



Mainstreaming Biodiversity in Belize's Maya Golden Landscape

Part I: Project Information

GEF ID

10815

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Mainstreaming Biodiversity in Belize's Maya Golden Landscape

Countries

Belize

Agency(ies)

FAO

Other Executing Partner(s)

Ministry of Sustainable Development, Climate Change,
and Disaster Risk Management

Executing Partner Type

Government

GEF Focal Area

Biodiversity

Taxonomy

Mainstreaming, Productive Landscapes, Protected Areas and Landscapes, Biodiversity, Focal Areas, Influencing models, Private Sector, Civil Society, Type of Engagement, Stakeholders, Gender results areas, Gender Equality, Gender Mainstreaming, Learning, Capacity, Knowledge and Research, Biomes, Terrestrial Protected Areas, Agriculture and agrobiodiversity, Forestry - Including HCVF and REDD+, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Indigenous Peoples, Participation, Partnership, Consultation, Information Dissemination, Non-

Governmental Organization, Beneficiaries, SMEs, Individuals/Entrepreneurs, Local Communities, Participation and leadership, Access and control over natural resources, Indicators to measure change, Theory of change, Adaptive management, Enabling Activities, Capacity Development, Knowledge Generation, Knowledge Exchange, Mangroves

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee(\$)

137,722.00

Submission Date

4/23/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1-1	GET	1,449,708.00	5,660,000.00
Total Project Cost (\$)		1,449,708.00	5,660,000.00

B. Indicative Project description summary

Project Objective

To mainstream biodiversity in the Maya Golden Landscape's key biodiversity areas (KBAs).

Project Compon ent	Financi ng Type	Project Outcomes	Project Outputs	Tru st Fu nd	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Integrating conservation and production planning in KBAs	Technical Assistance	<p>Outcome 1.1:</p> <p>Forest reserves in KBAs conserve biodiversity and promote sustainable production through integrated landscape management (ILM)</p> <p><i>GEF Core Indicator 1:</i> Terrestrial protected areas under improved management for conservation and sustainable use: 51,224 hectares (Target)</p> <p>Outcome 1.2:</p> <p>Community zones in KBAs conserve biodiversity and promote sustainable production through ILM</p> <p><i>GEF Core Indicator 4:</i> Area of community landscapes under improved management to benefit biodiversity (excluding protected areas): 7,000 hectares (Target)</p>	<p>Output 1.1.1: Gender-inclusive & ethnic-sensitive ILM action plans developed for select forest reserves</p> <p>Output 1.1.2: New biodiversity-friendly non-timber forest products (NTFP) policy developed to support ILM in selected forest reserves</p> <p>Output 1.1.3: Community-based monitoring system designed to support ILM conservation targets in forest reserves</p> <p>Output 1.2.1: Community spatial, land use and resource diagnostic</p>	GE T	427,996.00	1,353,205.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 2: Strengthening Indigenous Peoples and local communities production systems to deliver positive impacts on biodiversity in KBAs	Technical Assistance	Outcome 2.1: Indigenous Peoples and local communities implement biodiversity-positive production practices in forest reserves <i>Indicator 1:</i> Area protected through new agroforestry & NTFP concessions: 2,000 hectares (target) ^[1] Outcome 2.2: Indigenous Peoples and local communities implement biodiversity-positive production practices in community zones to support income generating opportunities for both men and women <u>GEF Core Indicator 4. 566 additional hectares of area under improved management to benefit biodiversity.</u>	Output 2.1.1: Support to Indigenous Peoples and local communities in acquiring agroforestry and NTFP concessionary rights in forest reserves Output 2.1.2: Implementation of Culturally sensitive biodiversity positive production practices in line with forest reserve concessions	GE T	801,935.00	3,544,890.00
		<p>^[1] This area is a fraction of the area included in Core Indicator 1.</p>	Output 2.2.1: Culturally and gender sensitive trainings delivered to Indigenous Peoples and local communities promoting biodiversity-positive farming and forest habitat conservation on community lands			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 3: Knowledge Sharing and Project M&E	Technical Assistance	Outcome 3.1: Project Knowledge is managed, systematized and disseminated.	Output 3.1.1: Multi-stakeholder (including private sector and indigenous peoples) roundtables to exchange and recover knowledge about sustainable traditional practices in food systems.	GE T	87,986.00	247,360.00
		Outcome 3.2: Monitoring & Evaluation strategy informs the project for management and decision-making.	Output 3.1.2: Cocoa agroforest research partnership established with Maya Mountain Cocoa Company			
			Output 3.2.1: Delivery terminal evaluation			
			Output 3.2.2: Monitoring system of the global environmental benefits, co-benefits and costs of biodiversity positive production			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Sub Total (\$)					1,317,917.00	5,145,455.00
Project Management Cost (PMC)						
GET		131,791.00		514,545.00		
Sub Total(\$)		131,791.00		514,545.00		
Total Project Cost(\$)		1,449,708.00		5,660,000.00		

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(\$)
Recipient Country Government	Ministry of Agriculture	Public Investment	Investment mobilized	428,000.00
Civil Society Organization	Ya?axche Conservation Trust	Grant	Investment mobilized	4,960,000.00
Private Sector	Maya Mountain Cocoa Company	Grant	Investment mobilized	272,000.00
Total Project Cost(\$)				5,660,000.00

Describe how any "Investment Mobilized" was identified

The Ministry of Agriculture?s investment is calculated on the annual budget of the Ministry to provide agricultural extension service and farmer field school support to the farmers in the MGL for four years. Ya axche?s investment is based on the organization?s operational budget to support farmers in the project area. The private sector investment is defined by the investment of the Maya Mountain Cocoa Company to establish 25 ha of new Cocoa plantations.

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

Agenc y	Tru st Fun d	Countr y	Focal Area	Programmi ng of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Belize	Biodiversi ty	BD STAR Allocation	1,449,708	137,722	1,587,430. 00
Total GEF Resources(\$)					1,449,708. 00	137,722.0 0	1,587,430. 00

E. Project Preparation Grant (PPG)
PPG Required **true**

PPG Amount (\$)
50,000

PPG Agency Fee (\$)
4,750

Agenc y	Trus t Fun d	Countr y	Focal Area	Programmin g of Funds	Amount(\$)	Fee(\$)	Total(\$)
FAO	GET	Belize	Biodiversit y	BD STAR Allocation	50,000	4,750	54,750.0 0
Total Project Costs(\$)					50,000.00	4,750.0 0	54,750.0 0

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
51,224.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
51,224.00	0.00	0.00	0.00

Name of the Protected Area	WDP A ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
Akula National Park Deep River Forest Reserve (DRFR)	125689 3311	Select Protected area with sustainable use of natural resources	31,797.00			<input type="checkbox"/>
Akula National Park Golden Stream Corridor Preserve (GSCP)	125689 301941	Select Protected area with sustainable use of natural resources	6,070.00			<input type="checkbox"/>
Akula National Park Maya Mountain Forest Reserve (MMFR)	125689 28850	Select Protected area with sustainable use of natural resources	13,357.00			<input type="checkbox"/>

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

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

Name of the Protected Area	W DP A ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
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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)
7566.00	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)
7,566.00			

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)
Type/Name of Third Party Certification			

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
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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)	4512195	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)	4,512,195			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2021			
Duration of accounting	20			

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)
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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	200			
Male	200			
Total	400	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

The estimate of GHG Emission mitigated uses FAO's Ex-Act tool. Supporting Calculations are included under Annex 1. The estimate will be confirmed during Project Preparation Phase. Number of Direct Beneficiaries: Ya axche is currently working with 100 farmers and with the project is expected to reach 300 more. Hence, at this stage the total number of direct beneficiaries is expected to reach 400. During project preparation phase this number will be confirmed through a social analysis.

Part II. Project Justification

1a. Project Description

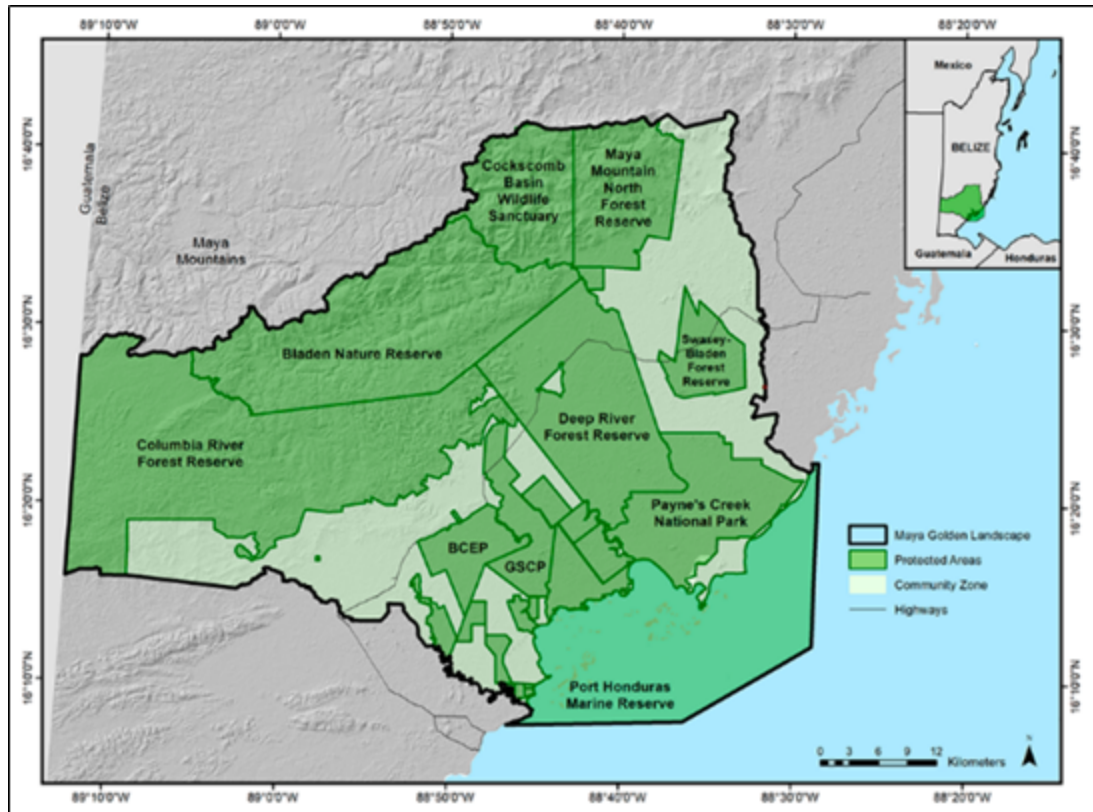
Context:

1. **Belize is an upper-middle-income country[1]¹ with a population of over 390,000 and a land area of approximately 2.3 million hectares.** The country is generally recognized for being highly forested and containing an immense wealth of biodiversity and natural resources. It has a total mature[2]² forest cover of 57.6 percent[2], and 20 percent of the total land area is protected as nature reserves providing refuge to an exotic variety of wildlife species[3]. Its two large blocks of mature rainforest are likely to be the last unified regional strongholds for species that require large, undisturbed areas for their long-term survival. Belize's climate ranges latitudinally according to rainfall and elevational variables, from tropical savannah in the north of the country, to tropical monsoon and in the middle, to dense tropical rainforests in the south. The country is also divided into six administrative districts, the northern districts of Corozal and Orange Walk, the central coastal zone of Belize district, the central inland zone of Cayo district, and the southern zone of Stann Creek and Toledo districts. The proposed project's area of intervention concerns the 'Maya Golden Landscape' within Toledo district of southern Belize - an area covering 311,610 hectares, or approximately 14 percent of the country's total surface area.

2. **The 'Maya Golden Landscape'[3]³ (MGL) is a transitional landscape that connects protected montane and sub-montane rainforest to lowland, coastal, and mangrove habitats through an intervening agroecosystem.** The MGL is a mosaic landscape of indigenous peoples territories, local communities lands, private lands, and nationally protected areas, that covers approximately 67 percent of southern Belize's Toledo district. It excludes the Toledo district's urban, industrial, and commercial areas. The landscape is considered 'tropical rainforest climate'[4]⁴, with average annual rainfall of approximately 2,000-3,100 mm per year[4] and an average temperature of 16-30 Celsius[5], across rainy and dry seasons. The rainy season lasts six months, from June to November and the dry season lasts for six months per year, from December to May. However, the MGL's geophysical properties contribute to notable variability in the temperature and rainfall gradient across the landscape. In the northwestern MGL, the elevated foothills, base, and mid-section of the Maya Mountains (ranging 200-600 meters above sea level[7]) experience higher rainfall and lower

temperatures as the steep slope and elevation forces the moist easterly trade winds to rise, cool, and condense into additional rainfall. As the landscape's elevation quickly declines southeast to the coast of the Caribbean Sea (ranging 0-20 meters above sea level[7]), the landscape experiences relatively lower rainfall and higher seasonal temperatures. This varied temperature and rainfall regime plays a defining role in the transition of ecosystems from northwest to southeast across the MGL - from dense and rugged montane and sub-montane evergreen broad-leafed rainforest to a mix of lowland broad-leafed rainforest, coastal wetlands, and mangroves. The natural habitats supported in these distinct ecosystems are known for their wealth of biodiversity and globally significant conservation value, and accordingly are recognized as Key Biodiversity Areas (KBAs). They are reported to be mainly intact[2], and nearly fully protected through designations as protected forest reserves, wildlife sanctuaries, national parks, and private reserves. However, this transition of mountainous and lowland ecoregions through protected areas is interrupted by an intermittent band of cultivated/semi-cultivated flat lands (ranging 0-50 meters above sea level[7]), designated as indigenous community zones. These zones are considered production lands and not covered by the MGL's network of public and privately protected areas. The indigenous peoples territories, of which 90 percent are Maya indigenous people, sustain their livelihoods primarily through traditional ancestral land use farming and livestock activities. Indigenous peoples territories rests mostly aside forest reserves that buffer production activity to national parks and ecological preserves, and in some cases, lie directly against the borders of national parks, ecological preserves and wildlife corridors. Thus, the MGL is best understood as a both a transitional and multifunctional landscape as it transitions protected area mountainous and lowland ecosystems through an agroecosystem matrix of indigenous peoples community farms, buffering forest reserves, and other protected conservation areas.

Figure 1: Area of Project Intervention[5]⁵ - Maya Golden Landscape in Toledo District, Belize[2]



3. The MGL's Key Biodiversity Areas (KBAs) contain a wealth of biodiversity and maintain regional connectivity amidst the Selva Maya and the Mesoamerican Biological Corridor. The MGL's KBAs cover 276,706 hectares of the MGL, or about 89 percent of the MGL's total surface area.[6] KBAs are internationally recognized sites of global importance to the planet's overall health and the persistence of biodiversity.[8] They are identified through national processes by local stakeholders using a set of globally agreed scientific criteria. These sites have been identified over the last four decades by an international network of NGOs, academic institutions and government organizations using a series of complementary approaches.[9] KBAs within the MGL host more than 93 species of mammals, 337 species of birds, 92 species of amphibians and reptiles, nearly 20 species of freshwater fishes, high numbers of invertebrates, and 2 species of vascular plants. 60 percent of all bird species in Belize are contained in the MGL.[10] This represents one of the richest assemblages of terrestrial biodiversity in the world on per unit area basis and includes critical populations of threatened species - such as the jaguar (*Panthera onca*), Geoffrey's spider monkey (*Ateles geoffroyi*), Baird's tapir (*Tapirus bairdii*), white-lipped peccary (*Tayassu pecari*), yellow-headed parrot (*Amazona oratrix*), and Mesoamerican river turtle (*Dermatemys mawii*). The MGL is also part of Mesoamerica's Selva Maya,

which is the second largest remaining tropical rainforest in the Americas after the Amazon, extending over Belize, northern Guatemala and southeastern Mexico. The MGL plays a central role in unifying Belize's two large blocks of mature rainforest that are likely to be the last strongholds of the Selva Maya for species that require large, undisturbed areas for their long-term survival, such as the Jaguar (long considered the flagship species of Belizean conservation). This includes the Golden Stream Corridor Preserve (GSCP), which is the only remaining broadleaf forest link between the Maya Mountains and the lowland broadleaf forests that extend to the coastal plains. The MGL's Selva Maya ecosystem connection has even broader significance as part of the Mesoamerican biological corridor^[7], which is an important natural land bridge for migratory species between North and South America.

4. The MGL's system of protected areas helps preserve forest habitat and ensure species mobility within Southern Belize's KBAs. The degree to which the MGL's KBAs are covered by the system of public and privately protected areas is approximately 85 percent, which is quite strong compared to the national average of about 45 percent.^[9] It should be noted the remaining 15 percent of uncovered KBAs are occupied by indigenous communities, and these areas are further described next in paragraph 5. In total, the MGL's system of public and privately protected areas amounts to 235,200 hectares, or about 75 percent of the MGL's surface area. The majority of these protected areas operate through a wing of public administration, the National Protected Area System (NPAS), and through privately managed preserves by local civil society organizations and/or ecotourism companies. Classifications for NPAS protected areas are described in the 2015 National Protected Area System Act (NPASA). While these classifications are extensive, the NPAS terrestrial protected areas management classifications for the MGL include national parks, wildlife sanctuaries, nature reserves, and forest reserves. National parks, wildlife sanctuaries, and nature reserves have the highest level of conservation status in terms of human activities permitted in the landscape, which is detailed through NPASA legislation, and the forest reserves serve as protected areas that also allow for some human activities that are defined through the Forest Act and recognized as such in the NPASA – namely agroforestry, harvesting of non-timber forest products etc. Within this legislative context, forest reserves are to be considered ‘buffer zones’ between indigenous community production lands and full conservation lands as they buffer the extent of production activity between the two according to habitat protection needs. In the northwest sub-montane ecosystem of the MGL, Bladen Nature Reserve and Cockscomb Basin Wildlife Sanctuary have full conservation status and they are buffered by the Columbia River, Deep River, and Maya Mountain North forest reserves. In the southeast MGL, the lowland broadleaf forest, coastal wetlands, and mangrove ecosystems, the Payne's Creek National Park has full conservation status, and buffered by the Toledo Institute for Development and Environment's (TIDE) ‘block 127’ private protected lands where mangrove forests dominate and eventually flows in to the globally significant marine ecosystems of the Port Honduras Marine Reserve. See Figure 2 in Annex A for these mapped areas. On a case by case basis these areas are managed either directly by the Forestry Department, or through co-management arrangements with service providers for protected areas – see Table 1. Connecting the northwest sub-montane and the southeastern lowland and coastal ecosystems is

the GSCP and the Deep River Forest Reserve. As described earlier, the GSCP is the most important link in the MGL's connectivity of ecosystems as it is the last remaining broad leaf forest link. GSCP is privately managed by Ya'axche Conservation Trust in cooperation with participant indigenous communities on both sides of the corridor. A 2019 publication in the revered academic journal *Remote Sensing* assessed, in part, the extent of forest habitat loss within the MGL's KBAs and found that the overall public and private management of protected areas has, until time of publication, kept the KBA's natural habitat of the respective ecoregions and the biological corridor intact, in terms of remaining mature forest cover.[2] Annual deforestation within protected areas was only 0.04 percent compared to indigenous community production lands, where annual deforestation was 0.9 percent.[2] The corridors support large volumes of biodiversity movement – particularly mammals and birds species. Therefore, the MGL's system of protected areas indeed seems to have been effective in helping preserve biodiversity habitat and ensure species mobility within the protected area regions of the MGL's KBAs under past conditions.

Table 1. Information on Protected Areas within the MGL

Protected Area	Mgmt. Type	Legislation	Area	Management Agency
Payne's Creek	National Park	NPASA	12,819 ha.	Forest Dept. & TIDE
Rio Blanco	National Park	NPASA	40 ha.	Rio Blanco Maya Association
Sarstoon-Temash	National Park	NPASA	16,956 ha.	Forest Dept. & SATIIM
Agua Caliente Luha	Wildlife Sanctuary	NPASA	2,223 ha.	Forest Dept.
Cockscomb Basin	Wildlife Sanctuary	NPASA	8,093 ha	Belize Audubon Society
Bladen	Nature Reserve	NPASA	40,335 ha	Forest Dept. & Ya'axche? Conservation Trust
Columbia River	Forest Reserve	Forest Act	41,658 ha	Forest Dept.
Deep River	Forest Reserve	Forest Act	31,797 ha	Forest Dept.

Machaca Creek	Forest Reserve	Forest Act	1,520 ha	Forest Dept.
Mango Creek	Forest Reserve	Forest Act	14,386 ha	Forest Dept
Maya Mountain	Forest Reserve	Forest Act	13,357 ha	Forest Dept. & Ya?axche? Conservation Trust
Swasey Bladen	Forest Reserve	Forest Act	5,989 ha	Forest Dept. & Woodstop Ltd.
Golden Stream Corridor Preserve	Private Reserve	NPASA	6,070 ha	Ya?axche? Conservation Trust
Boden Creek Ecological Reserve	Private Reserve	None	3,076 ha	Belize Lodge & Excursions

*Source: Belize Forest Department, 2003 & Ya?axche Conservation Trust, 2020

5. Mature and secondary forests within the indigenous peoples territories play a key role in maintaining habitat in sections of the KBAs outside the protected area system, and compliment species mobility outside of corridors. The indigenous peoples territories within the MGL are home to a population of approximately 30,000 people (half of them women) and cover 76,420 hectares, or approximately 25 percent of the MGL's terrain. Their livelihoods are sustained through a traditional ancestral land use form of subsistence farming system, referred to as ?milpa?, which involves a slash-and-burn or slash-and-mulch techniques.[11] The milpa farming system is the predominant form of land management in the indigenous community zones. For centuries it has been a sustainable agriculture system, allowing fallowed areas to regenerate to mature forest, creating a variety of forest succession stages throughout the cultivation area.[11] Maintaining a combination of mature and regenerating secondary forests accommodates MGL biodiversity needs in two ways. First, the mature forests provide for additional biodiversity habitat within the indigenous peoples community zones. While this proximity to farming activities is not necessarily an ideal arrangement when compared to a fully protected natural habitat, it is an important measure for sustaining biodiversity in KBAs outside of the protected area system ? as there are no legal measures protecting biodiversity on designated production lands. Since KBAs cover approximately 54 percent of the MGL's indigenous community zones, they help maintain a large area of biodiversity outside protected areas. Second, the MGL's mature forests and secondary regenerating forests on indigenous community lands provide temporary refuge for migratory birds and wildlife species moving between the MGL's northwest and southeast ecoregions, complimenting the protected link of the extremely narrow GSCP and the Deep River Forest Reserve (DRFR). This is particularly relevant within the strip of community land between the GSCP and the DRFR, which is fully designated as a KBA, and the connected KBA between Maya Mountain Forest Reserve (MMFR), Swasey Bladen Forest Reserve, and Payne's Creek National Park. Forest cover on such production lands around these corridors and other adjacent protected areas helps

accommodate the migratory needs of birds[8]⁸ and other wildlife that have difficulty accessing the corridor's and reserve's narrow entry points and confined boundaries. The indigenous peoples communities forest cover provides easier access and safe overflow amidst boundaries. Also, these forests provide additional migratory pathways on production lands beyond those adjacent to corridors and close-packed reserves, and further reduces bird and wildlife traffic within these lands reducing territorial competition and facilitating the migratory process. Migration periods are from February to March and from November to December, and nearly all species use the broad remaining broad leaf forest, amongst others, as a migratory stop zone. In the PPG phase income opportunities through Sustainable forest management and agroforestry will be researched further as well as the role women play and could play in this production system.

6. Recent biodiversity studies have tested and confirmed the hypothesis that cocoa agroforestry farms in the MGL have substantially increased migratory capacity compared to full sun cropping systems and open pasture. A 2018 Biodiversity Synthesis Report studied biodiversity and migratory capacity of cocoa farms within the MGL and assessed the migratory capacity of five major cocoa farms managed through agroforestry practices. The farms hosted a range of canopy cover (from 30 percent cover to 90 percent cover), distance from roads (20 meters to 1 kilometer), adjacency/non-adjacency to forest reserves, and KBA/non-KBA land designated indigenous community land. The studies biodiversity detection rates on cocoa agroforestry farms for mammals and birds were substantially higher than those for cleared farm and pasture.[12] Within one migratory season the study recorded 53 species of mammals. While the focused solely on mammal species migration (i.e. biodiversity cameras were set up only for observing mammals) the study still detected over 31 species of migratory birds – a surprising indication of extended biodiversity health within the agroforestry operation and an attachment to its suitability of support to biodiversity migratory capacity. For bird detection, it was remarkably noted that even for cocoa farms with low relatively low canopy cover (30 and 40 percent), and farms close to roads, bird detection remain high and consistent throughout. On cleared farms and pastures, significantly fewer bird and mammal detections were reported.[12] Prey species of mammals, particularly jaguar, migrating through farms and pasture, were reported as experiencing higher levels of conflict with humans. The human- jaguar conflict is particularly noted on open pastureland as grazing cattle are easy prey for migrating jaguar. This research specific to the MGL locally evidences findings from an established body of scientific literature that attributes mosaics of forest patches and cacao agroforests to higher amounts of native biodiversity than landscapes without undisturbed forest patches or cocoa agroforestry.[13] It also supports wider research findings that birds and mammals depend on the proximity of natural forests, which further argues for a landscape level approach in which sustainable agroforestry management is combined with the preservation of natural forests and undisturbed (secondary) forest patches.[13]

The Global Environmental Problem:

7. Biodiversity loss is occurring within the MGL as a result of growing deforestation within the landscape. Deforestation is driving habitat change (through loss, degradation, fragmentation of forests) and has been associated with decreased species counts and migration volumes in and between KBAs. While most historical deforestation data is quite limited in datasets and research publications for the specific geo-coordinates of the MGL, the aforementioned publication from Remote Sensing journal study reports that from 2014 to 2016, 2090 hectares of mature forest was cleared specifically inside the MGL. While explicit data for secondary forest clearance during this time was not covered in that study, visual estimations of the MGL's total forest cover loss from data sets compiled by Global Forest Watch during this time frame indicates that secondary forests loss likely have had even greater clearance than mature forest. As of 2016, a total of 75 percent of the MGL remained in mature forest state.[2] Over 90 percent of the MGL currently retains natural vegetation (including savanna, wetland, and secondary regenerating forests in fallow)[2]. The overwhelming majority loss of mature and secondary forests has occurred within the indigenous peoples community zones. Protected areas in the MGL, such as Bladen Nature Reserve (BNR), Golden Stream Corridor Preserve (GSCP), Cockscomb Basin Wildlife Sanctuary (CBWS) and Payne's Creek National Park (PCNP), did not experience deforestation from 2014 to 2016, while others did, such as Columbia River Forest Reserve (CRFR), Maya Mountain North Forest Reserve (MMNFR), Deep River Forest Reserve (DRFR), and Swasey-Bladen Forest Reserve (SBFR).[2] This observed activity evidences indigenous community zones as active ongoing deforestation sites, and indicates that the protected forest reserves and biological corridors adjacent to these zones are deforestation frontiers. The observed impacts of such deforestation activity on biodiversity has been reported by indigenous peoples, the forest department, and conservations trusts as decreased species migration volumes between KBAs, decreased bio-controls, increased impacts of pests and pathogens, perceptions of decreased pollination capacity, and growing challenges with human-wildlife conflict on new cattle farms. Additionally, the global greenhouse gases emissions associated with loss of this tropical rainforest is substantial as the tropical rainforest biome is known for its high carbon removal capacity. Furthermore, this deforestation also leads to loss of local ecosystem services, particularly in adjacent watersheds, where forest's protection of water quality is compromised, and the associated reduction of nutrient flows are particularly damaging to coastal ecosystems.

8. Predictive modeling of mature future forest cover in the MGL carried out in 2019 projects concerning new losses of forests in KBAs, both in KBA production landscapes and in KBA protected areas. While a 2016 land cover classification analysis deemed the MGL to be a 'highly forested intact landscape', the same study found that, as of 2014, land pressure variables changed the risk status of this classification to be 'threatened by deforestation'. [2] The mature forest cover change prediction model used by Voight in 2019 indicated that the agricultural frontier in the MGL will continue to expand into mature forests. Specifically, 7392 hectares of mature forest are expected to transition to farmland by 2026.[2] It predicts that mature forest coverage of the MGL will decrease from 75 percent to 71.9 percent over this period.[2] The majority of this mature forest cover is

predicted by the model to be lost in the production landscapes of the indigenous community zones, where total mature forest cover is predicted to drop from 49.5 percent coverage to 40 percent coverage.[2] Of particular concern is the level of predicted mature forest cover loss concentrated in within the KBA indigenous peoples territories zones, such as in between GSCP and DRFR, the indigenous community zone in CRFR, next to BCEP, surrounding all edges of the SBFR, and most importantly - in de-reserved regions (De-reserved is a legal process that removes the status of protection of a forest reserve or protected area or a part of it) of the MMNFR. In fact, the two de-reserved sections of the MMNFR (de-reserved in 2006 and 2015 respectively) are identified by the model as having the highest predicted amount of mature forest cover loss in the MGL) ? dropping to 29.2 percent and 27.8 percent mature forest cover in 2026.[2] Also concerning is the fact that the nature of the shifting cultivation activity driving the deforestation tended to leave remaining 2026 mature forest highly fragmented on indigenous community lands,[2] implying that, its capacity to support biodiversity habitat and mobility is further decreased. While deforestation within the protected areas is predicted by the model to be relatively lower than in the indigenous community zones, mature KBA forest is expected to be lost inside the CRFR, DRFR, MMNFR, and SBFR. A vulnerability map produced by the model assessing the probability of mature forest cover loss occurrence indicated that nearly every edge of the MGL forest reserves and the BCEP and GSCP in contact with indigenous community lands was also vulnerable to mature forest loss. See Annex A, Figure 1 for a series of maps depicting the predictive model results. This vulnerability of future mature forest loss threatens to exacerbate the ongoing problems facing biodiversity in the MGL.

Root Causes:

9. Deforestation is primarily being driven by expansionary small-scale agriculture at a rate corresponding to increases in population growth. As the MGL population rises amidst a fixed land area, density within production landscapes and expansionary pressures on forest reserves also increase. Deforestation occurs as remaining forests are cleared for food production through a growing cycle of shifting cultivation. To a lesser extent, poor fire management and climate change also contributes to forest loss within the landscape. Since 2000, population growth and agricultural land clearance have grown closely at an increasing rate of about 3 percent, with deforestation rates exceeding population growth in recent years to about 4 percent. The recent decoupling of these two rates indicates that deforestation could be in the process of being amplified beyond the population growth rate due to biophysical degradation of the land also resulting from unsustainable shifting cultivation practices, that in turn reinforces expansion of the cultivation area beyond what would be expected by just the population growth factor. While this process is further explained later in this section, first the nature of the direct and indirect drivers of deforestation are detailed in the following paragraphs. Deforestation dynamics in the MGL will be further assessed and confirmed during Project Preparation Phase.

10. The anthropogenic[9]⁹ direct drivers of deforestation in the MGL's KBAs primarily[10]¹⁰ include unsustainable shifting cultivation and poor fire management. Such direct drivers are detailed as follows:

(i) *Unsustainable shifting cultivation*: Cropping systems in the MGL's KBAs are generally characterized by high nutrient losses (especially for nitrogen, phosphorus and potassium) and losses of soil organic matter (SOM). Long-term processes that adversely affect sustainability, such as decreased and eventual depletion of soil nutrient stocks, receive little attention from milpa farmers. This is likely because shifting cultivation, typically through slash and burn forest clearance, has been a central component of traditional milpa farming for centuries. Through this process, farmers clear forests, employ non-regenerative farming practices associated with high nutrient loss. Once nutrients are depleted, the land is abandoned and left to regenerate in fallow. Under circumstances where human pressures on land are low, this allows enough time for soil nutrients to replenish and this process can be made sustainable ? as it has in traditional milpa farming systems for centuries. However, in circumstances where human pressures on land are high, such as those associated with population growth and limited land and resource availability, farmers are enticed to cultivate on fallows not fully regenerated or clear mature forests for more farmland through slash and burn. This creates a cycle of reductions in regeneration time and expansionary production, resulting in soil nutrient loss and mature forest loss. This is the scenario currently in the MGL. Furthermore, the approach of slash and burn vegetation clearance accelerates this process as it accelerates soil nutrient loss and water holding capacity on cleared land[11], and hence the regeneration time required under fallow.

(ii) *Poor fire management*: Uncontrolled fires used for opening vegetated cultivation areas for agricultural or pastoral land, or for disposing of large quantities of vegetative hurricane/tropical storm debris, often set in the absence of firebreaks, cause accidental burning of trees and forests. When carried out on agricultural land, the repeated clearing through use of fire on the same soils contributes to soil nutrient loss, water retention and nutrient status in the same way as described earlier during slash and burn and thus accelerating expansionary production. Also, the intense heat during the burning of large fires can further destroy critical root and seed banks.

11. The indirect drivers of deforestation primarily include population growth and constrained production land availability, and to a lesser extent, climate change. Such indirect drivers are detailed as follows:

(i) *Population growth and land availability*: According to the Voight report, population growth within the indigenous community zone in the MGL is approximately 3 percent per year [2]. Average household size is 4.9 with an average of 3.9 children per household. Rising indigenous community zone populations have created increased food from production lands and forest reserves. While additional population growth data is slim for the MGL, a 2000-2010 census report found that the population growth rate was 29.2 percent over the period, or about 2.92 percent per year, confirming the accuracy of the Voight report.[14] It should be noted that during project preparation figures from the soon to be released Census 2020 will confirm more recent population growth rates, and local census data will also be sought to further confirm this number. However, the spatial availability of production land and resources in the MGL is constrained by the designation of protected areas surrounding the indigenous community zones. Population-driven constrained land availability indirectly fuels agricultural deforestation through its impact on accelerating the unsustainable cycle or shifting cultivation cycle.

(ii) *Climate Change*: Regional climate change projections for southern Belize predict an increase in the occurrence of extreme weather events, such as extended periods of high temperatures, intense storms and hurricanes, and drought. Such events directly disrupt crop production and reduce yields. These events indirectly drive deforestation by incentivizing additional clearing of land to cope with the climate change impacts on farmers? production and yield declines.

12. The relationship between the direct and indirect drivers of deforestation are accelerating deforestation in KBAs and exacerbating biodiversity loss. The combination of unsustainable land management practices (shifting cultivation and poor fire management) and circumstances that put increased pressure on production lands (population growth[11]¹¹ and production land availability, as well as climate change) has created a situation in the MGL of accelerating deforestation, resulting serious problems for biodiversity, that stem from forest habitat loss and restricted species migration in the MGL. Further associated with this loss of forests is loss of agroecosystem functionality, including loss of biocontrol, cross pollination capacity and increased impacts of pests and other pathogens. This relationship between the direct and indirect drivers of deforestation is essentially a relational cycle of positive feedback, where increases in any driver creates amplifications in all others. This cycle of worsening and expanding deforestation is expected to continue until the MGL has lost all mature forests on production lands, and cultivation has moved into the forest reserves and biological corridor. This will have immense consequences for the persistence of biodiversity in the MGL and its mammal/bird migratory capacity between ecoregions, as well as the ecosystem services that the helps sustain the livelihoods of local indigenous communities. Government assistance is warranted to help break this cycle by addressing the root causes (i.e. the direct and indirect

drivers of deforestation) of this problem and mainstreaming biodiversity protection measures across indigenous community production activities.

Barriers to be addressed:

13. There are two main barriers to mainstreaming biodiversity loss in KBAs that will need to be addressed by the proposed project. These two barriers relate to addressing the direct and indirect drivers of deforestation. The primary barrier to addressing the indirect driver: 'population growth and land availability', is that persisting challenges with land use and natural resource management plans makes it difficult to improve spatial/land use efficiencies that reduce demand pressures on land and allow for optimized conservation and production outcomes. The primary barrier to addressing the direct driver: 'shifting cultivation and poor fire management', is that little outreach and support is available to milpa farmers to address the unsustainable aspects of their farming system. Furthermore, these two distinct barriers each have different situational contexts within forest reserves and the community zones. This is largely because: (1) the land management regime that governs the two areas is different. That is, the forest reserves are owned and managed by the Forest Department (though joint management with communities can be attained under a concession), and the community zones are owned and managed by the indigenous communities; and (2) the production practices legally allowed in the forest reserves are restricted compared to the community production lands through the Forest Act (as they are considered 'buffer zones' that buffer the extent of production activity ahead of the boundaries to the national parks), whereas in KBA community zones, production activities are guided primarily through the approval of traditional indigenous authorities. Accordingly, the two main barriers to addressing the global environmental problem in the MGL's KBAs, are detailed below within these respective forest reserve and community zone contexts.

Barrier 1: Persisting challenges with land and natural resource management in forest reserves and community zones makes it difficult to improve conservation and production outcomes simultaneously

14. Forest reserves lack defined management plans, and indigenous peoples and local communities have difficulty in acquiring concessionary rights for production activities that promote biodiversity. Broadly across the MGL, forest reserves do not have management plans with set conservation targets, land use arrangements, and associated actions for conserving biodiversity resources and simultaneously developing the sustainable production systems (as permitted by the Forest Act). This makes it difficult to improve efficiencies in reserves for better conservation and production outcomes. Furthermore, they lack concessionary agreements with indigenous peoples communities and/or their affiliate organizations to carry out sustainable production activities. In the

absence of legally established forest management plans and joint-management arrangements with communities, and as a result of growing land pressures outside the reserves, indigenous communities living alongside these protected areas have resorted to periodic illegal cultivation inside the reserves. This cultivation typically uses the 'slash and burn' practice that degrades biodiversity and is prohibited within the protected areas. While the Forest Act does allow for indigenous communities to acquire concessionary rights for activities in the reserves that promote biodiversity (such as agroforestry, eco-tourism, and non-timber forest product harvesting), the legal and administrative process for acquiring these rights are quite complex and not well known to community members. Some non-governmental organizations, such as Yaxché Conservation Trust, have been successful in helping communities to understand their rights to acquiring these concessions and navigating these legal and administrative barriers. Such instances have clearly demonstrated that this approach maximizes forest reserve biodiversity conservation and community production outcomes in comparison to their absence. However, this type of assistance is largely unavailable to most communities neighboring the forest reserve protected areas.

15. In community zones, the indigenous communities lack technical capacity for spatial and land-use planning, which makes it challenging to manage agricultural production without undermining biodiversity. On community lands in KBAs, spatial and land use planning has become increasingly difficult to manage due to population growth and the associated limitations in the availability of farmland. Increasingly, communities are faced with having to evaluate production priorities alongside biodiversity conservation tradeoffs. For example, maturing youth that seek farmland of their own increasingly are faced with either farming on land degraded by slash and burn practices or clearing land for cultivation in the community forests. In the absence of communicated community priorities and action plans to practice stationary conservation agriculture on the degraded land and preserve the community forests, youth are incentivized to farm in the community forests, and in the process degrade the biodiversity within. Another example concerns the role of women's farming activities in land use planning amidst population growth. Women are interested in economic activities which can be facilitated around or near the household. There is a wide variety of activities which women are notably interested in including beekeeping, cocoa and coffee agroforestry with specific focus on value addition. Currently, a few women's group exist which focus on cultural tours showcasing Mayan culture which encompasses gastronomy particularly using corn and Cocoa. However as the village population grows, new farms are established further from settlements, and women engaged in farming have to walk longer distances to get to new farmland. This makes it difficult for them to look after children at home and decreases their overall daily productivity. Special attention will need to be given to the role of women in spatial and land use planning so as to helps them to combine home activates with agricultural work that is proximate to the household and aligns with new 'value adding' activities that promote biodiversity. Community authorities need to have the ability to set biodiversity and sectoral production targets alongside spatial and land use action plans, through a participatory and gender inclusive process commonly referred to as 'integrated landscape management'(ILM). However, creating such a plan increasingly requires having land use and natural resource diagnostic information as well as a spatial representation of the production and conservation activity areas across the landscape by all members of the community. Yet, indigenous communities do

not have access to environmental diagnostic tools, spatial tools, land use, and natural resource planning tools that can help address these challenges. As a result, it is very difficult to issue land and resource access agreements, identify lands for targeted bio-diversity positive production practices and investments, in line with the community production and conservation targets ? thus serving as a fundamental barrier to gender inclusive ILM.

Barrier 2: Little outreach and technical support has been extended to indigenous communities to communicate different approaches and incentives for addressing shifting cultivation

16. Within the forest reserves, the forest department does not offer trainings to communities for agroforestry or NTFP development in line with the Forest Act. If the indigenous communities are able to navigate the legal and administrative process to acquire concessionary agreements for agroforestry or NTFP development inside of the forest reserves, there is no technical assistance provided to them in line with the concessionary arrangement. This is a challenge because often these communities seek to farm cocoa under agroforestry systems, as it provides income diversification and integrates well with other traditional milpa crops. However, cocoa is ultimately not a traditional crop and hence the indigenous communities lack traditional methods for growing, drying and fermenting cocoa. Cocoa can be a challenging crop to grow and process as it is sensitive to disease, pest attack, and has rigorous quality demands from buyers. Furthermore, practices that allow cocoa to promote biodiversity through agroforestry systems also require technical assistance, particularly in the spacing of trees and canopy planning, selection of shade tree species in support for bird/species migration as well as nitrogen fixing capabilities etc. Assembling a system requires a high degree of technical customization to optimize for production benefits and conservation benefits alike. While the forest department does not maintain technical capacity in this space, neither do they provide communities with trainings for concessions. Ya?axche Conservation Trust, and Maya Mountain Cocoa company do have a history of supporting communities in production of biodiversity positive cocoa agroforestry systems, yet their scale is quite limited in the MGL.

17. Within the community zones, the Ministry of Agriculture and local organizations have only a small presence in providing extension services to the indigenous communities - and few address the underlying challenge of shifting cultivation. Currently, within the MGL, extension services (from the Ministry of Agriculture) to farmers are only able to cover a total of 566 hectares. See also paragraph 19 (iii). Ya?axche Conservation Trust works with ten communities in the KBAs, and SATIIM, TIDE, and other indigenous organizations also work with several communities. However, there is broadly a lack of outreach and technical assistance provision to indigenous communities in the KBAs in general. While different approaches and incentives exist for reducing shifting cultivation, little outreach has been extended to communities to communicate their benefits. Population growth has rendered the ?slash and burn? aspect of the milpa farming system unsustainable[12]¹² and detrimental

to biodiversity persistence, yet little attention or solution have been drawn to this in outreach programs. Biodiversity positive production solutions are available to indigenous communities for addressing this problem - both within the traditional set of milpa farming system practices, and through supplemental practices that harmonize well with the milpa farming system. For example, within the traditional milpa farming system, practices that can be promoted above ?slash and burn?, such as ?slash and mulch? and ?soil nutrient enrichment? (nutrient cycling), can preserve soil fertility and ultimately slow down the cycle of shifting cultivation that is driving degradation of biodiversity.[11] However, these practices are more labor intensive than slash and burn, and require traditional community authorities and local service providing organizations to be able to communicate to farmers that the biodiversity outcomes associated with these benefits are greater than then their marginal addition of labor. Addressing shifting cultivation can also be achieved through biodiversity positive production practices that harmonize with the milpa farming system ? such as integrating cocoa and traditional milpa food crop agroforestry systems. Integrating cocoa into the milpa farming system through known agroforestry methods received strong support from consulted communities, and through alignment with a private sector buyer, provides an additional cash incentive to reduce shifting cultivation through agroforestry. However, there is little outreach and to communities that communicate the benefits and incentives of adjusting known farming practices and providing technical assistance for supplemental practices. Few communities have extension support that address biodiversity-positive production within the context of the milpa farming system. Ya?axche Conservation Trust is one organization that is involved with this, however Ya?axche is limited in the number of communities it engages with. Government extension covers a small portion of the MGL; however, it does not specifically address biodiversity-positive production within the context of the milpa farming system. In order to address this barrier, indigenous communities need increased outreach and support for addressing slash and burn practices within their farming system.

Baseline scenario:

18. The Government of Belize acknowledges the above-mentioned barriers and is committed to providing an effective response to overcoming such challenges to mainstreaming biodiversity in the production landscapes of the MGL?s KBAs. Providing an effective response to these challenges is a priority for the country, for which reason it aims to build upon a baseline of production activities in the MGL?s KBAs that hold potential to deliver improved biodiversity outcomes. This involves building baseline activities associated with on the ground programs being carried out by Ya?axche Conservation Trust, the Ministry of Agriculture, and Maya Mountain Cocoa company (MMC).

19. The core baseline activities that the project will build on in the MGL include the following:

(i) Ya?axche Conservation Trust Programs: Ya?axche Conservation Trust is a non-governmental organization that has been involved in conserving biodiversity within protected areas and working with indigenous communities in the MGL since 1998. Ya?axche currently has two main operational programs that the proposed project aims to build on as baseline activities: (1) The protected area management program, and (2) The indigenous community outreach and livelihoods program. This includes approximately 120 families, or approximately 600 people, across 10 different indigenous communities. Ya-axche has a special programme element targeting women and women lead community businesses. Ya-axche assisted three women's groups (Indian Creek Maya Arts Women's group, the Marigold Women's Cooperative Society and the Maya Rose Women's Group) to develop business plans for nature based tourism activities. The protected area management program operates through activities centered around indigenous community-based forest and biodiversity management in collecting information and observations, including metrics regarding unsustainable land management activities, biodiversity, water quality, and fires in protected areas. This operates as part of a mechanism of independent forest habitat monitoring regarding processes of utilization of forest resources and protected area activities. The information guides their administration of indigenous community conservation activities with the Forest Department (promoted through the Forest Act and NPASA) as a counterincentive to unsustainable land management practices occurring inside of protected areas (unsustainable agriculture, illegal logging etc.). The information has also been used for policy and legislation recommendations. The organization privately owns the GSCP and is known for its successful management of the preserve to the extent that it was requested by the Government of Belize to co-manage the Bladen Nature Reserve in 2008, known as the biodiversity "crown jewel of Belize" by the department. The protected area management program covers the GSCP, Bladen Nature Reserve, as well as Maya Mountain North Forest Reserve. The indigenous community outreach and livelihoods program provide MGL indigenous communities with skills, knowledge and information in order to be effective stewards of forest reserves and indigenous community production land. Within the forest reserves this includes promotion of agroforestry, non-timber forest product (NTFP) development, and habitat restoration in line with the Forest Act, over unsustainable activities. Ya?axche provides indigenous communities around these reserves with administrative support for navigating the challenging legal process of attaining agroforestry or NTFP concessionary rights, as well as technical trainings for their effective implementation. On indigenous community production lands, Ya?axche is involved with indigenous community outreach and training programs centered around promotion of climate-smart agriculture, sustainable forest management, and fire management that specifically target indigenous community leaders and groups, farmers, teachers, women and children. Ya?axche's leadership and majority of staff originate from indigenous communities within the MGL and have life-long knowledge of the culture and landscape issues facing these indigenous communities in the MGL. Furthermore, Ya?axche is working directly within the specific indigenous communities identified through predictive modeling (earlier described in paragraph 7) as future hotspots of mature forest loss. The proposed GEF7 project aims to build on this baseline activity by strengthening and scaling its existing programming activities in line with the GEF biodiversity delivery mechanism, "mainstreaming biodiversity in priority sectors". Ya?axche's existing four-year budget their protected area management program and their indigenous community outreach and livelihoods program are considered direct co-

financing to the complimentary proposed GEF7 activity. Ya'axche's annual operating budget is US\$ 1.24 million, and over the period of 2021-2025 will be US\$ 4.96 million.

(ii) Maya Mountain Cocoa Company Cocoa Agroforest Research Program: MMC is a buyer of cocoa from approximately 400 family producers in MGL indigenous communities, including those supported by Ya'axche's indigenous community outreach program. After purchase MMC ferments and dries all cacao at its centralized fermentation and processing facility in the MGL, built in 2016. Throughout discussion with the project proponents, MMC has agreed to establish a 25-hectare demonstration cocoa agroforestry plot within the MMF that focuses exclusively on understanding biodiversity positive cocoa agroforests. The demonstration farm will pilot the proposed project's approach to supporting cocoa production processes following a cocoa-agroforest model. MMC has agreed to establish a new 25 hectare demonstration plot inside of the MMFR and to co-finance the proposed project with an annual budget of US\$ 68,000 annually, or approximately US\$ 272,000 over the course of the four year project lifetime (2021-2025). This budget for this activity is considered direct co-financing.

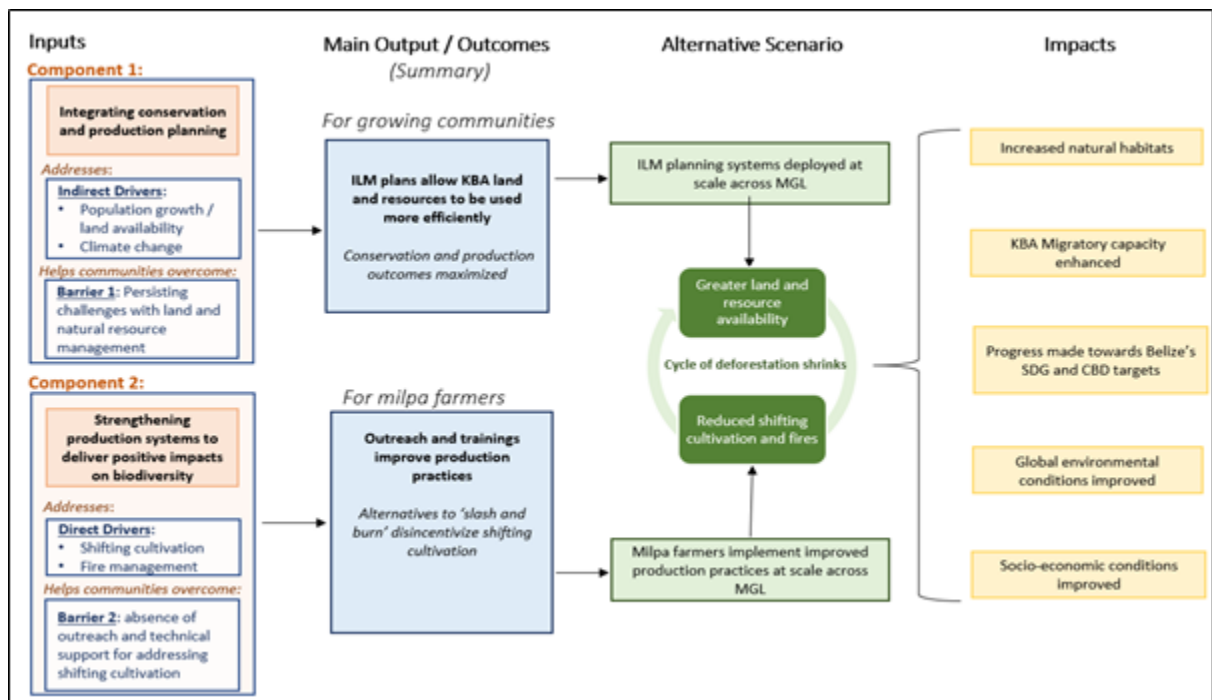
(iii) MAFFESDI Farmer Field School Extension Program: This program involves provision of agricultural training extension program to farmer field school (FFS). Currently, this FFS extension program is small (covering only 566 hectares in the MGL and operating with an approximate annual budget of \$107,000) but apparently in the process of being consideration for scale throughout Toledo by the new governmental administration. The proposed project aims to strengthen and scale this baseline activity, with service provision (training of trainers program) provided by Ya'axche Conservation Trust, in line with the GEF biodiversity delivery mechanism, "mainstreaming biodiversity in priority sectors". The Ministry of Agriculture's existing four-year budget for this activity is considered direct co-financing to the complimentary proposed GEF7 activity. Over the operating period of the proposed project, 2021-2025, this will be US\$ 428,000.

(iv) Forest Department's Reserve Management: The proposed GEF7 project will help the forest department develop management plans for targeted reserves. Currently these management plans are fully managed by the Forestry Department and are updated every 5 years. The proposed GEF7 project aims to strengthen and scale up this baseline activity, with service provision provided by Ya'axche Conservation Trust. The Forest Department's existing four-year budget for this activity is considered "in-direct" co-financing. Given the indirect nature of this co-finance, it is not reflected as official direct project co-finance that will seek agreement letters of signing during project preparation

Proposed alternative scenario:

20. The proposed project will aim to mainstream biodiversity in the MGL's KBAs, by addressing the root causes of biodiversity loss in forest reserves and community zones. The proposed project aims to mainstream biodiversity in KBAs by strengthening and scaling planning and production initiatives inside the forest reserves and indigenous community zones that address the direct, and to the extent possible,[13]¹³ indirect drivers of deforestation and associated biodiversity loss. The proposed project has been conceptually designed accordingly, such that project component 1 addresses the indirect driver of limited land and resource availability by promoting a set of outputs and activities related to improving land use and resource planning, and to reduce human pressure on land resulting from population growth. In support of this, project component 1 sponsors a set of activities that help communities overcome 'Barrier 1' challenges in conservation and production planning through ILM. These activities will seek to maximize land and resource production in the MGL's forest reserves and community zones without undermining or degrading biodiversity. Component 2 addresses the direct drivers: shifting cultivation and uncontrolled fire management - by promoting 'biodiversity positive production practices'[14]¹⁴ in place of unsustainable activities causing biodiversity loss - namely 'slash and burn' cultivation. Component 2 sponsors a set of outputs and activities that will help overcome 'Barrier 2' by strengthening and expanding baseline activities that deliver outreach and technical support to milpa farming communities, enabling them to have lower impacts on biodiversity. Component 2 also gives special attention to the role of women in agriculture and providing trainings that promote their inclusion in value adding agricultural activities that support biodiversity and deliver socio-economic benefits. Finally, project component 3 aims to develop knowledge related to mainstreaming biodiversity in production sectors and share this knowledge throughout a broader set of stakeholders in the MGL - including other companies, NGOs, and development partner programs. Component 3 also includes monitoring and evaluation activities related to the administration of project implementation. All outcomes associated with project components 1 and 2 will contribute directly to Belize's commitment to SDG 15. This project allows for this contribution to be measurable through the aggregate of component 1 and 2 outcome indicators. Furthermore, project design will be refined during project preparation, to align with the CBD's 'Post-2020 Global Biodiversity Framework'[15]¹⁵, the predecessor to the convention's Aichi targets lasting through 2020, once the framework is fully established, presumably in 2021. Like SDG15, contributions to these targets are measurable through the aggregates of outcome indicators for project components 1 and 2. The project outcomes, indicators, and outputs associated with these three components are described in the following paragraphs:

Figure 2: Theory of Change



This Theory of Change is based on the following assumptions:

- ? The Farming communities are receptive to the proposed ILM/land use planning processes
- ? Farming communities are willing to accept and integrate biodiversity sensitive land husbandry practices into their ancestral agricultural practices.
- ? The Ministry of Agriculture is interested and willing to promote biodiversity sensitive land use practice in their farmer field school programme
- ? There are no major changes (rapid increase) in population growth
- ? Absence of additional drivers for deforestation like for example proposals for oil palm plantations

These assumptions will be confirmed and further refined during full project preparation

21. Outcome 1.1: Forest reserves in KBAs conserve biodiversity and promote sustainable production through ILM. This outcome aims to improve land planning and resource management inside the most ecologically important^[16]¹⁶ and vulnerable^[17]¹⁷ protected areas, where currently none exist. While improved resource planning and habitat monitoring will cover the whole of each targeted reserve, priority focus will be given to areas within reserves susceptible to deforestation, or already deforested. In most cases this includes the first 5 kilometers within the reserves that buffer the protected areas from the indigenous community zones (see vulnerability map in Annex A, Figure, 1, map ?(a)?). It should be noted the outputs associated with this outcome are those that were identified at the PIF stage through preliminary consultations that focused on approaches for strengthening the forest reserve management plans. However, during project preparation grant phase (PPG phase), a more in-depth ?needs assessment? for the specific forest reserves will be carried out to ensure that there are no further gaps or higher priority planning needs. If there are, then outputs will be adjusted accordingly. PIF-level consultations identified that GSCP and DRFR are both critical biological corridors that are together fully responsible for connecting the MGL?s highland and lowland ecoregions. Additionally, MMFR is a critical buffer zone with high migratory capacity identified (though not directly connective between protected areas like GCSP and DRFR), and it also has high encroachment vulnerability. These three protected areas: GSCP, DRFR, and MMFR thus will constitute the prioritized focus of Outcome 1.1.^[18]¹⁸ The indicator measuring success of this outcome will be the number of hectares within forest reserves placed under improved land management plans. At a minimum this includes the area of the MMFR, GSCP, and DRFR, which is 51,224 hectares. This amount is also the total area of terrestrial land brought under improved management for conservation and sustainable use and reflects GEF core indicator 1 in Table F. This output will be achieved through the following outputs:

(i) *Output 1.1.1: Gender-inclusive & ethnic-sensitive ILM action plans developed for select forest reserves:* This output aims to develop an ILM plan for the MMNFR, that integrates the forest department?s conservation targets with sustainable production activities (community concessions permitted by the Forest Act). It will build on Ya?axche Conservation Trust?s protected area management program as a baseline activity. The plan developed through this activity will establish key conservation targets (spatial), production targets (spatial), and management rules for the reserve. These gender inclusive ILM plans will be produced in a participatory manner with communities seeking concessionary rights from the Forest Department. The ILM plans will be gender-inclusive and focus on mainstreaming biodiversity measures into production activities in alignment with the forest department?s conservation objectives for the reserve. The project activities responsible for delivery of this output will be designed during project preparation, with technical support from the FAO in

leveraging best practices and proven approaches that have delivered success in similar landscapes in other countries. Support for spatial land use mapping and understanding land use change will be provided by FAO if deemed necessary and desirable during project preparation. FAO will also undertake the FPIC process through a local indigenous people's organization to help ensure this output is created in an equitable and fair manner. Of utmost priority, this management plan will be formally endorsed by the indigenous peoples and local authorities through a formal FPIC process. This process will be carried out by Mayan indigenous peoples organizations such as the Mayan Leadership Alliance, the Toledo Maya Council, or the Sarstoon Temash Institute for Indigenous Management (SATIM) See output 2.2.1.

(ii) *Output 1.1.2: New biodiversity-friendly non-timber forest products (NTFP) policy developed to support ILM in selected forest reserves.* This output aims to strengthen the Forest Act's permission of NTFP extraction within the forest reserves and builds on Ya'axche Conservation Trust's protected area management program as a baseline activity. The guidelines developed through this activity will establish rules surrounding key issues related to the sustainability of NTFP and its alignment with safeguards for biodiversity preservation. This may include: what products are to be targeted as 'harvestable' NTFP, how much of these products can be removed from the reserve on an annual basis, avoidance of NTFP that also serve as food, habitat, or provide other benefits to birds and wildlife etc., the revenue sharing arrangements for indigenous communities, the forestry department, co-managers etc. Importantly, this policy will align with the development of the ILM plan for the reserve. The project activities responsible for delivery of this output will be designed during project preparation, with technical support from the FAO in leveraging best practices and proven approaches that have delivered success in similar landscapes in other countries. FAO will also undertake the FPIC process through a local indigenous peoples organization to help ensure NTFP development plans are created in an equitable and fair manner.

(iii) *Output 1.1.3: Community-based monitoring system designed to support ILM conservation targets in forest reserves:* This output aims to strengthen the forest reserve's community monitoring of biodiversity habitat by strengthening and/or building on Ya'axche Conservation Trust's protected area management program as a baseline activity. This output will help monitor the reserve's conservation targets in line with its ILM plan. This will be carried out, both through activity design and implementation, with strict adherence to both the FAO and GEF Environmental and Social Safeguards, and may strengthen and/or scale community monitoring activities that use innovative technologies that have a proven track record of helping maintain biodiversity in forest reserve production activities (i.e. collecting unsustainable activity data through geotagging etc.). This will operate as part of a mechanism of independent forest habitat monitoring regarding processes of utilization of forest resources and protected area activities. To the extent possible and necessary, this localized monitoring systems for MGL forests reserves will link data harmonization efforts with the National Forest Monitoring System (NFMS), which is currently being designed, and soon to be deployed, as an output of Belize's REDD+ Readiness process. Design of this project output during project preparation will involve collaboration with Belize's REDD+ coordination unit and Forest Carbon Partnership Facility

(FCPF) to scope capacities for linking deforestation alerts with reserve managers. The information will guide the planning and administration of indigenous community conservation activities supported by Ya?axche and the Forest Department, and will not be used for law enforcement.[19]¹⁹ FAO will also undertake the FPIC process through a local indigenous peoples organization to help ensure this output is created in an equitable and fair manner. This will also be done using a gender sensitivity approach to ensure the participation of women in the monitoring system. Of utmost priority, this system will be formally endorsed by the indigenous communities and local authorities at the end of project preparation. With the current environmental and forest protection laws, enforcement is concentrated at the government and department levels; not with local authorities. The municipal authorities do not monitor or enforce environmental and forest regulations, and neither would have the capacities to do so. Therefore, all infractions in this regard are handled by the national authorities. The gender specific monitoring will be integrated in the FPIC process (Output 2.2.1) and the monitoring of its implementation.

22. Outcome 1.2: Community zones in KBAs conserve biodiversity and promote sustainable production through ILM. This outcome focuses on improving indigenous community land use planning within the MGL's indigenous community zone, particularly those that are in KBAs. The indigenous community zone includes production land for agriculture, livestock, and forestry and will focus on developing new spatial land use plans that plan for optimal and sustainable use of natural resources associated with these production activities given the indirect land pressures caused by population growth. This outcome will be prioritized for indigenous communities designated through diagnostic assessments (primarily the Voight 2019 diagnostic) as 'hotspots' for mature forest cover loss, based on their assessed vulnerability. A particular focus will be placed on indigenous communities lying in KBAs, such as those in between GSCP and DRFR, the indigenous community zone in CRFR, next to BCEP, surrounding all edges of the SBFR, and most importantly - in de-reserved regions of the MMNFR.[20]²⁰ This output will be achieved through a participatory process that includes equal opportunity, particularly land and resource access rights, for women and indigenous community members and bolstered by an FAO administered FPIC process through a local indigenous peoples organization. Of utmost priority, these ILM plans will be formally endorsed by the indigenous communities and local authorities at the end of project preparation. The indicator serving as a success metric for this outcome will be 'number of hectares placed under improved land use plans.' The PIF level estimate for this area of indigenous community land and resource planning is approximately 7,000 hectares. This outcome will be delivered through a stepwise series of outputs, further described below:

(i) *Output 1.2.1: Community spatial, land use and resource diagnostic assessments:* This output will build on Ya?axche Conservation Trust's indigenous community outreach and livelihood program as a

baseline activity. As an early project implementation activity targeted indigenous communities will receive technical support for a diagnostic of land and resources pressures on indigenous community associated with population growth (i.e. agricultural production / timber harvesting needs to assure food security, household income growth, energy demands, respective role of women and youth in land use planning etc.) an assessment of natural capital on production lands that can be used to fulfill these demands, and an assessment of biodiversity services and biodiversity mainstreaming opportunities for promotion alongside production activities. This will leverage and promote environmental tool, utilization of spatial tools, land use change maps identified by the FAO during project preparation. Delivery of this output will be carried out by Ya?axche Conservation Trust in close collaboration with indigenous peoples authorities and indigenous leaders, and technical support from the FAO for spatial mapping of indigenous community zone land use, using SEPAL/Collect Earth tools. The indigenous community diagnostic report developed through this output will be formally endorsed by indigenous community authorities and indigenous leaders.

(ii) *Output 1.2.2: Gender inclusive & ethnic sensitive community ILM planning workshop series :* This output will build on Ya?axche Conservation Trust?s indigenous community outreach and livelihood program as a baseline activity. The indigenous community land use and resource planning workshop series will synthesize and validate findings from the diagnostic report produced through Output 1.2.1 with key indigenous community stakeholders involved in management of the production lands (i.e. farmers, herders, household harvesters of indigenous community timber resources etc.). Through this participatory process, a ?vision? for sustainable spatial land use that maximizes forest habitat and wildlife mobility, as well as any other contributions to the health of the KBA identified during project preparation activities, will be created and documented through this output. This includes a sustainable fuelwood management plan based on a spatial approach and harvesting agreement within indigenous community forests. Critically, this output will include ?land user access agreements? documenting equal rights for women indigenous community members and indigenous members. FAO will ensure the FPIC process is carried out for this output through a local indigenous peoples organization. Of utmost priority the activities promoted through this workshop series will be formally endorsed by the indigenous communities and local authorities at the end of project preparation. This Output may include a delivery approach that involves series of workshops depending on the assessed level of achievement that can be attained through each workshop etc. Delivery of this output will be carried out by Ya?axche Conservation Trust in close collaboration with key indigenous community stakeholders, indigenous community leaders and indigenous authorities.

(iii) *Output 1.2.3: Community ILM action plans developed and endorsed:* This output will be generated following the effective delivery of Output 1.2.2, and will build on Ya?axche Conservation Trust?s indigenous community outreach and livelihood program as a baseline activity. It will translate the visionary spatial land use plans and access rights into an indigenous community workplan for achieving the set land use goals and following access rights. The indigenous community workplan, or indigenous community land use action plan, will outline the action items, stakeholders, timeframe etc. These plans will include indigenous community and indigenous leader endorsement of the land use

action plans and access rights so that there is no conflicting understanding in the future as to how they shall operate. FAO will ensure the FPIC process is carried out for this output through a local indigenous peoples organization. Of utmost priority these plans will be formally endorsed by the indigenous communities and local authorities at the end of project preparation. .

Component 2: Strengthening Indigenous Peoples and local communities production systems to deliver positive impacts on biodiversity in KBAs

23. Outcome 2.1: Indigenous Peoples and local communities implement biodiversity-positive production practices in forest reserves This project outcome focuses on addressing the unsustainable shifting cultivation that is encroaching into the forest reserve areas from indigenous community land and causing a loss of forest habitat and migratory capacity. Per the legislation laid out by the Forest Act, this shifting cultivation is by all accounts not permitted in Forest Reserves. The only production activities that are permitted to indigenous communities are agroforestry NTFP harvesting and habitat restoration (usually in support of eco-tourism), which are known to be associated with improved biodiversity outcomes when compared to traditional farming systems. Hence this outcome seeks to incentivize these biodiversity positive production practices promoted by the Forest Act over the unpermitted shifting cultivation in the reserves. The proposed project will work with indigenous communities that have expanded into the forest reserves and are currently practicing shifting cultivation, as well as indigenous communities surrounding the sections of the reserves deemed highly vulnerable[21]²¹ to future encroachment. The indicator serving as a success metric for this outcome will be ?number of hectares improved through agroforestry and NTFP practices.? The PIF level estimate for this area is approximately 2,000 hectares, targeted primarily within the MMFR, and also the GSCP. This outcome will be delivered through the following two Outputs, further described below:

(i) *Output 2.1.1: Support to Indigenous Peoples and local communities in acquiring agroforestry and NTFP concessionary rights in forest reserves* . This output seeks to support indigenous community farmers practicing shifting cultivation in the forest reserves overcome the administrative and procedural tasks associated with acquiring a license for an agroforestry or NTFP concession, per the legislative terms of the Forest Act. The activity will ensure that new concessions are facilitated following the appropriate procedures and will link as necessary with established land and resource plans for forest reserves provided through Output 1.1.1, Output 1.1.2, Output 1.1.3. Ya?axche Conservation Trust has a demonstrated history of helping indigenous communities through the administrative process of acquiring agroforestry and NTFP concessions, and this output will build on Ya?axche Conservation Trust?s indigenous community outreach and livelihood program as a baseline activity and protected area management program accordingly. FAO will ensure that the FPIC process (Output 2.2.1) will cover this process .

(ii) *Output 2.1.2: Implementation of Culturally sensitive biodiversity positive production practices in line with forest reserve concessions:* This output seeks to provide indigenous communities with technical assistance on carrying out the agroforestry concessions, NTFP concessions, and habitat restorations in line with improved approaches for mainstreaming biodiversity into these activities. This set of activities will be identified and designed with a gender approach during project preparation. Cocoa agroforestry management trainings aimed at promoting biodiversity and coordinated at the landscape level (i.e. in alignment with Component 1's management plans for natural mature forests and secondary forest patches) will be a core activity set that contributes to this output. Through the research partnership established with MMC (resulting from Output 3.1.2), cocoa agroforestry practices will be studied to understand how best practices relate to localized native biodiversity in the MGL as well as the incentive mechanisms that MMC can leverage to promote these practices at scale. FAO will ensure the FPIC process is carried out for this output through a local indigenous peoples organization.

24. Outcome 2.2: Indigenous People's and local **communities implement biodiversity-positive production practices in community zones to support income generating opportunities for both men and women** . This outcome aims to improve ecological management on indigenous community farms and improving their forest habitats and migratory capacity. The associated activities will target the MGL's indigenous community zone, especially those that are in KBAs. This outcome seeks to make cultivation activities stationary through promotion of agroecological farming practices that contributes to soil nutrient regeneration and decreases the need for shifting cultivation into more fertile forested land areas. In the process this will slow down, and attempt to stop, the cycle of shifting cultivation, reducing the deforestation rate of mature forests and aiding the permanent regeneration of secondary growth forests. Also, the outcome seeks to improve community awareness of poor fire management techniques, and improved options for addressing this when uncontrolled fires typically cause damage - during the dry season. This outcome will target the same communities as Outcome 1.2, which includes a prioritized focus on indigenous community zones within the KBAs. The indicator serving as a success metric for this outcome will be "number of hectares improved through biodiversity positive production practices." The PIF level estimate for this area is the 7,000 hectares (note that this is the same coverage as activities in Outcome 1.2) of community zone managed by Ya'axche Conservation Trust, plus an additional 566 delivered through the Ministry of Agriculture's farmer fields school extension program, for a total of 7,566 hectares associated with this outcome. This amount represents the area of landscapes under improved practices (excluding the production in protected areas), and thus represents the GEF's 4th core indicator in Table F. This outcome will be delivered through the following two Outputs, further described below:

(i) *Output 2.2.1: Culturally and gender sensitive trainings delivered to Indigenous Peoples and local communities promoting biodiversity-positive farming and forest habitat conservation on community lands:* During project preparation (PPG phase) an inclusive and participatory agroecological milpa farming module will be put together, which will constitute a set of regenerative agriculture practices are harmonized with the traditional milpa farming system (including agroforestry, beekeeping, inga alley cropping, rotational cropping etc.). Ya?axche Conservation Trust, who has a significant amount of indigenous community knowledge and sensitivity will put this inclusive and participatory module together, with technical support provided as needed from the FAO. This output will focus on the delivery of this inclusive and participatory farming module to targeted communities, buy building on *two* baselined activities: (1) Ya?axche Conservation Trust?s indigenous community outreach and livelihood program; and (2) MAFFESDI?s government extension FFS program. Through the former, Ya?axche will strengthen and scale its existing program through delivery of the agroecological training module. Through the latter, Ya?axche Conservation Trust will administer a training of trainer (ToT) program with MAFFESDI?s government extension FFS program such that the inclusive and participatory agroecological milpa farming module is incorporated more broadly into MGL community zone production landscapes outside of those Ya?axche directly works ? thus achieving greater scale for this output. These trainings will help farmers mainstream biodiversity measures in their production practices by reducing shifting cultivation and associated mature and secondary forest loss, and also incorporate on-farm farming practices that may assist with wildlife mobility (such as the use of agroforestry over full sun farming). Additionally, the training program will incorporate best practices and lesson learned from the project?s research partnership with MMC, described in Output 3.1.2. Delivery of this output will be carried out by Ya?axche Conservation Trust. FAO will provide technical review and recommendations for the inclusive and participatory agroecological milpa farming module produced as a part of this output.

(ii) *Output 2.2.2: Strengthened market linkages through action-learning processes between small/scale farmers (specifically targeting women, youth, Indigenous Peoples and local communities) and local and regional markets, to support conservation through biodiversity-friendly production practices.:* Practical action-learning activities on agriculture / NTFP value addition and market access will be provided to women members of the targeted communities using a gender sensitive approach. This includes practical trainings on additional agricultural processing methods or production techniques for agricultural products typically managed by women (vanilla, spices, honey) and will provide an additional stream of income and hence reduce the need for additional deforestation within the MGL. This will include practical pilots on processing of NTFP and may increase the understanding that forests provide the raw material for value added production, hence incentivizing its preservation. Special attention will be given to ensure market access to locally produced products. Specifically, trainings will be delivered in line with the practices promoted within the inclusive and participatory farming module (Output 2.2.2) and through alignment with the project supported NTFP policy and development plans (Output 1.1.1).

Component 3: Knowledge Sharing and Project M&E

25. **Outcome 3.1: Project Knowledge is managed, systematizes and disseminated.** This outcome will aim to disseminate information related to project components 1 and 2 produced during the project with stakeholders more broadly. This outcome will be attained by mainstreaming this knowledge to other stakeholders in the MGL, who are involved with land management, but have not had the opportunity to benefit from the project, including, private sector firms, other civil society organizations, development partner projects, other divisions of government outside MAFFESDI etc. These stakeholders will be identified during project preparation. It will also seek to develop and mainstream new approaches identified through the research partnership with MMC, that are beneficial to the project development objective, and developed through the into the core of the program.

(i) *Output 3.1.1: Multi-stakeholder (including private sector and indigenous peoples) roundtables to exchange and recover knowledge about sustainable traditional practices in food systems:* The stakeholder roundtables will include a series of indigenous community presentations and discussion groups to share knowledge related to best practices in production (including the developed inclusive and participatory agroecological milpa farming module), lessons learned from land planning, the inclusion of women and youth in land use planning. Special attention will be given to integrate traditional knowledge in indigenous people food system. It will also give indigenous communities a platform to address private sector companies to discuss issues related to watershed management, forest management and other topics related to sustainable land use and mainstreaming of biodiversity in their production activities. This may include (will be determined through PPG phase scoping) of a farmer exchange program whereby groups of farmers are given the opportunity to visit other farmers to learn about improved production techniques. Delivery of this output will be carried out by Ya?axche Conservation Trust.

(ii) *Output 3.1.2: Cocoa agroforestry research partnership established with Maya Mountain Cocoa Company:* This research partnership between MMC and Ya?axche Conservation Trust will help determine the best practices in cocoa agroforestry and also explore new approaches for mainstreaming biodiversity in this model. While the terms of this partnership will be determined through the project preparation process, this may entail appropriate spacing of shade cover trees for cocoa, ideal selection for trees that are best used for cover of migratory bird or other species cover, whether these shade trees can support food provision for migratory species etc. As these findings are generated throughout the project Ya?axche Conservation Trust will incorporate them into their inclusive and participatory training modules to indigenous communities and agroforestry concessions. It has been agreed during project identification that this partnership will be formalized through a memorandum of understanding (MoU) signed during preparation indicating any changes to project outputs. This MoU will mark the beginning of the partnership and also include signing of GEF official co-financing letters. The entity responsible for delivery of activities associated with this output will also be identified during project preparation, once the exact deliverables are agreed upon.

26. Outcome 3.2: Project Monitoring & Evaluation strategy informs the project for management and decision making. The activities that this outcome will fund include:

(i) *Output 3.2.1:* Delivery of terminal evaluation.

(ii) *Output 3.2.2:* Monitoring system of the global environmental benefits, co-benefits and costs of biodiversity positive production practices

Alignment with GEF focal area:

27. The proposed project aligns directly with the GEF7's biodiversity focal area through the entry point of 'maintaining globally significant biodiversity in landscapes' (BD-1-1). The proposed project contributes to this goal by helping to mainstream improved biodiversity outcomes, mainly in the agricultural sector, following the CBD guidance to the GEF. The project area includes the Key Biodiversity Areas (KBAs) within the MGL, where biodiversity loss is being driven by deforestation – specifically within the forest reserves that serve as buffer zones to national parks and within the KBA community zones. Accordingly, the project design, aligns fully with the BD-1-1 activity suite defined in the GEF7 programming directions. Project component 1 aligns directly with the 'spatial and land use planning' activity set, by developing ILM plans that integrate biodiversity conservation objectives with sustainable production objectives in spatial and land use planning. Project component 2 aligns directly with the GEF7 programming instructions activity set 'improving changing production practices to be more biodiversity positive' activity set. As such, the proposed project aims to improve decision-making, particularly around land use and natural resource management, for the integration and optimization of biodiversity conservation and sustainable production simultaneously, and provides trainings to embed biodiversity considerations in agricultural production practices. This approach was put together through extensive consultations with indigenous organizations and communities as well as government representatives. Beyond the project area the proposed project seeks to generate impacts at the scale necessary to advance progress in achieving the related Aichi Biodiversity Targets, as well as SDG 15.

Incremental/additional cost reasoning and expected contributions from the baseline, the GEF7 and co-financing

Table 2. Incremental cost reasoning and expected contributions from the baseline

Problem	Business-as-usual approach	Incremental Cost Reasoning
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<p>Loss of forest habitat and migratory capacity within the MGL</p>	<p>Ya?axche Conservation Trusts? two programs (described earlier in baseline section) are critical activities that are aligned with addressing the problem facing biodiversity in the MGL. In their business as usual approach the organization is working with 10 indigenous communities in deforestation hotspots, two forest reserves, and the main biological corridor, GSCP. However, analysis of this baseline indicates that their approach can be significantly strengthened through helping to strengthen and scale their work to account for improved approaches to land management in reserves and indigenous community zones, as well as increasing the number indigenous communities they work with. Ya?axhce operates leanly, and cost-efficiently with an annual operating budget of US\$ 1.24 million per year.</p>	<p>The proposed GEF7 project aims to build on this baseline activity by strengthening and scaling its existing programming activities in line with the GEF biodiversity delivery mechanism, ?mainstreaming biodiversity in priority sectors?. Ya?axche?s existing four-year budget their protected area management program and their indigenous community outreach and livelihoods program are considered direct co-financing to the complimentary proposed GEF7 activity. Ya?axche;s annual operating budget is US\$ 1.24 million, and over the period of 2021-2025 will be US\$ 4.96 million, to which the project will provide a an additional costing increment as detailed in the results framework table in Section B.</p>
	<p>Ministry of Agriculture?s farmer field school program is currently operating throughout the MGL. They are providing trainings that are based off of the national agricultural program but not specifically tailored to the livelihood needs and heritage of the Milpa farming system. In a BAU case scenario this activity continues and does not address the unique biodiversity or cultural aspects of the MGL, and thus indigenous communities continue unsustainable farming practice.</p>	<p>The proposed GEF7 project aims to build on this baseline activity through promoting a biodiversity positive productions inclusive and participatory training module for farmers. This module will be integrated into the Ministry?s farmer field school operation through a training of trainer approach administered by Ya?axche Conservation Trust. GEF7 resources will be co-financed with Ministry of Agriculture?s 4 year budget total within the MGL area as \$428,000.</p>
	<p>Maya Mountain Cocoa (MMC): MMC?s baseline operation include the demonstration plot for innovative cocoa agroforest production.</p>	<p>The proposed GEF7 project will support this baseline activity to ensure that its best practices are mainstreamed into the project and across the relevant stakeholder farming cocoa within the MGL. MMC has agreed to establish a 25-hectare demonstration cocoa agroforestry plot within the MMF that focuses exclusively on understanding biodiversity positive cocoa agroforests. The demonstration farm will pilot the proposed GEF7 project?s innovative approach to supporting cocoa production processes following a cocoa-agroforest model.</p>

Global Environmental Benefits:

28. As deforestation leads to the de-stabilization of the MGL's capacity to support biodiversity, the proposed project will aim to address the root causes of the problem to generate **global environmental benefits at scale**. As a primary measure, the proposed project activities will deliver global environmental benefits (GEBs) aligned with the biodiversity focal area. In the process of addressing the direct and indirect drivers of deforestation, about 4,519,195 MTCO_{2e} of GHG emissions will be avoided through protection of threatened tropical rainforest habitat. A summary of these contributions as GEF7 core indicator metrics are summarized in Table F. Through this project a large area will be targeted for improvement across the MGL. Approximately 57,425 hectares will be targeted for improvement through better land use planning and natural resource management through component 1 (Core Indicators 1 and 4). Additionally, 556 hectares will be targeted for improvement through promotion of biodiversity positive production practices from component 2 (Core Indicator 4). Through component 3 the project will aim to bring even greater scale to this by mainstreaming project knowledge for uptake amongst other stakeholders within the MGL. These global environmental benefits are quantified and reflected in Table F.

Outcome	Output	Description	Community Zones (ha)	Forest Reserves (protected areas) (ha)
1.1	1.1.1, 1.1.2, 1.1.3	ILM in forest reserves (protected areas)	0	51,224
2.1	2.1.1, 2.1.2	Biodiversity-positive production practices in forest reserves (protected areas) - i.e. the agroforestry work in MMFR	0	2,000 (Included in the 51,224 hectares, above)
1.2	1.2.1, 1.2.2, 1.2.3	ILM in community zones	7,000	0
2.2	2.2.1, 2.2.2	Biodiversity-positive production practices in community zones (Indigenous Peoples and local communities)	566	0

Innovation:

29. The proposed project will be innovative for Belize in several ways. First, the project's promotion of new monitoring technologies and linkages with the NFMS is a key innovation for Belize when it comes to community based forest habitat monitoring activities associated with Output 1.1.3. On the ground technology innovations that assist in the incident geotagging process (motion triggered cameras, drones etc.) represent new an innovative technological approach to CBNRM that has not been widely promoted before in Belize. Furthermore, the project's alignment with the national forest monitoring system developed by the REDD+ readiness / additional finance projects are also key to linking this process with national carbon accounting and GHG inventory management systems. The alignment with SEPAL and Collect Earth software is particularly innovative in that this will be the first project to fully align with deforestation alerts provided by these systems. Thus in addition to technology innovation, this project also support new innovative systems for sharing of this forest monitoring information, helping project area and national level outcomes simultaneously.

Sustainability:

30. This project has been designed to sustain itself in the future beyond project funding. With respect to component 1, the Forest Reserve management plans will set the basis for future iterations of management plans to be developed. This is particularly relevant with respect to project component 2. The trainings that are provided through project Output 2.2.2 will be institutionalized into the traditional milpa farming approach for targeted indigenous communities, and broadly amongst the diverse set of stakeholders that are additional beneficiaries to the project. Ya'axche will use this inclusive and participatory farming module for the provision of its trainings carried out through its two program's baseline activities post 2025. MMC, and MAFFESDI will have this training module update their programs (MMC's future microfinancing cocoa agroforest programs and MAFFESDI's FFS trainings), which will carry out as a continuation of their strengthened baseline post 2025 as well.

Potential for scale up:

31. The project holds potential for scale up within the MGL and more broadly across other production and protected area landscapes. The project holds potential for scale up within the community zones. The development of the inclusive and participatory farming module produce in Output 2.2.2 will serve as a clear set of farming activities for milpa communities that can easily be

financed by additional perspective providers of funding. For example, if the project is positive and demonstrates enthusiasm amongst stakeholders, Output 2.2.2 is a component that the government could easily scale through its MAFFESDI extension services, or through other donor funded projects. The output is applicable to farming groups outside of the MGL that also consist of a milpa farming heritage that exist in landscapes with similar agroecological characteristics. The forest reserve outputs associated with Outcome 1.1. are also widely applicable to any other forest reserve in this country, through the legal harmonization of the forest act, allowing for these activities to be easily scaled into reserves not targeted by this project, including those outside of the Toledo district.

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[1] With a per capita income of US\$4,906, the World Bank considers Belize an 'upper-middle income' country (WB Open Data 2020)

[2] The country does not contain 'primary' or 'virgin' broadleaf forest due to its history of ancient land use practices. Areas that have not been cleared since 1980 are referred to in this PIF as 'mature forests' instead of 'primary' or 'virgin' forests.

[3] Local terminology that is recognized by Belize's forest department, though not a designated as a political region of the Toledo district

[4] According to Koppen-Geiger climate classification, 'af'

[5] Note that the area of project intervention only concerns the terrestrial portion of the MGL area outlined in Figure 1

[6] Calculation based off of Forestry Department data for PA spatial coverage, IBAT KBA coverage of MGL, KBA/PA overlap estimate

[7] Covering protected habitats in Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, and some southern states of Mexico

[8] Particularly the American Restart (*Setophaga ruticilla*), Wood Thrush (*Hylocichla mustelina*), Magnolia Warbler (*Setophaga magnolia*), Common Yellowthroat (*Geothlypis trichas*)

[9] It should be noted that extreme weather events, such as hurricanes and floods have also contributed to forest loss

[10] To a much lesser extent infrastructure development, housing, and illegal logging, and are drivers as well

[11] Again, to be confirmed and validated at a local level within the communities during project preparation.

[12] While 'slash and burn' practices were once considered sustainable under conditions of low population density, recent population growth increases have placed increased demands on land leading to reduced regeneration time for land under fallow (process described earlier in the description of shifting cultivation in the MGL, paragraph 9), driving an associated loss of biodiversity (microbial, fauna, and flora 'described in paragraph 7).

[13] i.e. there is little that can be done in this project regarding eliminating climate change and population growth

[14] Defined here as "production practices that are associated with the generation of positive biodiversity outcomes and harmonized with the milpa farming heritage"

[15] The term "post-2020 global biodiversity framework" is used in the existing CBD documentation as a placeholder, pending a decision on the final name of the framework at the fifteenth meeting of the Conference of the Parties.

[16] In terms of the protected areas' ecological role in the MGL (i.e. namely biodiversity resources, migratory capacity, and ecosystem services)

[17] In terms of vulnerability to encroachment and associated deforestation (see vulnerability map in Annex B, Figure, 1, map "(a)")

[18] It should be noted that CRFR is also a reserve of high value for targeting with this component, however due to challenges with indigenous peoples disagreement over a future management approach, this park has been omitted for this component at PIF stage.

[19] With the current environmental and forest protection laws, enforcement is concentrated at the government and department levels; not with local authorities. The municipal authorities do not monitor or enforce environmental and forest regulations, and neither would have the capacities to do so. Therefore, all infractions in this regard are handled by the national authorities.

[20] Situation pertaining to these areas for their prioritized selection detailed earlier in paragraph 7

[21] Vulnerability will be assessed during project preparation according to the Voight, 2019 report, as well as consultative interviews conducted during project preparation that estimate expansion risk

1b. Project Map and Coordinates

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

See the country and project maps attached in Annex A

2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

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

32. The proposed project will engage indigenous peoples and local communities, civil society organizations, and private sector entities. These stakeholders will be engaged as follows:

(i) *Local indigenous communities*: this group of project stakeholders is considered to be the target beneficiary group of stakeholders. Every output associated with project components 1 & 2 targets this group. Through delivery of Outputs 1.1.1 to 1.1.4, and Outputs 1.2.1 to 1.2.3, the terms for forest reserve management will be approached to benefit the livelihoods of the local communities in addition to just providing increased biodiversity gains. These components will directly involve communities in the consultations for the improvement of forest reserve management plans such that critical gaps between the existing legislation and community needs are addressed in their favor. The project will directly involve the communities in forest reserve buffer zones and in and community zones in the execution of the improve land use planning and NRM management plans. The project will convene workshops where community members, farmers, traditional authorities and women's organizations meet to understand the biodiversity and degradation challenges in their community zone, measures they can take to address the problem, and receive access to land for improved biodiversity positive sustainable management.

(ii) *Civil society organizations (CSOs)*: Local non-governmental organizations will be engaged in the proposed project through component 3. While CSOs are not considered to be a primary beneficiary of the project, their importance as a stakeholder is still greatly acknowledged. Ya'axche Conservation Trust is not the only organization working with indigenous communities in the MGL. Other organizations, such as TIDE, PACT and women's groups and cooperative, are also key partner CSOs that maintain a presence in the MGL community support initiatives. While the project does not contain enough budget to support these organizations with direct support in components 1 and 2, these organizations will be engaged in the stakeholder roundtable events that take place as a part of Output 3.1.1. Through these activities, these CSOs will learn how they can promote biodiversity positive cocoa-agroforest operations to improve their support to cocoa value chain producers, mainstream improved production practices into training programs with Milpa communities in a culturally sensitive way, and cut through the complex rules and formalities associated with acquiring agroforestry and NTFP concessions for indigenous communities. With this set of understandings and guided approach, CSOs in the MGL participating in the component 3 activities will be able to mainstream these activities into their programs.

(iii) *Private sector entities*: As a result of Output 3.1.2 the proposed project's research partnership with MMC will help the company promote improved cocoa agroforest approaches across its value chain, both inside the MGL and beyond. In addition, through Output 3.1.1, other private sector entities operating in the MGL (such as banana companies, vanilla farms etc.) will have the opportunity to engage in conversations with indigenous community member representatives and provide feedback and response on approaches for improved land management systems. This is an opportunity for these companies to understand their extended impacts on indigenous community agricultural production (i.e. through Ya'axche's presentations on community environmental and NRM diagnostic assessments produced through Output 1.2.1.). Thus, these companies will become a key stakeholder for providing consultative inputs into the participatory land use planning process and recipients of indigenous community recommendations for their own land management improvements.

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).

33. The proposed project will include gender-responsive measures to ensure gender equality. Gender equality will be addressed through following measures:

(i) *Closing gender gaps in access to and control over natural resources*: Through delivery of Output 1.2.2 and Output 1.2.3, women will be involved in the participatory land use planning workshops that will focused on looking at maps of their indigenous communities, and receiving user rights from their community leaders, and other traditional authorities, for the management of forest reserves and community production land. Women play a smaller role in agriculture but the increasing population and distance to farms creates difficulties for women to combine household duties with agricultural activities. As such their participation in workshops will allow women to voice key concerns and develop robust solutions. As a condition of participating in the workshop, traditional Maya authorities will need to acknowledge beforehand that they will agree to prioritize land allocation and land use planning equally amongst men and women. This can be done through illustrating the challenges women face and the relative impact on their livelihood. This will help close the gender gaps with respect to women's access to natural resources. Ya-ache maintains a gender database showing to what extent women and men are involved in different activities. This will be researched further in a comprehensive gender analysis in the PPG phase. The current statistics show that women are mainly engaged in activities around their homes (including ecotourism) while forestry, agroforestry and agricultural activities are the domain of men..

(ii) Improving women's participation and decision-making: Through delivery of Output 1.2.2 the workshops will give women an equal role in discussing the types of production practices that the farming indigenous communities within the municipality will adopt. Women, while being permitted to, do not usually hold leadership positions in Mayan societies and can limit their decision-making abilities. However, they are allowed to vote in village elections and therefore their perspective should be captured whether individually or as a specific group or cooperative. Their participation in these workshops will also enable them to have equal say in decision making regarding land use planning.

(iii) Generating socio-economic benefits for women: Through delivery of gender sensitive value-added agriculture and NTFP trainings targeting women in Output 2.2.3, women will achieve higher incomes through the output's promotion of strategic product development, business plan development, marketing, market source, pricing strategies. It should be noted that as agricultural production extends further into forest areas, this involves longer distances for women to travel when tending to agricultural activities. This is a problem because women spend more of their time in transit, away from their children. The promotion of value added crops that can be produced locally means for women that it will also improve their productivity, through reduced travel times.

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; Yes

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.

34. While the MGL has few private sector firms, the proposed project will engage one private sector agribusiness in the project activities. As a result of Output 2.1.2 findings from the research partnership will be mainstreamed into the project's delivery of Biodiversity positive production trainings. Deployment of these innovative production practices with Ya'axche's support will have the potential to scale within the MGL, allowing for a greater income generating opportunities for the MGL's cocoa farmers and a greater supply of sustainably produced cocoa for MMC to purchase and bring to international markets.

5. Risks to Achieving Project Objectives

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)

35. The proposed project acknowledges that there are risks to implementing this type of project. These risks are listed in the table below, alongside their assessed risk level and corresponding risk mitigation measures:

36. Risks to the Project

Risk	Level	Mitigation Measures
<i>Climate change:</i> climate change adversely affects productivity of farmland as dry seasons become longer and rains become more erratic.	Moderate	<p>The climate risk of the project is moderate, on a scale of low, moderate, high, and very high. Climate Change is expected to negatively impact the MGL in the future, this threat is considered to be more severe at a time that is beyond the 2021-2025 implementation timeframe. Nevertheless, Climate Change risks to the project, in particular those associated with indigenous community farming, will be incorporated into the inclusive and participatory milpa farming module developed during the PPG phase and delivered through Output 2.2.2.</p> <p>A full climate Screening for this project is included in the Documentation section.</p>

<u>Chemical products:</u> as farmers' incomes rise from livelihood improvements, chemical fertilizers, pesticides, and herbicides will become more affordable, and farmers may choose to abandon biodiversity-positive production practices in favor of chemical approaches to farming	Medium	While the project does acknowledge the attractiveness of chemical fertilizers, pesticides, and herbicides as both a barrier and a risk, this will be mitigated throughout the course of the project in the land use planning workshops, delivered through Output 1.2.2 and the biodiversity-positive production practices trainings to cooperative members in Output 2.1.2.
<u>Arrival of new agribusiness:</u> The MGL is an attractive landscape for production of commodities associated with deforestation, in addition to cocoa, this include palm oil, rubber etc. It is possible that as global demand for these commodities rise, new agribusiness companies arrive in the MGL and attempt to deforest community zones and forest reserves.	Low	For forest reserves, this risk will be mitigated through Output 1.1.2 that focuses on new development of forest reserve management plans. These plans will be developed exclusively for the purposes of buffering indigenous communities and not support agribusinesses with making development plans for the reserves. The only exception to this may be with the community activities that are supported by MMC. Furthermore, amidst the comprehensive managements plans, rules will be incorporated into management plans, in line with the forest act, that only grants agribusiness opportunity to work in forest reserves through project approved community activities ? such as those promoted by the project and MMC. On community lands, through this risk is well mitigated by community ownership of lands.
<u>Political Risks:</u> Changes in political circumstances and government priorities	Low	Broad stakeholder engagement throughout the project preparation and the continuation of this engagement during the implementation will ensure continued political support for the project. Furthermore, the Toledo district has a special governance mechanism ?consejo de alcaldes? which may serve as a safeguard against ad-hoc policy changes.
<u>COVID-19 situation in MGL</u>	Low	During the project implementation, World Health Organization and Belize Government measures will be used in the fight against COVID-19. On communication and awareness raising on the prevention of health risks, project will reiterate that the population must continue to wear masks in public places, use hydro-alcoholic gels and respect the social distancing measures. Executing partners will be informed for the integration of sensitization of communities on COVID-19 prevention in their activities. All project workshops will be conducted in line with the ministry of Health's Guidelines on the developing COVID-19 situation.

COVID-19 Considerations:

37. The project will provide considerations for Belize's attempts to address COVID-19. In light of the ongoing global COVID-19 pandemic, the ILM workshop gatherings will only convene according to the guidance and instructions for gatherings in line with the rules and procedures set forth by Belize's Ministry of Health. If the Ministry of Public Health discourages meetings of this kind, then this project Output may be delayed until epidemiological conditions permit them to start again. If necessary, these workshops may be leveraged to also disseminate information about COVID19 measures, both broadly and/or with specific focus on pertinent measures related to any project outputs. These ILM workshops may also be used for targeted messaging on COVID-19 to indigenous populations as it has been noted that they are particularly vulnerable given lack of access to health services and often excluded from messaging systems that seek to target mainstream society and culture. If needed, FAO will also undertake the FPIC process to help ensure this output is created in an equitable and fair manner.

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.

38. FAO will be the GEF Implementing Agency, responsible for the implementation, monitoring and evaluation of the Project in compliance with FAO and GEF guidelines. The GEF Executing Agency (national implementing partner) will be the Ministry of Sustainable Development, Climate Change and Disaster Risk Reduction. The Government of Belize has identified Ya?axche NGO as the pre-selected service provider for the project administration. The Project implementation arrangements will be further defined during the PPG phase.

39. Coordination with other relevant GEF- financed projects and other initiatives: The project will coordinate with other GEF-financed projects with the objectives of identifying opportunities and facilitate mechanisms to achieve synergies. This collaboration will be undertaken through: i) informal communications between GEF Agencies and executing partners of other programs and projects; ii) annual coordination meetings; iii) specific meetings on technical matters; iv) meetings and activities to exchange experiences and lessons.

40. The project will explore collaboration mechanisms, seek synergies, and coordinate actions to avoid duplication of efforts with the following ongoing and upcoming initiatives from FAO and other agencies:

41. *Integrated Management of Production Landscapes to Deliver Multiple Global Environmental Benefits* (UNDP ? GEFID 9796) with the objective of mainstreaming biodiversity conservation in productive landscapes in Belize.

42. *Support to Eligible Parties to Produce the Sixth National Report to the CBD (LAC)* (UNDP - GEFID 9821) promoting the development of sectoral planning frameworks for sustainable use of biodiversity and conservation at a country level (Regional project including Belize).

43. *CSIDS-SOILCARE PhaseI: Caribbean Small Island Developing States (SIDS) multicountry soil management initiative for Integrated Landscape Restoration and climate-resilient food systems* (GEF ID 10195). Regional GEF project which has field activities only in the north of Belize. The objective of the project is to Strengthen Caribbean SIDS with the necessary tools for adopting policies, measures and best practices and support review of legal and institutional frameworks to achieve Land Degradation Neutrality LDN and Climate Resilience.

44. *GEF Global Wildlife Program PFD* (GEF ID 10200) which aims to promote wildlife conservation and crime prevention for sustainable and resilient development.

45. *Resilient Rural Belize* (IFAD - GCF) with the objective of increasing resilience of smallholder farmers to the negative consequences of climate change on the yields of key agricultural commodities for Belize.

46. During the PPG phase a special effort will be made to identify other emerging initiatives and to explore possibilities for cooperation.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments 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

47. **With the institutional arrangements described in paragraph 41, the project will maintain consistency with national priorities.** The institutional arrangements allow for the PMU to

ensure that the project is designed and carried out in accordance with MINEPDED's national priorities, policies, and national programs. The project's Steering Committee at the national level, including MINEPAT, MINADER, MINFOF, NOCC and others, will ensure that the project is also carried out with consistency to the national priorities and commitments overseen by these ministries.

(i) National Protected Area System Act (NPASA): The main objective of this act is to promote long-term conservation, management, and sustainable use of Belize's protected areas, but it also seeks to ensure maintenance of genetic diversity and the diversity of species and habitats. The Act establishes the National Protected Areas Advisory Council, which shall, among other things, prepare at least every five years the National Protected Areas System Plan. As such, this project aligns and supports this main objective through provision of new management plans (delivered through Output 1.1.2) for the MGL's forest reserve protected areas where none currently exist. In cases where reserves do have existing forest reserve management plans the project will strengthen them (through output 1.1.1, and 1.1.2). Additional strengthening of management plans will be provided through community-based monitoring support (provided through output 1.1.3).

(ii) National Biodiversity Strategy and Action Plan (NBDSAP): The NBDSAP framework is designed to achieve the National NBDSAP Vision, through five thematic areas: mainstreaming biodiversity, reducing pressures, protection, benefits, and implementation. The thematic areas that this project aligns with most directly include the first two, mainstreaming biodiversity and reducing pressures on the MGL landscape. As the National Focal Point for the Convention on Biological Diversity (CBD), the Forest Department, under the Ministry of Sustainable Development holds responsibility for the mainstreaming and coordinated implementation of this NBSAP, through the Biodiversity office. As a signatory of the Convention on Biological Diversity (CBD), Belize also has a commitment to ensuring that the National Biodiversity Strategy and Action Plan covers: conservation of biological diversity; sustainable use of the components of biological diversity; fair and equitable sharing of the benefits arising from the utilization of genetic resources

(iii) REDD+ Readiness: The proposed project will maintain consistency with Belize's REDD+ Readiness process. Specifically, the proposed project will align with component 2 of Belize's Readiness Preparation Package (R-PP), which focuses on "Mainstreaming forest conservation measures into different production sectors of the economy". The project will align with this, and in fact help achieve national outcomes associated with this component, through the promotion of biodiversity positive production practices and agroforestry techniques, that focus on increasing forest cover. The proposed project will also maintain consistency with R-PP component 4, focused on designing systems for national forest monitoring. This will be aided through the described information sharing system developed by the project between the community forest monitoring activities (Output 1.1.3) and Belize's NFMS. Additionally, the project will attempt to maintain consistency with the RPP activity of developing a "non-carbon monitoring system in Belize to the extent possible, through provision of

reports on wildlife inventory (recorded in Output 1.1.3 associated activities) and other metrics as deemed necessary. It should be noted that this will have to be aligned during project preparation as it is currently unknown as to what the exact elements of the non-carbon monitoring systems are being collected. This will hopefully be known upon full delivery of the R-PP.

(iv) *Forest Act*: In line with the 2017 revision of the Act, and supporting articles of legislation, the project will support development of community activities within host forest reserves according to the list of approved community activities listed and described within the Act. This alignment is particularly relevant to Output 1.1.1, Output 1.1.2, Output 1.1.3, Output 2.1.1, and Output 2.1.2.

(v) *National Institute of Culture and History Act (NICH)*: The Act is dedicated to the safeguarding, promotion, expression, conservation and sustainable development of culture in all its diversity in collaboration with the people of Belize. In alignment with this overall objective the project will align with the culture and heritage of the Maya and Hispanic communities within the MGL. The proposed project features a strong dedication to aligning project activities with Milpa farming traditions through a culturally sensitive approach to promoting sustainable land management activities throughout all project outputs in components 1 and 2.

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.

48. Knowledge transfer will be delivered mainly through project components 2 and 3. Component 2, through the biodiversity positive production module, and associated training and instruction materials, will serve as a reference guide for improving knowledge gaps that exist amongst current land managers. This document's findings will be shared in the community trainings delivered through Output 2.1.1. Output 2.1.2 will further share this inclusive and participatory module to benefit the Ministry of Agriculture's farmer field schools following the trainer of trainer approach. Component 3 will share the biodiversity positive production module, as well as best other practices and lessons learned, even more broadly amongst wider landscape stakeholders through the workshop series. Those stakeholders include MMC, private sector, CSOs, other government stakeholders, and development partners as detailed in Output 3.1.1. Knowledge from Output 3.1.2 will further be incorporated into this workshop series and shared with the stakeholders accordingly.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Environmental and Social Safeguards ? Risk screening at PIF stage:

In line with the FAO Environmental and Social Management Guidelines (ESMG), the implementing agency has conducted an Environmental and Social Safeguards (ESS) screening at PIF stage. A full environmental, social and climate risk analysis will be conducted during PPG.

As per the ESS checklist screening, the project has been classified as *Moderate* risk. The table below summarizes the Environmental and Social risks identified in relation to the proposed project:

Environmental and Social Safeguard (ESS) triggered	Risk Identified	Answer	Risk Classification	Potential (negative) impacts	Mitigation measures (preliminary)

<p>Biodiversity, ecosystems and natural habitats</p>	<p>2.1 Would this project be implemented within a legally designated protected area or its buffer zone?</p>	<p>Yes</p>	<p>Moderate Risk</p>	<p>Not foreseen. This project objective is to strengthen the capacity of indigenous communities to promote sustainable forest management and biodiversity conservation in Key Biodiversity Areas (KBA) thus triggering ESS2. The project will aim to conserve biodiversity and promote sustainable production through integrated landscape management (ILM). Based on the above, the project is classified to moderate risk as the potential negative environmental and social impacts on the PAs are not irreversible and could be corrected by appropriate mitigation measures.</p>	<p>The key objective of the project is to ensure that the protected areas in the MGL will continue to serve as a secure haven for the biodiversity. To decrease the risk of encroachment it is necessary to work in and in the buffer zones of these areas. The interventions are geared to reduce the need for additional deforestation and to protect the remaining forest in and outside of the protected areas</p>
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9.Indigenous peoples and cultural heritage	9.2 Are there indigenous peoples living in the project area where activities will take place?	Yes	Moderate risk	<p>Not foreseen. The project will support Indigenous Peoples (IPs) and local communities to implement biodiversity-positive production practices in forest reserves and community zones in KBAs. Based on the above, the project is classified to moderate risk as the potential negative environmental and social impacts on the IPs are not irreversible and could be corrected by appropriate mitigation measures.</p>	<p>A substantial number of beneficiaries are indigenous peoples. Consequently , a Free Prior and Informed Consent (FPIC) process will be conducted during PPG and before any project action takes place in the project areas with indigenous population.</p> <p>In those areas, an Indigenous Peoples Plan (IPP) is required in addition to the FPIC process.</p> <p>A project-level grievance redress mechanism is also required.</p>
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Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
Belize MGL ESS Screening Checklist	
Risk Certification Belize MGL	

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

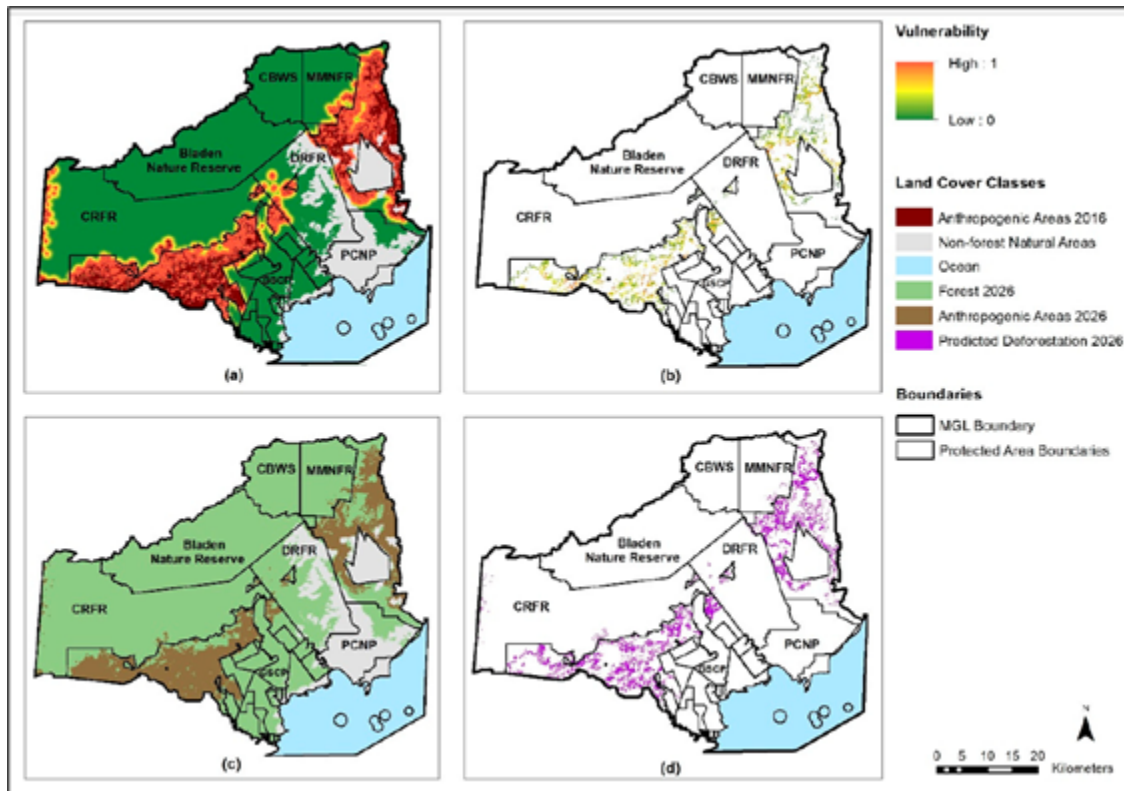
A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Dr. Kendrick Williams	Chief Executive Officer GEF Operational Focal Point for Belize	MINISTRY OF SUSTAINABLE DEVELOPMENT, CLIMATE CHANGE AND DISASTER RISK MANAGEMENT	12/3/2021

ANNEX A: Project Map and Geographic Coordinates

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

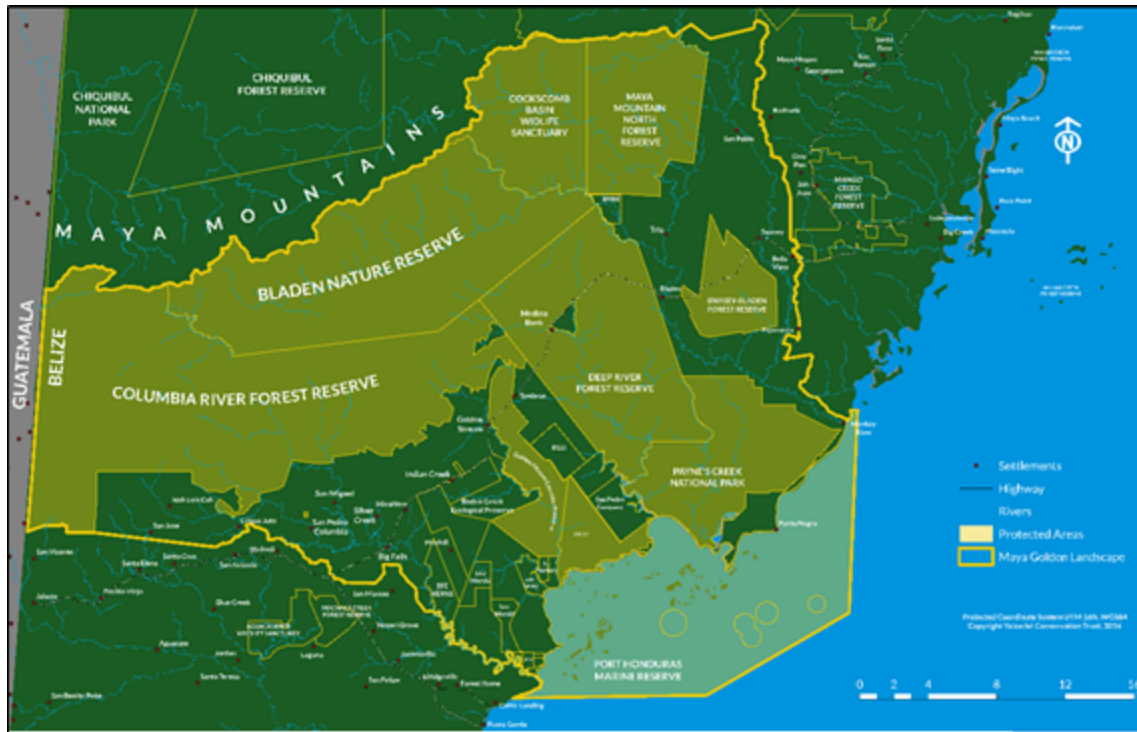
Figure 1: 2026 Mature Forest Cover Change Model Results - Maya Golden Landscape [2]



*Source:

Voight, 2019

Figure 2: Detailed Map of Public and Private Protected Areas ? Maya Golden Landscape



*Source: Ya?axche Conservation Trust, 2019