REQUEST FOR CEO APPROVAL

PROJECT TYPE: MEDIUM-SIZED PROJECT
TYPE OF TRUST FUND: NPIF

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PART I: PROJECT INFORMATION

Project Title: **Promoting the application of the Nagoya Protocol through the development of nature-based products, benefit-sharing and biodiversity conservation in Costa Rica**			
Country(ies):	Costa Rica	GEF Project ID:[1]	5420
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4962
Other Executing Partner(s):	INBio	Submission Date:	April 16, 2014
GEF Focal Area (s):	Biodiversity	Project Duration(Months)	36
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ☐ ➢ For SGP ☐ ➢ For PPP ☐		Project Agency Fee ($):	93,059

A. FOCAL AREA STRATEGY FRAMEWORK[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount ($)	Co-financing ($)
BD-4	4.1: legal and institutional regulatory frameworks and administrative procedures established that enable a genetic resources and BS n accordance with the CBD provisions	Output 4.1: Access and benefit-sharing agreements (number) that recognize the core ABS principles of Prior Informed Consent (PIC) and Mutually Agreed Terms (MAT) including the fair and equitable sharing of benefits	NPIF	979,566	4,537,809
		Total project costs		**979,566**	**4,537,809**

B. PROJECT FRAMEWORK

Project Objective: To implement the Nagoya Protocol on ABS through the development of nature-based crop-protection products and the strengthening of the capacity of the national authority.						
Project Component	**Grant Type**	**Expected Outcomes**	**Expected Outputs**	**Trust Fund**	**Grant Amount ($)**	**Confirmed Cofinancing ($)**
1. Proof of concept	TA	At least 6 formulations	1.1.1 Standardized	NPIF	374,015	2,718,061

[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.

for nature-based crop protection agents applied in two crops of economic importance to Costa Rica.		evaluated in 2 selected crop models at green house level and at least 1 formulation validated (deliver positive results) in 1 crop model at field level.	extracts with known concentration of active component for formulation tests 1.1.2 Formulations for each extract derived from each species and for a combination of both extracts 1.1.3 Biological assays in an their evaluation in terms of crop protection and comparision with traditional agrochemical management			
2. Optimizing, scaling up and licensing crop protection agents	TA	0.75 kg of DMDP in a month from 70 kg of dried plant material 300 mg of fungal metabolite per week from 2 liters of ferm broth At least 1 crop protection product ready to be licensed to companies	2.1.1 Extraction and fermentation protocols to increase yield of active chemical compound 2.2.1 Market analysis of large scale production and business plan for licensing products 2.3.1 Definition and implementation of appropriate intellectual property rights for the products		305,500	951,417
3.Sharing benefits derived from genetic resources	TA	At least 1 monetary benefit (research funding, royalties or milestone payments) At least 2 non-monetary benefits (collaboration to education and training and sharing of research results)	3.1. ABS agreement between INBio and Ecos-La Pacifica on utilization of an active compound derived from a plant of the genus Lonchocarpus; ABS agreement between INBio and Earth University on utilization of an active compound derived from a microfungi; ABS agreement with the partners of the Project.		113,000	406,400
4. Increasing national capacity to	TA	Nagoya Protocol ratified	4.1.1 Increased political support and knowledge in	NPIF	98,000	

ratify and implement the Nagoya Protocol		1 amendment law approved/validated by the CONAGEBIO 1 Manual on ABS procedures; 2. On line procedures for ABS applications; 3. Data base of permits granted, applications, ex situ collections; etc	Costa Rican legislature of the potential benefits for the country of prompt ratification of the Nagoya Protocol 4.2.1Draft law proposal to amend the current national ABS framework in order to make it consistent with the Nagoya Protocol 4.3.1 Mechanisms institutionalized to facilitate access and benefit sharing and compliance with the Nagoya Protocol. This platform may include: a) Implementation of national database for ex-situ collections of genetic and biochemical resources; b) Improvement of the functions of the National database on access of genetic/biochemical resources by on-line format ; c) Manuals of rules and procedures for users and providers of genetic and biochemical resources.			
			Subtotal		890,515	4,075,878
			Project Management Cost (PMC)[3]		89,051	461,931
			Total Project costs		**979,566**	**4,537,809**

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

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

Please include letters confirming cofinancing for the project with this form.

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount($)
Private sector	ECOS	In-kind	1,287,000
Private sector	ECOS	Grant	328,000
Private sector	INBio	In-kind	1,500,000
Private sector	INBio	Grant	226,800
Private sector	FORMUQUISA	In-kind	840,000
Private sector	FORMUQUISA	Grant	123,009
Private sector	MONRERI	In-kind	129,000
Private sector	MONRERI	Grant	104,000
Total Co-financing			**$4,537,809**

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

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	(in $)		
				Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
UNDP	NPIF	Biodiversity	Costa Rica	979,566	93,059	1,072,625
Total Grant Resources				979,566	93,059	1,072,625

[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.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount($)	Co-financing ($)	Project Total ($)
Local consultants*	33,760	813,309	847,069
International consultants*			
Total			847,069

F. **DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT?**

No.

PART II: PROJECT JUSTIFICATION

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

There are not significant variations.

A.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.

NA

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

NA

A.3. The GEF Agency's comparative advantage for implementing this project:

NA

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

1. Costa Rica holds a significant proportion of the world's known species (4.7%, SINAC 2009) in a relatively small territory due to its strategic geographic position (constituting a bridge between North and South America), its tropical location and variable topography which contributes to its microclimates. Hence, the country can be regarded as a complex mosaic of terrestrial and marine habitats, each one holding a particular combination of species. However, the distinctiveness of the country does not lie in the total number of described species recorded but in their density, meaning the number of species per unit area. In this category, Costa Rica surpasses all the megadiverse nations. Its tropical location between two continental land masses, with its varied marine and terrestrial geography, diverse climate conditions, and extensive system of rivers and lakes, foster conditions for the development of major biodiversity despite its small size. These elements help explain the unique high density of known species found in Costa Rica which no other country in the region exhibits. The best known groups of species are plants and vertebrates; for these two groups, an impressive 96% (11,467 plant species out of an expected 12,000) and 87% (2,665 vertebrate species out of an expected 3,073) have already been described. Costa Ricans have undertaken several initiatives to conserve and use its biodiversity in a sustainable manner. Today, after successfully reversing a national deforestation trend and creating a number of wildlife protected areas, approximately 52% of Costa Rica's land area is covered with forests and slightly more than one third of its land area is protected through diverse categories of wildlife protected areas. Additionally, new initiatives are increasing the protection of marine ecosystems and some of them are already protected as marine national parks. Biodiversity has taken center stage in Costa Rica and this statement is supported by the following: Biodiversity is a main attraction for tourists which visit the country every year, making tourism one of the main sources of income. There are several eco-tourism enterprises –spread throughout the territory- that help improve the economy of people living in rural areas. In addition, Costa Rican society has implemented other economic incentives,

[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 responde, please enter "NA" after the respective question.

such as the payment of ecosystem services, which are contributing to conserve its biodiversity. As a result, Costa Ricans have a heightened awareness about the value and contribution of biodiversity to development. Its considered among the 20 megadiverse countries in the world and has a well know reputation for its efforts to conserve and use in a sustainable manner its biodiversity. The Country has created more than 169 protected areas encompassing around a 26% of the terrestrial territory in different management categories.

2. Costa Rica has a longstanding and comprehensive environmental legal framework which encompasses the recognition the importance of natural environment including biodiversity conservation. This framework includes:

-Recognition by the National Political Constitution that the State has to ensure the right to a healthy and ecologically sound environment for all inhabitants of the country.

- Ratification and commitments from many International Conventions related to the environment

- Laws and decrees on environment and management of natural resources, this includes the Biodiversity Law, Forestry Law, Wildlife Conservation Law, Phytosanitary and Seeds Law, Environmental Organic Law, among others.

- Integration of key values in the Biodiversity Law such as participation, fairness, responsibility, respect and quality of life.

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- Integration of key criteria and principles into BL: preventive, precautionary, environmental public interest and the criterion of integration

3. The Convention on Biological Diversity (CBD) became effective in Costa Rica in 1994, giving rise to the need to draft a national law that would implement this international agreement in a clear, simple and precise manner. The process of drafting and approving the proposed Biodiversity Law, took several years to be completed. There were several draft regulations since 1996, but they were not well received by different social sectors. Finally, the Legislative Assembly created a Special Joint Commission, which submitted a text that was approved as Biodiversity Law No. 7788 of April 30, 1998 and was published in the Official Gazette No. 101 of May 27, 1998. Presently, there is also a 'General Access Procedure' (GAP) that functions as a by-law of the LB. This was approved by the Minister of Environment and Energy and the President through an executive decree (December 15 2003). The GAP was proposed by the National Commission for the Management of Biodiversity (CONAGEBIO) in conformity with Article 62 of the above-mentioned Law. Also the regulations for access to genetic resources found in ex situ conditions were approved by Decree No. 33677-MINAE of 27 April 2007. It should be mention that Costa Rica BL was awarded in 2010 the gold price for the BL as an exemplary law implementing the convention on biological diversity by the World Future Council (see www http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Survey_of_Future_Just__Biodiversity_Policies_and_Laws.pdf)

4. The BL was designed to implement the CBD in Costa Rica. The BL established that, without prejudice to the fulfillment of regulations relative to the trade of endangered species of flora and fauna, the application of sanitary and phytosanitary measures, and technical procedures and biosafety, the provisions on access to GRs will constitute neither a concealed restriction nor an obstacle to trade (Article 68 general rule of interpretation). The general goal of the BL is to promote the conservation and sustainable use of biodiversity and to ensure the fair and equitable sharing of benefits derived from it (Article 1). The entire BL responds to this goal as put forth by the CBD. Likewise, all research or bioprospecting programs on the genetic or biochemical material of biodiversity that are to be carried out in Costa Rican territory require an access

permit,[5] unless they fall into one of the exceptions provided by the Law.[6] These exceptions include: access to human genetic resources; the non-profit exchange of genetic and biochemical resources and the associated traditional knowledge of indigenous peoples and local communities; and research by Costa Rican public universities, which had one year (until 7 May 1999) to establish their own controls and regulations for research that implies non-profit access to biodiversity.[7] If none of these exceptions apply, all sectors (pharmaceuticals, agriculture, plant protection, biotechnology, ornamental, herbal etc.) that wish to access genetic components are subject to the Law and must follow its access procedures. The access regulations apply to genetic resources in public or private lands, terrestrial or marine environments, under *ex situ* or *in situ* conditions, and in indigenous territories. In addition, the decision-making rules of indigenous people should be taken into account for access in their territories as should their *sui generis* intellectual rights. Similarly in accordance to the Biodiversity Law it is recognised that communities and indigenous peoples have the right to oppose access to their resources and associated knowledge for cultural, spiritual, economic or other reasons.[8]

5.The Biodiversity Law created the National Commission for the Management of Biodiversity (CONAGEBIO) as the Competent National Authority in Costa Rica, to propose policies regarding access to genetic and biochemical elements of biodiversity and related traditional knowledge that ensure proper scientific and technology transfer and the fair and equitable sharing of benefits arising from access. The Commission reports to the Ministry of the Environment and Energy and it is the National Focal Point on ABS under the CBD. It acts through a Technical Office as the entity that processes, approves or rejects and monitors access-related activities.

6. Since 2004, Costa Rica has diligently granted access to genetic resources through more than 300 access permits and 176 ABS agreements which have been negotiated between with private companies, universities, farmers, national and international research centers. Most of these agreements have been facilitated by INBio which has over 24 years of experience targeting the systematic search for secondary metabolites and products of commercial interest, many of which have coupled the knowledge generated in plants and microorganisms in the areas of biotechnology and chemistry. INBio has implemented numerous projects involving processes for the extraction, isolation, fermentation, and characterization of compounds of interest in the pharmaceutical, agrochemical and biotechnological industries.

7. Even before the creation of the Biodiversity Law of Costa Rica in 1998, INBio had already proposed a benefit-sharing model when access to genetic and biochemical resources occurred for bioprospecting research collaborations. This model channeled funds for the development of national capacities related to conservation of biodiversity through contributions to the National System of Conservation Areas (SINAC), an agency of MINAE. INBio has contributed 10% of the research budgets as an advance payment for the access to protected areas. Additionally , 50% of the royalties received from four products currently on the market have been shared with SINAC, namely phytomedicines Cuassia® and Estilo® (developed by the national pharmaceutical company Laboratorios Lisan - http://www.lisanatura.com/) and the enzyme-based products Cottonase™ and DiscoveryPoint™-Green FP (developed by Verenium Corporation - http://www.verenium.com/prod_cottonase.html).

[5] In accordance with Costa Rica, Biodiversity Law, No. 7788, 1998 Articles 62 and 69.

[6] Costa Rica, Biodiversity Law, No. 7788, 1998 Article 4.

[7] Only one university, the University of Costa Rica has developed its own ABS regulations: See Reglamento de Acceso a la Biodiversidad en Actividades de Docencia, Acción Social e Investigación Sin Fines de Lucro de la Universidad de Costa Rica published in La Gaceta Universitaria, No 13-99.

[8] Costa Rica, Biodiversity Law, No. 7788, 1998 Article 66.

8. The Costa Rican private sector has demonstrated enough capacities to scale, innovate and develop new products. The private sector has developed over the past years several products from the Costa Rican biodiversity through the application and use of science, technology and research. The Government has developed different strategies to promote innovation such as MEIC programs for incubators specially designated to benefit Medium and Small Enterprises (SMEs). In the case of the Costa Rica and in particular for SMEs, innovation and competitiveness have become key concerns due the conclusion of free trade agreements and in general because of the economic openness, free market policies and globalization. Additionally, in a biologically rich region, innovation could be increasingly linked to the intelligent use of biodiversity – not only as for economic growth and job creation – but also for the conservation of natural resources. Innovation represents an important challenge for the country not only for competition in international markets but also for the advancement of the standard of living, in particular in the farming sector. On innovation and competitiveness, few now doubt the role of knowledge for sustainable economic development, to the point where current economic conditions are commonly described in terms of a "global knowledge economy." In the context of what has been termed the "bioeconomy", scientific development, technology, innovation and their applications for biological resources have become an important imperative. This is particularly the case in Costa Rica due to the region's biological wealth. Public and private alliances aiming to advance innovation and the marketing of products and processes are another mechanism that promotes innovation.

10. National research and development institutions like CENIBIOT (the National Center for Biotechnology Research) has well established capacities for the scaling up and generation of new products, particularly arising from the use of biodiversity (therefore adequate to support and validate the proof of concept of this project). CENIBIOT (www.cenibiot.go.cr) has a platform supporting the linkages between the private and the academic sector with the aim of scaling up potential products especially in the agroindustrial field , thus contributing to the country competitiveness through the development and application of biotechnology.

11. In addition, other institutions capable to support the development of the project are the research centers of the public universities such as the University of Costa Rica and the Technological Institute ("Instituto Tecnológico"). Some private labs and companies such as those involved in this project have also experience and expertise in the research and development of innovations arising from the use of natural resources.12. Specifically the baseline analysis can be divided into two areas scientific and, technical l and legal-institutional:

13. **Scientific and Technical Baseline.** The baseline project builds on two particular collaborative initiatives which contribute to the said long-term solution: *22.DMDP: A plant derived compound*. In 1980s, Dr. Daniel Janzen observed that mice would not eat the seeds of a tree (*Lonchocarpus spp*) found in the Guanacaste Conservation Area (GCA). Subsequently, a collaboration between the University of Pennsylvania, the Royal Botanical Gardens, Kew and the University of Strathclyde determined that a mixture of flavonoids obtained from the seeds of the tree was causing this rejection, and also identified the presence of a key compound known as DMDP (2,5-dihydroxymethyl-3,4-dihydroxypyrrolidine) with potential as a crop-protection agent. In fact, a collaboration between the Royal Botanical Gardens, Kew and the Scottish Crop Research Institute determined that a series of sugar alkaloids, DMDP among these, affect nematode behavior. In 1990, the British Technology Group (BTG) funded a project to further develop these compounds, and DMDP was chosen because its use as nematocide was patentable[9], no immediate toxic effects were evident and Lonchocarpus was considered a sustainable commercial supply. Between 1999 and 2002 a collaboration between BTG and INBio was initiated in order to generate samples of DMDP for their assessment in several crops under tropical and temperate conditions. INBio and ECOS-La Pacifica S.A. jointly initiated a study for the evaluation of species of the Lonchocarpus genus, quantification of DMDP levels in other plant parts such as leaves and domestication and management conditions for establishing crop plantations. *23.Metabolite*

[9] US Patent 5,376,675 Control of parasitic nematodes December 27, 1994 Inventors: Alphey; Thomas J. W. (Dundee, GB6), Birch; Andrew N. E. (Dundee, GB6), Fellows; Linda E. (London, GB2), Robertson; Walter M. (Perth, GB6) Assignee: British Technology Group Limited (London, GB2)

from isolate 468B: A microfungus derived compound. In 2004 a collaboration agreement was established between the national company Biotecnica Analisis Moleculares S.A (hereafter referred to as "Biotecnica") and INBio, in order to evaluate the potential of microorganisms from Costa Rica's biodiversity as inducers of disease resistance in plants. Biotecnica was interested in applying functional genomics tools in the identification of microorganisms with the capacity of activating natural defenses in plants, and since one the major concerns in agriculture was Black Sigatoka disease affecting banana crops, INBio established a culture collection isolated from Musaceae from plantations owned by EARTH University. Molecular analyses of different crops (greenhouse trials) and chemical profiling of the promising microorganisms were performed and led to isolate 468B (i.e., a polyketide substance). The team identified the main metabolite responsible for the observed capacity to activate natural defenses in experimental crop models.

14. During the next three years **the baseline project** implemented by INBio and other stakeholders will invest US$1.7 m in improving DMDP and isolate 468B compounds as precursors for crop-protection products and increasing the national capacity in order to comply with the Nagoya Protocol on ABS. Specifically, INBio will initiate the process towards: a) scientific validation of formulations for DMDP and isolate 468B against one pest; b) standardization of extracts for DMDP and 468B; and c) assessment of activity of DMDP and isolate 468B for one crop. CONAGEBio will contribute to the ratification of the Nagoya Protocol by creating awareness among representatives to the legislative assembly and the identifications of gaps in the national ABS framework that must be addressed in order to comply with the Nagoya Protocol.

15. INBio´s 24 years of constitutes a key contribution to the baseline of this project. INBio has implemented over 200 projects related to the extraction, the isolation, characterization, fermentation, and chemical isolation with the aim of determining compounds of interest in the pharmaceutical, agrochemical and biotechnology industries. In the case of agro-industry, two particular cases have been worked through a series of collaborations that constitute the basis for the activities proposed by this GEF project.

16. **Legal and Institutional.** The biodiversity legal framework of Costa Rica is one of the most complete ABS regulations in the region. However, several changes are required in order to be in line with all the new requirements of the NP.[10]The baseline of the project is work carried out by the Nagoya Protocol Ratification, the National Commission for Biodiversity Management (CONAGEBIO) by mean of its Technical Office, which is the ABS focal point for the CBD. It would perform the meetings with Members of Congress and their advisers to inform and raise awareness about the objectives, content, scope, implications and importance of the ratification of this is international legal instrument for the country. Nonetheless, there are financial limitations to carry out meetings and workshops.

17. The Technical Office has only one professional in law. This officer will support the review of the National ABS Framework, the drafting of an amendment proposal and the choosing of the checkpoints, as stated in Article 17 of the Nagoya Protocol, using part of his working time. However, an specific consultant would be necessary to carry out these tasks under the supervision of the legal adviser of CONABEGIO.

18. The Technical Office also has limited capacity in the field of Information Technologies, especially for the building of databases related to access and utilization of genetic and biochemical resources and for the registration of ex situ collections. There is currently a basic system in its server and website, which do not

[10] Another study carried out in the context of a GEF ABS funded project for 8 Latin-American Countries has also point out some of the needs and challenges for the update and improvement of the legal framework in the light of the Nagoya Protocol (pers communication Marta Jiménez, TO/CONAGEBIO).

allow for on line applications to be submitted. In addition, the registration of ex *situ the* collections resources is now implemented through the use of printed documents or files in word format.

However, there are several threats, barriers and underlying problems and a proposed long term solution overcome these barriers and threats.

19. **Threats**. Despite the recognized contribution of the Costa Rica´s biodiversity to the national economic development, there are still threats that jeopardize the progress achieved. Unsustainable development projects threat natural habitats due to the increasing demand of more services and goods of a growing society. Agriculture activities in particular have been responsible for negative impact on ecosystems and biodiversity, being the main user and polluter of water sources and affecting human health through the misuse of herbicides, pesticides and fertilizers. Three main facts that may reflect the actual pressure on the agro-sector are: production must increase in almost 70% to supply world's food demand by 2050, oil crops must increase in 90 % for renewable fuels by 2018 and Costa Rica annually imports 12 million kilograms of active ingredients for agro-industrial applications. Regarding the use of chemicals the State of the Nation Report (Informe del Estado de la Nación) indicates that one of the main environmental concern in the agriculture sector is the use of chemical products and its negative environmental implications. Uses of pesticides in the Country are estimated around 10 million of active ingredient kg per year. The factors behind this high trend are the increase in the production of some crops and plants for export such as melon, pineapple and ornamentals and the decline in the technical assistance provided by the State. In particular for the banana and coffee production the use of chemical substances is highly important. For banana cultivation, it is estimated that 64.9 Kg for Hectare of active ingredient is used and a total estimation of 1502-1202 tons per year are utilized and in the case of coffee the numbers are 6.5 kg per hectare of active ingredient and a total estimation of 644 tons per year. Coffee shows a moderate use of pesticides but the total production area is big reaching around 98.700 hectares[11].

As a result, there is an urgent need to develop environmentally-friendly products based on research and innovation to increase productivity, but it's also necessary to strengthen the national technological platform to accomplish the use of natural capital to generate incomes through an ABS scheme. Likewise the national legal framework -in order to support properly these initiatives- needs to be improved and modernized in the light of the Nagoya Protocol, capacities (legal, technological and others) to implement the ABS permitting system (including informatics and on line facilities) and to negotiate fair and equitable benefit sharing agreements (among private and public sector organizations) needs to be improved as well.

20. **The underlying problem:** Typically, benefits derived from the exploration of genetic resources have been expected to return -in the form of royalties from final products being sold in the marketplace- to the country of origin. However, in the particular case of agriculture, the development of any promising candidate must rely on the capacity of determining its efficacy in field trials and the availability of technological infrastructure to scale-up its production for commercialization. In Costa Rica, the majority of research centers have developed experience in determining potential applications of natural sources in the first stages of discovery, but there is still a gap for the development of biodiversity-based products where knowledge and investment in terms of formulation, validation and commercialization (business plans) are required. One key problem is the lack of appropriate funding for scaling up products and to bring research and development results into the market. This fact impedes the generation of innovative products, which could reduce the environmental impacts and difficult show to the society the value of the genetic resources, and the creation of incentives to conserve and use in a sustainable manner the biodiversity. Therefore, an active participation in the product development lifecycle, establishment of the baseline conditions for technology transfer, joint ownership of relevant intellectual property rights, improvement of the capacities to negotiate fair and

[11] XVIII Informe del Estado de La Nación, Capítulo Armonía con la Naturaleza, páginas 197-198, Comisión Nacional de Rectores, San José, 2011

equitable benefit sharing agreements within the private sector and the strengthening of competencies for the administration and enforcement of access regulations need to be achieved. Additional compensatory measures such as milestone payments and license fees need to be fully explored. The development of appropriate contractual arrangements between different partners for the development of natural products and innovations is a key component for the valorization of genetic resources and to enable the operation of a functional ABS scheme. However, there are few experiences in this field mostly concentrated in INBio which need to be expanded and extended in order to replicate in the future successful ABS agreements and lessons learnt.

21. **The long term solution** to this problem, which will be pursued by this project, is the promotion of the sustainable use of the genetic and biochemical resources through research and development, to put in the market sustainable innovative products and the strengthening of the national ABS framework. Costa Rica must increase its capacity to add value to genetic resources by developing scientific and contractual and trade practices and procedures that translate these resources from their natural habitat to the market. This process must be legitimized by a strengthened national ABS framework that incorporates Nagoya Protocol obligations, including benefit-sharing agreements that socialize the value of genetic resources and compensate relevant stakeholders, creating new models of ABS agreements between private sector entities, research organizations, and the appropriate public The project aims to put in place by amending the Biodiversity Law -and other laws and regulations as appropriate - a revised national ABS framework which is compliant to the provisions of the Nagoya Protocol, enabling generation of successful agreements for different products from CR genetic resources ensuring full compliance with the provisions of the Nagoya Protocol. The project will enable CR to achieve the ratification and implementation of the Nagoya Protocol, as well as the technical and legal expertise to negotiate and implement ABS agreements which can be considered as best practices.

22. **Barriers.** The achievement of the solution proposed above has to date been impeded by a number of barriers. The barriers are:

23. Limited research and development capacity to add value to Costa Rica's genetic resource specially in the field of scaling up, validation, development and licensing products derived from the genetic resources.

In Costa Rica, the a good number of research centers have developed enough expertise in determining potential leads and applications in the field of natural products. Several cases of positive and promising lab results have been documented in the past, However, there is still a constrain in the process of development (reach the markets) of biodiversity-based products where additional formulation, validation and scaling up is required to put a product into the market. Part of the process involves the approach and identification of suitable companies and the consideration of a natural source as an essential component for developing a pre-commercial lead, for which a technological infrastructure must be available to guarantee that the initial material would not be a limitation. An important constraint for some promising projects is the lack of financial resources to advance the process of formulation, validation, development, and scaling up of the research results (including the generation of business or market plans). This scenario also impedes bring to the market new products and the generation of economic benefits to be distributed between different stakeholders including the public and private sector and research institutions. The Science, Technology and Innovation Strategy and the SME Policy and the Policy for entrepreneurship o "emprendedurismo" have emphasized that this is fundamental problem for the development of products using biotechnology and the genetic resources of the country, considering the fact that a high percentage of SMEs lack access to external

resources for innovation and usually resort to their own capital to support the financial cost involved in the innovation derived from the biodiversity and the associated risks.

24. Limited institutional capacity to reform and socialize the current national ABS framework.

Costa Rica's Biodiversity Law has been appreciated globally as a pioneer legislation in many aspects especially those regarding access to genetic resources. However, the BL has not incorporated some of the novel provisions mandated by the Nagoya Protocol (adopted year after the entry into force of the BL) will not only streamline access and benefit-sharing but clarify key obligations of providers and users of genetic resources. The Costa Rican government needs to strengthen its capacity in order to mainstream the Nagoya Protocol mandate into its national ABS framework. Some of the new instruments included or incorporated in the Protocol are: a) the use of simplified measures of access for non-commercial research; b) the expeditious access of genetic resources in cases of emergencies under imminent threats or harm to human health, animal or plant, as determined nationally or internationally; c) the building and operation of an access and benefit-sharing Clearing-House Mechanism; c) the designation of national checkpoints at all stages of the value-chain, including research, development, innovation, and pre-commercialization.; d) the issuance of an " internationally recognized certificate of compliance") the obligation to support the development of sectorial and cross-sectorial benefit-sharing codes of conducts and contractual models clauses; f) support and recognition of f Biocultural Protocols and the recognition of customary law of ILCs; etc. Even though the BL has created the legal framework to facilitate ABS and the achievement of the Third Objective of the CBD, there is still a general perception in the population that ABS regulations are more focused on controlling than on promoting access. Thus it is It is critical to update the legal framework in the light of the current international developments. This improved legal framework can increase the trust and confidence of the different users and providers of genetic resources, the legal certainty and facilitate the permitting and decision making process by using new technologies, disseminating relevant information and drafting ABS Manuals and other similar instruments.

25. Limited capacity to negotiate ABS agreements

While Costa Rica has some experience negotiating ABS agreements, it still needs to develop capacity for the negotiation of ABS agreements among multiple parties that have made significant contributions to project development over a decade long period. This situation is illustrated by the process that has led to the identification of DMDP and isolation of 468B (see baseline project). It is important to develop a clear model for benefit sharing, in which each party determines its contribution and the group collectively determines the most suitable mechanism to protect the invention in the long-run. The capacity to negotiate these agreements for the private sector is less developed since most of the experience has been generated and limited to INBio. Improve the capacities, knowledge and skills of other participants and identify and document good practices and models is key for the replication of successful ABS stories and agreements (including benefit sharing provisions). At the same time, experiences with other kind of legal agreements such as licensing of products or IPR are less known in the country, at least in the field of natural products. Overcome this barrier, may provide appropriate conditions for the potential replicability of ABS good practices involving other cases of natural products (some of them already in the pipeline) to be developed by INBio or by other private or public institutions.

A.5. Incremental/additional cost reasoning. Describe the incremental (GEF Trust Fund/NFIP) or additional (LCDF/SCCF) activities requested for GEF/LCDF/SCCF/NPIF financial and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits to be delivered by the project.

The project's design complies with the original PIF. The structure of the project's components is similar to the PIF approved by GEF in April 2013. One of the private sector participants (Biotécnica) has agreed to continue the technical and scientific support for the development of the Project and the achievement of the objectives. However, the company was not able to provide a letter with an concrete co-financing

compromise. For this reason the grant and kind contribution of Biotécnica (for a total of $81.500) has been removed from the Project. This situation does not impact the development of the Project. 26. The objective of the project is to implement the Nagoya Protocol on ABS through the development of nature-based crop-protection products and the strengthening of the capacity of the national authority. These protection products are based on plant and fungi compounds and licensing conditions for further agreements with interested parties in its commercialization will be established. The mentioned agreements can be identified as second generation due to the contractual relationship, participation and contributions of the companies involved and the knowledge generated through research. These studies have been conducted entirely in Costa Rica by Costa Rican professionals. These two potential products whose active ingredients are chemically characterized, have been evaluated in vitro, greenhouse and field, but at the level of preliminary tests. The potential for combating known pests in certain crops will also strengthen the importance of natural products as sources of lead compounds and as the basis for the development of other options for pest control, and with less negative impact on both human health and environment than the available products in the market. The execution of this NPIF-funded project can position Costa Rica as a case study in the implementation of a legal and regulatory framework for access to biodiversity as a mechanism for conservation in the medium-long term. Scientific understanding through bioprospecting creates financial incentives for biodiversity conservation. Furthermore**,** Component 4 of this project also proposes to increase the national capacity to the ratification and implementation of the Nagoya Protocol, aiming for the compliance of the international commitments acquired by Costa Rica.

27. While the baseline activities are substantial, the aforementioned barriers inhibit the actual realization of the global objective of ensuring ABS and contribution from use of biological resources for biodiversity conservation and for meeting Aichi targets. This Project aims to remove the barriers mentioned above To accomplish this, Government of Costa Rica is requesting support from the GEF and UNDP to conserve its globally significant biodiversity.

28. The Incremental cost analysis and the alternative scenario created by the Project intervention can be summarized as follows: With the Project intervention the following actions will be undertaken: a) the GEF will provide necessary funding for the continuation of the research and development on the positive research results mentioned, essentially for the processes of formulation, validation, scaling up and potential commercialization of the natural products (which so far have demonstrated promising results at lab) . This contribution will also allow the preparation of a business/market plan for the register, sale and licensing of the potential products resulting for the project execution. Project intervention will overcome the problems derived from the lack of the financial resources needed to carry out these activities particularly those described under the components I and II of the Project Document; therefore if the products are sold and licensed economic or monetary benefits will accrue to the partners of the Project and these will be shared and use to promote the conservation of biodiversity facilitating the raising awareness of its value for the national industry and for the development of the country. b) GEF intervention will make possible to put in the market product which are more environmental friendly to be utilized in the field of crop protection in highly relevant productive sectors of the economy (Banana and Coffee);c) GEF Project will support the increase in the capacities and understanding of different stakeholders from the private sector on access and benefit sharing issues and concepts, the Biodiversity Law, the negotiation of ABS contracts, thus promoting the potential replication of successful experiences and best practices in the utilization of genetic resources; c) despite that the fact the the Country has a current legal framework properly implemented, there is not enough human and financial resources to conduct awareness raising activities among the members of the Parliament, to prepare the legal drafts needed to achieve the full implementation of the Nagoya Protocol, then jeopardizing the quick entry into force of the Protocol and depriving the country of the benefits of becoming a Party (including the improvement of the the legal framework in order to integrate the innovations and new instruments found in the Nagoya Protocol; d) finally, the improvement of the administrative system (on line permitting data bases for the registration of ex situ collections and

applications and permits, ABS Manual for user and providers) will only take place in the coming years using the funding provided by the Project due to the lack of financial resources foreseen for these issues in the regular budget of the CONAGEBIO and the budgetary restrictions and limitations of the Commission.

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.

The following risks have been identified.

Table 1. Risks facing the project and the risk mitigation strategy.

Risk	Level	Mitigation Measures
The period of the project may be too short to result for a product developed despite multiple agreements.	Medium	The project will build on promising results and on-going collaborations of INBio with national companies. The project duration is set at 3 years to allow enough time to validate the preliminary results and move forward to product development.
INBio and Earth University and Ecos-La Pacifica are unable to reach an agreement regarding ABS on utilization of an active compound or some of the participants in the research and development activities within the project are also unable to reach an agreement.	Low	Project staff will put especial emphasis on the description of the tasks and benefits by each potential partner for all negotiations in order to reduce potential conflicts. INBio´s experience in the process of conducting negotiations with different partners including industrial ones could be instrumental in reaching an agreement with several partners. Budget allows for intensive consultations and meetings preparations which could prepare the negotiations to reach successful outcomes to ensure full participation and sharing of the monetary and non-monetary benefits to be derived from the project.
Nagoya Protocol is not ratified by the Legislative Assembly or the proposed amendment law is not approved by CONAGEBIO.	Low	There is little chance that a majority of the political fractions in Congress will not support the Nagoya Protocol; however, to ensure a smooth and quick approval of this legislation there are mechanisms proposed to provide the information and raise awareness for the members to understand the implications of the Nagoya Protocol ratification and its benefit for the country. The same applies to the correspondent amendment law to be approved by CONAGEBIO.

A.7 Coordination with other relevant GEF financed Initiatives. There not current GEF or UNDP projects related to this Project. This is the first ABS-related project in Costa Rica and there are therefore few opportunities for coordination with other GEF investments in the country.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

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

29. A description stakeholders and their roles is presented in the following chart:

Chart 2. Stakeholders' participation in the Project.

STAKEHOLDER	MANDATE AND RELEVANT ROLES IN THE PROJECT
National Biodiversity Institute (INBio)	The National Biodiversity Institute of Costa Rica (INBio) will be the lead executing agency for the project. INBio is a non-profit research and biodiversity management center, established in 1989 to support all efforts made to gather knowledge related to the country's biological diversity and to promote its sustainable use. The institute works under the premise that the best ways to conserve biodiversity is to study it, value it, and utilize the opportunities it offers to improve the quality of life of human beings. INBio is a non-governmental, non-profit, public interest organization of civil society that works in close collaboration with different government institutions, universities, private sector and other public and private organizations, both national and international. INBio's experience in bioprospecting research collaborations ensures that any access to genetic and biochemical resources through the institute is done in a fair and equitable benefit sharing model. INBio will be the lead executing agency for the project. INBio will host a Project Management Unit (PMU) for directing, supervising and coordinating the project implementation and development, according to the Working Plan. It will participate in technical activities such as the extraction, isolation of compounds and analysis of extracts as well as the fermentation of microfungi and will collaborate in obtaining the access permits and in the ABS negotiation processes
CONAGEBIO	The National Commission for Biodiversity Management (CONAGEBIO) is the Competent National Authority and the CBD ABS Focal Point. The Commission was created to draw up national policy in the conservation, sustainable use and restoration of biodiversity. CONAGEBIO has proposed policies related to access to the genetic and biochemical resources. It defines policy, provides advice to the government and grants permits for the access to genetic and biochemical resources in strict accordance with Costa Rica's Biodiversity Law. It is composed of eleven representatives of the following ministries: Environment and Energy, which presides the Commission; Agriculture and Livestock, Health and Trade; a representative from the Costa Rican Institute for Fisheries and Aquaculture, as the body charged with overseeing marine resources; the Executive Director of the National System of Conservation Areas; representatives of: Association of the National Small Farmers' Board, Association of the National Indigenous Board, Costa Rican Federation for Environmental Conservation, Costa Rican Union of Chambers of Commerce and the National Council of Rectors. CONAGEBIO has an Office for Technical Support which takes care of the processing, granting and monitoring of ABS of permits. CONAGEBIO will provide guidance for the implementation and execution of the IV Component of this project
ECOS-LA PACÍFICA:	The botanical material supplier for production of DMDP. ECOS Group is committed to a triple bottom line approach (sustainable development, social and environmental

STAKEHOLDER	MANDATE AND RELEVANT ROLES IN THE PROJECT
	responsibility) and business ethics.
BIOTÉCNICA:	A pioneering initiative in Costa Rica in using the tools of molecular biology and biotechnology to develop innovative solutions grounded in research of biological processes. Biotécnica is a private laboratory, which conducts research, development and innovation by applying biotechnological techniques, in order to add value, improve processes and develop products of interest to the national or regional productive sector, especially in the agricultural sector Biotécnica had been involved in the selection of extracts and fractions according to assays for the plant natural defenses activation and will also be performing these analysis in the assays with the formulated products in the Project.
FORMUQUISA: Formulaciones Químicas S.A	Formulaciones Químicas S.A. was established in the year 1982. Right from the start, the company aimed at providing services of formulation of plant protection products for other national as well as international companies with markets in Central America, South America and in the Caribbean. In the case of Formuquisa its involvement will be through the support of a chemical laboratory with modern analytical equipment and an infrastructure of 17000 m^2 . Formulaciones Químicas S.A. has contributed to the development of formulations for clients such as Basf, Helm Ag, Cerexagri, Syngenta, Nippon Kayaku and Amvac, among others (Reporte RCT N° 6, junio 2013). The company has been focusing in 3 main areas: agrochemicals, natural products for organic production and animal health. Their experience is a key component for the project, in which flowables, granulated products and liquid and powder formulations must be develop according to the bioactive molecules proposed as well as the crop model and the selected pathogen(s) in order to validate the efficacy of the product at field level.
MONRERI:	This is an agricultural research private company founded in 1993 in order to offer a research department in the area of plant pathology. MONRERI cover the full range of laboratory services, "in vivo" testings and field trials. The company has experience with several crops, particularly bananas, for which they perform fungicide "*in vitro*" assays against Black Sigatoka, single leaf test, experimental plots, semi-commercial trials and post-harvest tests. MONRERI collaborated in the evaluation of the tea tree oil-based product Timorex Gold™ in the control of Black Sigatoka in banana (International Innovation, 2012). Due to the company's experience, the green house and field trials necessary for the validation of the proposed products will be conducted by MONRERI.

30. During the PIF phase of the project, all the stakeholders participated in planning and project design in working sessions and meetings. Additionally, multiple bilateral meetings with the companies involved in the Project and the CONAGEBIO were held during the PIF preparation with the purpose to receive feedback on the project objective, activities, products and budgetary issues.

31. Objectives of the Stakeholder Participation Plan: The formulation of the stakeholder participation plan has the following objectives: a) to clearly identify the basic roles and responsibilities of the main participants in this project; and b) to ensure full knowledge of those involved concerning the progress and obstacles in project development and to take advantage of the experience and skills of the participants to enhance project activities. The ultimate purpose of the stakeholder participation plan will be the long-term sustainability of the project achievements, based on transparency and the effective participation of the key stakeholders.

32.The stakeholders participation will be secure by using the following mechanisms: a) regular conference calls will be scheduled and organized (on a monthly basis for instance, etc.) to communicate and disseminate progress or identify difficulties in achieving the research and development outcomes and milestones; b) a face to face meetings will be also organized (e.g. bi-annually) with the different stakeholders (specially the technical or scientific personnel participating in the project implementation) with the aim of discussing research progress, preliminary reports and steps taken or needed for the full achievement of the project objectives; c) exchange of reports and written information will be secured in order to have all the stakeholders adequately inform about project implementation; d) the contractual arrangement to be negotiated with the private companies involved in the Project will also establish coordination mechanisms These mechanisms will promote and secure that all the relevant shareholders receive and share information and provide technical advice on the project implementation**;** e) all the relevant stakeholders will participate in the Project Workshop Inception and Project Evaluation including the Mid-Term and Final Evaluations; f) the 4 Component of the Project will be developed in close cooperation and communication with the Technical Office of the CONAGEBIO, including through the signature of an appropriate collaborative agreement or Memorandum of Understanding. Meetings and conference calls will be put in place to determine the best way to achieve the outputs of this particular Component.

B.2 Describe the socioeconomic benefits to be delivered by the Project at 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).

33. The project will generate major socioeconomic benefits through the generation of direct employment in Costa Rica-based businesses involved in bioprospecting and bioassays, and through economic multiplier effects in related service industries. A central aspect of the project, in accordance with the aims of the Nagoya Protocol, is that a large proportion of the benefits generated from genetic resource exploration will remain in country.

The project will build capacities for the establishment of lucrative businesses based on the sustainable utilization of Costa Rica's genetic resources. The products to be developed have potential market opportunities. So far it is not possible to provide any conclusive numbers regarding the economic returns, but there is a high potential for the development of products which will generate revenues for all the participants and for the conservation of biodiversity, especially because of the economic importance of banana and coffee sectors in the agriculture production in Costa Rica. The biodiscovery activities proposed within the framework of the project will be carried out in full compliance with the existing agreement and legislation regarding the equitable distribution of the resulting benefits, which will contribute to the generation of positive socioeconomic impacts for the country. The project will remove barriers allowing the national industry to develop products, and creating a conducive environment for investment from other international or local companies with an interest in bio-prospecting or natural products development.

34. Considering that the use of pesticides can represent as much as 35% of the production costs of food crops, and the particular concerns over their negative impact on the environment and worker's health, there's an urgent necessity for more sustainable crop protection practices. This project aims to develop crop protection agents from an innovative perspective, based on the improvement of the plant's general health by activating natural defense mechanisms and stimulating growth and nutrient intake. Additionally, one of the active principles proposed could also be considered as a natural nitrogen source, leading to a potential decrease in the need of chemical pesticides and fertilizers while making the agro-sector more competitive in

terms of food safety and quality. The project also contributes towards the reduction of use of chemicals and their impact on the environment (including soil, water and other species) and health of the workers (reducing the risks of intoxications) as well as to the achievement of the 2021 goal of carbon neutrality by reducing the production of chemicals.

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

35. The core aspect of the project's cost-effectiveness strategy is its focus on promoting public/private sector partnerships, in the context of which the discovery process of nature-based products is considered as a viable business and therefore subject to private sector investment once GEF funds have been used to jump start the country's to date limited biodiversity-based industry. Alternative strategies considered but discarded on grounds of cost-effectiveness were as follows:

1) *Emphasis on a "command and control" approach to biodiversity conservation.* In the absence of the kinds of evidence of the full range of benefits than can potentially be generated from genetic resources, which the chosen approach will provide, continued efforts will be required to maintain political support for the ongoing funding of biodiversity and PA conservation; furthermore, conservation initiatives will lack public support at national and local level and will therefore require disproportionately high levels of funding in order to be effective.
2) *Exclusive public sector involvement.* The public sector has vital roles to play in terms of regulation and oversight, in order to ensure that bioprospecting and ABS agreements serve the country's best interests. It does not, however, have the mission or the levels of installed technical facilities and marketing capacities that are required to realize the full potential benefits from access to genetic resources, in a cost-effective manner.

C. DESCRIBE THE BUDGETED M &E PLAN.

1. MONITORING FRAMEWORK AND EVALUATION

36. Project M&E will be conducted in accordance with the established UNDP and GEF procedures and will be provided by the project team and the UNDP-CO with support from the UNDP/GEF RCU in Panama City. The Project Results Framework provides performance and impact indicators for project implementation along with their corresponding means of verification. The M&E plan includes an inception report, project implementation reviews, quarterly and annual review reports, and mid-term and final evaluations. The following sections outline the principle components of the M&E plan and indicative cost estimates related to M&E activities. The project's M&E plan will be presented and finalized in the Project Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project Inception Phase

37. A **Project Inception Workshop** (IW) will be held within the first three (3) months of project start-up with the full project team, relevant GoCR counterparts, co-financing partners, the UNDP-CO, and representation from the UNDP-GEF RCU, as well as UNDP-GEF headquarters (HQ) as appropriate.

38. A fundamental objective of this IW will be to help the project team to understand and take ownership of the project's goal and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project results framework and the GEF-5 Tracking Tool for ABS. This will include reviewing the results framework (indicators, means of verification, and risks and assumptions), imparting additional detail as needed, and on the basis of this exercise, finalizing the AWP with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project.

39. Additionally, the purpose and objective of the IW will be to: a) introduce project staff to the UNDP-GEF team that will support the project during its implementation, namely the CO and responsible RCU staff; b)

detail the roles, support services, and complementary responsibilities of UNDP-CO and RCU staff in relation to the project team; c) provide a detailed overview of UNDP-GEF reporting and M&E requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), as well as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project-related budgetary planning, budget reviews including arrangements for annual audit, and mandatory budget re-phasings.

40. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines and conflict resolution mechanisms. The Terms of Reference (ToR) for project staff and decision-making structures will be discussed again, as needed, in order to clarify each party's responsibilities during the project's implementation phase. The IW will also be used to plan and schedule the Tripartite Committee (TPC) Reviews.

Monitoring Responsibilities and Events

41. A detailed schedule of project review meetings will be developed by the project management in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: a) tentative timeframes for TPC Reviews, Steering Committee (or relevant advisory and/or coordination mechanisms); and b) project-related M&E activities.

42. **Day-to-day monitoring** of implementation progress will be the responsibility of the Project Coordinator based on the project's AWP and its indicators. The Project Coordinator will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The Project Coordinator will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the IW with support from UNDP-CO and assisted by the UNDP-GEF RCU. Specific targets for the first-year implementation progress indicators together with their means of verification will be developed at this workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the AWP. Targets and indicators for subsequent years will be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

43. Measurement of impact indicators related to global benefits will occur according to the schedules defined through specific studies that are to form part of the project's activities including changes in total area (in hectares [ha]) of internationally important wetlands under protection, changes on the number of key species for biological groups within seven (7) PAs in wetlands of international importance, and change in the management effectiveness of seven (7) existing PAs as measured through the METT scorecard.

44. **Periodic monitoring** of implementation progress will be undertaken by the UNDP CO through quarterly meetings with the project implementation team, or more frequently as deemed necessary. This will allow parties to take stock of and to troubleshoot any problems pertaining to the project in a timely fashion to ensure the timely implementation of project activities. The UNDP CO and UNDP-GEF RCU, as appropriate, will conduct yearly visits to the project's field sites, or more often based on an agreed upon schedule to be detailed in the project's Inception Report/AWP to assess first-hand project progress. Any other member of the Steering Committee can also take part in these trips, as decided by the Steering Committee. A Field Visit Report will be prepared by the UNDP CO and circulated no less than one month after the visit to the project team, all Steering Committee members, and UNDP-GEF.

45. **Annual monitoring** will occur through the TPC Reviews. This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to TPC review at least once every year. The first such meeting will be held within the first twelve (12) months of the start of full implementation. The project proponent will prepare an Annual Project Report (APR) and submit it to UNDP CO and the UNDP-GEF regional office at least two weeks prior to the TPC for review and comments.

46. The APR will be used as one of the basic documents for discussions in the TPC. The Project Coordinator will present the APR to the TPC, highlighting policy issues and recommendations for the decision of the TPC participants. The Project Coordinator will also inform the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary. The TPC has the authority to suspend

disbursement if project performance benchmarks are not met. Benchmarks will be developed at the IW, based on delivery rates and qualitative assessments of achievements of outputs.

47. The **Terminal TPC Review** is held in the last month of project operations. The Project Coordinator is responsible for preparing the Terminal Report and submitting it to UNDP-CO and to UNDP-GEF RCU. It shall be prepared in draft at least two months in advance of the TPC meeting in order to allow review, and will serve as the basis for discussions in the TPC meeting. The terminal TPC review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learned can be captured to feed into other projects being implemented.

Project Monitoring Reporting

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

49. A **Project Inception Report** (IR) will be prepared immediately following the IW. It will include a detailed First Year/AWP divided in quarterly timeframes detailing the activities and progress indicators that will guide implementation during the first year of the project. This work plan will include the dates of specific field visits, support missions from the UNDP CO or the RCU or consultants, as well as timeframes for meetings of the project's decision-making structures. The IR will also include the detailed project budget for the first full year of implementation, prepared on the basis of the AWP, and including any M&E requirements to effectively measure project performance during the targeted 12-month timeframe. The IR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions, and feedback mechanisms of project-related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. When finalized, the IR will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to the IR's circulation, the UNDP CO and UNDP-GEF's RCU will review the document.

50. The **Annual Project Report** (APR) is a UNDP requirement and part of UNDP CO central oversight, monitoring, and project management. It is a self-assessment report by the project management to the CO and provides input to the country office reporting process and the Results-Oriented Annual Report (ROAR), as well as forming a key input to the TPC Review. An APR will be prepared on an annual basis prior to the TPC Review, to reflect progress achieved in meeting the project's AWP and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The format of the APR is flexible but should include the following sections: a) project risks, issues, and adaptive management; b) project progress against pre-defined indicators and targets, c) outcome performance; and d) lessons learned and best practices.

51. The **Project Implementation Review** (PIR) is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for one year, a PIR must be completed by the CO together with the project management. The PIR can be prepared any time during the year and ideally prior to the TPC review. The PIR should then be discussed in the TPC meeting so that the result would be a PIR that has been agreed upon by the project, the Implementing Partner, UNDP CO, and the RCU in Panama. The individual PIRs are collected, reviewed, and analyzed by the RCU prior to sending them to the focal area clusters at the UNDP-GEF headquarters. In light of the similarities of both APR and PIR, UNDP-GEF has prepared a harmonized format for reference.

52. **Quarterly Progress Reports** outlining main updates in project progress will be provided quarterly to the local UNDP CO and the UNDP-GEF RCU by the project team. Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform and the risk log should be regularly updated in ATLAS based on the initial risk analysis included in Annex 8.1.

53. **Specific Thematic Reports** focusing on specific issues or areas of activity will be prepared by the project team when requested by UNDP, UNDP-GEF, or the Implementing Partner. The request for a

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

54. A **Project Terminal Report** will be prepared by the project team during the last three (3) months of the project. This comprehensive report will summarize all activities, achievements, and outputs of the project; lessons learned; objectives met or not achieved; structures and systems implemented, etc.; and will be the definitive statement of the project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's activities.

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

56. **Project Publications** will form a key method of crystallizing and disseminating the results and achievements of the project. These publications may be scientific or informational texts on the activities and achievements of the project in the form of journal articles or multimedia publications. These publications can be based on Technical Reports, depending upon the relevance and scientific worth of these reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and (in consultation with UNDP, INBIO, and other relevant stakeholder groups) will also plan and produce these publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Independent Evaluation

57. The project will be subjected to at least two independent external evaluations as follows:

58. An independent **Mid-Term Evaluation** will be undertaken at exactly the mid-point of the project lifetime. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency, and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation, and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, ToRs, and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The ToRs for this Mid-Term Evaluation will be prepared by the UNDP-CO based on guidance from the UNDP-GEF RCU. The management response of the evaluation will be uploaded to the UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The GEF-5 Tracking Tool for Biodiversity Focal Area (BD-1) for the project will also be completed during the mid-term evaluation cycle.

59. An independent **Final Evaluation** will take place three months prior to the terminal Steering Committee meeting, and will focus on the same issues as the Mid-Term Evaluation. The Final Evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The ToRs for this evaluation will be prepared by the UNDP-CO based on guidance from the UNDP-GEF RCU. The GEF-5 Tracking Tool for ABS Focal Areawill also be completed during the final evaluation.

Learning and Knowledge Sharing

60. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition, the project will participate, as relevant and appropriate, in UNDP-GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics. UNDP-GEF RCU has established an electronic platform for sharing lessons between the project managers. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identify and analyzing lessons learned is an ongoing process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every twelve (12) months. UNDP-GEF shall provide a format and assist the project team in categorizing, documenting, and reporting on lessons learned. Specifically, the project will ensure coordination in terms of avoiding overlap, sharing best practices, and generating knowledge products of best practices in the area of ABS and biodiversity conservation and sustainable use with the current projects of Costa Rica's portfolio.

M&E workplan and budget

Type of M&E activity	Responsible Parties	Budget US$*	Time frame
Inception Workshop	Project Coordinator UNDP CO UNDP GEF	2,500.00	Within first two months of project start-up
Inception Report	Project Team UNDP CO	None	Immediately following IW
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Oversight by Project Coordinator Project Team	No separate M&E cost: to be absorbed within salary and travel costs of project staff	Annually prior to ARR/PIR and to the definition of annual work plans
ARR and PIR	Project Coordinator and Team UNDP-CO UNDP-GEF	None	Annually
Tripartite Committee Reviews and Reports	GoP counterparts UNDP CO UNDP GEF RCU	None	Annually, upon receipt of APR
Steering Committee Meetings	Project Coordinator UNCP-CO GoP representatives		Two times per year
Quarterly progress reports	Project Coordinator and Team	None	Quarterly
Technical reports	Project Coordinator and Team	None	To be determined by Project Team and UNDP-CO
Mid-term Evaluation $11,600.00	Project Coordinator and Team UNDP- CO UNDP-GEF RCU External Consultants (i.e., evaluation team)	International consultant 7,500 National consultant 4,100	At the mid-point of project implementation
Final Evaluation $11,600.00	Project Coordinator and Team UNDP- CO UNDP-GEF RCU External Consultants (i.e.	International consultant 7,500 National consultant	At least three months before the end of project implementation

	evaluation team)	4,100		
Terminal Report	Project Team UNDP-CO	None		At least three months before the end of the project
Lessons learned	Project Coordinator and Team UNDP-GEF RCU (suggested formats for documenting best practices, etc)			Yearly
Audit	UNDP-CO Project Coordinator and Team	10,000		Yearly
Visits to field sites	UNDP-CO UNDP-GEF RCU (as appropriate) GoP representatives	No separate M&E cost: paid from IA fees and operational budget		Yearly
TOTAL INDICATIVE COST (*Excluding project team staff time and UNDP staff and travel expenses)		GEF	35,700.00	
		CoF	7,755.00	
		Total	43,455.00	

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

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 template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE*(MM/dd/yyyy)*
Rubén Muñoz Robles	GEF Operational Focal Point	Ministry of Environment, Energy	August 08, 2012

B. GEF AGENCY(IES) CERTIFICATION

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

Agency Coordinator, Agency Name	Signature	Date*(Month, day, year)*	Project Contact Person	Telephone	Email Address
Adriana Dinu, UNDP-GEF Executive Coordinator and Director a.i		April 16, 2014	Santiago Carrizosa, Senior Technical Advisor, EBD	+507 302-4510	santiago.carrizosa@undp.org

ANNEX A: PROJECT RESULTS FRAMEWORK

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD**:** To elevate to the level of State policy the protection of the environment to strengthen economic growth, tourism development and wellbeing in general.
Country Programme Outcome Indicators:
Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy.
Applicable GEF Strategic Objective and Program: Objective 4: Build Capacity on Access to Genetic Resources and Benefit Sharing
Applicable GEF Expected Outcomes: Outcome 4.1: Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions.
Applicable GEF Outcome Indicators: *Indicator 4.1: National ABS frameworks operational score as recorded by the GEF tracking tool (to be developed)*

	Indicator	Baseline	Targets End of Project	Source of verification	Assumptions
Project Objective: To implement the Nagoya Protocol on ABS through the development of nature-based crop-protection products and the strengthening of the capacity of the national authority	Monetary and non-monetary benefits received by stakeholders by project end Amendment law to align the Law of Biodiversity with the Nagoya Protocol	Monetary benefits: 0 Non-monetary benefits: 0 There is a legal and institutional framework but some of the mechanisms are weak and not all of the provisions of the NP are incorporated in the ABS legal framework	At least 1 monetary benefit (research funding, royalties or milestone payments) At least 2 non-monetary benefits (collaboration to education and training and sharing of research results) 1 amendment law presented approved/validated by the CONAGEBIO.	Progress reports from the research and development, including permits, PIC & MAT's and research collaboration agreements CONAGEBIO´s web site Project Progress Reports	INBio and the other partners have enough capacity and experience in negotiation of ABS contracts Enough political willingness to support the law amendments in to order to fully implement the NP
Outcome 1: Proof of concept for nature-based crop protection agents applied in two crops of economic	Number of formulations based on standardized lead extracts evaluated in	Previous activity results in green house with different concentrations of the extracts but	At least 6 formulations evaluated in 2 selected crop models at green house level and at	Formulation and trial results records provided by partners	Proposed results are ensure by Formuquisa's expertise in formulation

importance to Costa Rica.	crop protection assays for coffee and bananas at green house and field level	not with standardized formulated products	least 1 formulation validated (deliver positive results) in 1 crop model at field level.		according to the active compounds and crop model. Activity previously determined with extracts must increase by application of formulated products
1.1 Positive results derived from testing the two crop protection agents on coffee and bananas. Outputs: 1.1.1 Standardized extracts with known concentrations of active component for formulation test 1.1.2 Formulations for each of the extracts derived and formulation for combination of both extracts 1.1.3 Biological assays and their evaluation in terms of crop protection and comparative analysis with traditional agrochemical management.					
Outcome 2: Optimizing, scaling up and licensing crop protection agents	Yield of active chemical compounds produced Number of crop protection	0.5 kg of DMDP per month from 200 kg of dried plant material 175 mg of fungal metabolite per	0.75 kg of DMDP per month from 70 kg of dried plant material 300 mg of fungal metabolite per	Lab records Project Progress Reports	Procedures for extraction and isolation of compounds from known natural sources can be optimized through

	products ready to be licensed to companies	week from 2 liters of ferm broth 0	week from 2 liters of ferm broth At least 1 crop protection product ready to be licensed to companies		evaluation of several parameters and conditions at lab scale
2.1 Increased yield of active chemical compounds 2.2. Crop-protection products ready to be licensed to companies in charge of manufacturing the products Outputs: 2.1.1 Extraction and fermentation protocols to increase yield of active chemical compounds 2.2.1 Market analysis of large scale production and plans for licensing products 2.2.2 Definition and implementation of appropriate intellectual property rights for the products					
Outcome 3: Sharing benefits derived from genetic resources	Monetary and non-monetary benefits received by stakeholders by project end	Monetary benefits: 0 Non-monetary benefits: 0	At least 1 monetary benefit (research funding, royalties or milestone payments) At least 2 non-monetary benefits (collaboration to education and training and sharing of research	Learnt lessons document Progress reports from the research and development, including permits, PIC & MAT's and research collaboration	

			results)	agreements	
3.1 Monetary and non monetary benefits shared with relevant parties Output: 3.1 ABS agreements negotiated between the users and providers of the project´s genetic resources					
Outcome 4: Increasing national capacity to ratify and implement the Nagoya Protocol	International treaty on ABS ratified by Parliament	Nagoya Protocol text was presented to the Parliament	Nagoya Protocol ratified	Legislative Assembly web site/ La Gaceta (official newspaper).	Enough political willingness to support the law amendments in to order to fully implement the NP
	Amendment law to align the Law of Biodiversity with the Nagoya Protocol	There is a legal and institutional framework but some of the mechanisms are weak and not all of the provisions of the NP are incorporated in the ABS legal framework	1 amendment law approved/validated by the CONAGEBIO		
	Mechanisms institutionalized to facilitate	One weak mechanism exists	1.Manual on ABS procedures; 2. On line procedures for	CONAGEBIO IT platform, Manuals,	Continued support of the CONAGEBIO and

	access, benefit sharing and compliance under the Nagoya Protocol·		ABS applications; 3. Data base of permits granted, applications, ex situ collections; etc	CONAGEBIO website	other stakeholders.
4.1 Nagoya Protocol ratified by the Parliament (legislative body) 4.2 A revised ABS framework incorporates lessons from the previous components and the NP provisions and facilitates implementation of the Nagoya Protocol 4.3. Improved institutional capacity for the effective implementation of the NP Outputs: 4.1.1 Increased political support and knowledge by the Costa Rican government related to the potential benefits for the country of ratifying the Nagoya Protocol 4.2.1 Draft law amendment proposal to modify the current national ABS framework to make it consistent with the Nagoya Protocol 4.3.1 Mechanisms institutionalized to facilitate access, benefit-sharing and compliance under the Nagoya Protocol.					

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).

None received

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

A. PROVIDE DETAILED FUNDING AMOUNT OF **THE PPG ACTIVITIES** AND THEIR IMPLEMENTATION 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***
Consultancy for the drafting of the Prodoc and CEO documents	18,000	17,500	500
Translation of the final documents	2,000	0	2,000
Activities for the launching of the Project	5,000	0	5,000
Total	**25,000**	**17,500**	**7,500**

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