enzyme activity for industrial use for development of detergents, stain removing agents, destarching agent etc. from insect fungi
Cosmetics	NGS, Yves Rocher*	1. Documentation and	Medicinal and	Targeting aromatic plants with

		identification of potential plants for cosmetic use guided by traditional knowledge wherever relevant. 2. Basic extraction	Aromatic plants (identified 160 plants)	cosmetic value for development of products such as perfumes, lotions, soaps etc. Currently looking at a potential 160 plants for extraction and further development with partners.
Pharmaceuticals	NGS to scout relevant pharmaceutical companies.	1. Documentation and identification of potential plants for pharmaceutical use guided by traditional knowledge. 2. Basic extraction 3. Scouting for potential collaborative partners.	Mainly Plants and fungus with known traditional use. 250 extracts already ready for further tests.	Target plants with TK for diseases such as Diabetes, asthma, jaundice and plants with anti-venom use.

Notes: *Ongoing talks with Yves Rocher for collaboration on a cosmetic product.

Additional notes for private sector companies.

MSP, BioBhutan, SNBLL: NBC might collaborate on a natural product with these companies, if it is feasible and the opportunity arises. In the context of this project proposal, they will be involved in the capacity-building process but are not named as direct collaborators but the possibility is there.

SNBLL: This company is newly established in the country and is currently working on developing some natural products.

Novozymes: Novozymes has shown interest in the insect fungi collection of Bhutan with BPPL and if interested, may collaborate with relevant partners in Bhutan (BPPL) to develop products from insect fungi.

Global environmental benefits: The project will contribute significantly towards conservation and sustainable management of Bhutan's outstanding genetic and biological which has evolved in the kingdom due to a topography that has altitudes ranging from 200 to 7,800 meters, and which includes a large number of medicinal plants and wild relatives of crops. By developing the national ABS framework and piloting Nagoya Protocol compliant ABS agreements, the project will facilitate sustainable and most cost-effective use of the biological resources and ensure that the benefits will accrue to the nation and its people. Thus, the project will play a critical role in safeguarding the country's biological resources and their genetic diversity.

Innovativeness, sustainability and scale-up potential: In Bhutan, there is a strong spiritual connection between the people and the environment, based on religious and social norms. The project will aim to develop innovative products and schemes to further strengthen the ties between the people and the environment and work on empowering the rural communities to believe in and benefit from conservation. The project is sustainable as it focuses on establishing the systemic and institutional capacity of RGoB. In addition to the policy and legal framework, the government's budget and staffing structure, and training system for ABS will be looked at in the project to create a firm foundation for sustaining capacity built by the project. ABS agreement pilots will provide opportunities to test and ensure the robustness of the enabling environment and capacity supported by the project. Bioprospecting is identified as one of the key programmes that will be strengthened in the 11th Five Year Plan(2013-2018) in line with the government's drive to promote sustainable use of biodiversity. The ABS agreements piloted in the project and trial products that are produced will be scaled up under the national programme.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

The following stakeholders have been identified. The stakeholder involvement plan will be developed during the PPG.

STAKEHOLDER	MANDATE AND RELEVANT ROLES IN THE PROJECT
National Biodiversity Centre (NBC)	NBC will be the lead implementing agency for the project. It was instituted in 1998 under the Ministry of Agriculture and Forests as an implementing agency of the CBD and to coordinate biodiversity conservation and sustainable use programmes in the country. It houses the National Herbarium, Gene Bank and Botanical Garden. It acts as the focal agency for development of policies and legal frameworks for conservation and sustainable utilization of biological resources. It also serves as the national repository for germplasm and botanical collections, as well as the national focal agency to regulate access to biological resources of the country, ensuring equitable sharing of the benefits arising from access.
Department of Forests and Park Services	Department of Forests and Park Services (DoFPS) is mandated to sustainably manage GRF. They are responsible for managing and conserving the country's rich biodiversity. DoFPS facilitates empowerment of rural communities for the stewardship and management of biological resources and NWFPs for income generation and livelihood.
National Environment	NEC is mandated to coordinate all government agencies on all issues related to environment,

STAKEHOLDER	MANDATE AND RELEVANT ROLES IN THE PROJECT
Commission (NEC)	including biodiversity conservation and climate change. It is also the focal agency for Bhutan for global environmental conventions such as UNFCCC, UNCCD and UNCBD.
Gross National Happiness Commission (GNHC)	GNHC is the former Planning Commission, and is responsible for coordinating the implementation of the five year plans as well as being the official organisation through which all aid is channelled into the country. GNHC is the GEF focal agency, and hence, all co-financing from government sources for this project will be coordinated by GNHC and joint investment planning will be ensured through the window that GNHC provides.
Bhutan Trust Fund for Environmental Conservation	The Bhutan Trust Fund for Environmental Conservation is an independent grant-making organization that uses its annual investment income to finance conservation activities. Grants are awarded to eligible Bhutanese individuals and institutions for biodiversity conservation, and community livelihood initiatives including research for discovery and inventories of flora and fauna and traditional knowledge related to conservation.
Royal Society for Protection of Nature	RSPN is a nonprofit organization with nation-wide operations. The RSPN promotes conservation, education, outreach, sustainable ecotourism, alternative energy, and gender equity.
Menjong Sorig Pharmaceuticals	MSP is an autonomous body under the Ministry of Health which provides traditional Medicinal Services to the people. It also conducts research on Traditional medicines which comprises part of the health care system. Through this project, NBC will be working closely with MSP to enhance capacities on traditional medicine research and screening and product development wherever necessary.
Parliamentarians	Parliamentarians play a key role in the review, assessment and endorsement of the legislations in the country. There is also a dedicated committee for the environment, led and comprised of members of parliament.
Private sector – International Company (NGS etc.)	Project implementation partners, co-financiers and beneficiaries, in particular, under component 3. The companies play a crucial role in building national capacities in bio prospecting and collaborations for research and commercialisation of products from Bhutanese genetic resources. There is an existing Memorandum of Agreement between RGoB and NGS on technical collaboration which will expire by May 2013. The main outcome of this agreement was the establishment of the BP program as well as the laboratory and technical capacities to the current level.
Private sector in Bhutan – Bhutan Pharmaceutical Private Limited (BPPL) etc.	Project implementation partners and beneficiaries. Bhutan Pharmaceutical Private Limited (BPPL) is the first private company in the country to venture into research of Bhutanese biological resources. BPPL has been granted non-exclusive access to <i>Ophiocordyceps sinensis</i> and other insect fungi for research and product development, as part of the government's programme to build national capacity in the field of biotechnology and biodiscoveries. The role of BPPL in this project is to build national capacity on insect fungi with private sector collaboration as well as to enable the implementation of the ABS regime between the government as the provider and a national company as the user to ensure the ABS regime works at all levels- national and international.
Rural communities	Users and custodians of biological resources. Holders of traditional knowledge and beneficiaries of ABS agreements.
Researchers and academia	RNR RDCs and academicians will provide technical expertise and support in the implementation of the project and also be involved in capacity building initiatives.
UNDP	At the request of the Government, UNDP will serve as the GEF Implementing Agency (IA) for the project. In this role, UNDP will ensure project execution on time, on scope and within budget and draw on technical services provided by its regional offices and headquarters to provide technical quality assurance. The project assurance and support functions will be provided by the UNDP Bhutan Country Office as well as UNDP Asia-Pacific Regional Centre which houses technical advisors for these projects.
BAFRA	An agency which regulates entry and exit of Bhutanese genetic resources. It is also responsible for issuing certificate of origin and Phytosanitary Certificates to export and import genetic resources.
WWF/BTF	Both these organisations are strong actors in environmental conservation and have helped NBC in the past. BTF in particular supported the establishment of the basic bioprospecting laboratory through the Bioprospecting project.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

The following risks have been identified. The risk table will be reviewed and updated during the PPG.

Risk	Level	Mitigation Measures
Government staff turnover, especially trained technical staff, may affect the project negatively	Low	The project will support strengthening of institutional capacity of the NBC as the government in charge of ABS issues. Project intervention will include review of staffing structure of NBC and its enhancement. This will reduce negative impact from possible staff turnover. A series of training sessions will be conducted strengthening knowledge and skills necessary for different stages of bio-prospecting processes and in negotiation of ABS agreements with users and communities. Moreover, the bioprospecting facilities will be improved. All these are expected to act as additional incentives for the technical staff to remain in this field.
The period of the project may be too short to result in biodiscovery despite multiple agreements.	Medium	The project will build on already on-going collaboration, agreement and discussions. The pilots will include negotiations over already discovered materials to ensure full demonstration of the ABS agreement. During the PPG process, probability of biodiscovery during the project's timeframe will be further investigated. NBC and stakeholder capacity for traditional knowledge identification/documentation will be supported to facilitate biodiscovery. The project duration is set at 4 years to allow sufficient time to process different stages of biodiscovery and product development.
Local communities may not be willing to provide PIC during the lifetime of the project"	Medium	The Bioprospecting program has already initiated education and awareness-raising programs with local communities and TK holders. To date, they have covered 7 Districts and 12 Blocks and acquired PIC from over 100 TK holders for the documentation of TK. The program is confident that targeted efforts in educating the communities on the importance of TK preservation and utilisation based on PIC as well as the ABS regime will overcome this risk.
Some international partners may prove to be uncommitted to work under Bhutan's ABS Policy framework	Low	The preliminarily identified private sector partners have already been in discussion with the NBC on their interest and are fully aware of the Biodiversity Act and ABS policy. ABS policy is clear about the need for thorough scoping before any companies are brought on board. The Policy sets out criteria for evaluating prospective partner companies and requires that they have demonstrated ethical and environmental standards. The project will support strict implementation of the guidelines to avoid any problems arising during the actual biodiscovery and product development processes.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

The project will build closely on the results achieved by the GEF/UNDP supported Integrated livestock and crop conservation programme including drafting of the national ABS Policy. The on-going GEF/UNEP supported NBSAP updating process will fully integrate the ABS issues which will provide an enhanced enabling environment for the proposed project. The NBC will ensure coordination with the GEF/UNEP supported biosafety enabling activity. The RGoB and UNDP will also ensure that the project will directly contribute to, as well as benefit from, the GEF/WB sustainable financing for biodiversity conservation project which focuses on the strengthening of the Bhutan Trust Fund for Environmental Conservation. During the PPG phase, mechanisms for actual coordination will be determined.

B. Description of the consistency of the project with:

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

The proposed project is fully in line with the country's national strategies and plans. Bhutan's Vision 2020, a 20-year strategy for national development, places conservation of natural environment at the core of its strategy and encourages the wise use of natural resources for sustainable development. The 10th Five-Year Plan (2008-2013) includes, *inter alia*, strategies to integrate conservation, research and development with effective utilisation of genetic resources, and commercialization and sustainable utilisation of biological resources through bio-prospecting. In 2003, the Government enacted the Biodiversity Act of Bhutan, which explicitly protects indigenous rights over traditional knowledge and the involvement of indigenous communities in decision-making related to the use of traditional knowledge. In addition, Bhutan's third Biodiversity Action Plan 2009 has the 2nd objective dedicated to protection of species and genetic diversity in general but more especially realising additional benefits from its biodiversity and includes bio-prospecting as one of the various means for achieving the benefits. The Action Plan is currently being revised to be better in line with the Aichi Targets.

Furthermore, the Government developed the draft Access and Benefit Sharing Policy in 2012 to guide access to genetic resources and associated traditional knowledge and to ensure the fair and equitable sharing of benefits from their

research and commercial utilization.

Bhutan became a member of the CBD in 1995 after ratification by the 73rd session of the National Assembly. Bhutan signed the Nagoya Protocol on Access to Genetic Resources in September 2011 and is working on the process of deposition of the instrument of ratification to the CBD.

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

The project is consistent with the eligibility criteria and priorities of the NPIF as it will support the government of Bhutan to develop the national ABS framework and capacity, promoting bioprospecting, drug discovery and technology transfer on mutually agreed terms. In addition the project will facilitate private sector engagement and projects targeting investments in the conservation and sustainable use of genetic resources in-situ. Lessons from this project will be used to update ABS laws and regulations as required and to improve the capacities in Bhutan to facilitate ABS agreements and handling issues under the Nagoya Protocol.

B.3 The GEF Agency’s comparative advantage for implementing this project:


UNDP will provide US\$ 100,000 co-financing to this project. UNDP has a long-standing presence in Bhutan since 1973, and has a demonstrated track record in assisting a number of national agencies, including the Ministry of Agriculture and Forestry, GNHC and NEC. UNDP Country Programme Document (CPD), covering 2014-2018, in particular Country Programme Outcome 1. Sustainable Development - “By 2018, sustainable and green economic growth that is equitable, inclusive, climate and disaster resilient and promotes poverty reduction and employment opportunities particularly for vulnerable groups enhanced.” Under the outcome, the project directly contributes to the support for innovative actions for natural resource management for realising sustainable green economic growth. The UNDP Country Office (CO) will assign an experienced biodiversity conservation programme manager within the Energy, Environment and Disaster Management Unit, guided by the head of the Unit and supported by additional staff, an administrative assistant, and the UNDP finance office. The UNDP Regional Technical Adviser based in Bangkok and the Senior Technical Adviser on ABS based in Panama will provide technical support to the CO for implementation, monitoring and evaluation of the project.

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 with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE(MM/dd/yyyy)
Mr. Karma TSHITEEM	Secretary	Gross National Happiness Commission	03/11/2013

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 project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date(MM /dd/yyyy)	Project Contact Person	Telephone	Email Address
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