



Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

Mainstreaming biodiversity into mountain agricultural and pastoral landscapes of relevant ecosystems in Eastern Cuba

Part I: Project Information

GEF ID

10400

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI☐ CBIT☐ NGI**Project Title**

Mainstreaming biodiversity into mountain agricultural and pastoral landscapes of relevant ecosystems in Eastern Cuba

Countries

Cuba

Agency(ies)

FAO

Other Executing Partner(s)

Ministry of Agriculture (MINAG)

Executing Partner Type

Government

GEF Focal Area

Biodiversity

Taxonomy

Wildlife for Sustainable Development, Species, Biodiversity, Focal Areas, Animal Genetic Resources, Plant Genetic Resources, Tropical Rain Forests, Biomes, Rivers, Tropical Dry Forests, Forestry - Including HCVF and REDD+, Mainstreaming, Agriculture and agrobiodiversity, Productive Landscapes, Protected Areas and Landscapes, Strengthen institutional capacity and decision-making, Influencing models, Transform policy and regulatory environments, Deploy innovative financial instruments, Demonstrate innovative approaches, Beneficiaries, Stakeholders, Information Dissemination, Type of Engagement, Consultation, Participation, Partnership, Academia, Civil Society, Non-Governmental Organization, Public Campaigns, Communications, Education, Awareness Raising, Behavior change, Local Communities, Participation and leadership, Gender results areas, Gender Equality, Access to benefits and services, Capacity Development, Gender Mainstreaming, Capacity, Knowledge and Research, Innovation, Indicators to measure change, Learning, Adaptive management, Theory of change

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

394,380

Submission Date

10/11/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1-1	GET	4,151,370	28,905,000
Total Project Cost (\$)		4,151,370	28,905,000

B. Indicative Project description summary

Project Objective

To reduce pressures on key fragile mountain and pre-mountain ecosystems of Eastern Cuba, by mainstreaming biodiversity in agriculture/livestock production, and implementing integrated landscape management (ILM) and planning.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Mainstreaming of BD conservation and sustainable use in mountain and pre-mountain landscapes (East Guantánamo and Sierra Maestra)	Technical Assistance	<p>Outcome 1.1: Increased adoption of production practices that integrate biodiversity use and conservation and improved resource management</p> <p><i>BD Indicator-4: Areas of landscapes under improved management</i></p> <p><i>Baseline: 0</i></p> <p><i>Target: 250,000 ha.(50,000 ha field work and 200,000 ha of management improvement through enhanced governance)</i></p> <p><i>Project Indicator 1: Number of beneficiary producers and technicians, including training processes.</i></p> <p><i>Baseline:0</i></p>	<p>Output 1.1.1 Assessment and inventory of accompanying flora and fauna and their valuation in the agricultural-pastoral systems[1].</p> <p>Output 1.1.2 Integrated landscape management (ILM) strategy developed and agreed with key stakeholders, with gender approach.</p> <p>Output 1.1.3: An updated program for biological pest and disease control (as part of the ILM strategy).</p> <p>Output 1.1.4. A capacity development program for producers and technicians on ILM, ILM best practices, and financial incentives, with a gender focus</p> <p>Output 1.1.4</p> <p>Farms with <i>Save and Grow</i> and Climate-Smart Livestock (CSL) practices in mountains areas[2].</p>	GET	1,779,159	12,177,000

Target: 10,000 direct beneficiaries .

Project Indicator 2:

Highly sensitive and important areas for BD not converted into agriculture lands (20,000 of forest hectares)

(to be refined during PPG)

Indicator CC-6:GHG emissions mitigated:
10,911,887 tonCO₂eq
(in 5 project years plus 15 years of capitalization – as calculated by EX ACT and GLEAM tools

[2]<http://www.fao.org/3/i8324en/i8324en.pdf>, The exact number of farms will be determine during Project preparation phase .

Component 2: Strengthening governance, policy framework and capacity building	Technical Assistance	<p>Outcome 2.1.</p> <p>Policy, legal and regulatory frameworks for agriculture production have mainstreamed biodiversity conservation and use</p> <p>Project Indicator 3: <i>Number of institutions and entities with strengthened capacities.</i></p> <p>Baseline: 0</p> <p>Target: At least 21</p> <p>Project Indicator 4: <i>Territorial coverage of programs and sectorial policy framework for BD conservation and natural resources sustainable management (in hectares).</i></p> <p>Baseline: 0</p> <p>Target: 200,000 benefited hectares</p>	<p>Output 2.1.1</p> <p>Capacity development program(s) on BD and natural resources management, control and monitoring.</p> <p><i>Target: 4 entities.</i></p> <p>Output 2.1.2 Review of laws/regulations to incorporate biodiversity considerations.</p> <p>Output 2.1.3 Revised legal and regulatory frameworks</p> <p>Output 2.1.4</p> <p>Policy Framework^[1] and 4 sectorial programs are BD-mainstreamed.</p> <p>Output 2.1.5</p> <p>Inter-sectorial working group to support newly created institutional capacities and inter-institutional coordination.</p> <p>Output 2.1.6 Sectorial financing mechanism designed for BD-positive projects</p> <p>^[1] The number of branch productive standards to be modified will be determined during the Project preparation phase.</p>	GET	790,737	6,088,500
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Component 3: Strengthening sustainable value chains	Technical Assistance	<p>Outcome 3.1 BD contribution has been assessed in value chains born in selected landscapes.</p> <p><i>BD Indicator-4.2:Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations (hectares): 50,000 has (same hectares as in Outcome 1.1 field work)</i></p>	<p>Output 3.1.1</p> <p>Mountain and pre-mountain value chains in coffee, cocoa, coconut, and beef are assessed and practices along the chain are aligned to comply with identified organic markets and standards through market intelligence, market access, cost, and sustainability studies.</p> <p>Output 3.1.2.</p> <p>Demonstrative models applied and adapted to local landscapes (BD mainstreamed in agricultural practices)</p> <p>Output 3.1.3 Alternative organic certification and geographical indication schemes, designed and tested</p>	GET	1,186,106	8,025,750
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Component 4: Project knowledge management, monitoring and evaluation (M&E)	Technical Assistance	Outcomes 4.1 Knowledge and lessons learned systematized and disseminated for the replication and scaling-up of successful experiences. <i>Project Indicator 4: At least one document systematizing experiences and knowledge in every productive branch</i>	Output 4.1.1 Information and knowledge management platform associated with the integrated management of landscape, biodiversity and sustainable land and natural resources management Output 4.1.2. Cooperation and exchange actions implemented, emphasizing South-South cooperation. Output 4.1.3 A Monitoring and Evaluation (M&E) Plan and Gender Action Plan, implemented. Output 4.1.4 Manual on gender mainstreaming in sustainable production systems (including <i>Save and Grow</i> and CSL).	GET	197,684	1,383,750
Sub Total (\$)					3,953,686	27,675,000
Project Management Cost (PMC)						
GET					197,684	1,230,000
Sub Total(\$)					197,684	1,230,000
Total Project Cost(\$)					4,151,370	28,905,000

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Ministry of Agriculture	In-kind	Recurrent expenditures	1,745,000
Government	Ministry of Agriculture. National Department of Forestry (FONADEF)	Grant	Investment mobilized	9,667,160
Government	Ministry of Agriculture (National Program for Soil Conservation - PNCMS)	Grant	Investment mobilized	1,359,700
Government	Agro-forestry Group (GAF)	In-kind	Recurrent expenditures	12,705,140
Donor Agency	International Fund for Agricultural Development (IFAD)	Loans	Investment mobilized	3,228,000
GEF Agency	FAO	Grant	Investment mobilized	200,000
Total Project Cost(\$)				28,905,000

Describe how any "Investment Mobilized" was identified

The Government of Cuba will mobilize resources to support the GEF grant so as to integrate development objectives, maximize outcomes and carry out replication and scaling-up actions. The following investment sources have been identified: - Project for the Eastern Region Cooperative Development (PROCAFE), based on a grant arranged by IFAD (USD 3.22 million) and national contributions. - Coffee and Cocoa Development Program, financed with funds from the entrepreneurial Agro-forestry Group (GAF) (USD 12.7 million).

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Cuba	Biodiversity	BD STAR Allocation	4,151,370	394,380	4,545,750
Total GEF Resources(\$)					4,151,370	394,380	4,545,750

E. Project Preparation Grant (PPG)

PPG Amount (\$)

150,000

PPG Agency Fee (\$)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Cuba	Biodiversity	BD STAR Allocation	150,000	14,250	164,250
Total Project Costs(\$)					150,000	14,250	164,250

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
250000.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
200,000.00			

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
50,000.00			

Type/Name of Third Party Certification

TBD during PPG

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Documents (Please upload document(s) that justifies the HCVF)**Title****Submitted****Indicator 6 Greenhouse Gas Emissions Mitigated**

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	10911887	0	0	0
Expected metric tons of CO ₂ e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	10,911,887			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2041			
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				

Expected metric tons of CO ₂ e (indirect)
Anticipated start year of accounting
Duration of accounting

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	3,960			

Male	6,040			
Total	10000	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Indicator 4: 50,000 hectares of field work and 200,000 hectares of management improvement through enhanced governance. *This is rough and conservative estimate made by using: Global Livestock Environmental Assessment Model (GLEAM: <http://www.fao.org/gleam/en/>) – for livestock-based emissions, and EX ACT (<http://www.fao.org/tc/exact/ex-act-home/en/>) – for land-use and land-use change emissions. The calculation will be refined during PPG. EX ACT results are detailed in Annex D.

Part II. Project Justification

1a. Project Description

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

1. The Cuban archipelago cover a surface of 109,884,01 km² and is located at 19°49' and 23°16' north latitude and 74°08' and 84°57' west longitude. The maritime leverage of its tropical and seasonally humid climate prevails. The annual mean temperature is 25°C with a high relative humidity above 80%. The historical mean precipitation is 1,335 mm, with a marked seasonality. The main characteristics of the Cuban climate includes hurricanes and cold fronts (southerly winds) that significantly modify weather parameters. Cuban's topography comprises two large geographic regions: the plains, representing 70% of the territory and characterized by slopes of 3 and less degrees and mountain areas making up 4 mountain groups: 1. Guaniguanico Mountain Range (in the west), 2. Guamuaya Massif (in the central region), 3. Nipe-Sagua-Baracoa Massif (in the northeast) and 4. Sierra Maestra Mountain Range (in the southeast) with the highest elevation at 1,974 m above sea level. Short course and low-level rivers, the largest being Río Cauto (343 km), form the largest watershed (9,540.20 km²).

2. Due to its insular nature, composition and geological history and climate, among other factors, Cuba has a significant biodiversity with high concentration of ecosystems, species and endemism, placing it among the top 35 hotspots in the planet. The national terrestrial biota includes 34,767 species and 42.7 % terrestrial endemism. The Eastern region concentrates the greatest richness of species and ecosystems. The archipelago has 7,500 plant taxa, of which 5,778 with seeds and 51.4% endemic plants. There are an estimated 11,954 invertebrate species and 655 vertebrates; as such, Cuba has the most diverse fauna in the insular Caribbean region. The greatest invertebrate diversity corresponds to almost 8,500 species of insects. Cuba is the Caribbean island reporting the highest percentage of endangered species, according to the total evaluated flora (46.31 %), and as many endangered species as Madagascar. Approximately 50% of its native flora is endangered and 25 species have been already declared extinct. The current forested areas account for 31.39% (most of them devoted to conservation) and 34 plant formations.

3. The Project covers 2 impact areas with 10 mountain municipalities located in the globally significant Eastern Cuba forests (Annex 1):

Area 1: Sierra Maestra covers almost 80% of the Sierra Maestra Mountain Range and 506,300 hectares, including 18 protected areas, the most outstanding of which are the 8 KBAs, among them, "Baconao" Biosphere Reserve, "La Bayamesa" and "Turquino" National Parks and "El Gigante" Ecological Reserve. The sub-moor, rainforests and cloud forests are among the key plant formations. The outstanding biological groups include birds, bats, reptiles, amphibians, mollusks, butterflies and plants, especially the *Eleutherodactylus*, *Anolis*, *Sphaerodactylus*, *Tropidophis*, *Epiyrcates*, *Diploglossus* genus; as well as many plant

taxa such as the monotypic *Solonia* genus and the significant *Pinus maestrensi*. Regarding Cuban hydrography, the Cauto river forms the country's largest watershed (954,000 hectares) and is of great significance for agriculture and several populations. Likewise, this mountain range includes other watersheds of interest: Guá, Cilantros, Guamá, San Juan and Baconao. It covers 7 Project municipalities.

Area 2: East Guantanamo is located in the most eastern segment of the "Nipe-Sagua-Baracoa" Massif (149,767 hectares), includes 7 protected areas, including 2 KBAs and an important part of the "Cuchillas del Toa" Biosphere Reserve. The Maisí emerged marine terrace systems are significant for the Insular Caribbean due to their extension and characteristics. Important biological groups include birds, bats, reptiles, amphibians, mollusks, butterflies and plants, especially genus like *Polymita*, *Eleutherodactylus*, *Typhlops* and *Cyclura*, as well as a great number of plants like the monotypic *Aristolochia* and *Dendrocereus* genus. This area holds the largest hydrographical network in the country. The most important rivers are Jaguaní, Duaba, Miel, Yumurí, Quiviján and Toa, the latter being the country's largest river (watershed of national interest). This area includes 2 Project municipalities.

4. Both areas are part of an important biological corridor (Caribbean Biological Corridor) and the land is devoted to conservation; forestry activities and livestock; coffee, cocoa and coconut production; other crops like fruits, bananas, root vegetables and vegetables mainly for self-consumption and local distribution. There is a high potential for the integration of agro-ecosystems into natural ecosystems, as well as for gene-flow, connectivity improvement and ecosystem services.

Production Context:

5. Cuba has a population of 11,221,060 inhabitants^[1], of which almost 77 % are urban. Cuba is a middle-income country, with 0.777 points according to the Human Development Index, in 73rd place worldwide. During the last five-year period, the GDP annual growth average has not exceeded the 2% annual average, and therefore does not meet the higher development needs demanded by the country. The economy depends significantly on services, followed by industry and agriculture –the productive sector employs the largest number of workers (902,000 persons representing 17% of total workers).

6. Agriculture occupies 6.1 million hectares (out of a total area of 10.1 million hectares), of which 1.2 million hectares are devoted to seasonal crops, 1.5 million hectares to permanent crops and 3.7 million hectares to livestock. The main agricultural products include sugar cane, citrus and other fruits, rice, beans, bananas, tobacco, coffee and cocoa. The last three crops, together with forestry and livestock, constitute the main economic activities of the mountain municipalities within the Project intervention areas. (See Areas 1 and 2 above).

7. Given Cuba's climate and topography, coffee and cocoa have traditionally been shade-grown in mountain and humid zones, mainly in the Eastern region characterized by its optimal conditions: mean temperature of 20-25° C and annual precipitation 1,800-2,000. These production areas coincide with high-value environmental and conservation ecosystems on which coffee and cocoa production have a negative impact. **Coffee production** is mainly developed in 36 municipalities of 9 provinces and in the Isle of Youth special municipality with the participation of 848 productive entities and 38,606 producers and workers. During the 1980s, production averaged 21,770 tons and 1982 was the most productive year with 28,170 tons. In 2018, 8,667 tons were produced in 65,671 hectares. **Cocoa** is grown in 11 municipalities of 4 eastern provinces, 55 cooperatives are exclusively devoted to cocoa. During the last 10 years, production has fluctuated between 1,400 and 1,800 tons. The Baracoa municipality is the largest producing area in the country concentrating around 60% of the areas^[2]. Approximately 9,300 hectares are devoted to **coconut** crops, of which 91% are located in Baracoa.

8. The selected project municipalities account for 38% of the national coffee production, 64% of the cocoa, 91% of coconut, and near 50% of the cattle production from eastern Cuban mountains.

Project selected municipalities	Project target crops and animal species				
	coffee	cocoa	coconut	cattle	sheep
Guisa	x	x		x	x
Buey Arriba	x	x		x	x
Bartolomé Masó	x			x	x
Pilón	x		x	x	x
Jiguaní			x	x	x
Palma Soriano	x	x		x	x
Ill Frente	x	x		x	x
Guamá	x	x		x	x
Maisí	x	x		x	x
Baracoa	x	x	x		x

9. Currently, coffee and cocoa productions and yields are depressed (0.2 tons/ha of coffee and 0.33 tons/ha of cocoa) and their agro-ecosystems are highly degraded due to the impact of hurricanes, the attack of plagues and diseases, and unsustainable management. Similarly, coconut plantations have recently been affected by several hurricanes, pests and diseases, as well as unsustainable practices (monoculture). Consequently, the livelihoods of producers and their families are affected by poor yields and low incomes.

10. At the same time, producers and authorities are highly interested in increasing coffee and cocoa production through a *Development Program* aimed at increasing coffee 3.7 times and cocoa 6 times without increasing farming areas by improving the agro-ecosystem productivity in a sustainable manner. Increasing national coffee production up to 32,100 tons and cocoa to 5,042 tons would place Cuba among the main coffee producers and exporters in the Caribbean, thus generating significant export profits which would revive the agricultural sector and improve households' and communities' incomes in the Cuban mountains.

11. Cuba's **livestock** sector has the largest herd in the Caribbean and its Development Program intends to replace current imports of around 100,000 tons of powdered milk and achieve national self-sufficiency by 2030 in beef production, which now barely meets 61% of the demand. Granma province (with 5 Project municipalities) is the Eastern province with the highest livestock production. In the pre-mountain zone, significant herds are mainly devoted to municipal self-sufficiency, though municipalities like *Jiguaní*, *Pilón*, *Bartolomé Masó* and *Guamá* (the 4 included in the Project) are able to produce beyond self-sufficiency to also make important contributions to the dairy industry and to beef production. Pastoral systems are characterized by low efficiency and low milk and beef yields due to low quality and degraded pastures, poor water supply for animals and high soil degradation.

Global environmental problem

12. The main environmental problem in the project area is the increasing fragility of mountain and pre-mountain ecosystems, as a result of unsustainable agricultural and livestock management practices.

13. **Coffee and cocoa** crops and **livestock** are the main sources of environmental degradation in the Cuba's Eastern mountains. Ecosystems are affected by habitat loss, fragmentation and pollution. Causes lie in unsustainable development plans in agriculture and livestock. The inadequate selection of species used as shade trees for coffee and cocoa crops has contributed to the degradation of biodiversity and ecosystems. The mono-cropping patterns have intensified the agro-ecosystem vulnerability against external factors of either biotic or abiotic nature. The use of chemicals in agriculture has had a negative effect on wildlife diversity, pollinators, beneficial soil bacteria (for fixing nitrogen in plants) and biological pest control organisms, among others. Post-harvest management (i.e. coffee pulping) causes organic pollution, damaging watersheds, their associated ecosystems and biodiversity.

14. Coffee production degrades ecosystems and watersheds via improper management and poor use of waste pulp. This causes pollution and impacts the biodiversity of rivers and streams, especially freshwater fauna which is particularly diverse in the Eastern zona as it is home to the largest number of endemic fish and amphibian species, many of which are endangered. Inadequate soil management exacerbates erosion processes in places with high slopes and negatively impacts edaphic fauna. The use of agrochemicals for soil fertilization and pests/diseases control pollute water and limits the development of wild flora and fauna, especially pollinators and invertebrates that constitute natural controllers of pests and diseases. The *Coffee Development Program* (Government-funded) intends to increase production up to 32,100 tons by 2030. If this objective is achieved, 44,960 tons of waste could emerge from pulping (husks and mucilage) and 11,717 tons of solid waste. current practices are already inadequate with regards to post-harvest waste management and thus this increase in production would constitute an environmental threat.

15. The cultivation of cocoa produces lower pollution than coffee but also causes damage due to the use of chemical products and shade management. Though wastes associated with cocoa production are not significant, if compared with coffee production, they certainly demand an improved management.

16. Coconut plantations produce high amounts of residuals that are not used and cause pollution, further accentuated by their slow decomposition. Furthermore, coconut plantations are developed in the form of monoculture, with poor biodiversity and low natural resilience.

17. Livestock production has historically depended on the clearing of forested areas, which has caused habitat fragmentation and direct loss of biodiversity. Furthermore, livestock management is based in the use of pasture monocultures, uncontrolled grazing of sheep to natural areas, overgrazing that affects the soil and its edaphic fauna and the poor use of shade trees and silvopastoral systems. Livestock is also a significant source of pollution in the mountains due to poor management and use of residuals.

18. Additionally, in these areas, biodiversity is also threatened by natural disasters, the impact of development plans from other economic sectors, pests, specific deforestation processes, forest fires and unfavorable environmental conditions worsened by climate change.

Barriers:

Despite the efforts made by the Government of Cuba and development partners, barriers still remain that impede the sustainable management of mountain landscapes in the country:

19. **Barrier #1: Low institutional capacities and deficient inter-institutional coordination.** The governmental agencies responsible for the regulation, monitoring and assessment of natural resources management have limited technical capacities. There is a lack of inter-institutional management and there is no harmonization between the production- and the conservation-oriented objectives and interests. There are no inter-sectorial mechanisms that mainstream integrated landscape management / sustainable agriculture practices in fragile mountain and pre-mountain areas.

Furthermore, sectorial rules and regulations are not updated, and there are no sectorial norms to protect biodiversity in agricultural and livestock production areas.

20. **Barrier #2: Local technical capacities are limited.** The National Network of Laboratories has developed new production lines with biological control methods. However, both local government officers and producers have low to zero capacities to apply these methods at field level. In addition, sustainable production models have not been downscaled. As a consequence, BD mainstreaming and natural resources practices have not been replicated nor upscaled, nor they have been included in the training of small-scale farmers. Local capacities on tree, plant and associated species management are also limited. This limitation tends to diminish biodiversity, negatively affects the functioning of agro-ecosystems, and binds the functions of pollinators, biological control, and soil conservation.

21. **Barrier #3: Updated information is lacking and the science/policy inter-face is weak.** In general, biodiversity has been deeply studied in Cuba, with key results in a wide variety of species. However, many plant taxon and animal breeds have not been assessed. This lack of information prevents these species from being protected through integrated landscape management. Knowledge gaps are related to ecological groups, their trophic chains, and inter-specific relations. There are neither inventories nor assessments of the accompanying flora and fauna, the state of soils, edaphic fauna, and water resources. Small-scale farmers do not have access to forest restoration methodologies applicable in productive landscapes. Consequently, the associated species/breeds are currently not valued, recovered nor supported by the fragile mountain and pre-mountain agroecosystems.

22. **Barrier #4: Production policies and practices are not environmentally-friendly.** Production priorities are rarely aligned with biodiversity conservation and sustainable use of natural resources in Cuba. Unsustainable agricultural practices are predominant and affect soil functions, accelerating the degradation processes (e.g. erosion), reducing the edaphic fauna, and reducing land productivity. River banks are not completely forested in mountain agro-livestock systems, increasing run-off and sedimentation, and affecting water quality and water biodiversity.

23. Pollinators and natural controllers are affected by largely unsustainable agricultural practices. The country does not have management programs that could guarantee the successful integration of pollinators in agro-ecosystems, as well as experiences of reproduction and controlled management of some species. The Integrated Pest and Disease Management programs - and their chapters of biological controllers - fall short of incorporating the potential of

living species, and are outdated.

24. **Barrier #5: Sustainable agricultural practices are not valued/appreciated by producers and are not considered commercially-viable** . Value chain assessments are insufficient and there are no incentives to develop new products in existing value chains or develop sustainable value chains.. There are neither certification systems nor denomination(s) of origin in place or traceability systems. Consequently, producers have no direct interest and incentive to invest in sustainable management practices and the industry has no incentive to invest in sustainable value chains. Therefore, producers are affected by loss of income and low market prices, diminishing their trade and commercialization potential.

2) The baseline scenario and any associated baseline projects

25. The Ministry of Sciences, Technology and the Environment builds upon the work of the Environmental Agency (AMA), the National Center of Protected Areas (CNAP), the networks of Botanical Gardens, Zoos, Museums of Natural History and several research institutes, particularly the Soil Institute, the Agro-Forestry Institute and the Institute of Ecology and Systematics. Some of the most relevant Cuban laws include: the Environmental Law (No. 081/1997) that provides the principles that govern environmental policy and basic rules for the conservation of agricultural and forest soils and fosters the development of integrated management systems of cultivated ecosystems to ensure the sustainability of agriculture; the Forestry Law (No.85/1998) that provides the general principles and regulations for the protection, increase and sustainable development of forest heritage; Decree-Law No. 179/1993 on Soil Protection, Use and Conservation that is the primary legislation for soil protection; Decree-Law No.138 on terrestrial waters that provides the basic principles for the rational use of terrestrial waters, the rules for the management, exploitation, conservation, waste treatment and rational use of terrestrial waters, as well as the protection of natural water sources and watercourses; and Decree-Law 201 on "The National System of Protected Areas" that provides the basic objectives of the National System of Protected Areas (SNAP), the SNAP legal framework, the categories of protected areas, proposal and declaration requirements, the protection regime and licensing requirements to authorize activities in said areas.

26. Other relevant initiatives are:

- **National Forestry Development Program.** This seeks to foster the development of new forest areas, the restoration of watersheds and vegetative buffer strips of streams and reservoirs, forest management and wildlife conservation, enabling the implementation of the National System of Protected Areas key conservation programs. This program also promotes planting trees in agro-ecosystems, to increase wildlife reserves, as connectivity elements, windbreaks for the protection of crops, sources of timber and other purposes. Its main result is that it has contributed to the increase of the country's reforestation index from less than 15% in 1959 to 31.39% today. The National Forestry Development Fund is the financing tool of the program, it has a national scope and allocates an annual average of 170 million USD.

- **National Soil Conservation and Improvement Program (PNCMS)** is implemented nationwide since 2000. It finances soil improvement and conservation actions carried out by farmers through a certification system. As of 2018, the program has benefitted a little over 900,000 ha (310 million USD), prioritizing the most degraded areas, fragile ecosystems and watersheds. This program advocates for the use of compost to improve soil properties, the creation of soil erosion barriers, and integration with water and forest protection measures, among others. During the last nine (9) years, the PNCMS has focused its efforts on the system of soil, water and forest testing grounds as its main demonstration and training platform for the introduction and validation of new management technologies of these resources in municipalities and provinces, establishing farms as basic management units and watersheds as the physical-geographic space to be protected. Currently, there are 15 provincial testing grounds (one in each province), and one per each municipality (some already operational and others still in the project stage). The program's annual budget exceeds 60 million USD.

· **Coffee, Cocoa and Coconut Development Programs**, with established subprograms for each crop, they plan investments to significantly increase production mainly boosting productivity. The coffee development plan includes investments in infrastructure and the improvement of means of production and upgrade of equipment that will be self-financed by the sector revenues and national and international credits to increase production from 8,667 in 2018 up to 30,000 tons by 2030. The cocoa development program seeks to increase production from an annual average of 1,578 tons during the last decade up to 5,548.6 tons by 2030. PROCAFE, a coffee investment project with funds from the International Fund for Agricultural Development (IFAD), is currently in its preparation and approval phase for implementation in around 300 coffee-producing cooperatives in Eastern Cuba.

3) *The proposed alternative scenario with a brief description of expected outcomes and components of the project*

27. **Project Objective:** To reduce pressures on key fragile mountain and pre-mountain ecosystems of Eastern Cuba, by mainstreaming biodiversity in agriculture/livestock production, and implementing integrated landscape management (ILM) and planning.

28. **Project Strategy:** The Project will implement an integrated landscape management approach, which will be based on FAO's work in two sectors: agriculture and livestock production. The project will benefit globally important biodiversity in key biodiversity areas (KBA) that are currently under the pressure of farming landscapes. The project intervention areas will cover the Sierra Maestra and East Guantanamo mountain ranges.

29. The project strategy will adapt to the national context:

30. The FAO's *Save and Grow* ecosystem-based approach, launched in 2011[3]. Sustainable crop production intensification provides opportunities for optimizing crop production per unit area, taking into consideration the range of sustainability aspects including potential and/or real social, political, economic and environmental impacts. Recent trends would indicate that the incorporation of scientific principles of ecosystem management into farming practices can enhance crop production (yield). With a particular focus on environmental sustainability through an ecosystem approach, sustainable crop production intensification aims to maximize options for crop production intensification through the management of biodiversity and ecosystem services. The *Save and Grow* approach helps smallholder producers to boost yields, improve their incomes and livelihoods, conserve natural resources, reduce negative impacts on the environment, build resilience to climate change, and facilitate market access. *Save and Grow* is a collection of practices, many of which are organic.

31. Based on the *Save and Grow* approach, the project will promote ecosystem-based agriculture production that build on, and strengthen ecosystem services such as pollination, soil fertility, and ecological management of pests and weeds, so as to reduce the environmental pressures of agriculture. Similarly, degraded landscape restoration processes will be supported.. Validated approaches and principles will be incorporated into the regulatory framework, policies and programs, training processes, and will contribute to strengthen governance and institutional capacities. Value chains impacting biodiversity and natural resources will be chosen and the design of innovative financial incentives and solutions that mitigate those impacts and incorporate an ecosystem-based approach, will be promoted. The exchange of knowledge and experiences resulting from implementation actions will contribute to the adoption of best practices for agriculture that mainstream biodiversity conservation and sustainable use of biodiversity and its ecosystem services.

32. The FAO's *Climate-Smart Livestock* (CSL)[4] approach is based on two basic principles: (i) increased efficiency in the use of resources; and (ii) increased resilience and risk management at farm and systemic levels. Climate-smart methods and technologies offer solutions for mitigation and adaptation to climate change while achieving more sustainable productivity. Climate-smart livestock management investments improve productivity and incomes for producers and their value chains while decreasing greenhouse gas emissions from livestock and associated land use, improving management of ecosystem services and increasing the resilience of productive systems. They are based on increasing output while maintaining the same or even lower amounts of inputs per unit, enhancing the environmental impact and building resilience to climate change and other production threats. Typical examples include: improved grazing management e.g. decreasing stocking levels and rotational grazing; the use of improved pasture and agroforestry species, and the use of

nutritious diet supplements particularly during periods of scarcity e.g. by-products, hay, or silage. Similarly, interventions aimed at improving animal health, such as appropriate disease management, vaccination programs and the use of more disease-resistant animals, will also improve animal productivity, and resilience. Other key measures include management of herd size and age structure, managed animal breeding: e.g. fertility diagnosis, early or temporary weaning; classification of animals by body condition; feeding levels aligned to body condition and requirements, grazing management. Through the use of all these, the livestock sector can make major contributions to food supply, reducing GHG emissions, and preventing the expansion of the agro-livestock frontier into natural habitats. During full project preparation, the FAO's *Principles for the assessment of Livestock Impacts on Biodiversity*^[5] will be applied to further assess the baseline scenario and target specific actions for the project intervention areas. Kindly see Annex E for more details.

33. **Alternative scenario:** The Project will overcome Barriers #1-5 by implementing integrated landscape management – including policy planning and capacity development, sustainable intensification of agriculture production, and climate-smart livestock management. Project direct intervention area will be 50,000 hectares of pre- and mountain areas where coffee, cocoa and cattle are produced. The project will reduce the pressures generated by inefficient production over frontier natural habitats, and will restore ecosystem services in the agricultural/pastoral landscapes, and will contribute to landscape restoration, and improved ecosystem connectivity.

34. The strengthening of governance, legal framework, policies and programs will have an impact in 200,000 ha and at least 21 institutions and entities. 10,000 people will benefit directly from capacity development processes. In the Cuban tourism sector there is potential demand for locally-produced, high-quality and environmentally-friendly food products. In this line, there is also an emerging food private sector business (restaurants and bars) that works as an incipient market for organic/premium prices products. In addition, coffee and cocoa are export products that can be directed to the international organic market by facilitating the upgrade of their value chains and promotion as environmentally-friendly value chains. The project will also address potential environmentally-friendly value chains. A full value chain assessment including a national and international market analysis will be conducted during PPG.

The Project will be organized in four (4) components:

35. **Component 1: Mainstreaming of BD conservation and sustainable use in mountain and pre-mountain landscapes (East Guantánamo and Sierra Maestra).** Component 1 will address Barriers #2, #3 and #4 above. Biodiversity mainstreaming experiences will be developed, increasing the use of biological pest and disease controls, mainly using native taxa, which will reduce adverse impacts in crop quality and losses, and contribute to the increase of productions. These biodiversity mainstreaming practices will initially cover 50,000ha. Initial inventories and assessments of the accompanying flora and fauna of agricultural and pastoral ecosystems will be undertaken, emphasizing soil conditions, edaphic fauna and water resources, identifying existing species, their interrelations, repopulation needs and connection with agricultural practices in each selected site. The use of more and new biological controls will, in turn, lead to the update of biological pest and disease control programs for coffee, cocoa and associated crops and pastures, incorporating native species and new production lines. This will require the expansion of local production capacities of said biological controls and opportunities for application in the field. In response to the need to increase biodiversity in productive systems, an increased number of seedlings will be required for reforestation, species enrichment, windbreak development, the establishment of silvopastoral systems for livestock, restoration and enrichment with native species that can be shade-grown and intercropped with coffee and cocoa, among other actions. To that end, supporting the strengthening of local production capacities will be critical.

36. Likewise, the approaches promoted by the Project[6] will be incorporated to the system of technical assistance and rural extension for communities, farmers and extension workers, which is expected to benefit 10,000 people through training processes, including decision-makers. Among training beneficiaries, special attention will be given to children, teenagers and youth developing a dedicated learning module to sustainable natural resource management, focusing on value chains. Additionally, environmental education activities will be carried out.

37. Component 1 will also lead to the design of farms with *Save and Grow* and *Climate-Smart livestock* management approach in mountains areas. These farms will work as basic units for the implementation of integrated landscape management. This model would be extended to all Project areas. Vegetative buffer strips will be reforested and methodologies will be implemented for forest restoration in productive landscapes. The Municipal Water, Soil and Forest Conservation Centres management will be strengthened through the extension of sustainable soil management practices, farmers contributions and co-financing by the National Forest Development Fund (FONADEF) and the National Soil Conservation and Improvement Program (PNCMS)

38. **Component 2: Strengthening Governance, the Policy Framework and Capacity Building.** Component 2 will address Barrier #1. Capacities will be strengthened of at least 21 key governance institutions and entities of mountain and pre-mountain agricultural areas, including science and innovation entities and their technical staff, that specialize in the selected crops, livestock, research and management of biodiversity, natural resources and production chains, plant and animal health, forestry, as well as leading local land, environmental, soil and water management institutions. In particular, capacity strengthening will bolster key regulatory agencies in the monitoring, control and assessment of biodiversity and natural resources management processes.

Through this component the sustainable biodiversity and natural resource management approach will be mainstreamed in the regulatory framework, policies and programs of selected sectors. An important previous step will be improving the synergy among institutions and entities. Therefore, an inter-sectoral information system will be created that will include key integrated landscape and agricultural and pastoral environmental management-related issues (web-mapping tool). Sectorial guidelines, rules and regulations will be assessed and new Sectoral Rules will be drawn up with consideration for sustainability approaches.

39. The project will conduct an analysis of the water footprint and solutions for the sustainable management of available water, including localized irrigation and new technologies and management principles (mainly from livestock and wet coffee processing, two of the most important focuses in project target areas). This will be vital to the development of innovative and sustainable solution proposals for the management of livestock and crop residues, including the production of cultural goods from coconut and livestock, as well as the promotion of innovative incentives for new product development, appellations of origin certification, and other sustainable natural resources management practices in selected sites.

40. **Component 3: Strengthening sustainable value chains.** Component 3 will address Barrier #5. The implementation of this component will allow for the characterization of some of the main agricultural and livestock value chains in mountain and pre-mountain productive systems (i.e. coffee, cocoa, milk and beef) and make proposals to ensure they function within an integrated ecosystem approach, considering standards related to ecosystems, natural resources and biodiversity, as well as assess proposals for mitigation while improving efficiency and effectiveness. Diverse mechanisms to ensure organic and denomination of origin quality attributes in the coffee and cocoa value chains will be established including the custody of chain (inspection, internal control systems, certification) to facilitate market access opportunities in the domestic and international markets.

41. **Component 4: Knowledge Management, Monitoring and Evaluation (M&E).** Component 4 will systematize project knowledge and lessons learned. It will also disseminate successful experiences through the creation of an information and knowledge management platform, including documentation and dissemination of producers' best practices. This platform will be supported by the preparation of bulletins, the creation of databases and the use of web sites of research centers and the AGRINFOR system of the Ministry of Agriculture. It will manage the new knowledge produced and systematized in programs, manuals, methodological guidelines and other documents resulting mainly from the implementation of Component 1. Similarly, it will guarantee and inform the preparation and implementation of a Monitoring and Evaluation Plan (M&E) to ascertain the impacts of project actions and activities.

4) Alignment with GEF focal area and/or Impact Program strategies

42. The Project is aligned with the BD Focal Area (BD 1-1: Mainstreaming biodiversity across sectors as well as landscapes and seascapes through BD mainstreaming in priority areas), through project outcomes 1.1, 2.1, 3.1 and 4.1.

5) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Current practices (baseline)	Alternative proposed by the Project	Anticipated GEBs
Unsustainable agricultural and pastoral practices adversely impact natural resources conditions, diminish biodiversity, reduce connectivity, make mountain and pre-mountain ecosystems more fragile and compound negative impacts in watersheds and protected areas, especially KBAs	Improved agricultural and pastoral systems management through mainstreamed biodiversity and sustainable natural resources management, restored soils, reduced contamination and impacts on aquatic biodiversity and improved ecosystem connectivity.	<p>Direct impact:</p> <p>50,000 ha of agricultural and pastoral productive landscapes under improved management[7]with biodiversity benefits.</p> <p>Indirect impact:</p> <p>200,000 ha of agricultural and pastoral productive landscapes.</p>
The regulatory framework, sectorial policies and governance are weak.	Strengthened regulatory framework, policies and governance. Biodiversity and natural resource conservation and sustainable use objectives are strengthened.	
Value chains of mountain and pre-mountain agricultural and livestock productions lack an ecosystem approach.	Value chains are enhanced to include an ecosystem approach and improve biodiversity and natural resources management while increasing their efficiency and effectiveness.	
Limited institutional capacities of key landscape governance entities given their role in the regulation, monitoring, control and evaluation of biodiversity and natural resources management processes.	Institutional capacities are strengthened in key landscape governance entities and their role in the regulation, monitoring, control and evaluation of biodiversity and natural resources management.	

6) Innovation, sustainability and potential for scaling-up

43. **Innovation:** The innovative nature of this Project lies in the use of a conservationist-productive and ecosystem-based approach for the sustainable management of agricultural and pastoral productive systems through enhanced biodiversity mainstreaming and the sustainable management of natural resources, especially the soil. In addition to its inherent benefits, through conservation important crop and livestock productions are increased, in contrast with the prevailing model that pays little importance to biodiversity mainstreaming and almost no importance to native biota potentials and conservation needs. This approach of seeking higher agricultural productivity in a sustainable manner that ensures the vitality of the trophic chains and the sustainability of the incorporated biota and applies conservation measures for soil and its edaphic fauna, thereby

44. The Project will contribute to increase productivity in mountain and pre-mountain agro-ecosystems (coffee, cocoa and livestock) through improved management of natural resources and BD mainstreaming in order to achieve the production levels expected by the Development Program described in the Baseline in Section 2. Moreover, it will help restore degraded areas and avoid further deforestation due to expansion into new areas.

45. Some of the innovative outputs expected from the Project include: management of new native biological controls not taken into account before; updating of Integrated Pest Management/Control programs; model farms with *Save and Grow* and CSL approach, sustainable value chains with certification/labeling.

46. **Sustainability:**

47. The project includes considerations that promote the continued achievement of its objectives and outcomes long after implementation. Several key principles that ensure sustainability include:

- Country ownership, which will include improved governance, mainstreamed biodiversity and sustainable management of natural resources in value chains are included in development policies;
- Supporting interventions that reinforce government plans and activities, that can be integrated into government policies making project interventions and consequences more relevant to government institutions;
- Alignment with government plans and priorities to increase agricultural production within the country;
- Partnering with public institutions including national, regional and local governments and structures, supporting institutional developments technical and institutional capacities (scientific and research staff of national institutes). This capacity building will serve as long-term support beyond project duration and will allow the inclusion of native biota into agro-systems, evaluation of productive chains, performance of agro-ecosystems and the status of natural resources and suggestion of management proposals to producers, extension workers and communities for their implementation.
- Finally, working with community-based organizations, associations and communities and supporting them to establish their own effective management structures during implementation will also ensure long-term support beyond the project.

48. **Long-term sustainability:** The project will support the implementation of the financial incentives that are being assessed through the ECOVALOR project (GEF/UNDP project, GEF ID 9429). In addition, the project will use the national platform of BIOFIN, which finances BD conservation actions, and will work based along with the National Program for Soil Conservation and Enhancement (PNCMS) and the National Fund for Forest Development (FONADEF) – that are being merged into the Landscape Resilience Fund (LRF). LRF is supported by the *Increased resilience of rural households and communities through rehabilitation of production landscapes in selected localities of Cuba* (IRES) GCF project.

The scaling-up potential (replicability) extends to the agricultural and pastoral systems in mountain and pre-mountain areas covering around 1, 000,000 ha, including 85,000 ha for growing coffee and cocoa. The technical documents, lists, manuals and guidelines to be developed by the project will be the means for replicating best practices. Adequate dissemination of information and best practices, together with the involvement of decision-makers and a wide range of regulating and R&D institutions, will enhance replication as well as the scope of the Project. The success of Component 2 on governance and regulatory and

policy framework will be a key factor, since it will favor the replication of the outcomes in other parts of the country. Likewise, developing a conceptual framework for creating mechanisms to finance projects for the sustainable management of biodiversity and natural resources in mountain and pre-mountain areas will promote new ways of financing projects that will benefit other areas and productions in the country.

[1] According to the National Statistics and Information Office (ONEI), 2017

[2] Now, 1/3 of the cocoa agro-ecosystems are not producing due to the high degradation caused by recent hurricanes.

[3] <http://www.fao.org/ag/save-and-grow/en/index.html>

[4] <http://www.fao.org/climate-smart-agriculture-sourcebook/production-resources/module-b2-livestock/chapter-b2-3/en/>

[5] <http://www.fao.org/3/a-i6492e.pdf>

[6] Mountain partnership.: <http://www.fao.org/mountain-partnership/en/> and Incentives for Ecosystem Services (IES) – A financing mechanism for landscape management (pag 38 or 44(pdf))

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

Please refer to Annex A.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Stakeholders	Role in project implementation
Ministry of Agriculture (MINAG).	Project implementing partner. Co-financier. Member of the Project Steering Committee. Responsible for implementing baseline initiatives and guiding project activities according to sectorial policies at municipal, provincial and national levels. It will act as a link between state organizations involved in the project, carrying out actions for the purpose of meeting the schedule. It will support all project components.
Ministry of Science, Technology and Environment (CITMA)	Member of the Steering Committee. Responsible for implementing baseline initiatives and guiding state environmental policies. Methodological guide for biodiversity conservation.
Agroforestry Research Institute (INAF)	Leading research center and technical partner. Member of the Project Steering Committee. Co-financier. Responsible for implementing and supervising research and development activities through the contribution of specialists and researchers on forests, coffee and cocoa-related topics.
Research Centre for Tropical Agriculture Animal Improvement (CI MAGT)	Participating research center and technical partner. Member of the Project Steering Committee. Co-financier. Responsible for implementing and supervising research and development tasks in the components as well as compiling collected data and enhancing capacity-building activities, through the contribution of animal production specialists and researchers.
Agroforestry Group G EAF	Entity in charge of administering project. Member of the Project Steering Committee. Co-financier. Responsible for implementing and supervising development activities.

Bee Research Centre (CIAPI)	Research activities for developing bee production.
Local government (people's power bodies at community, municipal and provincial level).	Local decision-making body. Provides spaces for exchange and cooperation among institutional stakeholders. Mediates in case of possible conflicts of interest among participating stakeholders. Provides certain types of logistical support.
National Association of Small Farmers (ANAP) (Municipal, Provincial and National)	Top non-governmental organization representing the interests of farmers organized into farmers' cooperatives participating in the project. Shall play a significant role in agricultural extension work through its organizations.
Cuban Association of Agricultural and Forestry Engineers (ACTAF) (Municipal, Provincial and National)	Entity that shall facilitate capacity-building in the various topics covered by the project (agroecology, organic certification, extension work, etc.).
Cuban Association for Animal Production (ACPA) (Municipal, Provincial and National)	Entity that shall facilitate capacity building in topics relating to pastoral activities and support stockbreeding expansion actions.
Cuban Women's Federation	It shall promote women have a leading role in production and marketing activities linked to project tasks. It will contribute to ensure that employment is distributed in a gender-sensitive manner.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

1. In the project intervention areas, women are members of cooperatives, communities and institutions. According to the preliminary information analyzed, women represent around 19% of the permanent labor force (working mainly in services^[1]). The Project will give priority to gender equality and the empowerment of women in line with national policies and priorities and the Gender Strategy of the Ministry of Agriculture. More opportunities along diverse value chains offer more potential jobs for women's employment. The project will facilitate inclusion of women to ensure that they obtain benefits of value chain development.

2. The number of female beneficiaries will be refined during PPG. At PIF, the figures have been calculated by examining the populations of the target zones and accounting for 19% of total beneficiaries. During PPG, a Gender Expert will be hired to conduct a full gender analysis and prepare the project Gender Action Plan (GAP). The GAP will be part of the project result framework, and will include gender-disaggregated indicators and activities. Baseline data in pilot sites will be collected through field surveys. The gender analyst will assess women's use of land, and linkages with livelihoods, labor and other social conditions and use of ecosystem services.

3. Given that women have a low participation in primary activities (agricultural production) but play key roles throughout the value chain (e.g., marketing activities), gender-sensitive and income-generating activities will be designed to address the key VC stages during PPG (Component 2). Women will be included as small-business leaders and through local/direct market networks. The project will also invest in VCs that are demonstrably more gender-inclusive. Component 2 will support the women empowerment through decision-making (ILM planning). Women will be active in policy formulation processes and public consultations. Women will be key players in project information-sharing (Component 4), especially at the community levels. Local level women's groups and informal female networks will be used to disseminate information on biodiversity protection (Component 1). These groups will be further engaged during full project preparation.

^[1]In rural areas, women mainly work in public health, education, social security and gastronomic services, constituting the majority of the workers in these sectors.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

1. The participation of mountain and pre-mountain agricultural and stockbreeding cooperatives and independent farmers will be essential for achieving the Project objectives. Preliminary consultations have been held with the national representatives of producers (National Association of Small Farmers - ANAP.) These consultations will continue during the PPG and implementation phases of the Project in order to establish the participation commitments that will be included in the Parties Commitment Plan (PCP).

5. Risks

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

Risk	Classification	Risk Mitigation Strategy
Conflicts between productive interests and environmental and conservation interests	Medium	<ul style="list-style-type: none"> -The Project will guarantee coordination mechanisms to reach a consensus between the productive sector and the Project coordinators on mutually agreed actions, as well as the spaces for settling and reducing controversies. -Interests will be balanced in the design of actions and activities. -Training and education actions will help to prevent this type of conflicts by stressing the advantages of combining both interests and ensuring synergies that will lead to the best results. -The participatory nature of the Project design will be guaranteed with the protagonist involvement of producers and communities as well as with consultations and consensus for decision-making on the basis of common interests.
Inter-institutional disagreements due to different visions and approaches.	Low	<ul style="list-style-type: none"> -Regular coordination mechanisms and inter-institutional cooperation will be foreseen. -Participating institutions will be consulted during the design phase and over the course of the Project's life cycle, ensuring that their visions and approaches be taken into consideration, respecting the powers and functions established.
Severe climate events such as droughts, strong winds, hurricanes (including climate change impacts.)	Medium	<ul style="list-style-type: none"> -during the design and evaluation of agro-ecosystem and biodiversity management models, the project will take into consideration resilience to the impact of severe weather events, including those caused by climate change. -Take into consideration local studies and evaluations of the abovementioned events.
		Changing patterns can affect the implementation of agricultural good practices in project intervention areas. The project will support local risk

Changes in climate patterns (early rainfalls)	Medium	<p>mapping and monitoring systems of climatic conditions.</p> <p>The project will work with the Municipal Centers of Risk Prevention and Management.</p> <p>The project will use the agro-meteorological bulletins as key tools for work planning, crop and livestock production activities.</p>
Poor involvement and lack of commitment by communities, producers and key local entities.	Low	<p>-The inclusion of all local actors and the involvement of women and youth will be promoted under the principle of collective benefit.</p> <p>-Local experiences will be taken into consideration and there will be ongoing consultations with the communities and key actors.</p> <p>-Incentives for the development of new productions and sources of income and employment that contribute to enhance the living standards of producers and communities will be foreseen.</p>

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

Implementing arrangements:

1. FAO will be the implementing agency, responsible for the implementation, monitoring and evaluation of the Project in compliance with FAO guidelines. The national implementing partner is the Ministry of Agriculture who will also be responsible for the implementation and technical aspects of the Project. UNESCO will act as partner agency. The Ministry of Agriculture (MAG) will be the main executing partner, through the Directorate of Science, Innovation and Environment. The National Institute of Agro-forestry Research (INAF) and the Agro-forestry Group (GAF), which are MAG entities, will act as co-executing partners. INAF and GAF will be responsible for coordinating actions with local communities, institutional partners and other GEF projects in Cuba. The Project Steering Committee will be chaired by the MAG and will include FAO, and other project partners. Project implementation arrangements will be further discussed with stakeholders during PPG and refined by CEO endorsement.

Coordination:

2. The Project will coordinate actions, seek synergies and avoid duplication of efforts with the following initiatives in Cuba financed with GEF resources:

3. ***A Landscape Approach to the Conservation of Threatened Mountain Ecosystems (Connecting Landscapes)*** (GEF ID 4846). This Project is implemented from 2016 to 2022 and involves production entities and institutions of the agricultural sector mainly located in mountain areas and covers other aspects of biodiversity integration based on strengthening connectivity between landscapes and protected areas. It will contribute with significant experiences, mainly those derived from Outcome 3: Production systems compatible with conservation and connectivity.

4. ***Capacity Building for Sustainable Financing Mechanisms / Sustainable Land Management in Dry Land Forest Ecosystems and Cattle Ranching Areas (OP15)***. This Project is currently being implemented and is the third of 5 projects that constitute the Country Pilot Partnership (CPP) of Cuba in support of Sustainable Land Management. It operates in the province of Villa Clara and is expected to continue till 2020. It will contribute significant experiences in sustainable land management.

5. ***Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and productive sectors in Cuba (ECOVALOR)*** GEF Project ID 9429. Implemented from 2016 to 2022 with the objective “to promote the generation of multiple environmental benefits based on the integrated economic valuation of ecosystem goods and services, as a tool for decision-making at different levels.” It is being implemented in the north and west of the Pinar del Rio province, in the province of Matanzas, in the north of Villa Clara province, including the coastal plains and adjoining fringing reefs, cays and mangroves, and in the north of Las Tunas and Holguin provinces.

6. ***Introduction of New Farming Methods for the Conservation and Sustainable Use of Biodiversity, including Plant and Animal Genetic Resources in Production Landscapes in Selected Areas in Cuba (COBIMAS)*** GEF 6 Project, ID 9435. Implementation period 2019-2024. The objective of the Project is to contribute to *in situ* conservation of a group of species, local races as well as globally and nationally important varieties for food production and their wild

relatives and the ecosystems that house them. It will be implemented in three (3) areas of the Matanzas, *Sancti Spiritus* and Granma provinces –given their value and importance for agriculture and natural biodiversity—linked to four (4) protected areas. Conservation *in situ* will be done through the use of sustainable agricultural practices under the *Save and Grow* principle promoted by FAO that focuses on soil, which is of great interest for this Project.

7. **Policy activities:** This project will review and propose revisions of the regulatory framework and the sectoral legislation in order to embed biodiversity into policies and strategies of the agricultural sector. The project will build upon existing efforts under the following GEF projects (linked to biodiversity conservation in agriculture and food production):

8. GEF/UNDP (2437) ***CPP Cuba: Supporting Implementation of the Cuban National Programme to Combat Desertification and Drought (NPCDD)***. Activities at policy level are aimed at training and raising awareness regarding the planning, decision-making and regulations necessary for the implementation of Sustainable Land Management (SLM) in Cuba. The design of an integrated SLM model of severely degraded areas is among the main results of this program.

9. GEF/FAO (9435) (see above): Project activities at policy level include the review of the regulatory and legal framework with the objective of proposing actions for the protection of genetic resources and the conservation of agrobiodiversity.

10. GEF/UNDP (4846) (see above): Project activities at policy level focus on implementing a systemic framework for landscape management; improving the effectiveness of protected area management; and establishing production systems compatible with conservation and connectivity; in four relevant intervention areas, which are directly linked to this submitted proposal.

11. UNDP/EU/SDC: ***Environmental Foundations for Local Food Sustainability (BASAL)***. Project activities at policy level include the development of tools to evaluate the potential impacts of climate change on the agricultural sector in the short, medium and long term. Moreover, these policy activities seek to incorporate adaptation measures in agricultural sector plans at local scales, and aim to support decision-making as well as agricultural and territorial planning.

12. UNESCO's experiences in assisting the National Committee of the International Hydrological Program (the only intergovernmental program of the United Nations devoted to water research and management, and related education and capacity development) will be evaluated, particularly in reference to determining the ecological and environmental flow of water currents. Likewise, UNESCO's expertise in rescuing cultural traditions and goods related to agricultural productions, particularly coconut growing, will be of great value.

13. The project will also support climate-smart livestock management (CSLM), and will take advantage of the work developed by FAO in several countries in the region with GEF funding (Ecuador project GEFID 4775, Uruguay project GEFID 9153, and Dominican Republic project GEFID 10054). In addition, the project will take lessons learned from the FAO/GEF Ecuador Napo project (GEFID 4774) through which local communities and local farmers succeeded in exporting to the European market and made an agreement with the chocolate brand *Venchi*^[1]. FAO will facilitate these South-South exchanges and will provide dedicated technical support through the FAO Agro-food Systems team.

14. FAO, through the Sub-regional Livestock Officer in Panama, and the GEF Coordination Unit in HQ, will support the coordination with other GEF-financed CSLM in the region (and other regions). FAO is already promoting knowledge-sharing and learning between Uruguay, Dominican Republic and Ecuador, and will include this Cuba project in the CSLM Task Force. The TF comprises project teams and national partners and is being led by FAO's Subregional Office in Central America (SLM), in its role of neutral broker and normative organization. This initiative is supporting the countries to share lessons, best practices and technical expertise and acts as an accelerator and multiplier of the CSLM approach.

The FAO/GEF Coordination Unit in HQ will support the coordination with the FOLUR IP, and will promote exchanges with the FOLUR child project in Peru, which is addressing cocoa and coffee production. FAO will also support knowledge-sharing with other FOLUR projects.

[1] <http://www.fao.org/gef/highlights/detail/en/c/1154402/>

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

7. Cuba signed the Convention on Biological Diversity (CBD) in 1994. This Project is in line with the evaluations and priorities established in the 5th National Report to the CBD (2019) and the objectives of the 2016-2020 National Biodiversity Program, which establishes among its priorities: to increase reforestation with native species; rehabilitate and restore ecosystems to avoid fragmentation; increase resilience and connectivity; contribute to climate change and extreme events adaptation and mitigation; pay special attention to fragmentation, pollution and forest fires, which are among the main biodiversity threats; harmonize and integrate the objectives of conservation and sustainable use of biodiversity into the country's development policies and strategies and into the decision-making processes at all levels; integrate and mainstream biological diversity issues in other sectors. The Project will especially support the fulfillment of Goals 5 and 14 of the National Biodiversity Program, as well as the Aichi Biodiversity Targets 1, 7, 15 and 19.

Aichi Biodiversity Target	Project Outputs
Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	1.1.3, 1.1.4, 2.1.3, 4.1
Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	1.1.5, 2.1.1, 2.1.4
Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration of 15 per cent of degraded land.	3.1.1, 3.1.2
Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	1.1.1, 1.1.2, 1.1.3, 1.1.4, 2.1.1, 2.1.5, 3.1.3

8. 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.

1. Knowledge management is at the core of this Project and one of its purposes. It is vital for ensuring enhanced visibility, scope and replication of best practices, including those developed by women and to sensitize decision-makers, communities and producers to attain the proposed transformations. The Project will coordinate actions with 4 other projects being implemented in Cuba with GEF funds (OP15, ECOVALOR, Connecting Landscapes, and COBIMAS) as well as with other related projects being implemented by FAO in the region in order to harness lessons learned, the experiences and knowledge generated. Exchanges and guidance activities are foreseen and the spaces and facilities provided by FAO for information sharing will be used. Component 2 will address the improvement of inter-institutional coordination, integration and exchange of information, which will facilitate knowledge management processes. As part of the design, Component 4 (Knowledge Management, M&E) will include concrete information and knowledge dissemination actions; the drafting of bulletins, the creation of databases and the use of the web sites of the research entities and of the AGRINFOR system of the Ministry of Agriculture to manage the new knowledge produced and systematized in programs, manuals, methodological guidelines, and other documents resulting from the implementation of Component 2. In order to guarantee progress and success of the Project, regular identification and analysis of lessons learned will be conducted.
2. The GoC has wide expertise in South-South cooperation (10+ countries supported in 2014-2019), and this is a top government priority, so the project will benefit from this institutional setting. In addition, the project will participate in the networks promoted by UNDP/FAO/UNESCO in similar projects, and in scientific networks, as the Caribbean Biological Corridor Initiative.
3. Regarding CSLM and sustainable agriculture intensification, knowledge-sharing will be facilitated by FAO. Beneficiaries from knowledge-sharing sessions and South-South cooperation are government partners and small- and medium-scale producers in other countries, such as Uruguay, Ecuador, Dominican Republic, Honduras, Kenya, including Cuba. Same applies for *Save and Grow*. A project KM strategy will be fully designed during PPG.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Yadira Gonzalez Columbié	Acting Director, International Affairs Department	Ministry of Science, Technology and Environment	10/1/2019

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place



