



GEF-6 REQUEST FOR ONE-STEP MEDIUM-SIZED PROJECT APPROVAL

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT IDENTIFICATION

Project Title:	Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala		
Country(ies):	Guatemala	GEF Project ID: ¹	9633
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01363
Other Executing Partner(s):	National Council of Protected Areas	Submission Date:	October 24, 2016
GEF Focal Area(s):	Biodiversity	Project Duration (Months)	48
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/> Corporate Program: SGP <input type="checkbox"/>		
Name of parent program:	Biosafety programme		

A. FOCAL AREA STRATEGY FRAMEWORK AND PROGRAM²

Focal Area Objectives/programs	Focal Area Outcomes	Trust Fund	(in \$)	
			GEF Project Financing	Co-financing
BD-2, Program 5	Outcome 5.1. Adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.	TF	1,369,863	2,700,100
Total project costs			1,369,863	2,700,100

B. PROJECT FRAMEWORK

Project Objective: To advance the process of implementation of the Cartagena Protocol through an innovative approach that promotes a strong link between biosafety and biodiversity						
Project Components	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Confirmed Co-financing
1. Strengthening of institutional capacity for GMO surveillance, monitoring and detection.	TA	1.1 National laboratories strengthened to provide GMO detection support and related post approval monitoring activities.	1.1.1 Diagnosis of the installed capacity and of trained human resources in detection of GMOs. 1.1.2 Based on the evaluation of results of 1.1.1, at least two national laboratories selected and strengthened to play the role of national reference laboratory. 1.1.3 Harmonized Toolkits/ Guidelines/ Protocols/ Standard Operating Procedures (SOPs) on GMO detection developed and/or adapted to suit Guatemala's reality. 1.1.4 Training programme on GMO detection established (e.g. workshops and manuals).	TF	495,901	720,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the GEF Website, [Focal Area Results Framework](#) which is an [Excerpt from GEF-6 Programming Directions](#).

³ Financing type can be either investment or technical assistance.

		<p>1.2 Agreements for collaborative networking established between national and international labs.</p> <p>1.3 Country able to implement biosafety monitoring and surveillance measures.</p>	<p>1.2.1 Inter-Laboratory cooperation MoUs developed and signed (to facilitate interaction and promote a cost-benefit approach between national and regional laboratories).</p> <p>1.3.1 Operative guidelines and clear roles and responsibilities for a monitoring and surveillance system (using as a base the early developments done during the implementation projects).</p> <p>1.3.2 Strategy for field detection (screening procedure) developed.</p> <p>1.3.3 Administrative and technical guides designed for each institution involved in the National Custom System.</p> <p>1.3.4 Workshops (4) for custom officers on monitoring and surveillance.</p>			
2. Strengthening of administrative and technical biosafety system of the National Competent Authorities (NCAs), in line with article 2.1 of the CPB	TA	2.1 System in place for handling of requests for GMOs (including digital system connecting all competent authorities).	<p>2.1.1 Sectorial regulations and their respective implementation tools for biosafety regulation, developed during the previous Implementation Project, tested and submitted for approval.</p> <p>2.1.2 Digital system in place for managing GMO applications and connecting all competent authorities as a single window for processing applications.</p> <p>2.1.3 Hands on training for the NCA's personnel (2 mock exercises on how to process dossiers using the new digital system).</p>	TF	165,902	475,000
3. Developing capacities on liability and redress (Article 27) and socioeconomic considerations (Article 26).	TA	<p>3.1 Guatemala moved towards ratification of the Nagoya - Kuala Lumpur Protocol.</p> <p>3.2 Guatemala takes into account socio economic considerations in GMO decision-making.</p>	<p>3.1.1 Draft NKLP ratification document for ratification by the relevant authority.</p> <p>3.1.2 Proposal on how to include and manage liability and redress (L&R) issues in the current biosafety administrative system.</p> <p>3.2.1 Study of the existing national and regional approaches related to the use of socioeconomic consideration in decision making.</p> <p>3.2.2 Analysis of the technical and legal implications of the implementation of article 26 of the CPB.</p>	TF	138,625	400,000
4. Conservation of native	TA	4.1 Protection of native genetic resources of agricultural importance	4.1.1 Maize baseline data (morphologic, genetic, socioeconomic and distribution of wild maize) is strengthened through	TF	344,902	850,600

biodiversity in support of biosafety related activities		(e.g. maize) is increased through the application of biosafety measures. 4.2 There is a clear link between biodiversity protection and biosafety actions.	support of ongoing research initiatives and data gathering activities. 4.1.2 Normative framework, defining GMO's free zones, is drafted. 4.2.1 A maize genetic reserve is established in Huehuetenango region based on systematization of information from 4.1.1 and land use regulations.			
5. Project M&E	TA				100,000	54,500
Subtotal					1,245,330	2,500,100
Project Management Cost (PMC) ⁴					124,533	200,000
Total project costs					1,369,863	2,700,100

If Multi-Trust Fund project: PMC in this table should be the total and enter trust fund PMC breakdown here (NA)

C. SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE

Please include confirmed co-financing letters for the project with this form.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Government	Ministry of Agriculture and Livestock and Food (MAGA)	In-kind	400,000
Government	Ministry of Environment and Natural Resources (MARN)	In-kind	200,000
Government	Ministry of Public Health and Social Assistance (MSPAS)	In-kind	100,000
Government	National Council of Protected Areas (CONAP)	In-kind	576,000
Government	National Council of Protected Areas (CONAP)	Grant	24,000
Government	National Secretariat of Science and Technology (SENACYT)	In-kind	100,000
Academia	Agronomy School, San Carlos University (FAUSAC)	In-kind	200,000
Academia	San Carlos University, Huehuetenango	In-kind	500,000
Academia	Del Valle University (UVG)	In-kind	200,100
Government	Institute for Agricultural Science and Technology (ICTA)	In-kind	400,000
Total Co-financing			2,700,100

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee ^{a)} (b) ²	Total (c)=a+b
UNEP	TF	Guatemala	Biodiversity		1,369,863	130,137	1,500,000
Total Grant Resources							1,500,000

a) Refer to the Fee Policy for GEF Partner Agencies.

E. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁵

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	10,260 ha
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	NA
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	NA
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	NA
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	NA
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	NA
	Reduction of 1000 tons of Mercury	NA
	Phase-out of 303.44 tons of ODP (HCFC)	NA
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	NA
	Functional environmental information systems are established to support decision-making in at least 10 countries	NA

F. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

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

PART II: PROJECT JUSTIFICATION

Project Overview

a) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Guatemala as a megadiverse country and a center of origin and diversity of maize, common bean, hot pepper, cotton, cucurbits, and tomatoes, is an important global biodiversity hotspot. For this reason, such richness has to be protected and sustainably used. The products of modern biotechnology such as Genetically Modified Organisms (GMOs) have been increasing in importance as potential sources of human wellbeing in fields like agriculture, bioremediation, and climate change, among others. Nonetheless, it also has been highlighted that the use of GMOs could have possible negative effects on biodiversity. For this reason, the use of these products must be regulated following international standards already agreed and specified in the Cartagena Protocol. Guatemala has pursued important efforts to have a well-established national biosafety system; however, the complexity of such an enterprise requires additional efforts to put in place a complete system that will allow the country to take advantage of the use of GMOs while minimizing their possible negative effects.

⁵ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period.

Guatemala as a center of origin of cultivated plants and maize in particular, will benefit from a solid biosafety system that could allow the country the opportunity to assess risks and take informed decisions related to the use of GMOs. Previous efforts through other UNEP-GEF projects have had a tremendous impact on the country's ability to do this; however prevailing needs should be addressed in order to guarantee a more smooth and coherent operation of the current system. For instance, there are still gaps in the current system related to local capacity for GMO monitoring, surveillance and detection; issues that were not addressed during the former implementation project (see table on the baseline section for more detail on what capacities have been created so far). Likewise, the current need to link biosafety with the wider biodiversity arena is of paramount importance to obtain the needed political support and to promote understanding of the importance of biosafety by linking the subject with a wider area such as biodiversity and using clear examples relevant to the Guatemalan reality. Therefore, the global environmental problem that the current initiative will try to address is the loss of native biodiversity due to either misuse or illegal actions with GMOs. In particular, the project will try to preserve native varieties of maize, not only because of the importance of maize worldwide, but also as a pilot that can be replicated for other crops, and in particular to make a case for strengthening the link between biosafety and biodiversity. Currently maize has been declared a species of cultural importance in Guatemala, and it is also one of the most common GMOs in global markets. Based on this, the country through this project, seeks to ensure safe use of GMOs, and the protection of local crops (i.e the case of maize) through practical actions that could be seen as "applied biosafety".

The barriers that the country faces in the achievement of the above-mentioned global environmental benefits are:

Insufficient capacities to deal with particular biosafety issues: Former projects coupled with local interventions and actions have created important biosafety capacities, mainly in the form of a national biosafety policy, technical instruments and training supporting the risk assessment process, updating of the Biosafety Clearing House (BCH), and public awareness. Nonetheless, these initiatives did not cover areas such as monitoring and surveillance, testing of all areas of the biosafety system, and practical biosafety actions. There is still a need to make the system fully operative in all areas, and thus, the creation of a digital system that integrates all NCAs will be key. In addition, support to GMO detection and monitoring services is expected not only to enable the country to fulfill its obligations as a party to the CP; but also to minimize potential risks to local biodiversity associated with the use of GMOs. This barrier will be addressed with actions under Components 1 and 2.

Lack of a clear link between biosafety and biodiversity: A more evident relation between biosafety and biodiversity has been promoted by the CBD Secretariat as an important element to ensure the sustainability of biosafety related efforts, and to obtain support from various actors that have a great impact in the implementation of the Cartagena Protocol on Biosafety (CPB). In this sense, the project will try to identify areas where the link is clear and coordinate actions that will lead to a better understanding of the same. The creation of a maize genetic reserve is expected to support this cause. It will not only contribute to the conservation of native biodiversity, but it will mainly support biosafety decision-making by ensuring that regardless of the outcome of future GMO application requests in the country, the authorities have taken proactive actions that will: 1) safeguard native species, 2) show the understanding of CONAP as a biosafety competent authority of the importance of conserving biodiversity; and 3) identify and explain the important links between biodiversity and biosafety related activities. This barrier will be addressed with actions under Component 5.

In addition, the link between science and policy will be strengthened through awareness raising activities, high-level meetings and educational strategies. Former projects and CONAP's activities have created an important baseline of awareness and understanding of biosafety issues, and have provided training to decision-makers and technical personnel. However, there is still a need to provide biosafety related information to a wider audience in the country; such that the importance of biosafety systems (policies, regulations, tools, etc.) is better understood and supported. In this respect, the development of an educational strategy for primary and secondary schools is an attempt to expand the educational activities to a wider audience that will have the power to offer sustainability to the biosafety systems that have been put in place. This barrier will be addressed with actions under Component 3.

Incipient knowledge in biosafety related areas that have an impact on the civil society and the environment: As mentioned above, Guatemala has improved its biosafety capacities through local efforts and prior GEF projects. The local situation and capacities in terms of applying biosafety procedures in alignment with the Cartagena protocol has

significantly changed in the last few years; and especially after to the activities of the prior UNEP-GEF Development of National Biosafety Framework project, the country has a clearer pathway for biosafety and is now in a position to take actions towards complementary issues such as Liability and Redress (L&R) and socio-economic (SE) considerations, which are considered to be of paramount importance for local authorities and stakeholders. In addition, a lesson learned from previous interventions and approaches was that a proactive attitude from countries in analyzing possible implications of international agreements (protocols, guidelines, etc.) produces better impacts than a reactive approach once basic responsibilities are fulfilled. In this sense, the proposed project will cover that gap by providing information on how to address issues such as L&R and SE considerations through Component 4.

b) The base line scenario or any associated baseline projects

Baseline:

Guatemala has made substantial efforts to establish a well-functioning national biosafety system; however additional efforts are required to put in place a complete system that will allow the country to take advantage of the use of GMOs. The following table provides information on existing capacities and needs.

Existing capacities	Prevailing needs
Biosafety policy approved (definition of National Competent Authorities –NCAs)	Strengthening of the science-policy and biosafety-biodiversity links.
Biosafety regulation submitted for approval of authorities	Follow-up actions to obtain approval of regulations
Administrative system designed based on biosafety policy	New digital system to enhance the administrative biosafety operations, and promote better interaction between NCAs
Technical guidelines for biosafety operations	Need to further discuss the guidelines and to put in practice their use within NCAs.
Basic laboratory capacity	Need to strengthen existing laboratories to carry out GMO detection activities.
Personnel trained in biosafety	Personnel from national authorities have been trained during previous projects. Prevailing need is related with practical expertise in the processing of applications.
Public awareness on biosafety	Public awareness activities have been part of previous projects, but this is an area that requires constant support and actions. In this sense, the project will attempt to target a new society group, the one of primary and secondary education.
Cartagena Protocol on Biosafety considerations on SE and L&R issues	The country through previous interventions focused on creating “technical biosafety capacity” (i.e. regulations, guidelines, trained personnel, etc.) as a first step towards full implementation of the biosafety system. SE considerations and L&R issues have not been addressed yet.
Maize has been declared a species of cultural importance for the country	There are no measures in place to protect maize. There are no in-situ conservation areas for maize landraces.

The progress made with the recently completed UNEP-GEF Development of National Biosafety Framework project has cemented the development of a national system on biosafety that is partially operational, having important elements in place as shown on the table above. Areas of the system such as those covering monitoring and surveillance were not fully covered by the previous projects since priority was given to the development of the policy, bill and risk assessment capacity. As such, there is a great need for development of capacities for its operation in order to complement the system operations. Along the same lines, the current baseline also includes clear definition of competent authorities in the recently approved biosafety policy; and identification of stakeholders who have been active with the former initiatives and whose cooperation and resources will be needed for achieving the full implementation of the protocol. In terms of education, technicians and professionals in areas related to biosafety were the target of former initiatives and interventions, but little was done to disseminate biosafety information to other audiences.

In the particular case of Component 5, there are no previous interventions attempting to protect maize *in situ*, and therefore no other cases of “applied biosafety measures”. The center of origin of maize is located in Mexico and Guatemala, where there is great genetic variability in cultivated materials and the presence of wild crop relatives, from which it is believed maize evolved. Along with this, maize is the most important food of the Guatemalan

population, together with beans. In the last century, studies were made on the diversity of maize in Guatemala (Wellhausen et al., 1958), and the collected germplasm is conserved in the gene banks of the CYMMIT in Mexico. Regarding wild maize (*Zea mays subsp. huehuetenangensis* and *Zea luxurians*) some collections of seeds exist and are conserved at the CIMMYT gene bank and in the Guatemalan Agriculture Ministry gene bank. Currently there are no *in situ* conservation strategies of maize (cultivated and wild) that could make the general public and the authorities comfortable with the fact that local populations of wild relatives of maize are being adequately safeguarded.

In terms of knowledge and conservation of native genetic resources in Guatemala, an Atlas of Guatemalan Crop Wild Relatives was created after nearly a decade of extensive collaboration between the United States Department of Agriculture/Agricultural Research Service (USDA-ARS), Bioversity International's Regional Office for the Americas, the International Center for Tropical Agriculture (CIAT), and the Agronomy Faculty, University of San Carlos in Guatemala (FAUSAC)). It provides detailed information on 105 species or subspecies of wild Guatemalan plants that are related to crops, including their description, distribution, and diversity and conservation status. The species are organized into gene pools corresponding to the 29 crops that were chosen for this study because of their economic, cultural and biological importance (C. Azurdia, K.A. Williams, D.E. Williams, V. Van Damme, A. Jarvis and S.E. Castaño. 2011. Atlas of Guatemalan Crop Wild Relatives. Available at <http://www.ars.usda.gov/ba/atlaswrguatemala>). Regarding cultivated species, there are currently no regulations establishing restricted areas for planting GMOs. However, the proposal for GMO regulation currently submitted for discussion and approval includes this issue.

In recent years the Guatemala government has made some important efforts to establish legal regulations to somehow protect and conserve the genetic resources of maize. In this sense, the Ministerial decree number 767 - 2011 of the Ministry of Culture and sports declare maize as the nation's cultural heritage; such effort has been reinforced through the Decree of law 13-2014 that decreed to maize as intangible cultural heritage of the nation. Both legal instruments seek protection, conservation and preservation of the richness and diversity of the Guatemalan maize germplasm. So there is a baseline that could be further improved to strengthen the science-policy and biosafety-biodiversity links.

In addition to previous project's achievements, the government of Guatemala as a party of the Cartagena Protocol, has taken up commitments that imply investment in biosafety activities that are independent of the international support that can be received for these matters. In this sense, the National Biosafety Policy establishes the National Biosafety Council, which is composed mainly of governmental institutions who are active in the biosafety arena.

Each competent authority has assigned personnel responsible for biosafety matters. For instance, the MAGA has the department of agricultural health which has 5 units that address GMO related matters. In the MSPAS, the department of regulation and control of food, has personnel who addresses biosafety issues related to food feed and processing. The MARN has personnel within the department of environmental management, who is tasked with addressing request for release into the environment. Investment so far from the above mentioned institutions is estimated at: 215,000 USD/year.

In the case of CONAP, its biosafety activities include a full time biosafety coordinator, the BCH and CPB focal points, part of the time of the Director of the Technical Biodiversity office, and part time of a legal advisor. This brings CONAP's investment in biosafety up to 57,930 USD/year.

An example of the activities carried out by the Government during the last year correspond to the fact that representatives from various competent authorities lead by CONAP have been promoting and supporting the approval of the new biosafety regulations. These regulations were developed under the former project, but were not approved during its implementation timeframe. However, thanks to the local investment in biosafety the process has continued.

Universities and laboratories such as Universidad del Valle de Guatemala, ICTA, FAUSAC and the association of local grain producers, are also active participants in the biosafety arena, adding to the local baseline for the

project. These institutions have cooperated with the authorities as technical advisors, reviewers of important documents, developing and testing protocols, etc. Their involvement is continues and is estimated in 66,130 USD/year.

The associated projects and their impact:

The country implemented two projects that contributed to the creation of basic biosafety capacities. These two projects were “UNEP-GEF Development of National Biosafety Framework” and “UNEP-GEF Development of mechanisms to strengthen the implementation of the Cartagena Protocol in Guatemala”. Additionally, the country benefited from the global BCH Project. The main product of the first mentioned project was the drafting of a bill on Biosafety of the GMOs, which was presented to the National Congress for approval in 2004; so far this legal normative has not been approved. During the implementation of the previous Development of National Biosafety Framework project, several other important outcomes were achieved, including:

- The approval of the National Biosafety Policy which includes important aspects such as definition of National Competent Authorities, creation of a National Biosafety of GMOs Council, and also includes four operative actions: development of instruments and mechanisms to regulate the use of GMOs, strengthening of capacities, transparency and citizen participation, and research and development.
- The revision and drafting of a legal instrument on biosafety (“Regulation of the use of GMOs”), to implement the National Policy; which is in its final discussion with the main stakeholders. This regulation has established legal support for the Biosafety System.
- Proposal for administrative and technical system for each of the National Competent Authorities to implement biosafety activities, based on the Policy and Regulation of GMOs. The proposal of an administrative system included amongst others basic tools to make the system operational. Nonetheless, there is still great need to complete this process. This prior project had an impact mainly in the generation of drafted documents such as a prevention and contingency plan for unintentional releases of GMOs; a proposal for a national monitoring system; a methodology for establishment of restricted GMOs areas; and administrative and technical tools for handling different GMOs requests such as contained use, experimental release, and commercial release. But the need exists to check, adapt and probe those procedures in each National Competent Authority before adoption.
- Capacity built on risk analysis for decision makers and technicians of the National Component Authorities through workshops within the country and abroad. In addition, two graduate courses (six month duration) were offered and around 40 technicians finished the program. Similarly, the National Program Research on Biotechnology and Biosafety has been approved and it is in its initial implementation. Regarding lab capacities, the Science and Agriculture Technology Institute (ICTA) will be in charge of detection, identification and quantification of GMOs; selection and buying of part of the complementary lab equipment was completed. Furthermore, two GMO detection workshops were offered by Mexican personnel from two government institution (Environment and Agriculture); personnel from the most important national biotechnology labs attended.
- Two interactive modules (biosafety and GMOs, and Guatemala’s native crops and biosafety) were developed and are now hosted on CONAP websites. In addition, a sensitization strategy is under implementation. Workshops on biosafety and biodiversity have been attended by communication specialists, journalists, and main stakeholders from different organizations both in the city and in the province. Finally, personnel from government and other institutions were trained in BCH management and reporting aiming to support the BCH National System.

The above described efforts and achievements create a solid baseline for the current project proposal, which will complement many of those activities. In addition, a number of other initiatives or projects will be running in parallel with this one, such that synergies could be properly explored, including the following:

- The Government of Guatemala through CONAP, with support of the Federal Republic of Germany (LifeWeb initiative), is implementing the project Consolidation of the Guatemalan Protected Area System. The main objective of this project is to promote the conservation and sustainable use of biological diversity and ecosystem services by adding poorly represented ecosystems to the SIGAP (National Protected Areas System), including as municipal or communal protected areas (including within the Department of Huehuetenango). The proposed project will cover areas that will not be addressed by the LifeWeb initiative. As a result of both projects, wild and cultivated maize will be a target for conservation.

- CONAP has expressed its interest in participating in the pilot project "Capacity-building to promote integrated implementation of the Cartagena Protocol on Biosafety and the Convention on Biological Diversity at the national level", thus indicating governmental interest in complying with agreements under the Cartagena Protocol.
- The development fund of the Government of Norway supports a "Collaborative participatory plant breeding program" in rural communities in Central America. Among its different activities are the rescue, conservation and utilization of maize germplasm. In the case of Guatemala, program activities are taking place in the Sierra of Cuchumatanes, Huehuetenango, where the program is working with seven communities.

c) The proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project

The project is fully consistent with the GEF 6 Biodiversity strategy, specifically Program 5 under Biodiversity Strategic Objective 2. In addition, the project is in line with the GEF Strategy for Financing Biosafety, given that it addresses many of the “key elements requiring concrete actions” listed in the updated building capacity action plan. The project is related to Aichi Target 4 in view of the implementation of the National Biosafety Policy and the National Biosafety System, which will grant the country the capacity to assess and process applications for the use and/or development of biotechnology products such as GMOs, which could have potential for sustainable production and consumption while keeping the possible environmental risks within safe limits. Furthermore, it is related to Aichi Targets 7 and 13 by promoting that genetic diversity is maintained and that genetic erosion is minimized. The project is also aligned with UNEP’s Sub-programme on Environmental Governance, including the expected accomplishments (b) “The capacity of countries to develop and enforce laws and strengthen institutions to achieve internationally agreed environmental objectives and goals and comply with related obligations is enhanced” and (c) “help strengthen the enabling environment for ecosystems, including transboundary ecosystems, at the request of all concerned countries”.

The current initiative contemplates the strengthening of key areas to enable the smooth implementation of the CP, the creation of new capacities that will complement those that already exist, and the innovative approach of “applied biosafety measures”. Additionally, the current initiative has a broader vision and aims to present biosafety as an integral part of other biodiversity activities, with the expectation that this approach could give biosafety the importance it deserves by making the link between these two areas clearer for key stakeholders and the general public. To achieve this goal, the project will have the following components:

Component 1. Strengthening of institutional capacity for GMO surveillance, monitoring and detection

This component will strengthen GMO surveillance and monitoring capacities as per Article 22 regarding capacity building of the CPB. This will be done in three main areas: i) strengthening of GMO detection capabilities through better equipped laboratories, technicians trained in how to undertake the procedures, and clear protocols for action; ii) strengthening of field monitoring capacities through the establishment of a clear field monitoring strategy for the National Competent Authorities (NCA) and monitoring guidelines for field procedures including specific procedures for the main GM crops that could enter Guatemala, in case of commercial release, and for research purposes in the case of local development; and iii) a strengthened national customs system, with defined procedures for action and personnel trained in biosafety measures (i.e basic biosafety concepts, emergency procedures, monitoring points, etc). The two laboratories that will be strengthened during this project are: laboratorio del Instituto de Ciencia y Tecnología Agrícolas (ICTA), and laboratorio de la Universidad del Valle de Guatemala

Component 2. Strengthening of administrative and technical biosafety system on the NCAs in line with article 2.1 of the CPB

The recently completed UNEP-GEF biosafety project generated a considerable amount of sectorial regulations that can support the work of the national competent authorities. These guidelines were drafted based on the content of the law of living modified organisms developed during the same project. However, they have not yet been tested/internalized by the competent authorities, and the proposed project is seeking to complete this task. Another important activity under this component is to make biosafety system more user-friendly and agile. This will happen through the development of a digital system for processing GMO applications, which is meant to simplify procedures, to serve as a repository for information and thus as institutional memory of biosafety processes, and as an alert system that will notify various

actors when their action is needed at specific points during the process. This system will be based on a similar system that was developed by Costa Rica through a similar UNEP-GEF project, and thus it represents an opportunity for this initiative to build on previous efforts of former and similar projects, and use important lessons learned in the process. In other words, the administrative system that was created during the implementation project will now be transferred into a digital system that will support the day-to-day activities in biosafety in a more efficient and coordinated way. The new digital system will also link all the biosafety competent authorities (i.e Environment, Health, Agriculture) and ensure that their participation is streamlined and improved. It will also support the science-policy link, since it will streamline the process of processing applications that come or are submitted from “developers” (private sector, universities, etc); allowing them to have a more clear channel of communication with the competent authorities in a harmonized way.

Component 3. Developing capacities on liability and redress (Article 27) and Socioeconomic considerations (article 26)

COP/MOP 7 has pointed out the need to provide assistance to countries in the areas of Liability and Redress (L&R) and socio economic (SE) considerations as part of the process of completing the update and operation of national biosafety frameworks (UNEP/CBD/BS/COP-MOP/7/16). In relation to L&R and the supplementary protocol, the activities that have been prioritized are capacity building, information sharing and awareness raising. In the case of socioeconomic considerations, support has been urged for capacity building activities as specified in paragraphs 2 (n) and (o) of decision BS VI/5 (appendix II of decision XI/5 of the Conference of the Parties to the Convention on Biological Diversity). In response to the above, and taking into account Guatemala’s interest in these two topics, this component will create opportunities for decision makers to understand possible implications, and how to handle L&R and SE related issues. The ratification of the supplementary protocol on L&R will be therefore promoted by creating awareness amongst decision makers and understanding of its implications for the country.

According to the Cartagena Protocol, Article 26 socio-economic (SE) considerations are not mandatory, however, their consideration could support decision-making at the country level; this is particularly relevant for Guatemala, where civil society groups are active in influencing decision-making. For this reason it is necessary to achieve clarity on how to address SE considerations in the decision-making process by identifying and evaluating their potential impacts. This is an area that has not yet been covered by former projects and thus represents an opportunity to create basic capacities in this respect for the country. There is some information available concerning biodiversity and the contribution of indigenous populations of Central America, and women in particular, to agriculture. For instance, Lara and Azurdia (2001) showed the role played by women in the conservation of the genetic resources of maize in the Department of Huehuetenango. (Lara, E. and Azurdia, C. 2002. The role of women in the conservation of the genetic resources of maize. Guatemala. FAO and IPGRI.) However, there are not any studies addressing the impact that the adoption of GMOs could have for different indigenous populations, and this issue will be addressed under this component.

In summary, the main activities under this component will be: a technical analysis of the implication of ratification of the supplementary protocol; draft of the supplementary protocol on L&R for ratification; and analysis of how SE considerations are addressed by other countries in order to propose suitable mechanisms for Guatemala.

Component 4. Conservation of native biodiversity in support of biosafety related activities

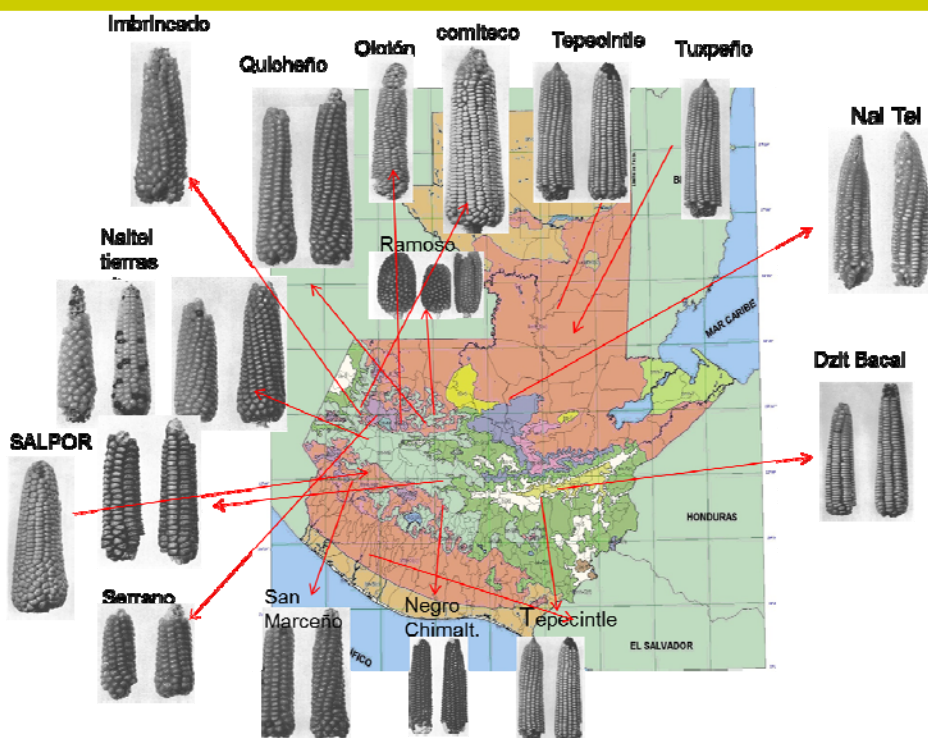
Guatemala as a megadiverse country and a center of origin and diversity of cultivated plants has prioritized the conservation and sustainable use of globally important diversity. The National Protected Areas Council has included biodiversity among its targets to be protected since the Cartagena Protocol mandates the protection of biodiversity from the possible negative effects of GMOs. Maize is the main staple food in Guatemala and it also plays an important role in the Guatemalan culture due to its relevance in cultural, historical and religious issues. Maize genetic diversity in the country is recognized globally due to the fact that Guatemala is part of its centre of origin and diversity.



Figura 9. Mapa de México con las localizaciones de los centros de origen-domesticación y los centros de diversificación primaria del maíz.

Origin of maize in Mesoamerica. There are five centers of origin-domestication, four in Mexico and one in Guatemala. Source: Kato et al. 2009. Kato, A.; Mapes, C.; Mera, L.M.; Serratos, J.A. y Bye, R. 2009. Origen y diversificación del maíz. Una revisión analítica. Universidad Nacional Autónoma de México. Comisión Nacional para el conocimiento y uso de la biodiversidad. 116 pp.

DISTRIBUCION RACIAL DE MAIZ



Distribution of the Guatemalan corn races. Based on Wellhausen et al. 1958. (Wellhausen, E.J., Fuentes, A.; Hernandez, A. and Mangelsdorf, PC. 1958. Races of maize in Central America. Academy of Sciences, National Research Council, Washington, DC. USA.)

Because of the vital importance of maize in the country, the possible use of GM maize in Guatemala is a highly controversial topic. The adoption of GMO maize is viewed as a threat to biodiversity and food security by some, while

others see believe that its various uses could represent a great opportunity to overcome problems facing the country, such as climate change and food security. The legal use of GM maize in other countries that are part of the center of origin and diversity (for example Mexico with 70 events approved for human consumption and no legal bad for cultivation) has been preceded by the establishment of special normative frameworks that include both rigorous risk analysis and establishment of regions where it cannot be cultivated (GM free zones). Such areas have been established by knowing the maize center of origin and diversity, and as such it was necessary to have information on the baseline situation with regard to both wild maize and cultivated native materials (landraces). Such normative frameworks, and the baseline information that support them, are still lacking in Guatemala.

For the above-mentioned reasons, this component seeks to propose an innovative approach that will promote the conservation of local biodiversity and at the same time support biosafety decision-making ensuring that public concerns are being proactively being taken into account by local authorities. The first activity will be to strengthen baseline data on maize through support of local on-going research initiatives in areas such as genetic and morphological information, socio-economic considerations related to the crop, and distribution of wild relatives. Second, the project will draft and present to the authorities a normative framework on GMO-free zones, which will be supported with a pilot for declaring a GM-Maize free zone (maize genetic reserve) in the Huehuetenango region based on systematization of information collected for the baseline, and taking into account land use regulations. A map showing the new area of the maize reserve will be generated and will be accompanied of a management plan for it. The project has also taken into account public consultation for this component and therefore CONAP with support of the project team will undertake consultation with local municipalities, farmers, land-owners, amongst others. The strategy used will be to have local meetings where the proposal will be shared and the plan for the establishment and management of the reserved will be developed with support from the various stakeholders. In particular, small farmers are protective of their local maize varieties due to their cultural importance, and thus, the creation of a reserve that will ensure their protection will be addressing one of the major concerns of part of the Guatemalan population.

In relation to the areas selected for the establishment of the genetic reserve, wild maize is an endemic species in the department of Huehuetenango, as can see in the figure. Its size will be determined by the current distribution of the wild maize populations, but is estimated on 10,260 ha. CONAP has the right of proposing new protected areas and this proposal have to be approved by a Decree of law.



Current distribution of wild maize (*Zea mays* subsp. *huehuetenangensis*) in Guatemala. Source: Azurdia et al. (2011) C. Azurdia, K.A. Williams, D.E. Williams, V. Van Damme, A. Jarvis and S.E. Castaño. 2011. Atlas of Guatemalan Crop Wild Relatives. Available at <http://www.ars.usda.gov/ba/atlaswrguatemala> United States Department of Agriculture/Agricultural Research Service (USDA/ARS); Bioversity International; International Center for Tropical Agriculture (CIAT); and the University of San Carlos in Guatemala (FAUSAC).

Since CONAP will be executing agency of the project and is at the same time the local authority on protected areas, there will be strong support to these activities. Moreover, the creation of a normative framework to declare GM free zones in particular areas of the country will support biosafety decision-making by ensuring that whatever the decision made concerning a GMO application is, the country has taken a proactive approach in identifying GMO free zones and

safeguarding local biodiversity in key regions. These measures are not meant to promote the banning of GMOs in the country, since the authorities recognize their potential, in particular in fighting climate change and food security. However, these actions are expected to ensure that the country is prepared and that it has taken into consideration measures to protect its biodiversity using a precautionary approach. In addition, these measures will support the authorities in addressing public opinion/concerns while allowing the country to move towards a safe use of GMOs. This approach as part of a biosafety project is not only meant to protect those species, but to raise awareness that biosafety is not a standalone topic, and instead it is of a cross-cutting nature, and is intrinsically linked with biodiversity. This approach also is expected to be used as a base for future interventions, and to provide useful information for the biosafety decision-making process.

d) Incremental cost reasoning and expected contribution from the baseline, the GEFTF, LDCF/SCCF and co-financing

As can be appreciated from the baseline scenario, the project is incremental as it will build on previous achievements related to the national biosafety system, and will complement and leverage efforts from other initiatives and interventions (GEF and non-GEF). In addition, the proposed project will run in parallel with other initiatives that share similar objectives without being redundant (see associated baseline projects), which will add to the incremental benefits of the project's interventions.

In the absence of GEF support, the Government of Guatemala will continue to support biosafety actions since there is already a biosafety policy that defines roles and responsibilities for the various NCAs. In addition, the country will continue public awareness and training activities, in particular through CONAP's actions and participation in forums or other activities, and through possible actions from universities which were CONAP's partners during previous projects and with which biosafety diploma degrees were developed. However, in the absence of additional support and funding, these efforts will advance at a slow speed and the momentum that the country has built in terms of interest and support for improving biosafety operations will be lost. In addition, because the prior UNEP-GEF biosafety project has only recently ended, the administrative and technical capacity is still in place to take up new actions that will lead to the fulfillment of existing gaps in the biosafety framework.

Concerning the establishment of a genetic reserve for maize wild relatives in support of biosafety decision-making, this will be the first initiative of its kind in the country; however, this activity is also incremental to previous efforts since the proposal for GMO regulation currently submitted for discussion and approval includes this issue. It is therefore necessary to move towards the identification/selection of areas where major native crops of Guatemala are located. Maize is a special case, since it is one of the crops with advanced biotechnological development and broad acceptance at the global level; for this reason this project has included support for studies of the genetic diversity of Guatemalan maize (wild and cultivated) in order to establish the baseline needed for the establishment GM free zones.

The current proposal is designed to help Guatemala complement previous efforts related to biosafety. The proposed alternative scenario presents an innovative solution that has been developed based on lessons learned from other experiences, and with an important component in making the link between biosafety and biodiversity more evident for the general public and decision-makers, recognizing that this could lead to a more coherent and rapid implementation of the CP in the country. The main incremental areas include: biosafety surveillance actions, through a more robust monitoring system and integration of L&R and SE considerations, that will complement the whole system operations in a wider sense; education, in terms of expanding efforts to other target audiences such as primary and secondary schools, and strengthening the biosafety-biodiversity-policy links; strategic conservation actions that will support GMO decision-making; and innovation through "applied biosafety measures". The alternative scenario uses elements from previous interventions, and takes advantage of successful developments or models used by other countries such as the case of the "digital system", which was originally implemented by Costa Rica under a similar UNEP-GEF project. Having said this, the alternative scenario is not a stand-alone intervention, but instead a part of Guatemala's overall effort to fulfill existing gaps in its biosafety framework.

e) Global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF)

The main focus of the project is to continue with capacity building activities seeking to form the basis for an adequate protection of the natural environment through specific biosafety issues such as improvement of customs control, monitoring and surveillance, integrated biosafety operations (digital system), decision-makers participation and sensitization, etc. At the end it is expected that the various stakeholders will be more aware of the possible benefits and /or risk arising from the use of GMOs; as a result, the general public and technical personnel will become more involved in biosafety activities and the common understanding of the subject with a science-based orientation will increase. Taking in consideration the urgency of protection of the globally significant biodiversity, for instance, wild crop relatives, one the components of the project focuses on identification, protection and management of such richness in Guatemala, creating conservation strategies that will safeguard these biological resources regardless of the possible adoption of GMOs in Guatemalan territory. In addition, the project will highlight the important role of women in the use of genetic resources related to agriculture (i.e. maize) through networking with local communities and development of analysis of the technical and legal implications of the implementation of CPB article 26. Likewise, discussion and taking actions on liability and redress will empower the country to protect its biodiversity from possible damage due to GMOs.

f) Innovativeness, sustainability and potential for scaling up

Innovativeness

The project aims to change the way to tackle biosafety issues by innovative actions; for instance, to reach complete integration of the already designated National Competent Authorities through a digital biosafety system that will serve as a single window to receive applications, an alert system for authorities on processes that are pending review, and an information platform for clients (applicants) on the status of their applications. The project also is innovative in the sense that it is proactive in addressing issues such as L&R and SE considerations; allowing the country to assess possible implications in this respect before the supplementary protocol is ratified. In general, biosafety projects around the globe have been mainly oriented around capacity building; this project is not ignoring this approach since important local capacities will be created, but at the same time it will be innovative in having on-the-ground impacts for the conservation of native biodiversity using “applied biosafety mechanisms” (the establishment of a GM-Maize free zone in support of decision-making). This approach also will improve understanding of biosafety as a crosscutting discipline and highlight its association with biodiversity in general.

Sustainability

The present project was drafted in a participatory manner, with support from various competent authorities and stakeholders. The involvement of these institutions in the development of the proposal evidences their interest on the subject, as well as acknowledgement and understanding of their role in the national biosafety system. These actions are expected to secure country ownership of the project, and active engagement of key actors, which will at the end, lead to sustainability of results, by a strong feeling of pertinence and responsibility.

In addition, the project will ensure financial sustainability through actions such as: institutional agreements on the operation of the GMO detection laboratories, since the project will up-grade existing labs that already have assigned resources for operation in terms of staff, materials, etc; definition of clear roles and responsibilities for the monitoring system, which will imply securing national government funds for operations in this respect; and through education related activities with the drafting of a biosafety education strategy which is aimed at sensitizing the general public, and increasing public support, regarding the importance of having functional biosafety systems. In addition, the local authorities have also continued investments in biosafety post-the former GEF implementation project by keeping the former project coordinator as part of the CONAP staff for continuation of biosafety activities, the follow-up of the processes related with the approval of the law, amongst others. Likewise, other technicians who were previously trained in biosafety and able to fulfil important administrative requirements are also part of CONAP’s staff. The number of personnel currently engaged on biosafety issues supported with local government funds is estimated in 43 part time staff and 1 full time. This for a country who is not yet receiving applications is a good start and shows commitment with the subject while creating a solid base for the a future GEF investment ensuring strong support from the authorities. The

fact that the local laboratories and competent authorities have government support for operations implies that activities are not only relying on GEF support, but are complementary to it, which will promote the sustainability of results.

Potential for scaling up

The project has potential for scaling up as it will create the basic systems and capacities for certain operations; however since biosafety is a dynamic discipline that continues to evolve over time, the products of this project will also have room to be revised, up-dated and or improved. A clear example will be the incorporation of new detection or surveillance techniques to the current system. Also, in the case of the educational strategy, a strategy will be developed and partially implemented through the production of education materials (i.e booklets); thus it will be a clear opportunity for scaling-up. In relation to the *in situ* genetic reserve, since the project will be focusing on maize, there is a very high potential for replication of successful experiences given the many other agricultural crops that are considered an important national heritage and important elements of rural livelihoods. Finally, UNEP's involvement will allow for the opportunity to network with other biosafety and related projects in the region, allowing this project and other projects to share lessons learned and to create south-south cooperation networks where possible.

2. Child Project? If this is a child project under a program, describe how the components contribute to the overall program impact. NA

3. Stakeholders. Will project design include the participation of relevant stakeholders from [civil society organizations](#) (yes ☒ /no ☐) and [indigenous peoples](#) (yes ☒ /no ☐) If yes, elaborate on how the key stakeholders engagement is incorporated in the preparation and implementation of the project.

Local indigenous groups and municipalities from Huehuetenango (where the greatest maize genetic diversity and endemic wild maize populations are found) will participate in both the design and implementation of the wild maize *in situ* conservation area, and in the formulation and implementation of plans for linking biosafety and biodiversity, as well as in the identification of possible areas of importance for SE considerations. As mentioned previously, CONAP has implemented actions to get preliminary information on socio-economic aspects, legal aspects and genetic diversity of both wild maize and associated native maize as well as the role of women and local communities in relation to its use.

Various institutions will be related to the project execution and will play an important role in the achievement of outcomes. An advantage in this sense is the fact that key stakeholders in the biosafety area participated in the recently concluded UNEP-GEF biosafety project, which means that their participation will be continuous, thereby minimizing the risk of personnel turnover and loss of institutional memory. For example, research institutes such as Del Valle University, San Carlos University and National Science and Technology Institute will play a key role in science and research; the Education Ministry will cooperate in aspects related to the development of educational materials; and the Economy Ministry will be key in providing support on issues related to the import, export and transboundary movements of GMOs. National Competent Authorities will play the most important role in the design and implementation of the project.

The following table summarizes the possible involvement of various institutions:

Institution	Participation (components)	Type of involvement
UNEP-DEPI UNEP-ROLAC	1,2,3,4,5	UNEP will be the project Implementing Agency (IA) and will provide technical backstopping to CONAP. As IA, UNEP will process cash advances to the Executing Agency (EA), will participate as a member of the Steering committee and will undertake project supervision activities, as described in the M&E plan. UNEP's regional office for LAC will provide technical support on needed basis through its MEA's focal point.
National Council of Protected Areas (CONAP)	1, 2, 3, 4, 5	CONAP will coordinate and execute the main components of the project. CONAP will host the project unit and will be the main coordinator of project activities and an important liaison with other institutions. *role in project task forces
Ministry of Agriculture	1, 2, 3, 4, 5	As a national competent authority, MAGA will participate in all components of the

and Livestock and Food (MAGA)		Project related to its legal responsibilities, and it will have a representative on the project steering committee. *role in project task forces
Ministry of Environment and Natural Resources (MARN)	1, 2, 3, 4, 5	As a national competent authority, MARN will participate in all components of the Project related to its legal responsibilities, and it will have a representative on the project steering committee. *role in project task forces
Ministry of Public Health and Social Assistance. (MSPAS)	1, 2, 3	As a national competent authority, MSPAS will participate in all components of the Project related to its legal responsibilities, and it will have a representative on the project steering committee. *role in project task forces
National Council of Science and Technology (CONCYT)	3, 6	Support the implementation of the Research Program on Biosafety and Biodiversity, especially through launching of research fellowships and helping in the implementation of capacity building through identification of opportunities at the national and international levels.
Ministry of the Economy	2, 3, 4	Participate in activities related to the implementation of the Cartagena Protocol in the national customs system and in socio-economic decisions.
Ministry of Education	3,	Key role in the drafting and implementation of the national educational strategy on biosafety and biotechnology.
Agronomy School, San Carlos University	1, 3, 4, 5	Implementation of graduate courses on risk analysis and detection of GMOs
Del Valle University	1, 3, 5	Technical personnel and biotechnology lab will play important role in GMO detection.
Institute for Agricultural Science and Technology (ICTA)	1, 3, 5	As a technical unit of the MAGA, its main role will be in detection of GMOs, the conservation of genetic resources and participation in the research program.
Municipalities	3, 5	Participate in the formulation and implementation of plans for including biodiversity into friendly productive systems based on biodiversity and traditional knowledge
Private Research Centers	1, 3, 5	Participation in GMO detection activities as well as in capacity building.
Legislators and law makers	2, 3, 4	Participation in biosafety and biodiversity capacity building events in order to increase awareness on these subjects
Politicians	2, 3, 4	Recipients of increased awareness on the importance of biosafety and biodiversity through their participation in capacity building events.
Local communities in the area of Huehuetenango	5	Participation in project activities related to the creation of the maize reserve. Local communities should be an active part in the creation of the reserve since they are users of local varieties of maize and also important actors for biosafety public participation activities.

4. Gender Equality and Women's Empowerment. Are [gender equality and women's empowerment](#) taken into account (yes ☒ /no ☐)? If yes, elaborate how it will be mainstreamed into project implementation and monitoring, taking into account the differences, needs, roles and priorities of women and men.

Gender awareness and capacity should be created among the Parties under the CP to recognize the gender differences in benefitting from the value of biological diversity. Gender differences should be considered when implementing the Protocol and evaluating the socio-economic impacts that can arise from GMO introduction as related to the conservation and sustainable use of biodiversity. Through component 4, the project will generate valuable information on the role of men and women as well as local communities in the area of biosafety, and the participation of both men and women will be promoted in project activities such as trainings, meetings, decision-making and the implementation of the *in situ* reserve.

Women's involvement in the biotechnological field is crucial given their different needs and concerns about GMOs. Encouraging women to become scientists would be key in the assessment and possible production and/or introduction of GMOs. Unfortunately, women are not encouraged to work in this field; a smaller proportion of girls receive training in science and technology (Huyer, 2006); college-educated women are less than half as likely to be employed in science and technology; and women employed in these fields earn 20% less than men (Graham and Smith, 2005). The project

will support the development of women in science by providing support to thesis projects under component 5, which is expected to empower women in the biotechnology field and to take into consideration their inputs to decision-making.

In addition, women are more prone to nutritional deficiencies, especially when they are pregnant or breastfeeding; GMOs could potentially help reduce their malnutrition problems and therefore it is important that women's perspectives and priorities are included in considerations of biosafety policies and programs. Component 3 foresees the development of informative materials that show the role of men and women in biosafety, as well as meetings with various stakeholders (policy and decision-makers) to sensitize them about gender issues related to biosafety.

Finally, gender considerations will also be taken into account in the process of recruitment of project personnel and consultants, trying whenever possible to balance the number of beneficiaries between male and female. Likewise gender balance will be considered when selecting trainees and beneficiaries of opportunities derived from the project.

5. Benefits. Describe the socioeconomic benefits to be delivered by the project at the national and local levels. Do any of these benefits support the achievement of global environment benefits (GEF Trust Fund) and/or adaptation to climate change?

From the socioeconomic point of view, the adoption of new technological products such as GMOs could open new opportunities for development. However, before adopting the use of such products it is necessary to have in place a robust regulatory system that will allow the country to assess the possible benefits and/or risks related to the use of GMOs. Likewise, if the country is better prepared for decision-making through a more robust biosafety system, local people and institutions will benefit from the possibilities of the safe use of biotechnology; this is particularly important in the case of local communities. The project could also produce employment opportunities that could open new possibilities for local people. Moreover, a science-based risk assessment will bring benefits to the environment and the population by ensuring that products that will be available have gone through a rigorous analysis that will safeguard biodiversity, food security and human health concerns. In addition, a functional biosafety system will create a solid base for national and international enterprises to invest in the country since the country will have a transparent and coherent regulatory system.

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

The following table summarizes the information about possible risks have been identified for the project.

Risk	Level	Mitigation Measure
Changes at political level due to national elections	Medium	National elections may bring important changes to key personnel involved with biosafety issues. However, the project has been designed so that it is not centralized in only one institution, but instead will work with a network of relevant stakeholders that are expected to support project activities and to promote project products. Lessons learned during the former biosafety project have been applied in the design of the current project, such as creating inter-institutional task forces to support the project execution and revision of key outputs, which helps not only to receive feedback from important institutions, but also to engage them in the project activities and create a sense of ownership amongst stakeholders. Key stakeholders participating in these task forces are: CONAP, MAGA, MARN and MSPAS, amongst others. If needed, the project will convene informative meetings for new government personnel to make them familiar with the project and to understand its commitments and importance. At the same time, the project will look for an institution to undertake financial management of the project resources at a local level, which will enable the project to continue issuing payments and contracts even if there is a period of low activity in governmental institutions due to transition, etc.
Personnel turnover within national competent authorities	Medium	The project will engage more than one person in each competent authority in training activities; will create minutes and reports of the workshops and meetings hosted in order to support institutional memory; and will ensure that trained personnel offer a talk on particular topics to other colleagues of his/her institution. Also, as noted above, task forces will be used to mitigate this risk.

Biosafety is a polarized and sensitive issue that might produce institutional / social conflicts	High	To mitigate the risk of the project being seen as a biased initiative, it will always use a neutral approach, based in science. Moreover, it will offer important networking opportunities for various sectors such that all points of view are taken into account as much as possible. The project is also guided by the Cartagena Protocol on Biosafety, which is a neutral instrument.
Lack of support from key authorities and decision makers to approve and/or promote project outputs and activities	Low	This risk will be mitigated by executing the project soon after the previous UNEP-GEF biosafety implementation project, in order to take advantage of momentum where local authorities are supporting biosafety activities and to continue with the efforts and momentum built during the former project.
Reduced commercial and/or economic opportunities for the inhabitants of Huehuetenango due to the creation of a GM maize free zone	Low	This risk is low since in Guatemala, local communities are apprehensive of the use of GMO, and these communities have played a strong role in pushing for biosafety measures and even in requesting a precautionary approach. In addition, the new biosafety policy supports the protection of native biodiversity through particular GM free zones. The risk will be minimized through the analysis of socio-economic considerations associated with these activities.

7. Cost Effectiveness. Explain how [cost-effectiveness](#) is reflected in the project design:

The project cost-effectiveness can be seen in the project design, which is based on previous interventions and achievements; and in the timing of the project, which will commence soon after the completion of the previous biosafety project in the country. In this sense, the baseline for the project is not only precise, because it is related to the outcomes of the former implementation project; but also updated, which means that minimum resources will be needed for these purposes. Likewise, the network of stakeholders that was created during the former project will still be in place to support the current project's implementation, which will improve efficiencies and reduce the need for awareness raising and education. Regarding institutional arrangements, CONAP will most likely rely on the same personnel that have previously been involved in the implementation project. These personnel have experience with UNEP-GEF biosafety initiatives and technical expertise in biosafety policies and measures. In a broader sense, the fact that many stakeholders and project related personnel will remain the same as those are part of the former initiative presents and advantage in the sense that normal procedures for project execution at a local level are already known.

In addition, the project will look for strategic alliances with other institutions to ensure the best use of GEF and co-finance resources, and whenever possible it will replicate successful patterns from previous interventions, including for example using whenever possible the same database of consultants for identification of personnel with expertise in particular areas, linking up with institutions that provided high quality services in the past such as those engaged in training opportunities, etc. Finally, the project will be cost effective in the sense that whenever possible it will look to and build upon successful examples from other related initiatives (i.e the Costa Rica implementation project).

8. Coordination. Outline the coordination with other relevant GEF-financed projects and other initiatives:

UNEP is the implementing agency of several similar biosafety projects in the region, a fact that is expected to contribute in networking, information sharing and joint efforts with other projects. UNEP will play a key role in facilitating networking opportunities with ongoing biosafety implementation projects in the Latin America and Caribbean region, including for example the ongoing biosafety project in Venezuela, and with the future biosafety projects similar to this one that other countries (e.g. Venezuela, Cuba and Peru) are expected to undertake. Through the UNEP's annual coordinators meeting, the project team will be able to interact with other peers and exchange experiences and share information. For example, during a past meeting a project in Costa Rica presented its activities on a digital system for biosafety, which has served as a model for the activities proposed under this project. Finally, interaction with UNEP's ROLAC office will be promoted through interaction with the coordinators of Environmental Governance and Ecosystem Management sub-programmes, to ensure that both the project and ROLAC have the opportunity to benefit from possible synergies and/or strategic actions if there is a case for cooperation or exchange of information.

The Ministry of the Environment and Natural Resources (MARN) is in the process of approving the proposed GEF project “Promoting sustainable and resilient landscapes in the central volcanic range of Guatemala”, a multi-focal project which will seek to develop an enabling environment for the delivery of multiple global environmental benefits through models of sustainable agriculture/forestry production and economic incentives derived from improved markets and ecosystem services. Conservation areas of wild crop relatives and their related crops such as common bean, maize, potatoes among others are not included in the national conservation system. In the central volcanic range of Guatemala these wild populations and their main related landraces can be found growing together; for this reason, this new approach could complement the planned activities in the current project (e.g. Component 5: establishment of a clear link between biosafety and biodiversity as a mean to support biosafety decision-making).

Finally, the National Biodiversity Strategy and Action Plan (NBSAP) currently conducted by CONAP, is seeking to facilitate implementation of the National Biodiversity Policy as well as its Strategic Plan, through a “renewed participatory biodiversity plan and conduction of strategies”. The Cartagena Protocol is part of such an effort, especially those components that still have not been implemented. The project is also aligned with Guatemala’s UNDAF programme which is focused on sustainable and inclusive development; and in particular with its outcome 1.2, which indicates that local institutions should provide assistance in the development of policies and interventions that will lead to sustainable use and conservation of natural resources.

9. Institutional Arrangement. Describe the institutional arrangement for project implementation:

The project will be implemented by UNEP and executed by CONAP; with support of a local partner (the Tropical Agricultural Research and Higher Education Center - CATIE) for funds management at the local level. A similar scheme was used for the former biosafety project and proved to be useful and efficient. CONAP will be the executing agency and as such it will be responsible for the execution of the work plan and the achievement of outcomes and outputs as per the project logframe. CONAP will supervise the work done by consultants and will ensure high quality products are received, and CONAP will be responsible for project reporting. The National Project Coordinator (NPC) will be attached to CONAP and will be the link between UNEP-CONAP and CATIE. CONAP will be the secretary (through the NPC) of the Steering committee.

UNEP as implementing agency will provide overall supervision and guidance. UNEP will coordinate the Mid-term and terminal evaluation and will be part of the steering committee. CATIE as the local fund management institution will receive the project funds from UNEP and will make the necessary payments and contracts to ensure that CONAP is able to execute all project activities.

The Steering Committee will be composed of a representative from each of the competent authorities in biosafety: Ministry of Agriculture and Livestock and Food (MAGA), Ministry of Environment and Natural Resources (MARN), Ministry of Public Health and Social Assistance (MSPAS), Ministry of the Economy, a representative from CONAP, the NPC, the UNEP task manager and a representative from the co-financing institutions.

Roles and responsibilities of each institution:

UNEP’s Division of Environmental Policy Implementation (DEPI)

- Provide consistent and regular Project oversight to ensure the achievement of Project objectives
- Liaise between the Project and the GEF Secretariat,
- Ensure that both GEF and UNEP policy requirements and standards are applied to and are met (reporting obligations, technical, fiduciary, M&E)
- Ensure timely disbursement/sub-allotment of funds to the executing agency (EA), based on the agreed legal documents
- Approve budget revision, certify fund availability and transfer funds
- Organize mid- and end-term evaluations and audit
- Provide technical support and assessment of the execution of the Project
- Provide guidance if requested to main TORs/MOUs and subcontracts issued by the Project
- Follow-up with EA for progress, equipment, financial and audit reports

- Certify project operational completion
- Member of the Project Steering Committee (PSC)

CONAP

- Oversee Project execution in accordance with the project results framework and budget, the agreed work plan and reporting tasks.
- Support the Project Management Unit (PMU) in coordinating project activities at national and local levels.
- Provide technical expertise through its personnel and networks.
- Ensure technical quality of products, outputs and deliverables, including reports to UNEP.
- Provide guidance and coordination to the PMU and Venezuelan stakeholders.
- Facilitate access to sites and locations.
- Support logistical issues, e.g. through organization of meetings and provision of relevant facilities.
- Support the PMU in regular Project reporting, incl. progress, financial and audit reporting to IA.
- Chair the project steering committee.

Project Management Unit (PMU) will be located at CONAP; it will consist of:

- The Project Coordinator (NPC)
- The Project Administrative Assistant
- Others as required
- Representative from fund management agency (FMA) (located at the FMA office)

The PMU roles comprise:

- Ensure Project execution, including all technical aspects
- Ensure Project governance and oversight of the financial resources from the GEF investment in collaboration with the third party who will manage the project funds locally (CATIE)
- Provide staff time and expertise in guiding and advancing the project. (at least one person half- time staff dedicated to the project + administrative support)
- Provide Project reporting according to the supervision plan in collaboration with the FMA
- Share all achievements and products of the project with all relevant stakeholders
- Ensure that consultants and project partner organizations deliver against their contracts and in time
- Organize the Steering Committee meetings and serve as its secretariat
- Overall management and implementation of the Project M&E framework to evaluate project performance
- Management of the flow of information from the field to the Project collaborators, and producing periodic monitoring reports

Fund Management Agency (CATIE)

- Prepare and manage ToR, contracts and MoU with consultants and project partners using appropriate legal instruments. ToR and selection process will be done in consultation with the PMU (clearance), and according with the project's work plan and budget. ToRs will be cleared by UNEP as well.
- Do all payments related to the project as per request and coordination with the EA and the project work plan and approved budget.
- Provide data for the project expenditure reports as per UNEP templates, and provide support to the project manager in the elaboration of periodic expenditure reports.
- Undertake procurement of goods and services for the project and keep an updated inventory as per UNEP templates
- Ensure that consultants and project partner organizations deliver against their contracts and in time (in collaboration with PMU)
- Provide support to the Project M&E activities.
- Participate on the SC meetings

10. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The Project will as part of its knowledge management plan, interact with other biosafety projects in the LAC region to ensure sharing of lessons, key technical outputs and synergies. This has been done in the past with UNEP's support, as the leading agency for biosafety projects, through the regional meetings of biosafety project coordinators. Since this project will not be isolated but instead under implementation in parallel with other projects, these opportunities have been incorporated into the project activities. In addition, the project will develop a communication strategy during the first year, which will serve as the basis for knowledge management and communication actions of the project. One of the elements of the communication strategy will be a project website, which will serve as a tool for information sharing with NCAs and stakeholders in general. The project will also develop informative materials such as those for the detection and monitoring trainings which will be posted not only on the project website but also on CONAP's. The educational strategy itself adds to the knowledge management of the project since it will create the basis for future engagement in biosafety. Within this strategy, booklets for target audiences will be developed and distributed for further replication by the Ministry of Education. In recognition of the fact that there are several official languages in Guatemala, selected project materials will also be translated into some official local languages.

11. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no ☐). If yes, which ones and how: NAPAs, NAPs, NBSAPs, ASGM NAPs, MIAs, NCs, TNAs, NCSA, NIPs, PRSPs, NPFE, BURs, etc.

The proposed project supports the National Biosafety Policy and the identified national actions under the policy to reach complete implementation of the Cartagena Protocol. The proposed project also is fully consistent with the National Strategy of Biodiversity, which includes a strategic objective to implement mechanisms for risk management to reduce threats to biological diversity and ecosystem services, including two main activities: a) monitor processes and malpractices that may result in threats to biological diversity, including the impacts generated by the release of LMOs, and b) development of mechanisms to strengthen the implementation of the Cartagena Protocol. As previously mentioned, the NBSAP currently under development by CONAP is seeking to implement the National Strategy of Biodiversity.

12. M & E Plan. Describe the budgeted monitoring and evaluation plan.

1. The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 8. Reporting requirements and templates are an integral part of the UNEP legal instrument to be signed by the executing agency and UNEP.
2. The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 4 includes SMART indicators for each expected outcome. These indicators along with the key deliverables and benchmarks included in Appendix 6 will be the main tools for assessing project implementation progress and whether project expected results are being achieved. The means of verification of these elements are summarized in the Project Result Framework, Appendix 4.
3. A costed first draft of project M&E Plan is presented in Annex G. Costs mentioned in this tool are fully integrated in the project budget, presented in Annex F-1.
4. An inception workshop will be held at the onset of project implementation to ensure all actors understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the project management team. It is the responsibility of the PM to inform UNEP of any delays or difficulties faced during project implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.
5. The RSC will issue reports every 6 months on progress by the project and make recommendations concerning the need to revise any aspects of the Project Results Framework, or the M&E plan. Supervision to ensure that the project meets UNEP and GEF policies and procedures is the responsibility to the UNEP-GEF Task Manager. The

Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of project outputs in close collaboration with the PM.

6. The Task Manager will develop an initial supervision plan that will be communicated to the project partners during the inception workshop for comments. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed by the RSC. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.
7. UNEP will be responsible for managing the mid-term review/evaluation and the terminal evaluation. The Project Manager and partners will participate actively in the process. The project will be reviewed or evaluated at mid-term. The purpose of the Mid-Term Review (MTR) or Mid-Term Evaluation (MTE) is to provide an independent assessment of project performance at mid-term, to analyze whether the project is on track, what problems and challenges the project is encountering, and which corrective actions are required so that the project can achieve its intended outcomes by project completion in the most efficient and sustainable way.

The project Steering Committee will participate in the MTR or MTE and develop a management response to the evaluation recommendations along with an implementation plan. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented. An MTR is managed by the UNEP Task Manager. An MTE is managed by the Evaluation Office (EO) of UNEP. The EO will determine whether an MTE is required or an MTR is sufficient.

An independent terminal evaluation (TE) will take place at the end of project implementation. The EO will be responsible for the TE and liaise with the UNEP Task Manager throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes:

- (i) to provide evidence of results to meet accountability requirements, and
- (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and executing partners.

While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions. The TE report will be sent to project stakeholders for comments. Formal comments on the report will be shared by the EO in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scale. The final determination of project ratings will be made by the EO when the report is finalized. The evaluation report will be publically disclosed and will be followed by a recommendation compliance process. The direct costs of reviews and evaluations will be charged against the project evaluation budget.

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

A. Record of Endorsement⁶ 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 [SGP OFP endorsement letter](#)).


NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Oscar Ernesto Medinilla Sánchez	Minister	Ministry of Environment and Natural	09-17-2015

⁶ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

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B. GEF Agency(ies) Certification

This request has been prepared in accordance with GEF policies⁷ and procedures and meets the GEF criteria for MSP approval under GEF-6.

Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Brennan Van Dyke Director, GEF Coordination Office, UNEP		October 24, 2016	Marianela Araya-Quesada Task Manager	507- 3053169	marianela.araya@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION *(Applicable Only to newly accredited GEF Project Agencies)*

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to this project template.

⁷ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

List of Annexes

Annex A: Project Results Framework

Annex E: Consultants & Staff Table

Annex F-1: Detailed GEF Budget and Co-financing

Annex G: M&E Plan and Budget

Annex H: Implementing Arrangements (Decision-making flowchart and organizational chart)

Annex I: Key deliverables and benchmarks

Annex J: Workplan and Supervision plan

Annex K: OFP Endorsement Letter and Co-financing Commitment Letters

Annex L: GEF Tracking Tool

Annex M: Environmental and Social Safeguards Checklist

Annex N: Acronyms and Abbreviations

Appendix 1: Procurement plan and Terms of Reference of project personnel