



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

Securing Long-Term Sustainability of Multi-functional Landscapes in Critical River Basins of the Philippines

Part I: Project Information

GEF ID

10532

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Securing Long-Term Sustainability of Multi-functional Landscapes in Critical River Basins of the Philippines

Countries

Philippines

Agency(ies)

UNDP

Other Executing Partner(s)

Department of Agriculture

Executing Partner Type

Government

GEF Focal Area

Multi Focal Area

Taxonomy

Influencing models, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Deploy innovative financial instruments, Gender Equality, Focal Areas, Biodiversity, Protected Areas and Landscapes, Productive Landscapes, Community Based Natural Resource Mngt, Financial and Accounting, Payment for Ecosystem Services, Mainstreaming, Agriculture and agrobiodiversity, Land Degradation, Land Degradation Neutrality, Land Productivity, Carbon stocks above or below ground, Land Cover and Land cover change, Sustainable Land Management, Community-Based Natural Resource Management, Sustainable Agriculture, Sustainable Livelihoods, Income Generating Activities, Restoration and Rehabilitation of Degraded Lands, Improved Soil and Water Management Techniques, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Private Sector, Large corporations, Communications, Awareness Raising, Behavior change, Local Communities, Type of Engagement, Information Dissemination, Partnership, Consultation, Participation, Indigenous Peoples, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Beneficiaries, Women groups, Gender results areas, Access to benefits and services, Knowledge Generation and Exchange, Access and control over natural resources, Participation and leadership, Capacity Development, Capacity, Knowledge and Research, Enabling Activities, Knowledge Exchange, Knowledge Generation, Learning

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

60 In Months

Agency Fee(\$)

311,030

Submission Date

3/20/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1-1	GET	922,374	9,000,000
LD-1-1	GET	1,651,616	12,027,000
LD-2-5	GET	700,000	3,500,000
Total Project Cost (\$)		3,273,990	24,527,000

B. Indicative Project description summary

Project Objective

To create an enabling environment for the realization of the National Land Degradation Neutrality (LDN) target and to mainstream biodiversity-friendly agricultural practices (BDFAP) in the Cagayan de Oro River Basin (CDORB) through national policy framework implementation and capacity strengthening.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1. National LDN and BDFAP policy created and implementation capacity strengthened.	Technical Assistance	<p>Outcome 1:</p> <p>Enabling policy environment created for LDN and BDFAP and capacity for integrated landscape management enhanced at sub-national level leading to improved biodiversity and ecosystem services in the Cagayan de Oro River Basin (CDORB)</p> <p>Indicated by:</p> <p>1) Two Joint Administrative Orders (LDN and BDFAP) and CDORB Comprehensive</p>	<p>Output 1.1: Joint Administrative Orders for i) BDFAP and ii) LDN implementation, which includes mechanisms for effective multi-sectoral coordination and mainstreaming, developed and signed by relevant entities. (i.e. Department of Agriculture (DA), Department of Environment and Natural Resources (DENR) and Department of Interior and Local Government (DILG).</p> <p>Output 1.2: Guidelines for preparing multi-sectoral LDN and BDFAP projects and accessing the global LDN Fund and other funding mechanisms prepared, to increase the fund infusion for LDN and BDFAP including sustainable use and conservation of important local varieties and traditional crops.</p> <p>Output 1.3: Trade-off and development strategies analysis for management options^[1] optimizing ecological, social and economic benefits at basin level developed and used by planners and practitioners in CDORB.</p> <p>Output 1.4: Existing Comprehensive Land Use Plans (CLUP) at CDORB level are revised and approved, so as to optimize ecological, social and economic benefits at the basin level and five strategic workplans towards enhancing the river basin management plans in the five^[2] priority river basins approved.</p>	GET	430,085	4,500,000

Land Use Plans (CLUP) approved.	Output 1.5: Technical capacity of CDORB Management Council (CDORBMC) and other sub-national level entities is build enabling the use of decision-support tools (i.e. trade-off analysis, hydrological modelling, ecosystem services valuations, ecological cost/benefit analysis, land use scenarios and management options etc.) hereby enhancing the ability for integrated landscape management
2) At least 20% increase in capacity scorecard scores of sub-national level entities involved in basin management (i.e. Provincial Agriculture Offices Provincial National Commission on Indigenous People (NCIP) office, Cagayan de Oro City Local Government Unit (LGU), Iligan City LGU, Municipalities of Baungon, Talakag and Libona)	Output 1.6: Technical capacity of national River Basin Coordinating Office (RBCO), managers of five priority river basins and other relevant entities[3], as well as IP community leaders for the engagement and implementation of integrated landscape management approaches enhanced through field training and other training techniques.
3) At least 20% increase in capacity scorecard scores of the Indigenous People (IP) communities' ability to actively	<p>[1] The project will facilitate the review of different performance indicators related to watershed functions, biodiversity, GHG emissions, carbon stocks, local economies, land use profitability, and employment generation and use various trade-off analysis tools such as simulation modeling, remote sensing and analytical software.</p> <p>[2] The National LDN-TSP report's five priority river basins are Cagayan, Pampanga, Mindanao, Agusan, and Iloilo-Batiano. These five priority river basins, which are also targeted in the National Action Plan to combat Desertification, Land Degradation and Drought (NAP-DLDD), were selected as they are basins with wide Land Degradation hotspot areas, as well as areas with high levels of poverty. By working in the five river basins the Philippine Government seeks to</p>

engage in integrated landscape management.

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Targets and indicators to be confirmed during the PPG phase.

demonstrate the role of LDN at the river basin level and use the five basins as models for all the 18 major river basins in the country.

[3] (i) Technical staff from relevant national agencies involved in land use management and biodiversity conservation; and (ii) river basin managers from five LDN/BDFAP pilot river basins.

Component 2: Demonstration of Sustainable Land Management (SLM) practices and BDFAP.	Investment	<p>Outcome 2:</p> <p>Improved management of 58,159 ha of cultivated landscapes ensured by smallholder farmers, IP communities and multi-national companies through adoption of SLM practices and BDFAP, <i>[individual sub-indicator for each of cropland, cultivated portions of Protected Areas (PA) buffer zones, ancestral</i></p>	<p>Output 2.1: SLM practices and BDFAP adopted in productive landscapes in the CDORB through the CLUP implementation, by government, private sector and local stakeholders.</p> <p>Output 2.2: Selected traditional agrobiodiversity farming systems demonstrated and replicated, by local stakeholders and IP communities, as viable SLM and BDFAP options for managing ecosystem services and biodiversity in cropland, as well as for income generation.</p> <p>Output 2.3: Markets and marketing strategies developed for at least three specialty products from traditional agro-biodiversity systems.</p> <p>Output 2.4: Five SLM and BDFAP related payment for ecosystem services and/or other incentive schemes developed and implemented[1].</p> <p>Output 2.5: Guidelines on SLM mainstreaming developed under the DA-GEF 5[2] project adopted and implemented by local governments units hereby strengthening the execution of local SLM programming and monitoring.</p>	GET	2,270,000	13,500,000
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*domain (AD)
land, degraded
forest lands and
riparian areas]*

[1].

1) At least 2,500 households involved in improved cropland management using BDFAP and SLM practices, with a minimum of 10% increase in household's income.

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Targets and indicators to be confirmed during the PPG phase.

[1] During the PPG phase it will be determined how improved management is to be verified, but could be (i) increased productivity (measured by Normalized Difference

[1] Although to be determined during the PPG phase, examples of these could be a) Reduced soil loss on sloping maize fields, co-designed by maize producers and San Miguel Corporation (a feed mill company operating in the area); b) Improved water quality through riparian stabilization, co-designed by riparian farmers and a Hydro-Electric Power (HEP) company; c) Landscape beauty through increased agrobiodiversity (proxy ES indicator), co-designed by IPs in PA buffer zone and the local government and d) Improved biodiversity habitat through tree planting, co-designed by MNCs (e.g, Del Monte Philippines, Unifrutti Tropical Philippines) and local communities. Activities will include identification of ES demand and supply and will be negotiated between stakeholders. The contract, which will include the level of conditionality, indicators, type and value of incentives, payment schedule, and monitoring scheme will be co-designed by the stakeholders involved. The design and implementation of the 'incentive scheme' will/can be facilitated by an honest broker such as the CDORBMC or a qualified NGO.

[2] Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate Effects of Drought

Vegetation Index); (ii) reduced soil erosion; (iii) increased soil organic carbon; (iv) positive land cover change; (v) increased agrobiodiversity in farming systems; and (vi) improved buffering capacity or (vii) increased Soil Health Card score

Component 3: Awareness-raising, knowledge management, and M&E.	Technical Assistance	<p>Outcome 3:</p> <p>Capacity and awareness of stakeholders raised on SLM, LDN, BDFAP and integrated landscape management approaches by effective knowledge management, M&E, measured by:</p> <p>1) At least 20% increase in awareness, knowledge, and capacity of</p>	<p>Output 3.1: Knowledge and communication products on processes, best practices, innovations, lessons learned and outcomes developed and disseminated to stakeholders including extension workers, NGOs, farmers, youth/students, local government officials and globally through communication and KM platforms (i.e. Exposure and Panorama).</p> <p>Output 3.2: Traditional agrobiodiversity knowledge and practices, including the use of agrobiodiversity systems, assessed and documented.</p> <p>Output 3.3: Knowledge management events organized, including cross farm visits, LGU field trips, and IP learning exchanges to disseminate project generated experiences, knowledge and lessons learned to broad-based stakeholder groups.</p>	GET	418,000	6,169,928
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project stakeholders [measured through changes in Knowledge, Attitudes and Practices (KAP) survey scores]

2) Online knowledge exchange portal is actively used as measured by at least 1000 platform visits per year.

3) At least 74,670 persons reached through the project's learning events

(Disaggregated by women and men).

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Targets and indicators to be confirmed during the PPG phase.

Output 3.4: Online knowledge exchange portal established and maintained at designated government department to ensure long-term sustainability and continuous development of the platform content.

Output 3.5: Gender Action Plan, Indigenous People's Plan, Stakeholder Engagement Plan, Livelihood Action Plan, KAP surveys and project activities effectively implemented and monitored.

Sub Total (\$)

3,118,085

24,169,928

Project Management Cost (PMC)

GET

155,905

357,072

Sub Total(\$)**155,905****357,072**

Total Project Cost(\$)**3,273,990****24,527,000****Please provide justification****PMC total \$155,905**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Department of Agriculture, Bureau of Soils and Water Management (DA-BSWM) - Fund Sources: National Soil Health Monitoring Program of BSWM; with a total budget of USD29 million for FY 2020 to 2022	Public Investment	Investment mobilized	4,500,000
Government	Department of Agriculture, Bureau of Soils and Water Management (DA-BSWM) - Fund Sources: Resources allotted for Mt. Kitanglad and Mt. Kalatungan that will support Project implementation	In-kind	Recurrent expenditures	500,000
Government	Department of Environment and Natural Resources, Biodiversity Management Bureau (DENR-BMB) - Fund Source: Resources allotted for FLUP, Integrated Watershed Management Planning and National Greening Program	Public Investment	Investment mobilized	2,000,000
Government	Department of Environment and Natural Resources, Forest Management Bureau (DENR-FMB) - Fund Source: Resources allotted for River Basin Management Council Office: can be specific for CDO River Basin or capacity-building for priority river basins	Public Investment	Investment mobilized	300,000
Government	Department of Environment and Natural Resources, Central Office - Fund Source: Resources allotted for watershed reforestation and rehabilitation under the National Greening Program; Community-Based Forest Management (CBFM) activities	Public Investment	Investment mobilized	500,000
Government	Department of Environment and Natural Resources – Region X - Fund Source: Resources allotted by LGUs for the formulation of their Comprehensive Land Use Plans (CLUPs)	Public Investment	Investment mobilized	2,000,000
Government	Department of Interior and Local Government (DILG) - Fund Source: Resources allotted for capacity building for LGUs on the development of their CLUPs	Public Investment	Investment mobilized	100,000
Government	Department of Housing and Urban Sustainable Development (DHSUD) - Fund Source: Annual Resources allotted to strengthen protected area management and conservation	Public Investment	Investment mobilized	100,000

Government	Provincial Government of Bukidnon and Municipal Governments - Fund Source: Resources allotted for rehabilitation projects under collaborative arrangements in CDORB	Public Investment	Investment mobilized	2,000,000
Private Sector	Unifrutti Tropical Philippines - Fund Source: Resources allotted for extension programs and improved sustainable agricultural practices	Unknown at this stage	Investment mobilized	1,500,000
Private Sector	Del Monte Philippines - Fund Source: Resources allotted in support of stakeholders involved in ecosystem rehabilitation programs inside CDORB	Unknown at this stage	Investment mobilized	2,000,000
Private Sector	Business institutions in CDO City and Bukidnon Province - Fund Source: Current and future projects that can support Project implementation such as those being related to Payments for Ecosystem Services (PES) and research programs	Unknown at this stage	Investment mobilized	5,000,000
Others	CDO River Basin Management Council - Fund Source: Funding of improved river basin landscape management for flood mitigation and improved water supply	Unknown at this stage	Investment mobilized	1,000,000
Others	Collaborative NGO Projects with foreign funding support currently operating in CDO River Basin (Ridge to Coast, Rain to Tap Project and SHIELD) - Fund Source: Ridge to Coast, Rain to Tap Project and SHIELD	Unknown at this stage	Investment mobilized	3,000,000
Donor Agency	UNDP	In-kind	Recurrent expenditures	27,000
Total Project Cost(\$)				24,527,000

Describe how any "Investment Mobilized" was identified

Investment mobilized. Government: Investments have been mobilized through the national programs managed by the individual national entities. The national level funding will support the creation of the enabling environment as well as ensure support to the local level implementation of project activities to achieve the project outputs outlined in component 1-3. Key government programs that will support the project implementation are the Soil Health Monitoring Program of DA-BSWM as well as the resources allotted for the two Protected Areas in the river basin (Mt. Kitanglad and M. Kalatungan), Forest Land Use Planning, Integrated Watershed Management Planning, River Basin Management Council Office (RBCO) and National Greening Program of DENR. The provincial engagement will, in addition to the national support, also support via annual provincial level allocations towards the local level implementation of local project activities, including undertaking tradeoff analysis, maintaining traditional agrobiodiversity farming systems, expanding the use of BDFAP and SLM practices supporting the outputs of the three project components. Currently, discussions are being held to include additional government development funds to ensure an increased support towards

sustainable local livelihood initiatives within the CDORB areas. Private sector: Investments aimed at improving the management of the cultivated landscapes are being explored with Del Monte Philippines, a multi-national company. The company is interested in implementing cost effective, low-hanging options and a results-oriented rehabilitation projects with BDFAP and SLM options during its business operations. The projects will improve habitat quality, reduce biodiversity loss, and enhance ecosystem services. Similarly, after securing a loan, Unifrutti Tropical Philippines is planning expansion of production in the project area. The discussions on the Del Monte's and Unifrutti Tropical Philippines' engagement during the project implementation are currently underway. Other Stakeholders. Investments from business institutions in Cagayan de Oro (CDO) City and Bukidnon Province, CDORBMC and collaborative NGOs with foreign funding support for improved ecosystem rehabilitation programs and river basin landscape management for flood mitigation and improved water supply within CDORB . During the PPG phase the project will further clarify and confirm the projects co-financing as well as seek to increase the project's overall co-financing.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Philippines	Biodiversity	BD STAR Allocation	922,374	87,626	1,010,000
UNDP	GET	Philippines	Land Degradation	LD STAR Allocation	2,351,616	223,404	2,575,020
Total GEF Resources(\$)					3,273,990	311,030	3,585,020

E. Project Preparation Grant (PPG)

PPG Required



PPG Amount (\$)

150,000

PPG Agency Fee (\$)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Philippines	Land Degradation	LD STAR Allocation	150,000	14,250	164,250
Total Project Costs(\$)					150,000	14,250	164,250

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
5,000.00			

Indicator 3.2 Area of Forest and Forest Land restored

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

Indicator 3.3 Area of natural grass and shrublands restored

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

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

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)
53159.00	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)
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5,925.00			
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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)
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47,234.00			
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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)

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)	3418697	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)	3,418,697			

Expected metric tons of CO ₂ e (indirect)	
Anticipated start year of accounting	2022
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)
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	36,288			
Male	38,382			
Total	74670	0	0	0

Part II. Project Justification

1a. Project Description

1A. PROJECT DESCRIPTION

The project will improve the enabling environment in the Philippines, including policy support, institutional arrangements, coordinating mechanisms, increased technical capacity for integrated landscape management and deployment of SLM and BDFAPs[1]. The project will enable effective multi-sectoral coordination and mainstreaming actions of government entities tasked with the implementation of the BDFAP Framework and LDN priorities/targets. Towards this end the project will be implemented in CDORB. It will develop action plans to facilitate the enhancement of the management plans of five priority river basins to optimize ecological, social and economic benefits at the basin level, in other words, advancing the Sustainable Development Goals from river basin level and up. Simultaneously, it will build national and local planners' capacity including trade-off and development strategies analysis in basin level planning. Contributing to the national LDN and The Philippines Biodiversity Strategy and Action Plan (PBSAP) targets and priorities, the project will accelerate the deployment of SLM practices, BDFAP and other agroecological practices, including preservation of traditional agrobiodiversity systems in the production landscape of the CDORB. Project engagement will cover croplands, soil erosion-prone slopes, cultivated portions of PA buffer zones and ancestral domains, degraded forests, and riparian areas, involving smallholder farmers, Multinational Corporations (MNC) and IP communities. Project promoted practices will protect against soil erosion, enhance soil fertility, improve soil moisture, increase crop yields, enhance below and above-ground biodiversity, and thus curb land degradation, support agroecological systems and enhance ecosystem services provisioning. With improved riparian vegetation the buffering capacity of the land is enhanced, and landslides and overflows are mitigated, protecting downstream areas. These innovations will be supported with incentive mechanisms, local policies and programs, integrated landscape/river basin planning tools and processes, technical and institutional capacity to support river basin planning and decision-making as well as policy support for national implementation of LDN and the BDFAP Framework.

1. Global environmental problem, root causes and barriers that need to be addressed (systems description).

An estimated 20 percent of the earth's vegetated surface shows persistent trends of decline, placing stress on ecosystems and their productivity. According to the United Nations Convention to Combating Desertification (UNCCD), at least 3.2 billion people globally are negatively affected by land degradation[2]. The deterioration of ecosystems, landscapes, and habitats places stress on their functions including soil quality and water protection, as well as carbon sequestration and preserving biodiversity[3]. The effects of climate change further aggravate the problem. Changes in temperature, weather and rainfall patterns negatively impact agroecosystems and their ability to provide ecosystem services, and cause decline in their production output. Africa and Asia are highly affected regions, where marginal and small-hold farmers are becoming increasingly more vulnerable, as their food security and the sustained productivity of agricultural lands are threatened.

The PBSAP report that 10.9 million ha of the country's forest cover was lost between 1934 and 1990, of which, 10.37 million ha (95%) were converted to other uses. Another half a million ha were reportedly degraded by extensive logging[4]. In the last 100 years, the Philippines' annual average deforestation rate has been 150,000 ha per year, albeit this has slowed down due to recent re-greening efforts. However, loss of established forests continued to be a major concern, since national reforestation efforts have been more directed toward increasing forest cover through new growth rather than restoring forest ecosystems. Between 2003

and 2010, the area of closed forests decreased by 626,840 ha while the area of open forests increased by 564,566 ha. Unfortunately, during this period, the country lost 328,683 ha in forest cover that consequently resulted in decline in biodiversity and natural habitats. According to the national LDN analysis report[5] a total of 8.2 million[6] ha of land, accounting for 27% of the total country area, has experienced a negative trend and the National Action Plan (2010-2020) reports that 45% of arable lands in the country is moderately to severely eroded. From 2003 to 2010, there was a continued conversion of natural and semi-natural ecosystems to croplands. This resulted in (i) forests and shrubs and (ii) grasslands and sparsely vegetated areas decline of 4% and 10% respectively[7]. During the same period, there was an increase of around 7% in croplands, 20% in wetlands and water bodies, and over 100% in developed areas. Although land degradation and habitat decline have been observed in 17 land cover types in the Philippines, it is still one of the world's 17 mega-biodiversity countries and ranks fifth in the number of plant species with 5% of the world's flora[8]. Species endemism is very high. An estimated 65 % of the 9,253 vascular plant species, 35 % of the 535 bird species and 61% of mammals are found only in the Philippines[9]. Therefore, the adverse negative impact of continued land degradation in the Philippines can have irreversible negative impact on the globally significant biodiversity, as well as on nationally important agrobiodiversity within the productive landscape is extreme high.

The CDORB demonstration landscape encompasses an approximate area of 140,000 ha, where forestlands, shrublands, and wetlands, cover 32,184 ha (23.42%). The natural tropical broadleaved forest in the basin covers 25% of the landscape (39,000 ha) and is mainly located within two protected areas (PA)[10]. Between 2003 and 2010, about 5,000 hectares of forest lands outside the PAs (3% of the basin area) were lost due to deforestation for agriculture land use, and the total area with low soil organic carbon (SOC) is estimated at 77,000 ha (55.0 %). The rest of the basin consists mainly of smallholder farms that mostly grow corn, root crops, temperate vegetables, wet rice and commodity crops such as sugarcane and cassava. The basin also includes large-scale banana and pineapple plantations and grasslands. In a nutshell, over 70% of the total basin cover is under high threat to irreversible land degradation. The primary reasons for CDORB to be under continued threat from land degradation are the use of unsustainable agricultural practices, unregulated use of its agricultural lands, forests, waters, and the effects of climate change. While soil in the basin is generally deep and moderately fertile, two thirds of the landscape has slopes over 18% making it susceptible to water induced soil erosion. Consequently, loss of topsoil due to erosion decreases agricultural yield.

Furthermore, increased focus on cash crop and monoculture places pressure on traditional agricultural systems which rely on crop rotation and/or mixed species cropping, for instance, root crops (such as Yam, Taro and Sweet potato) are planted alternately with maize. The decline in the usage of these systems also affects negatively the traditional crops such as Congo peas, Lima Bean and Job's Tears. In addition, past aggressive expansion of corporate agriculture into fertile lands, including ancestral domain lands (prior to 2011/2012), facilitated the driving of migrant farmers and small holders onto the fragile infertile slopes. Continuous tillage on sloping lands, slash-and-burn agriculture, timber poaching, forest fires, and wildlife hunting are aggravating rural poverty, increasing biodiversity loss, fragmenting wildlife habitats and destroying ecosystems alongside contributing to increased GHG emissions. When Typhoon Sendong brought devastating floods to CDO in December 2011 and Typhoon Pablo in December 2012, it showed that the unsustainable farming practices in the basin had made it highly susceptible to flash flooding.

Underlying drivers for land degradation and agrobiodiversity decline in the Philippines and the CDORB:

The direct pressures on the different ecosystems in CDORB identified during PIF consultations include deforestation, over-exploitation of forest resources, agricultural expansion, unsustainable/improper farming practices, conversion to monoculture, and natural calamities. The inherent underlying drivers are:

Competing alternative land uses. Government agencies have specific mandates and operate in silos, thus conservation and agricultural production are still viewed as opposing objectives [Department of Environment and Natural Resources (DENR) for conservation and protection of biodiversity and forestlands; Department of Agriculture (DA) for agricultural production; Local governments for physical and economic development with conservation often viewed as a major expense with slow and intangible returns]. Also, owing to the different mandates of government agencies and a long history of operating in silos, there is (i) no incentive for breaking institutional barriers and converging on a common interest; (ii) little or no funding to facilitate convergence.

Diffused government mandate and government focus on investment and economic return. To a large extent, the constraints to basin conservation arise from institutional failures, and the lack of a sole managing entity of the basin. Also government agencies with conservation mandates do not possess sufficient resources and know-how to fulfill their tasks. In addition, mechanisms for harmonizing transboundary agency mandates, rationalizing land uses, investments, and allocation of public funds, implementation, and monitoring are weak. Furthermore, Government agencies often prioritize their investments, policies and programs on physical infrastructure, economic development and social services, with a negligible share going towards sustainable land and natural resources management. Agricultural programs are more focused on increasing productivity and returns of investment (i.e. intensive commodity production and monocultures) without taking the cost of environmental degradation and agrobiodiversity loss into account.

Stakeholders lack access to knowledge and effective rural advisory services under the current extension services set-up. The extension system has only a partial outreach to farmers in rural areas, due to a limited number of extension staff and limited mobility. Production of communication and extension materials on sustainable agriculture is inadequate. Focus is on promoting input-intensive production practices such as fertilizer, pesticide and insecticide application, new seed varieties, than on sustainable agro-ecological intensification.

While the drivers are recognized not only at local level but also at national, a subset of barriers hinder progress:

Barrier 1: Lack of regulatory framework and policy-backing for LDN and BDFAP at the national level, and inadequate technical capacity for integrated landscape planning at river basin level.

Despite submission of the national LDN targets and priorities to the UNCCD, the Philippines is yet to develop a national policy and a framework that will enable LDN activities. The approaches outlined by the national LDN priorities/targets are primarily mainstreaming, advocacy and leveraging mid-term development plans [e.g., Ambisyon Nation 2040, National Action Plans (NAP)], sectoral programs, and international partnerships. Although the LDN targets can be achieved with contribution from various sectors (forestry, agriculture, natural resource management, land use, etc.) and many opportunities for leveraging LDN have been identified, there are no coordinating mechanisms nor any instruments that reinforce delivery of LDN targets. There is no instrument that guarantees the targets will be delivered. Even though the DA Bureau of Soil and Water Management (BSWM), the Philippines' focal point to UNCCD, has successfully led the national LDN priority/target setting through a collaborative multi-stakeholder approach, it has neither the means to coordinate multiple sectors nor the power to impose compliance of the LDN targets. The absence of a regulatory framework for coordination and mainstreaming, and the lack of assigned mandates for directly supporting, monitoring and delivering the LDN targets, thus, is a major gap in the current LDN strategy. In addition, while the DENR and DA both acknowledged the interlinks between the unregulated conversion of agricultural lands and rural poverty, there is no explicit policy that addresses unregulated agricultural expansion, nor promotes SLM and BDFAP. Thus, the unsustainable practices in the production landscapes continue to pose threats to the livelihoods of rural communities and biodiversity. The implementation of the developed BDFAP Framework is currently stalled due to lack of a Joint Administrative Order (JAO) outlining the implementation mechanism of the BDFAP Framework[11]. In addition to creating the necessary policy framework/regulations to change the status quo, there is a need to bring the relevant government entities together to agree on a coordinated multi-sectoral approach that will adequately address the LDN and BDFAP gaps.

While the sub-national planning processes for the local land use plans[12] has been multi-sectoral and participatory, they have not been technically reviewed within the context of the broader basin landscape. The current CDORB management plan has for instance not been subjected to trade-off analyses and therefore considerations related to the short and long-term impacts on the basin's dynamic ecological and economic changes (including climate) have not been projected. And while interactions within a watershed between degrading or restoring hillslopes, riverbeds and surrounding riparian flow buffering areas are well understood in eco-hydrological models, the improved management practices are focused on hillslopes rather than on landscape buffering functions. In addition, main "degradation" issues triggering restoration activities, are concerns over water quality (*sediment load*), short response times to extreme rainfall events causing flooding (*caused by lack of buffer functions*), and limited recharge of groundwater reserves. Thus, the notion of landscape multi-functionality, which is the integrative co-existence of functions, is not understood and taken under consideration in river basin management. Strategies for managing complex socio-

ecological systems include integrated landscape management approaches, which require comprehensive understanding of upstream-downstream interactions and ecosystem service flows, forecasting climate change scenarios, and nature-based solutions such as traditional agrobiodiversity systems in Key Biodiversity Areas (KBAs), sustainable land management and agroecology practices in agriculture and forest lands are therefore needed. Like many river basin management councils in the Philippines, the CDORB Management Council (CDORBMC) does not have the ability to generate potential management options which can achieve landscape multifunctionality. Local government planners and river basin managers are not trained on integrated landscape planning approaches and tools, especially trade-off and scenario analyses, thus, lacking in capacity to generate and present potential management options to achieve landscape multifunctionality. Lack of funding also limits the use of such technical analysis. This barrier will be mainly addressed through the project's interventions under Component 1: National policy framework for LDN and BDFAP created and capacity for integrated landscape management at sub-national level strengthened.

Barrier 2: Lack of incentives for widespread and lasting adoption of sustainable land management and biodiversity-friendly agricultural practices by the local communities.

Alternative means of improving agrobiodiversity through SLM practices and BDFAP, including riparian area management as well as increasing tree cover on agricultural and farmland have great potential for enhancing landscape functions, as well as improve the livelihoods of farming households. However, despite the capacity to generate both ecological and socio-economic benefits, the adoption of SLM and BDFAP in the Philippines has progressed slowly. This is due to the lack of long-term support from concerned government agencies, as most local governments have a short planning horizon, and rarely plan or invest in projects or initiatives that focus on conserving land and biodiversity resources. In addition, local governments, in the interest of near-term economic development, often prioritize large-scale commercial production of monocrop at the expense of diversification and sustainability. This provides for few opportunities for local communities, as there are few incentive programs focused on SLM and BDFAP. Also, many government and non-government sponsored SLM projects[13] do not provide much needed incentives for the delay in returns of investments made by smallholder farmers implementing SLM practices and BDFAP on their land. Further, the projects are often implemented in silos, and because of this these sectoral interventions only provide for fragmented and short-lived benefits, as they are not coordinated with other initiatives or are part of a broader integrated effort. Also, local agricultural extension programs, which often are politicized, seldom consider incentives for activities towards SLM, improved land management practices or biodiversity conservation goals. Furthermore, little effort has been made for consolidating cooperation on projects/programs between Local Government Units (LGU) and MNC on SLM and BDFAP, which could provide for much needed assistance and incentives to communities for the long-term adoption of SLM practices, BDFAP or other agroecological practices benefitting agrobiodiversity at the local level. This is even though MNCs are said to be in compliance with international triple-bottom-line standards (economic, social and environmental sustainability), and have successfully conducted Environmental Impact Assessment (EIA) procedures prior to approval of the operations[14]. This barrier will be mainly addressed through the project's interventions under Component 2: SLM practices and BDFAP demonstrated by stakeholders in the productive landscapes of CORB supported by established incentive schemes.

Barrier 3: Lack of attention and support to traditional agrobiodiversity systems.

Over a period, Indigenous peoples' (IP) crop preferences and diets have changed. This has in parallel with introduction of modern agriculture. This is in part due to the lack of government support to promote traditional practices and conserve local varieties and traditional crops. This, in turn, has exacerbated the erosion of traditional agrobiodiversity systems, and the consequent loss of interest by IPs in native crop species and varieties that were traditionally of high food, cultural and ecological value to them. This situation is reinforced by the shift toward more income-oriented crops dictated by market forces without regard for sustainability. In addition, agricultural extension programs are more directed toward crop specialization and monoculture practices rather than diversification through agrobiodiversity management. The PBSAP and the recent development of BDFAP Framework jointly developed by the DA and DENR provide a promise for the revitalization of traditional agrobiodiversity systems, and their inherited SLM, LDN and BDFAP components, but efforts on the ground are still lagging. Today, there remains a paucity in knowledge and documentation of these traditional systems and their value and benefits stand the risk of being forgotten if efforts to actively document the traditional systems, which are still in use within CDORB, are not undertaken. Reversing the present decline in the use of the traditional

agrobiodiversity systems would not only mean demonstrating their contribution to current and future food availability and resilience, it would also help in making products marketable and financially viable, hereby increasing local livelihoods. The erosion of traditional practices and crop usage is in part facilitated by the deterioration of traditional governance systems at community level, particularly among IP communities. This not only impacts the local community decisions but more importantly their ability to meaningfully participate in decision-making on landscape development processes related to their communities. This barrier will be mainly addressed through the project's interventions under component 2: SLM techniques and BDFAP demonstrated by stakeholders in the productive landscapes of CDORB supported by established incentive schemes, but also under components 1 and 3.

Barrier 4: Lack of stakeholder awareness and technical capacity.

Efforts to improve stakeholder awareness and knowledge to foster social change by the DA and DENR are wanting, and information, education, and communication efforts are limited. Although many SLM practices have been documented in several publications, these are in general inadequately distributed. So far, the most common sources of information about environmental issues available for local stakeholders, spring from the NGOs and civil society groups, which provide their information through their advocacy networks, but these too, are relatively limited in scope. Thus, farmer friendly SLM and BDFAP technical guides and practical information on for instance, conserving agrobiodiversity seldom reach local communities and stakeholders who would benefit from such information and knowledge products. Although, the DA-GEF 5 project has facilitated a change in this regard, making SLM documentation more accessible, further and wider dissemination is still needed. At the moment there is a need of a plan as to how information and experience about SLM, LDN and the BDFAP Framework implementation will be shared amongst river basin managers and local government officials in the country nor with other stakeholders. Although national level academia and institutions, working on farming and forest lands, have in-depth knowledge of SLM and BDFAP, as well as, land degradation and restoration, academia and government institutions, particularly in locations like the southern Philippines, have difficulties in readily accessing the latest field/evidence-based knowledge and experience on integrated landscape management. As such there is a lack of a hub where knowledge products such as guidelines, manuals, reference materials, success stories and training materials including videos are stored and which is accessible to stakeholders. This barrier will be mainly addressed through the project's interventions under component 4: Awareness raising, knowledge management, and M&E, but the project's other components will also contribute.

2. Baseline scenario and associated projects.

The Philippines is a lower-middle-income country with a population of about 106 million people. 55 % of the population lives in rural areas and more than 30% of the country's population relies on agriculture for their livelihoods. Despite a stable economic growth in recent years, 38% of the rural population is classified as poor. Fortunately, the Government of the Philippines is committed to turning this trend and it is taking necessary steps. There are enabling national policies, programs and strategies in place, relevant for the current project. These include key legislations such as the National Integrated Protected Areas System Act, Wildlife Resources Conservation and Protection Act and the Executive Order on Sustainable Forest Management. As described in the below section 7 *Consistency with National Priorities* the project is in support of the Philippine National Biodiversity Strategy Action Plan (2015-2028) and the Philippines' Voluntary Land Degradation Neutrality (LDN) Priorities/Targets (2018).

Furthermore, the Philippines' National Greening Program (NGP) embodies the largest expanded program for the restoration of forests in the country through multi-sectoral contributions. Throughout the country, reforestation is carried out at community and farm level through an expanded menu of technical options. The NGP contributes to solidifying the recent role of Philippine forests as carbon sinks. The programming of the NGP extends to 2028.

The River Basin Coordinating Office (RBCO) under the DENR was created to implement the Integrated River Basin Management and Development Framework in 1998, and has so far, facilitated the development of management plans starting with 18 critical river basins in the country.

The LDN targets can be translated into projected land management strategies to support the conservation and sustainable use of agrobiodiversity, particularly in PAs and ICCAs. Within the context of the National Climate Change Action Plan (NCCAP), which provides the cross-cutting guidance for sectoral policies toward improved mitigation and adaptation actions, and the sector on Food Security, Water and Ecosystem Conservation can benefit from the introduction of LDN and BDFAP approaches.

At the sub-national level, CDORB has developed an Integrated Watershed Management and Investment Plan. Several restoration initiatives have been initiated by local governments, NGOs and the private sector such as small-scale Payments for Environmental Services (PES) like mechanisms, agroforestry, and tree planting. However, these initiatives remain small compared to the challenges the river basin face.

In addition, the GEF project jointly implemented by UNDP and DA-BSWM *Implementation of Sustainable Land Management Practices to Address Land Degradation and Mitigate Effects of Drought* has developed Supplemental Guidelines for mainstreaming SLM by local government units in their CLUPs. This has been adopted by the Department of Housing and Urban Development (DHUD) in November 2019 and is due for roll-out at the local level.

The project will build on the baseline work carried out by a range of related projects implemented in the Philippines and in CDORB over the last years, of which three are ongoing, including the FAO project *Dynamic Conservation and Sustainable use of Agro-Biodiversity in Traditional Agro-ecosystems of the Philippines* which is of specific relevance. Project applicable lessons and good practices springing from these projects will be further explored during the PPG phase. Please see table below for the list of baseline projects:

Projects	Funder	Timeframe	Initiatives
Integrated Natural Resources and Environmental Management (INREM)	ADB	2014-2019	Infrastructure support, PES, watershed planning
Biodiversity and Watersheds Improved for Stronger Economy and Ecosystems Resilience (B+Wiser)	USAID	2012-2018	Biodiversity and watershed management, PES
ECOCARES implemented by Xavier Science Foundation, SHIELD and Samdhana Institute	Italy-Debt for Nature Swap	2016-2018	
New Conservation Areas in the Philippines Project (NewCAPP)	UNDP-GEF	2010-2015	PA sustainable financing, PES, Indigenous Community Conserved Areas (ICCAs)
Biodiversity Partnership Project	UNDP-GEF	2010-2016	Mainstreaming biodiversity conservation in local agricultural landscapes, promotion of biodiversity friendly enterprises
Emerging Champions for Biodiversity Conservation and Improved Ecosystem Services Project implemented by Enterprise Works Worldwide Phil. -Relief International	European Union & USAID	2012-2015	Promotion of PES, biodiversity conservation, procurement of (5M) 2013 satellite images

Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought	UNDP-GEF	2015-2020	Mainstreaming Sustainable Land Management (SLM) policies and programs into the developmental plans of LGUs
Ridge to Coast, Rain to Tap, SWF Project in Cagayan de Oro (implemented by Samdhana Institute, Hineleban Foundation, Wetlands International, CDO water district and Red Cross)	The Netherlands VET and Viten's Vides International	2019-	Flood resilience of the Cagayan de Oro river basin & improving the operations of CDO water district
Integrated Approach in the Management of Major Biodiversity Corridors in the Philippines (IA-Biological Corridors)	UNDP-GEF	2017-	Operationalise integrated management of biological corridors to conserve globally significant biodiversity, reduced deforestation and degradation and enhanced livelihoods.
Enhancing biodiversity, maintaining ecosystem flows, enhancing carbon stocks through sustainable land management and the restoration of degraded forestlands	FAO-GEF	2017-	Deliver environmental, livelihood and development benefits and restore degraded forest land ecosystems.
Dynamic Conservation and Sustainable use of Agro-Biodiversity in Traditional Agro-ecosystems of the Philippines	FAO-GEF	2015-	Conservation of agrobiodiversity in traditional agroecosystems

Under the baseline scenario national plans and programs are in place but lack of coordination and defined responsibilities between government actors hinders effective implementation of the LDN priorities/targets and the BDFAP Framework which in turn affects agrobiodiversity impacted by lack of appropriate SLM of the crop and forest lands in CDORB.

National funding through the government systems will continue to be available, but this does not meet the funding gap at local level where funding for additional SLM, BDFAP and agrobiodiversity conservation efforts is needed.

River basin plans and other land use plans will continue to be developed without underlying detailed tradeoff analysis, nor taking into account ecosystem services valuations, among others, as LGUs and other river basin planners have not been trained in using and integrating such analysis into the planning processes.

Small-holder farmers will continue focusing on monocrop and cash-crop, as they do not have the knowledge of the benefits of mixed cropping, SLM, BDFAP and agrobiodiversity conservation interventions which are financially viable, nor have they received training towards this.

The use of traditional agrobiodiversity farming systems and local varieties/traditional crops will continue to decline in the local farming communities including IP communities.

Incentives to engage in SLM, BDFAP and agrobiodiversity conservation interventions stemming from for instance PES schemes are small-scale in nature and sporadically implemented.

Academia and institutions working on farming and forest lands have in-depth knowledge of land degradation and restoration in the Philippines as well as a subset of tools and methodologies which can be implemented to address this. However, this information is not readily accessible to government staff and planners, farmers and other stakeholders.

3. Proposed alternative scenario with a brief description of expected outcomes and components of the project.

The proposed alternative will build on the ongoing baseline scenario and will expedite already emerging processes which without the proposed project interventions would take much longer to materialize. The high material and human costs from natural disasters including typhoon induced floods which have affected, for instance the CDORB in 2011 and 2012, have amplified the political understanding of the need for change. With that sectorial silos are also being broken down and the vested interest, from various sectors have declined. The proposed project is a testament to this. However, the changes are not fast, and the proposed project can expedite change and be an important stepping-stone for moving the process forward.

The proposed alternative is to secure long-term multifunctionality of CDORB landscapes by creating an enabling environment for supporting the LDN priorities/targets and the BDFAP implementation, as well as conserving important agrobiodiversity in the production landscape. At the national level, the project will undertake this by facilitating the creation of the legal and regulatory framework for the implementation of both the LDN priorities/targets and the BDFAP Framework. This will include the development and approval of Joint Administrative Orders (JAO)[15], which will enable multi-sectoral coordination involving relevant agencies related to agriculture, land-use planning and development, transportation, just to name a few. The BDFAP Framework JAO will include guidance on implementing the framework by relevant agencies. Furthermore, guidelines to support government entities towards accessing the global LDN fund and other funding sources will be developed to expand on the potential funding mechanisms available to the government and other stakeholders. Trainings in the use of the guidelines will also be provided. At sub-national level the project will support CDORB to generate land and biodiversity benefits by improving the technical capacity of basin planners and managers to use decision-support tools and methods for integrated landscape planning. The project will create stakeholder awareness and build the capacity of river basin managers and national agency staff to support the scaling up of integrated landscape management approaches in five critical river basins targeted by the national LDN program. In addition, the project will develop and provide incentives in form of ecosystem service payments to support wide-scale adoption of SLM practices, BDFAP, and preserving the use of traditional agrobiodiversity systems in vast tracts of croplands. Such measures will also be implemented in cultivated portions of PA buffer zone (multi-use zone), ancestral domain lands, degraded forestlands, and in connection with the restoration of degraded riparian areas. In addition to building the capacity of local IP and farming communities, the project will provide marketing support and support towards product development of produce, including in the traditional agrobiodiversity systems. This, along with the provision of incentives, in form of among other ecosystem service payments, is expected to facilitate a transformational change within the IP and farming communities away from current use of cash-crops as the project proposes a viable alternative to the farmers.

To achieve this the project has three components which are: **(1)** National LDN and BDFAP policy created and capacity for implementation strengthened.; **(2)** Demonstration of Sustainable Land Management (SLM) practices and BDFAP.; **(3)** Awareness-raising, knowledge management, and M&E. For more details please see below:

Component 1 has a project engagement at both national and sub-national levels. At national level, the project will facilitate the creation of a national LDN regulatory framework with mechanisms for multi-sectoral coordination and mainstreaming, as well as financing. The process will include facilitating multi-sectoral consultations through workshops, round-table discussions, review of relevant policies, sectoral strategies and programs to leverage and ensure alignment of LDN

activities. The work will entail the engagement of relevant government entities such as the DA, DENR, DHUD and Department of Interior and Local Government (DILG). It will provide technical assistance in the preparation of a Joint Administrative Order or any applicable instrument that outlines the LDN regulatory framework, which is an essential prerequisite that needs to be in place in order to obtain an institutionalized and long-term joint agency cooperation and coordination towards meeting the country's LDN targets through the implementation BDFAP and SLM practices not only within the proposed project area, but within the Philippines. The proposed Project will attract private sector co-investments, funding, and partnerships for LDN. Parallel efforts will be carried out to review and revisit the Biodiversity-Friendly Agricultural Practices Framework to include financing mechanisms and facilitate the issuance of a Joint Administrative Order by the DENR, DA and DILG, to enable nation-wide implementation of the BDFAP Framework (Output 1.1). In support of this, and to enable access to the global LDN Fund and other funding mechanisms, guidelines for preparing multi-sectoral LDN and BDFAP projects that support sustainable use and conservation of important local varieties and traditional crops, will be developed, and training in their use will be provided (Output 1.2). At sub-national level, the project will pilot work on integrated landscape management approaches in CDORB. It will provide technical assistance to the CDORBMC to improve integrated watershed management approaches, to be used in the implementation of the CDORB management plan. This will include trade-off analysis of current and future land uses, and development of alternative land use scenarios and management options under different climate conditions and other relevant variables. The project will use national and internationally available tools to analyse the trade-offs (e.g. simulation modeling, remote sensing and analytical software) and will review different performance indicators related to watershed functions, GHG emissions, carbon stocks, local economies, land use profitability, and employment generation. The analysis will also look at parameters such as forest cover, land use mosaic, and management techniques that best secure long-term multifunctionality of the landscape. Biodiversity and habitat/ecosystem indicators, as well as ecosystem services data, will be reviewed as separate layers, abiding a precautionary principle to avoid adverse impacts. Specific trainings will be provided for river basin planners, decision-makers and practitioners enabling them use of modelling tools to analyse trade-offs amongst a range of land use and development options in the landscape. Participants will be able to compare business as usual scenarios with alternative future scenarios, identify strategies for managing trade-offs, and develop land use and development options that provide optimal longer-term economic and ecological benefits (Output 1.3). The project will also communicate and demonstrate the findings of the trade-off analyses through workshops and dialogue events, to improve the knowledge and capacity of the RBCO other river basins, thereby assisting in consolidating the mandate of river basin management councils in the country. The trade-offs analysis and the accompanying development strategies analysis will be used to develop management options that generate optimal ecological, social and economic benefits at basin level. This, in turn, will be used by the CDORBMC to revise the CDORB management plan and by LGUs to update their existing CLUPs[16]. The project will, in this regard, facilitate workshops and multiple stakeholder reviews to ensure that interests and preferences, for suggested conservation and development approaches at river basin level are incorporated as appropriate (Output 1.4) The project will enhance the capacity of CDORBMC on using integrated landscape planning tools and approaches, thus building the technical expertise of Council members in the management of river basins including LGUs, and other stakeholders. Initial training topics identified are land degradation and biodiversity processes and dynamics, concept and principles of integrated landscape management, tools and methods for trade-off analyses, developing land-use scenarios and management options, etc. (Output 1.5). Furthermore, trained CDORBMC members particularly NGOs, academic and research institutions will be mobilized as pool of Resource Persons which can provide technical assistance to LGUs/river basin management planners. Also, to scale up capacity for integrated landscape management, LDN and BDFAP implementation, the project will implement a training (with fieldwork) for national RBCO staff, national agency staff involved in land use, land management and biodiversity conservation, and river basin managers from the 5 pilot river basins of the LDN program. Training modules will be prepared to support future efforts by the DENR (including the RBCO) and DA to scale up capacity for LDN, BDFAP and integrated landscape management approaches nation-wide. Training participants will be facilitated to develop gender-sensitive/responsive action plans with the aim of improving the quality of existing river basin management plans. In addition, IP community leaders will be trained to increase their capabilities to actively engage in integrated landscape management discussions and implementation. (Output 1.6). With regard to the project work related to the LDN, the project will ensure a close alignment with the UNCCD Secretariat[17] published relevant documents and the STAP guidelines on LDN project funded by the GEF[18] during the PPG phase, as well as during project implementation.

Component 2 will adopt a range of SLM[19] practices and BDFAP in productive landscapes within the CDORB to protect important agrobiodiversity, including local varieties and traditional crops. The project will work on implementing biodiversity sensitive sustainable farming of 53,159 ha of croplands, which are managed by smallholder farmers and by MNCs. The project targeted croplands include sloping lands. For the 20,070 ha of land collectively managed by the MNCs[20], the project will work with them on improving their management by implementing low-cost, easy implementable and effective BDFAP and SLM options, which increases habitat quality, biodiversity, and ecosystem services of their field/business operations, hereby ensuring a more than mere compliance with applicable legislation and regulations concerning sustainable agriculture, biodiversity and environmental protection, as well as international triple-bottom-line standards. The activities will include a specific focus on the avoidance of converting forests into monoculture plantations. The project will further facilitate dialogues among local National Government Agencies (NGAs), LGUs and MNCs, as to how environmental compliance can be linked or committed to the LDN and PBSAP targets as well. In addition to the cropland managed by smallholder farmers, the project will also work with farmers and IP communities in deploying SLM practices and BDFAP in 3,962 ha of the cultivated portions of PA buffer zones, 1,963 ha of ancestral domain land, 500 ha of degraded forest lands (under Community-based forest management). As part of this, 5,000 ha of riparian areas will be restored. The component will, through its activities, raise awareness and facilitate hands-on practical training for farmers and IP communities, and actively engage local governments and the private sector. Project trained[21] agricultural extension workers will be mobilized to build the capacity of the local farmers and farmer-groups on applicable BDFAP and SLM options available, hereby playing a key role in the transformational change needed for broad scale adoption of BDFAP and SLM in CDORB. The on-the-ground work will be leveraged through local governments' agriculture and economic development programs and policy incentives (Output 2.1). The project will work closely with IP communities and the National Commission on Indigenous People (NCIP), research institutions (e.g. NOMCARD) and Protected Area Management Boards of Mt. Kitanglad Range Natural Park and Mt. Kalatungan Protected Area. About 750 IP households will be targeted and supported to adopt or re-adopt/adapt traditional farming systems, which supports identified locally important varieties and traditional crop resources. Identification and priority-setting of species and traditional agroforestry systems will be based on community-agreed criteria, including cultural, biological, and economic values. The resulting field demonstrations will be used for learning exchanges across the landscape (Output 2.2). The PPG phase will identify traditional farming systems and associated local crop varieties that will be promoted and supported during implementation.

With assistance from the Cooperative Development Authority (Region 10) the project will conduct assessments of existing IP People's Organizations (POs) to evaluate the necessity of transforming these IP POs into cooperatives. Appropriate consolidation mechanisms, e.g., clustering of IP POs and/or IP cooperatives will also be explored. The IP communities will also be provided technical assistance on skills and technology development, enterprise development, organizational management, financial management, access to finance, market linkages and product promotion. The Project will work with the Department of Trade and Industry (DTI) on improving capacities of communities to use value-adding technologies and processes concerning traditional crops. The efforts for revitalization of the use of the traditional agrobiodiversity systems will also be supported by market related incentives pursued under the project. Market demand and niche market strategies for traditional crops, such as native sweet potato and lima bean will be explored/developed by the project to provide economic incentives to IP communities for the preservation of and/or reviving traditional farming systems. Furthermore, community seedbanks/storage of local varieties, which are adapted to local conditions, will be supplemented by a limited number of "external" seed banks and resource centres/nurseries. The project's seed bank related engagement will be fully financed through project co-financing. The availability of quality germplasm/planting materials, which can be distributed to local households will provide additional incentives for their local acceptance and use (output 2.3).

Furthermore, the project will develop at least five, context specific, SLM incentive mechanisms (prototypes) to stimulate and sustain adoption of BDFAP and SLM practices. The project will in this regard identify ES supply and demand, engage in negotiations between ES suppliers and buyers[22] and design context-specific payment for ecosystem services (PES) schemes. The schemes, which will have agreed conditionality linked to ES output and/or outcome-based delivery, will vary depending on ES type and stakeholders involved. The potential PES schemes, which will be further explored during the PPG phase and fully developed during project implementation, could potentially be negotiated for: (a) corn producers and feed-companies; (b) sloping land/ riparian farmers and hydropower/water supply companies; and (c) IP communities and tourism industry. The individual PES schemes are foreseen to be comparatively small scale, tributary and set up within the CDORB. But while individual, the development of the schemes will be undertaken in a coordinated project approach to ensure that the schemes together

provide for a holistic approach to watershed management. Furthermore, the schemes will be developed following common guidelines and approaches making them equitable and basin related. To enable a continuation and expansion of the PES schemes in the CDORB post-project, an oversight body for PES schemes development will be identified[23] during the PPG phase. For the context-specific PES schemes, the project will draw lessons learned from previous and ongoing small-scale PES initiatives in CDORB[24], as well as from elsewhere in the Philippines, and ensure that the developed PES/incentive schemes are in line with the guidance provided in the STAP advisory document on payment for ecosystem services[25] and other resource materials[26]. During the PPG phase and as part of the development of the individual PES scheme, during the implementation phase, the feasibility of integrating PA lands into the PES schemes will be explored. (Output 2.4). Finally, the project will facilitate LGU adoption of the SLM mainstreaming guidelines developed under the DA-GEF 5 project[27], providing for a good opportunity to pilot-test the process of SLM mainstreaming in Comprehensive Land Use Plan CLUP at local level. The guidelines will help LGUs identify fundable SLM activities, and monitor performance and outcomes. This activity will include short trainings and workshops for LGUs and relevant stakeholders on how to select measurable indicators at farm and landscape levels and setting up monitoring and evaluation protocols in support of the National Soil Health Program of the DA-BSWM[28] (Output 2.5).

Component 3 will draw from the other components to document processes, best practices, innovations, lessons learned and outcomes, which can be translated into useful communication materials or boundary objects such as policy briefs, technical advisory notes, guidelines, impact stories, as well as modules for wider dissemination especially targeting the five pilot river basins of the national LDN program. The project will make use of BDFAP technical notes and SLM technical guides available at databases at for instance PhilCAT[29], WOCAT [30], Bureau of Soil and Water Management and other publicly accessible resource providers, to produce locally appropriate, user-friendly and gender-sensitive farming guides, in local languages (Output 3.1). The project will support the documentation and assessment of priority traditional farming systems[31] and associated culturally significant areas, aimed at conserving local varieties and traditional crops such as, sweet potato *Ipomoea batatas*, taro *Colocasia esculenta* and other root crops within said systems (output 3.2). Capacity building events will also be conducted to disseminate knowledge and experiences generated from the project to various stakeholders/user-groups such as local planners, policymakers, watershed managers and practitioners, agriculture extension workers, MNCs, and students (*the youth*). It is expected that more than 1,500 people will be engaged in these learning events (Output 3.3). The project will establish an online knowledge exchange portal for the sharing of experiences and knowledge product[32], between stakeholders, practitioners, communities and PAs. The platform will help upscale best practices, on SLM, BDFAP, LDN and conservation of local varieties and traditional crops etc., across the Philippines. The portal is envisaged to be embedded into an existing national system to ensure long-term sustainability of the portal and secure the maintenance and functionality of the post portal project. (Output 3.4). Finally, the project will engage in monitoring and evaluation (M&E) of the project, ensuring that lessons learned from the project are documented. As part of this, the implementation of the Gender Action Plan, Indigenous People's Plan, Stakeholder Engagement Plan, and the KAP surveys will be monitored. Some of the key areas of M&E include the project mid-term review, the project terminal evaluation, monitoring of the project indicators, and preparation of project reports, including UNDP annual reports and GEF Project Implementation Review (PIR). Financial audits will be conducted annually as well. At a high level, the project board (or "project steering committee") will ensure that project progress is timely implemented and offer guidance when needed to the project team (Output 3.5). In addition to ensuring national coordination among other government and donor initiatives, the project will also seek to engage other developing countries facing similar challenges with the aim of fostering broader international cooperation. It will among other do this by taking full advantages of Department of Agriculture's participation in international engagements and through this the proposed project can provide influence and create international synergies by facilitating exchange and brining project lessons and knowledge to other countries.

4. Alignment with GEF Focal Area and/or Impact Program strategies.

The project is aligned with the goal of the GEF-7 Biodiversity Focal Area Strategy objective 1 *Mainstream biodiversity across sectors as well as landscapes and seascapes* which focuses on spatial and land-use planning to ensure that land and resource use are appropriately situated to maximize production without undermining or degrading biodiversity[33], and on improving and changing production practices to be more biodiversity-positive with a focus on sectors that have significant biodiversity impacts including agriculture. This will concurrently contribute to the Philippine's voluntary LDN priorities and targets and those of the

PBSAP. The project's approach will address barriers and their underlying root causes, which are currently hindering effective integrated landscape management addressing the physical, biological and socio-economic aspects affecting the agroecosystems and basin management in the CDORB. The project will be innovative in its approach to bringing government sectors together in a coordinated and unified approach for implementing agrobiodiversity conservation, LDN and BDFAP management. It will do this by altering current policy, building capacities and developing ecosystem services based financial mechanisms, which will channel more funding to local initiatives and will optimize the ecological and socio-economic benefits of on-the-ground biodiversity sensitive farming practices. Furthermore, the project aligns with GEF-7's Land Degradation Goal to support UNCCD's LDN concept where the project will support the GEF-7 Land Degradation Focal Area Strategy objective 1 *Support on the ground implementation of SLM to achieve LDN* and the GEF impact program *Food Systems, Land Use and Restoration*. The project will specifically work with smallholders and IP communities who depend on farming for their livelihoods on restoring agroecosystems in the productive landscape. In this, the project will involve private sector in developing payment for ecosystem services schemes which will further promote adaptation of the project promoted SLM, LDN and BDFAP approaches.

5. Incremental/Additional Cost Reasoning and Expected Contributions from the Baseline, the GEFTF, LDCF, SCCF, and Co-financing.

Baseline practices	Alternative to be put in place	Project impact
<p>National plans and programs are in place but lack of coordination and defined responsibilities between government actors hinders effective implementation of the LDN priorities/targets and the BDFAP Framework which in turn affects agrobiodiversity impacted by lack of appropriate SLM of the crop and forest lands in CDORB.</p> <p>National funding through the government systems will continue to be available, but this does not meet the funding gap at local level where funding for additional SLM, BDFAP and agrobiodiversity conservation efforts is needed.</p> <p>River basin plans and other land use plans will continue to be developed without underlying detailed tradeoff analysis, nor taking into account ecosystem services valuations, among others, as LGUs</p>	<p>Joint Administrative Orders (JAO) for the LDN priorities/targets and the BDFAP Framework will be developed and signed, ensuring effective coordination between the different sector entities within government, as well as providing needed direction for effective implementation towards meeting underlying targets. The JAO will in turn influence how the work on the river basin management plans and other land-use plans in CDORB are to be coordinated and implemented.</p> <p>Guidelines for how to access the LDN Fund and other funding sources will be elaborated, to enable national and local governments (and other players) to develop projects which support the implementation of SLM, BDFAP and agrobiodiversity conservation at local level. Payment for ecosystem services schemes will bridge down-stream beneficiaries with upstream providers including IP communities, which engage in SLM, BDFAP and agrobiodiversity conservation aimed at increasing the ecosystem services of the land they manage</p>	<p>Holistic SLM, BDFAP and agrobiodiversity conservation approaches focusing on landscape and integrated ecological aspects of the crop and forest management adopted and implemented on 58,159 ha in CDORB, leading to improved resilience and ecosystem services from the river basin resulting in river flow stability that reduces the episodes of erosion, excessive flooding, and effects of drought, as well as improved management of soil carbon and soil health. In addition, conversion of forestlands to agricultural lands is expected as well as reduced threats to biodiversity in the two PAs.</p> <p>The capacity for developing holistic river basin plans and other land-use plans, which takes into</p>

and other river basin planners have not been trained in using and integrating such analysis into the planning processes.

Small-holder farmers will continue focusing on monocrop and cash-crop, as they do not have the knowledge of the benefits of mixed cropping and other SLM, BDFAP and agrobiodiversity conservation interventions which are financially viable, nor have they received training towards this.

The use of traditional agrobiodiversity farming systems and local varieties/traditional crops will continue to decline in the local farming communities including IP communities.

Incentives to engage in SLM, BDFAP and agrobiodiversity conservation interventions stemming from for instance PES schemes are small-scale in nature and sporadically implemented. Academia and institutions working on farming and forest lands have in-depth knowledge of land degradation and restoration in the Philippines as well as a subset of tools and methodologies which can be implemented to address this. However, this information is not readily accessible to government staff and planners, farmers and other stakeholders.

nd they manage.

The training in land degradation and biodiversity processes and dynamics, concept and principles of integrated landscape management, tools and methods for trade-off analyses, developing land-use scenarios and management options, among others, will build the technical expertise of staff engaged in management of river basins including, local NGAs, local government units (LGUs), and other stakeholders.

Training in effective SLM, BDFAP and agrobiodiversity conservation practices will enable small-hold farmers, as well as, multinational companies in implementing on-farm activities which will increase the ecosystem services of the land including increasing soil retention, reducing water runoff and local biodiversity and carbon sequestration.

Building on lessons learned of small-scale PES schemes already successfully operating in the Philippines and in CDORB local actors, including MNCs, IP and other farming communities, within CDORB will establish functioning PES schemes benefitting service providers, by providing new incentives for readjusting or converting their farming activities to focus on BDFAP and SLM practices.

Local communities will through training and financial incentives maintain or increase the use of traditional agrobiodiversity farming systems.

A designated online knowledge exchange portal will facilitate sharing of knowledge and information on improved land management practices, experiences and knowledge products between academic practitioners and

account ecological aspects is build, through the training of national RBCO staff, national agency staff involved in land use, land management and biodiversity conservation, and river basin managers from the 5 pilot river basins of the LDN program. companies (number of train people TBD during the PPG phase)

Investment for BDFAP, SLM and agrobiodiversity conservation projects increased through funding arising from PES and the LDN fund or other funding sources. Providing for increased incomes of farmers adopting SLM practices, through: (i) long term productivity, (ii) high-value added of traditional crops or sustainably grown crops, and (iii) reduced costs from dependence on chemicals and fertilizers.

Local level implementation of SLM, BDFAP and agrobiodiversity conservation, which integrated ecological aspects enhanced through the training of smallholder farmers, IP communities and managers and workers from multinational corporations (number of train people TBD during the PPG phase)

products, between academia, practitioners and other stakeholders.

6. Global Environmental Benefits.

The global environmental benefits (GEB) resulting from the project include improved provision of agro-ecosystem and forest ecosystems goods and services; conservation and sustainable use of biodiversity in productive landscapes and conservation of globally significant biodiversity that would have otherwise lost or declined in the absence of SLM practices and BDFAP at the project sites. Due to the long-term sustainability and scaling up of the project, the project will initiate momentum that will continue to produce GEB over a long time. Specifically, the project is designed to secure long-term multifunctionality in the CDORB by deploying sustainable land management and biodiversity-friendly agricultural practices in the basin's agroecosystems. The project will implement distinct management practices aimed at conserving agrobiodiversity in the productive landscape and increase the ecosystem services springing from these. It will also, in close collaboration with IP communities will expand the use of traditional agrobiodiversity systems and increase the sustainable use and protection of local varieties and traditional crops found within above mentioned systems. Aside from IP communities, the project will also work with smallholder farmers and multi-national companies. The project's interventions on improving management of the cultivated landscapes in the agroecosystem will focus on cropland, including sloping lands. A total of 58,159 ha will benefit from the implementation of low-cost, low-hanging and effective BDFAP and SLM options, which will increase the habitat quality, biodiversity, and ecosystem services of the affected lands. While most of the cropland under the project, including the 5,000 ha of riparian areas which will be restored, is managed by smallholder farmers and multi-national companies, the project will also work with farmers and IP communities in deploying SLM practices and BDFAP in 3,962 ha of the cultivated portions of PA buffer zones, 1,963 ha of ancestral domain land and 500 ha of degraded forest lands.

In addition, the Philippines is one of the world's megadiverse countries and is rich in diverse ecosystems, due to its 7,000 plus islands, topography, and local climate regimes. The Philippines is home to 9,253 species of higher plants, 237 reptiles, 167 mammals, 535 birds and 261 species of freshwater fish. The level of endemism is high such that 65.8 percent of plants and 61.1 percent of mammals being endemic[34]. The Mt. Kitanglad Range Natural Park (in process of being designated as ASEAN heritage park) and Mt. Kalatungan Protected Area (designated ASEAN heritage park), located in CDORB, are important KBAs. Designated ASEAN heritage parks are important for their unique biological diversity. Mt. Kitanglad supports substantial populations of many montane forest specialists, including Mindanao endemic species, such as the Mindanao Racquet-tail, Mindanao Scops-owl, and Apo Myna[35]. The area is rich in gymnosperms and tree ferns, and more than 300 species of flora used by the indigenous people for herbal medicine, including "ali" *Drimys piperita*, "kappa-kapa tree" *Medinilla magnifica*, and the pitcher plant *Nepenthes truncata* in the montane forest[36]. Mt. Kitanglad is one of three centers of plant diversity found on Mindanao. And Mt. Kitanglad and Mt. Kalatungan are, due to their high level of endemism, important plant areas[37] [38]. In Northern Mindanao (Region X), in which CDORB is located, local varieties of Adlai/ Job's Tears (*Coix lacryma-jobi* L.) are being cultivated^[39], along with a broad array of other indigenous and endemic varieties of crops such as taro and yam[40], by small hold farmers and IP communities. As an example, an IP community living in the Mt Kalatungan Range practises intercropping of yams, sweet potato, corn, upland rice, beans, legumes, coffee, banana, abaca and other traditional crops[41]. As such agrobiodiversity is a critical part of the country's biodiversity and the national importance of its conservation has been underlined by its inclusion into the revised PBSAP (2015-2028) as a specialized thematic area[42]. Further follow up on the global relevance of the project site and project related crops will be undertaken during the PPG phase.

The project will improve provision of agroecosystem through preservation of local varieties and traditional crops by maintaining and expanding on traditionally used agrobiodiversity farming systems, as well as through storing seeds of local varieties in community seed banks and the facilitation of seed exchanges between communities. This will be supported by a limited number of "central" seed banks and nurseries which will not only conserve species and genetic material but also act as a source for local communities who want to include such crops into their farming systems. These in-situ conservation and sustainable utilization are expected to create positive change in the gene pool of priority traditional crops. Finally, the project will provide global benefits in form of carbon sequestration in connection with the project's improved land management and restoration activities covering 5,000 ha, as well as through the improved management practices of

the productive land in the agroecosystem. Global experience has shown that agroecological practices have significant potential to increase the amount of stored soil carbon year-on-year, by about 0.2 tons CO₂ per year particularly through reduced or zero tillage, growing cover crops, rotating crops, incorporating leguminous species etc. Using the FAO EX-ACT tool, the preliminarily expected greenhouse gas emission mitigated was estimated, to be 3,418,697 (tCO₂e) over a 20-year period. This and the project's other global benefits will be revisited and confirmed during the PPG phase.

7. Innovation, Sustainability and Potential for Scaling up.

Innovation: The project will facilitate transformational change by creating a legal and regulatory framework for LDN and providing policy support for the implementation of the BDFAP Framework, as well as improving technical capacity for integrated landscape management at the sub-national level. Currently, river basin planning does not include foresight and trade-off analyses essential in identifying alternative management options that are ecologically and economically optimal and sustainable. River basin management plans are often developed without reconciling segregated and disparate local conservation and development plans. The proposed intervention will thus, be an important innovation in the way river basin management plans are going to be prepared in the Philippines. Moreover, context-specific incentive mechanisms for SLM and BDFAP are an important innovation since lack of financing and incentives hamper wider adoption of such practices. Using CDORB as the demonstration landscape for implementing LDN and the BDFAP Framework at sub-national level provides lessons that underpin scaling up efforts in other river basins.

Sustainability: The Philippine government aims to mainstream LDN wherein different sectors contribute to its ambitious target. A "river basin" provides the appropriate landscape-scale for integration across different sectors. These efforts have high chances of being sustained and scaled up since the DENR is already using a "river basin" approach to planning and addressing environmental issues, and the RBCO is currently working with 18 critical river basins that can readily benefit from this GEF project. Moreover, the DENR is the agency responsible for delivering the PBSAP and co-implementing the BDFAP Framework. Building on already successful small-scale examples, the proposed project will moreover increase the sustainability of the project interventions by establishing PES schemes benefitting service providers, by providing new incentives for readjusting or converting their farming activities to focus on BDFAP and SLM practices. The proposed project will hereby be providing long-term financial mechanisms, as well as provide the stepping-stone for an expansion of such schemes within CDORB and the Philippines.

Scaling up: Component 1 includes activities geared toward scaling up capacity developed from CDORB to the LDN program's five priority river basins. Lessons learned, knowledge and experience generated can be used by the DENR and DA in scaling up the implementation of the BDFAP Framework within the Philippines placing an increased focus on conserving biodiversity in the production landscape, as well as promoting the broader adoption of traditional crops and local varieties, thereby contributing to the PBSAP. The DA-BSWM leads the national LDN implementation, and thus, can scale up innovations developed in the GEF project through its regular programs. Furthermore, the project will upscale the project demonstrations, among other, through farmer to farmer interactions. In this regard, the projects 2,500 trained farmers will act as facilitators and influences to expand the project promoted methodologies and practices, related to preserving and using important agrobiodiversity, to other farmlands in the CDORB. The project's approaches will also be demonstrated to relevant stakeholders in an additional five river basins, thus, facilitating their adoption more broadly. The project's capacity building and use of analytical tools and decision models, which include layers for biodiversity and other ecosystem services related information, will be used in CDORB and the five other LDN priority river basins, broadening the impact of the project interventions. In addition, with the establishment, and running, of the online knowledge exchange portal, SLM and BDPAP knowledge products, success stories and lessons learned, will become available to all stakeholders in CDORB, and in the Philippines as a whole. This will enable stakeholders, including farmers, to engage in the project promoted practices on a voluntary basis, in an area vastly exceeding the project's intervention area in CDORB.

[1] In the context of the project the phrasings SLM and BDFAP are interlinked. SLM refers to the broader management and use of land resources (in general), including soil, water, animals and plants. It ensures that the production of goods not only meets changing human needs and the long-term productive potential of these resources, but also ensures the maintenance of the land's environmental functions. BDFAP is a subset of more specific actions and engagements related to sustainable agricultural practices with a specific focus on protecting, conserving and sustainably using biological diversity, within the agricultural landscape, as well as in multiple use zones, buffer zones of protected areas (PAs), forestlands and key biodiversity areas (KBAs).

[2] <https://www.unccd.int/publications/forests-and-trees-heart-land-degradation-neutrality>

[3] <https://wad.jrc.ec.europa.eu/globalforests>

[4] Philippine Biodiversity Strategy and Action Plan 2015-28 https://fasps.denr.gov.ph/images/filedocs/ph-nbsap-v3-en_opt.pdf

[5] The analysis was based on 17 negative trends of land degradation (LDN Target setting and Priorities Report, 2018)

[6] Aggregate of forestlands, grass/shrub lands, croplands and wetlands based on 2015 land cover map

[7] LDN Target setting and Priorities Report, 2018

https://knowledge.unccd.int/sites/default/files/ldn_targets/Philippines%20LDN%20TSP%20Country%20Report.pdf

[8] CBD Philippines main details, biodiversity facts <https://www.cbd.int/countries/profile/?country=ph>

[9] <http://www.eoearth.org/view/article/150648/> accessed 12/04/2019

[10] Mt. Kitanglad Range Natural Park and Mt. Kalatungan Protected Area are both important KBAs and designated ASEAN heritage parks for their unique biological diversity

[11] Despite the approval of the JAO is pending, due to consecutive changes to the mandates of the DA and DENR, the BDFAP Framework was jointly developed by the two departments, with the purpose of mainstreaming BDFAP in and around protected areas and promoting the same in wider landscapes. Both Departments recognized that agricultural expansion is one of the major causes of forest fragmentation and BD loss brought about by meeting the food demand of a growing population and the limited space to grow food. Furthermore, it is acknowledged that the interlinked phenomena of unregulated conversion of agricultural lands, rural poverty, and unsustainable practices in production landscapes continue to pose threats to the livelihoods of rural communities and to important biodiversity resources. Overall the BDFAP Framework provides guidance to capacity enhancement of the DA at the National and Regional levels to provide technical support to the LGUs in the mainstreaming and implementation of biodiversity-friendly agricultural activities.

[12] Such as comprehensive land use plans (CLUP); Forest land use plans (FLUP), Protected Area Management Plan (PAMP), Indigenous Community Conservation Area (ICCA), Ancestral Domain Sustainable Development and Protection Plan (ADSDPP), watershed, and physical framework plans

[13] e.g., the National Greening Program (NGP), organic farming (under the Philippines' Organic Farming Law), Integrated Pest Management (IPM), and Sloping Agricultural Land Technology (SALT)

[14] Against the backdrop of climate change and the need for more resilient agricultural production systems, the Environment Management Bureau (EMB) of DENR issued Memorandum Circular 2011-005 incorporating disaster risk reduction and climate change adaptation concerns in the Philippine Environmental Impact Assessment (EIA) system with technical guidelines in the conduct of Environmental Impact Assessment (EIA) for projects requiring Environmental Compliance Certificates (ECC) prior to project implementation. MNCs in particular are required to submit to the EIA system.

[15] A Joint Administrative Order is a policy tool regularly used in the Philippines. It is issued by two or more government agencies to guide the implementation of a strategy, methodology, procedure or process particularly in cases when the mandates of the involved entities are inter-linked and have overlapping geographical jurisdiction or implementation areas, have potential complementation areas and/or there is a need to ensure cost-effectiveness of strategy implementation. Examples of signed JAOs in effect in the Philippines are *JAO No.1, Series of 2005 (Guidelines for Bioprospecting in the Philippines)* and *JAO No.1 Series of 2015 (Strengthening the Implementation Framework for the DA-DAR-DENR-DILG National Convergence for Sustainable Rural Development)*

- [16] e.g., Comprehensive land use plans (CLUP)[16]; Forest land use plans (FLUP), Protected Area Management Plan (PAMP), Indigenous Community Conservation Area (ICCA), Ancestral Domain Sustainable Development and Protection Plan (ADSDPP), Watershed, Physical Framework and Economic Development Plans
- [17] UNCCD 2019: Land Degradation Neutrality Transformative Projects and Programmes, Operational Guidance for Country Support http://catalogue.unccd.int/1224_UNCCD_LDN_TPP_technical_guide_GM.pdf
- [18] Land Degradation Neutrality: *guidelines for GEF project. A STAP document* November 2019: https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.STAP_C.57.Inf_02_Land%20Degradation%20Neutrality_Guidelines%20for%20GEF%20Projects.pdf
- [19] Knowledge and experience about SLM practices/technologies are available in national and global databases (PhilCAT and WOCAT), DA- BSWM, and other international conservation organizations. Examples include i) **Multi-Story Agroforestry**- a land use system or practice of combining trees, crops, livestock and/or fishery components in a given unit of land. The practice diversifies and increases crop yield, income, and total farm productivity, spreads production risks and increases adaptive capacity, improves soil cover and fertility, reduces soil loss and wind velocity, increases agrobiodiversity, increases tree cover and biomass; ii) **Contour Hedgerow** - the planting of hedgerows with nitrogen-fixing leguminous trees and other plant and/or grass species (e.g. vetiver) along the contours of sloping lands to provide vegetative barriers to soil erosion while contributing green manure to the alley crops and iii) **Organic Mulching** -the practice of applying thin layer of organic materials on the soil surface that decompose over time, conserving soil moisture, reducing soil erosion, improving soil fertility, and reducing weeds. It is a farm residue management technique of utilizing organic materials, such as locally available grasses and weeds into useful purposes. These grasses and weeds are cut or chopped into smaller sizes then applied and spread in layers over the soil surface.
- [20] The land managed by the Multinational Corporations have been acquired through long-term lease agreements with smallholder farmers.
- [21] The provided training will include theoretical knowledge on why SLM and BDFAP are needed to ensure a resilient watershed, as well as practical training on various BDFAP and SLM practices which are implementable within the CDORB.
- [22] e.g., Del Monte Phils, Dole Phils, Hydro-electric power (HEP) companies etc.
- [23] A potential institution could be the CDORB Management Council
- [24] The project will build upon earlier PES schemes voluntarily initiated by CDORBMC and private-business sector, including Del Monte Philippines. Current schemes so far are typical conservation projects with low-level ES conditionality, and as such can be described as “input-based”. Meaning that payments are not linked directly to actual ES delivery, but to the actions taken e.g., tree planting. While not directly ES related and far from being a market oriented form of PES, these pilot-schemes have provided for an important stepping-stone toward trust-building between stakeholders. The proposed project’s intervention will attempt to move away from the “input-based” scheme to “output-based” PES schemes, wherein sustainable/continued payments are contingent upon the ES actually delivered. The payment level will be mutually agreed and designed by both ES sellers and buyers. The language of “incentives or rewards” is however, recommended to be used, as the term incentive has more ‘social appeal’ than payment.
- [25] Payments for Environmental Services and the Global Environment Facility, A STAP advisory document, Revised edition March 2010. https://www.thegef.org/sites/default/files/publications/STAP_PES_2010_1.pdf
- [26] Including for instance the document Payment for Ecosystem Services: A Best Practice Guide. <https://www.cbd.int/financial/pes/unitedkingdom-bestpractice.pdf>
- [27] The Supplemental Guidelines on Mainstreaming SLM in Comprehensive Land Use Plan (CLUP) was adopted in November 2019.
- [28] A National Soil Health Program will be rolled-out starting 2020 which includes the components: (i) Institutionalization of National Soil Monitoring and Rejuvenation Program; (ii) Soil health monitoring through mobile soils laboratory cum community farm clinic; (iii) strengthening partners for National Soil Health Program through Doorstep Soil Analytical Services; (iv) production and improvement in soil analysis through enhancement of STK (ESTK) for macro and micronutrients).
- [29] Philippine Conservation Approaches and Technologies <http://www.bswm.da.gov.ph/philcat-slm/>
- [30] World Overview of Conservation Approaches and Technologies <https://www.wocat.net/en/about>

[31] Examples of which could be root crops (such as Yam, Taro and Sweet potato) are planted alternately with maize, Vegetables (such as Congo peas *Cajanus cajan* and Lima Bean *Phaseolus lunatus*) are planted in home gardens or small plots next to other crops or Job's Tears *Coix lacryma-jobi* is planted in smaller plots for up to three ratoons for about 1.5 years. It is usually alternated with maize.

[32] Main categories expected to be accessible on the website will be Legislation, Strategies and action plans. Research, Trainings, Education materials, Videos, Links to sources, Discussion forum (topic separated) and Events. Information will be collected from within and outside the project including internationally.

[33] GEF-7 REPLENISHMENT PROGRAMMING DIRECTIONS https://www.thegef.org/sites/default/files/council-meeting-documents/GEF-7%20Programming%20Directions%20-%20GEF_R.7_19.pdf

[34] Philippine Biodiversity Strategy and Action Plan 2015-28 https://fasps.denr.gov.ph/images/filedocs/ph-nbsap-v3-en_opt.pdf

[35] Birdlife International Data Zone Mount Kitanglad Range Natural Park <http://datazone.birdlife.org/site/factsheet/9794>

[36] Birdlife International Data Zone Mount Kitanglad Range Natural Park <http://datazone.birdlife.org/site/factsheet/9794>

[37] Framework for Philippine Plant Conservation Strategy and Action Plan:

https://www.researchgate.net/publication/275970366_Framework_for_the_Philippine_Plant_Conservation_Strategy_and_Action_Plan

[38] The Philippine Biodiversity Conservation Priorities DENR-PAWB, CI, & UPCIDS 2002:

https://www.researchgate.net/publication/303524907_Philippine_biodiversity_conservation_priorities_A_second_iteration_of_the_National_Biodiversity_Strategy_and_Action_Plan/link/5b487118a6fdccadaec487c8/download

[39] Philippine Bureau of Agricultural Research (BAR) October-December 2013 issue (Vol.15 No. 4)

<https://www.bar.gov.ph/index.php/digest-home/digest-archives/372-2013-4th-quarter/5391-octdec2013-adlai-rd>

[40] FAO in the Philippines: <http://www.fao.org/philippines/news/detail/zh/c/1136484/>

[41] ICCA Registry - Idsesenggilaha of the Menuvù Tribe in Mt Kalatungan, Bukidnon <http://www.iccaregistry.org/en/explore/Philippines/idsesenggilaha-of-the-menuvu-tribe>

[42] Philippine Biodiversity Strategy and Action Plan 2015-28 https://fasps.denr.gov.ph/images/filedocs/ph-nbsap-v3-en_opt.pdf

1b. Project Map and Coordinates

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

The CDORB lies between 8°31'20.58" and 7°56'10.55" North and 124°30'28.08" and 124°51'11.12" East. Please see ***Annex A*** for the project area map. Full landscape profiles documentation, including detailed maps of the project targeted forest landscapes, will be developed during the PPG phase.

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.

The preliminarily identified key stakeholders are listed in table below^[1]. As part of the current formulation process a Technical Working Group (TWG) was established in September 2019 to provide input to and review the overall formulation. Members of the TWG are relevant counterparts from the Department of Energy and Natural Resources, Department of Agriculture, the Philippine Statistics Authority and Civil Society Organization (CSO) partners represented by the Samdhana Institute and Haribon Foundation. The stakeholders' engagement in the further project development process is presented in **Annex B**. A stakeholder engagement plan will be developed during the project's PPG phase to outline how the stakeholders are to be involved in the implementation of the full project. In addition, a series of consultations were held during 2019 to seek comments, advise and input to the project concept and overall scope. A table presenting the timing and the parties consulted is included in **Annex B**.

^[1] With regard to the IP communities, as a stakeholder group, it should be noted that the Samdhana Institute, an NGO working with IPs, is part of the PIF Technical Working Group (TWG) and that the National Commission on Indigenous Peoples Regional Office partook in the CDORBMC Members consultation in December 2019. Furthermore, the Chieftain of the Council of Elders of Mt. Kitanglad has engaged directly with consultants working on the proposed project in 2019. FIPC from the IP communities, or its involved members, will be ensured during the PPG phase.

Stakeholders*
Bureau of Soil and Water Management (BSWM)
Biodiversity Management Bureau (BMB)
Forest Management Bureau (FMB)
River Basin Conservation Office (RCBO), DENR
Other national agencies (NCIP, DILG, DoT, DHUD, DTI, DENR and DA)
Regional offices (DA Field Unit 10, DA-ATI 10, DENR Regional Office 10, DTI 10, DoT 10, DILG 10, Regional Development Council-RDC 10)
Provincial offices (Provincial Agriculture Offices (PAO), Protected Area Management Boards (PAMB), Provincial NCIP office etc.)
Local Government Units or LGUs (Cagayan de Oro City, Iligan City, Bukidnon province, Municipalities of Baungon, Talakag and Libona) with their local extension system, planning and environment and natural resources management departments.
CDORBMC
NGOs (Samdhana Institute, Haribon Foundation, Kitangland Integrated NGOs, Hinelaban Foundation)
Research and Academia [University of Science & Technology Southern Philippines (USTP), and Northern Mindanao Integrated Agriculture Research Center (NOMIARC), Xavier University – Ateneo de Cagayan]
Development partners (ADB, IFAD, USAID, World Bank, GIZ etc.)
Private business sector (Del Monte Philippines, Dole, Unifrutti Tropical Philippines, etc.)
Council of Elders in Mt Kitanglad and Kalatungan
Civil society groups, farmer associations, men and women farmers, and youth

** Please see **Annex B** for stakeholders' roles and responsibilities during project preparation and implementation.*

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).

The Philippines is recognized as one of the ten most gender equal countries in the world. Since 2006 it has consistently been in the top ten in the following categories: labor force participation, educational attainment, health and survival, and political empowerment. While this is the case, gender disparities are still evident in the Philippines particularly among farmers, fishermen, laborers and unskilled workers which are occupations dominated by men. In fact, in Region X where CDORB is located, 2010 data shows that 33% of those employed in the agriculture, forestry and fishing sector were women while 67% were men^[1]. Women are also still poorly represented in decision-making processes, specifically in Environment and Natural Resource (ENR) sector. To note, the 2015 research by the Environment and Gender Index (EGI) and IUCN Global Gender Office (GGO)^[2] highlights the low representation of women in highest positions related to the environment.

Together with the differences in opportunities, challenges, preferences and responses between men and women, these findings are important for the understanding of the relationship between gender and poverty, biodiversity loss, and land degradation. In designing land and biodiversity integrated management options, the links between gendered land-use choices (i.e., preferences of new land-use options) and their implications to ecosystem services provision need specific attention. Often, men and women have contrasting views and choices regarding land, which could influence future land uses and management practices. These differences, particularly women's choices and inputs should be seriously considered in river-basin trade-off analysis, and in developing management options and SLM/BDFAP incentives. While women are directly engaged in agriculture and natural resources management, particularly among local communities they traditionally are, compared to men, less involved in the decision-making processes. Thus, gender-induced inequity should be determined and addressed during the project development to ensure neither of the sexes is undermined, and women, in particular, are given an equal voice, as well as equal opportunities in project activities. Also, as gender is cross-cutting, it will be mainstreamed across all project components. To facilitate gender equality and gender mainstreaming, a Gender Analysis and Action Plan (GAAP) will be developed, during the PPG phase, to determine, among others, the differentiated roles of women and men in biodiversity conservation and natural resources management and their potential role in reversing trends of agrobiodiversity loss and resource degradation. The GAAP will be used to underpin project efforts for effective mainstreaming of gender during project implementation. The gender action plan will contain gender-disaggregated indicators, that will become the basis for monitoring and evaluation of the project's impact on promoting gender equity and empowerment of women. As such, the project will make a concerted effort to increase the proportion of women participants in various areas to a level substantially above the business-as-usual, and while further elaborated during the PPG phase, the project gender engagement will include:

- Detailed consultation with women to ensure their knowledge and perspectives are incorporated as part of the surveys and research conducted for project baseline assessments
- Dedicated consultation with women during the identification and design of incentive mechanisms to ensure women's perspectives help shape the mechanisms developed and ensure that they reflect women's livelihood priorities.
- The identification of women's role in the cultivation, processing and marketing of traditional crops, and identification of areas where roles could be further developed.
- Dedicated training and technical assistance to women during project implementation. The project will ensure that 50% of those trained under the project are women and that training supports them to achieve livelihood objectives.

- The established project business ventures include women, are preferably having majority participation by women or are solely run by women. Opportunities to establish women's cooperatives will also be explored during the PPG phase.

[1] Women and men in the Philippines <https://psa.gov.ph/sites/default/files/Women%20and%20Men%20Handbook%202016.pdf>

[2] Women in Environmental Decision Making: Case Studies in Ecuador, Liberia, and the Philippines <https://genderandenvironment.org/wp-content/uploads/2015/02/CI-REPORT.pdf>

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

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

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

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The private sector, primarily MNCs have been identified such as Del Monte Philippines and Unifrutti Tropical Philippines. Their participation in the project will be actively sought during the PPG phase. These companies will be engaged in two ways: (i) through adopting SLM practices and BDFAP in their field operations in compliance with national/international triple-bottom-line standards and the EIA indicators, committing their plantation area as their contribution to the national LDN/ PBSAP targets, and through negotiated arrangements in reference to applicable policies/laws, report progress to concerned local governments and relevant agencies; and (ii) co-investing and-implementing various forms/types of SLM & BDFAP incentive mechanisms suited to the local contexts. The private sector will demonstrate applicable schemes with local communities, as ES providers, ranging from input-based co-investment schemes to outcome-based payments of commoditized ecosystem services. They will demonstrate the concept of “in-setting” whereby restoration efforts are carried out, and ecological footprints are reduced within the value chain (at production level— lower part of the value chain) rather than paying offsets from restoration efforts elsewhere.

During the PIF formulation process, in 2019, MNCs in CDORB were consulted and positive feedback and initial acceptance of the proposed project’s conceptual approach for MNC involvement were obtained. The support for the proposed project can in part be verified by provided co-financing listed in **Table C**. The project is, in this connection, seeking to work with MNCs which have proven track-records in meeting, or exceeding, national and international standards. Del Monte’s pineapple plantation in the Philippines has, as the first pineapple plantation in the world, been Global Good Agricultural Practices (GLOBALGAP) certified and it has the Rainforest Alliance Certification for complying with standards prescribed by the Sustainable Agriculture Network (SAN). Del Monte is engaged in and continues the process of installing soil and water conservation structures, as well as adopting cultural practices designed to mitigate runoff and erosion in their cultivated fields. Mt. Kitanglad Agriventure, Inc. (MKAVI - a Unifrutti subsidiary) was, in 2001, the first recipient of the Rainforest Alliance Certification in Asia for Highland Banana. Best practices of MKADC include provision of soil erosion control structures, cover cropping and vegetative buffers, contour block lay-out of plantation, devotion of 20% farm area for soil erosion control and no use of nematicide, herbicide, fungicide and insecticide. In addition, both companies are involved in PES activities i.e. Del Monte in Talakag and Unifrutti in Lantapan – both areas are in the Bukidnon province in which CDORB is also located. Due diligence of Unifrutti, Del Monte and other private sector partners will be performed during the PPG phase. Please refer to risk number 14 in **Annex C** for information on risk private sector risk management.

5. Risks

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

Project risks and risk rating identified during the PIF formulation are shown in table below. For the risk's proposed mitigation measures please see *Annex C*. A thorough risk assessment will be undertaken during the PPG phase.

Risks	Rate
Risk 1: Rights of affected populations (particularly of marginalized groups) are adversely impacted by, project interventions and outcomes and do not have the possibility or capacity to claim their rights or meaningful participation.	I = 3, P = 2: Moderate
Risk 2: Prevailing gender biases in the Philippines unintentionally discriminate against women limiting or adversely impacting their possibilities for accessing opportunities and/or exerting influence on project interventions and outcomes.	I = 3, P = 2: Moderate
Risk 3: The anticipated benefits (including ecosystem services, soil retention land cover etc.) from the project's SLM, BDFAP and agrobiodiversity conservation interventions do not materialize.	I = 4, P = 1: Moderate
Risk 4: Introduction of new livelihood activities as part to the improved land management practices and BDFAP technology could result in lower income.	I = 2, P = 3: Moderate
Risk 5: The effects of climate change such as flooding, and droughts could impact project areas and activities.	I = 3, P = 3: Moderate
Risk 6: The anticipated livelihood benefits to local people (including from indigenous people's communities) from the project's livelihood and financial interventions do not materialize.	I = 3, P = 2: Moderate
Risk 7: Alien Invasive Species are inadvertently introduced to the project areas by the project's on-the-ground engagements.	I = 3, P = 2: Moderate
Risk 8: Indigenous peoples have limited possibilities for accessing opportunities and/or exerting influence on project interventions and outcomes which negatively affect their development priorities.	I = 3, P = 2: Moderate
Risk 9: Human health is negatively affected by the inappropriate use of pesticides and insecticides.	I = 3, P = 2: Moderate
Risk 10: The policy-backing from concerned agencies towards LDN target/priority and BDFAP framework implementation, cooperation and coordination does not materialize.	I = 3, P = 2: Moderate
Risk 11: Adopting the Joint Administrative Orders, the CDORB Comprehensive Land Use Plan and strategic workplans takes longer than planned.	I = 3, P = 2: Moderate

Risk 12: The Multinational Corporations in CDORB will, only to a limited extend (or not at all), participate in the project.	I = 4, P = 2 Moderate
Risk 13: The Indigenous Peoples Communities have little or no interest in re/adopting or expanding the use of traditional agrobiodiversity systems.	I = 4, P = 2 Moderate
Risk 14: Private sector partners are not thoroughly vetted resulting in the risk for unintentionally partnering with companies engaging in malpractices.	I = 4, P = 2 Moderate

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.

The project will be overseen by a Project Executive Board chaired by the DA-BSWM with members from the DA Central Office, DENR-BMB, DENR Central Office, National Economic and Development Authority (NEDA), DILG, and the NGO community. A project management unit (PMU) will be set up, ideally in Cagayan de Oro City, to ensure presence in the project area and to facilitate efficiency and effectiveness in project operations. An advisory team at the local level will be created to provide strategic advice and support to sub-national level project implementation. A detailed project coordination framework and workflow will be developed, and project staffing will be determined during the PPG phase. For a graphic presentation of the project organizational structure please see ***Annex D***.

The project will collaborate with and/or build on the outputs and activities of a number of existing and/or former GEF Projects. The initial list is presented below but the synergies between the proposed project and other national and international projects and programmes etc. will be further explored during the PPG phase.

Projects	Funder
Integrated Natural Resources and Environmental Management (INREM)	ADB
Biodiversity and Watersheds Improved for Stronger Economy and Ecosystems Resilience (B+Wiser)	USAID
ECOCARES implemented by Xavier Science Foundation, SHIELD and Samdhana Institute	Italy-Debt for Nature Swap
New Conservation Areas in the Philippines Project (NewCAPP)	UNDP-GEF
Biodiversity Partnership Project	UNDP-GEF
Emerging Champions for Biodiversity Conservation and Improved Ecosystem Services Project” implemented by Enterprise Works Worldwide Phil. -Relief International	European Union & USAID
Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate the Effects of Drought	UNDP-GEF
Ridge to Coast, Rain to Tap, SWF Project in Cagayan de Oro (implemented by Samdhana Institute, Hineleban Foundation, Wetlands International, CDO water district and Red Cross)	The Netherlands VEI and Viteens Vides International
Integrated Approach in the Management of Major Biodiversity Corridors in the Philippines (IA-Biological Corridors)	UNDP-GEF
Enhancing biodiversity, maintaining ecosystem flows, enhancing carbon stocks through sustainable land management and the restoration of degraded forestlands	FAO-GEF
Dynamic Conservation and Sustainable use of Agro-Biodiversity in Traditional Agro-ecosystems of the Philippines	FAO-GEF

With regard to the identified related projects, the areas of cooperation and establishment of synergies will as mentioned be explored further during the PPG phase. In this regard, utilizing the Department of Agriculture's internal and external cooperation and coordination mechanisms will become an essential avenue for the proposed project to influence other projects as well as to absorb lessons learned and good practices from said projects. As part of the proposed project's Outcome 3, it will also use Department of Agriculture's international cooperation setup to broaden its international outreach and cooperation. Taking advantages of Department of Agriculture's participation in international engagements, the proposed project can create synergies not only within the Philippines, but also internationally.

7. Consistency with National Priorities

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

Yes

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

The project's consistency with the national strategies and plans will be fully explored during the PPG phase.

National strategies and plans

X	Philippine National Biodiversity Strategy Action Plan (PBSAP) 2015-2028
X	Philippine Voluntary Land Degradation Neutrality (LDN) Targets
X	Philippines Biodiversity-Friendly Agricultural Practices Framework
X	Philippine National Action Plan to Combat Desertification, Land Degradation and Drought (DLDD) 2010-2020
X	Ambisyon Nation 2040
X	Philippine Development Plan 2017-2022.
X	Philippine National Climate Change Action Plan 2011-2028

The Philippines has ratified the CBD and UNCCD in 1992 and 2000, respectively.

The project supports the revised PBSAP (2015-2028). In the revision, a critical new area of concern was introduced, namely agrobiodiversity, which became one of the PBSAPs three thematic areas. While the PBSAP does not enter into species specific details, it emphasises that agrobiodiversity is a critical part of the country's biodiversity and that its conservation is of national importance. More specifically the project will support the PBSAP agrobiodiversity program interventions of: i) Increase the number of in situ and ex-situ sites that conserve and propagate diverse indigenous species and varieties; ii) Increase the number of communities practicing heritage agriculture that adopts dynamic conservation programs and sustains important traditional varieties; iii) Integrate conservation and sustainable use of agrobiodiversity in PA plans as well as plans for conservation areas outside the PA system; and iv) Incorporate agrobiodiversity concerns in enhanced CLUPs and other LGU programs. The project also supports the BPSAP targets 4, 7, 11, 14, 17 and 18.

The project also supports four of the Philippine's 2018 Voluntary Land Degradation Neutrality targets^[1] (i.e. Attain Land Degradation Neutrality in degraded croplands; Attain Land Degradation Neutrality in five Pilot River Basins; Strengthen consensus-based stewardship of protected areas and ancestral domains; and Sustain positive trends in land management (reversion from cropland to forests) particularly in key watersheds).

Further, the project aligns with the Philippine Development Plan (PDP 2017-2022) specifically under sub-sectors 1 and 2, Biodiversity and functioning of ecosystems services sustained and Environmental Quality improved - Land Quality Management respectively. More specifically the project under sub-sector 1 supports i) the strengthening of *sustainable management through the issuance of appropriate tenure and management arrangement* and ii) *Improving land administration and management*. With regard to sub-section 2 the project supports among others i) *promotion of sustainable land management to arrest land*

degradation; ii) integration of SLM technologies into sectoral, national, and local development and natural resources management plans; iii) improving local capacities and skills for planning and management of land resources, and strengthen awareness and advocacy campaigns; and iv) scaling up and promoting SLM in production landscapes and within multiple-use zones in PAs.

The project also supports the implementation of the BDFAP Framework, which in turn supports the implementation of the DENR Executive Order no 578 on Establishing the National Policy on Biodiversity, and the Administrative Order No. 2016-12 on Adopting the Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028. The objectives of the BDFAP Framework are: 1) to promote agricultural development that is compatible with the conservation of the ecosystem in areas where agricultural and fishery activities are carried out; 2) to ensure judicious use of the country's natural resources for sustainability and to conserve genetic diversity of biological resources used for food and agriculture; 3) to initiate/strengthen the institutionalization of biodiversity-friendly agricultural practices in multiple use and buffer zones of protected areas, and tenured areas within key biodiversity areas through the mainstreaming of their use by occupant-tiller/farmers and tenured migrants; 4) and to provide the framework as basis for the future formulation of standards on biodiversity-friendly agricultural practices and relevant certification and recognition systems.

Finally, the project contributes to 9 Aichi Targets (i.e. 2, 4, 5, 7, 13, 14, 15, 18 and 19). The project is also relevant to the Sustainable Development Goals (SDGs), particularly SDG 15 and its targets 15.5 and SDG 2 and its target 2.4^[2].

^[1] In its conclusion the National Report on Land Degradation Neutrality Target Setting Programme (LDN-TSP) notes that the LDN target setting process (and outcomes) can contribute to creating policy coherence among national policies and commitments through the integration of the voluntary LDN targets into the national policy framework. The national policy framework consists of national action plans for the implementation of the commitments towards key UN Conventions and national development strategies, particularly in the agriculture and natural resources management sectors. It can also serve as a vehicle to implement the NAP-DLDD. As such, targets and transformative projects of the LDN TSP will consider the priority river basins the same basins as those targeted in the NAP-DLDD and which contain extensive LD hotspot areas and have high poverty incidence. In addition, the LDN targets can be translated into projected land management strategies to support the conservation and sustainable use of agrobiodiversity, particularly in Protected Areas (PA) and Indigenous Community Conservation Areas (ICCA). Furthermore, within the context of the National Climate Change Action Plan (NCCAP), which provides the cross-cutting guidance for sectoral policies toward improved mitigation and adaptation actions, the sector on Food Security, Water and Ecosystem Conservation can benefit from the introduction of LDN approaches. LDN targets oriented towards CC adaptation have the concurrent potential of enabling the Agriculture Forestry and Land Use sector to contribute a larger share in the NDC that reflects adaptation as the anchor strategy.

^[2] SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture; Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss; Target 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

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.

Knowledge management is one of the main aims of Component 3 that includes: (i) documentation of processes, best practices, lessons learnt, and impact stories describing the theory of change; (ii) knowledge dissemination products that include production of SLM and BDFAP farming guides, learning/training modules, policy briefs, technical notes, and learning events for students, local government officials, watershed management practitioners etc. In addition, knowledge dissemination through capacity development trainings proposed for the five river basins and concerned national agency staff will be undertaken under Component 1. Furthermore, a key output in Component 3 is creating and launching of an online knowledge exchange portal for SLM, BDFAP, LDN technologies and practices, conservation of local varieties and traditional crops, etc. The knowledge products will not only derive from the project's work, but collect or provide links to the extent possible, available data from the Philippines and credible international sources. As such the online portal will act as a type of a knowledge gateway. The portal will be broadly publicized among practitioners, national and local government staff, including river basin managers and other stakeholders. Also, knowledge materials produced and accessible on the portal will be promoted among Leagues of Municipalities and Cities of the Philippines, League of Provinces of the Philippines and League of Environment and Natural Resource Officers (LENROs). The long-term sustainable operation of the portal will be ensured by a cost - sharing mechanism and rotational staffing from DENR, DA and DILG.

The project will also disseminate project results, success stories and lesson learnt through multiple channels of the media, including printed media, online/social media, television as well as organized workshops. In addition, to ensure full accountability and to provide input for any potential project course correction, the project will undertake routine monitoring of the project activities and regular interactions with the project stakeholders. This will be documented through the project's reporting [i.e. UNDP annual reports (APR) and GEF Project Implementation Reports (PIR), etc.]. Furthermore, mid-term reviews and terminal evaluation will be embedded in the project's M&E Framework, which will be developed during the PPG phase.

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
Analiza R. Teh	Undersecretary for Climate Change and Mining Concerns GEF Operational Focal Point	DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES	

ANNEX A: Project Map and Geographic Coordinates

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

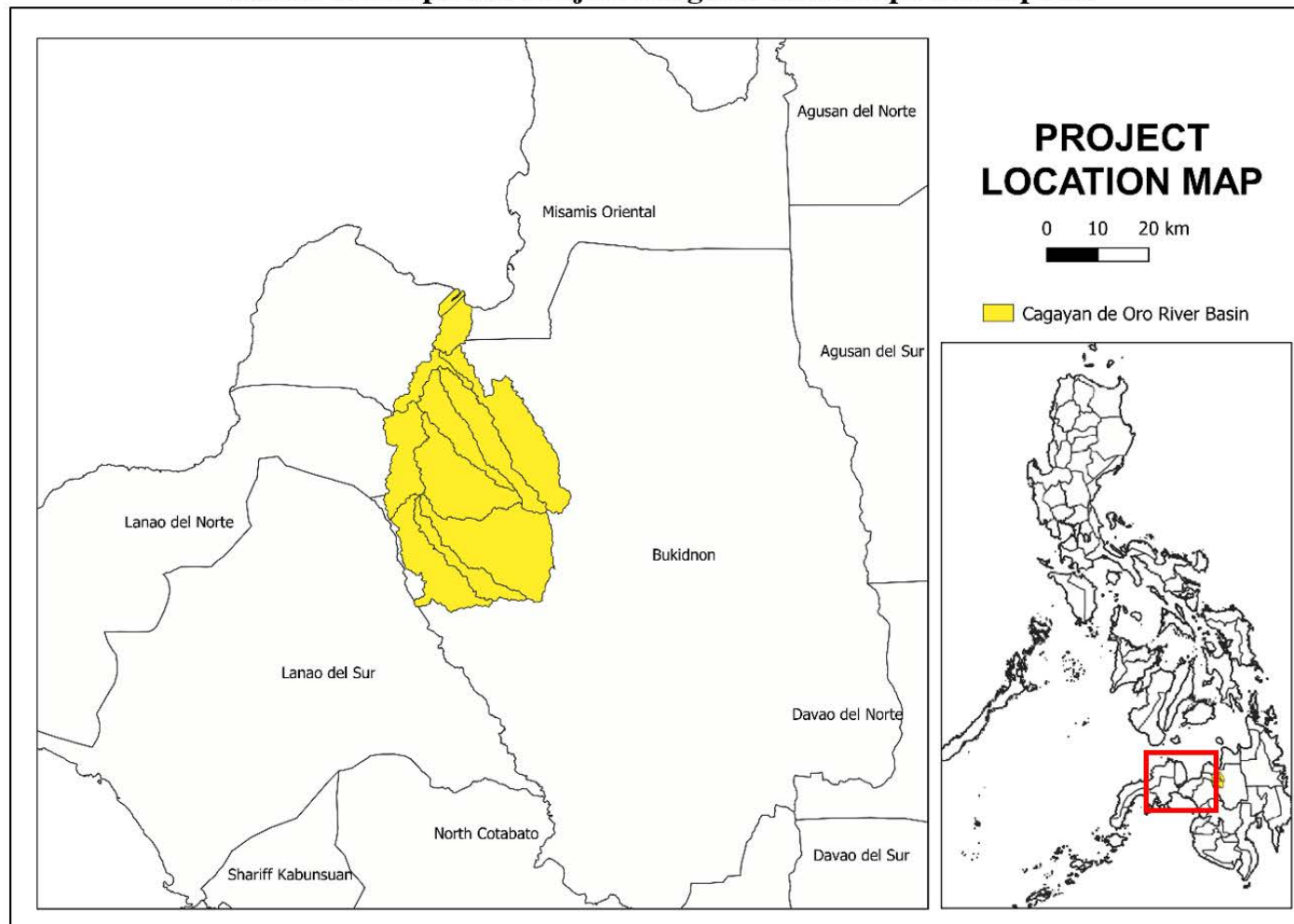
Annex A: Maps and Project Targeted Landscape Description

Figure 1: Location of CDORB, Philippines

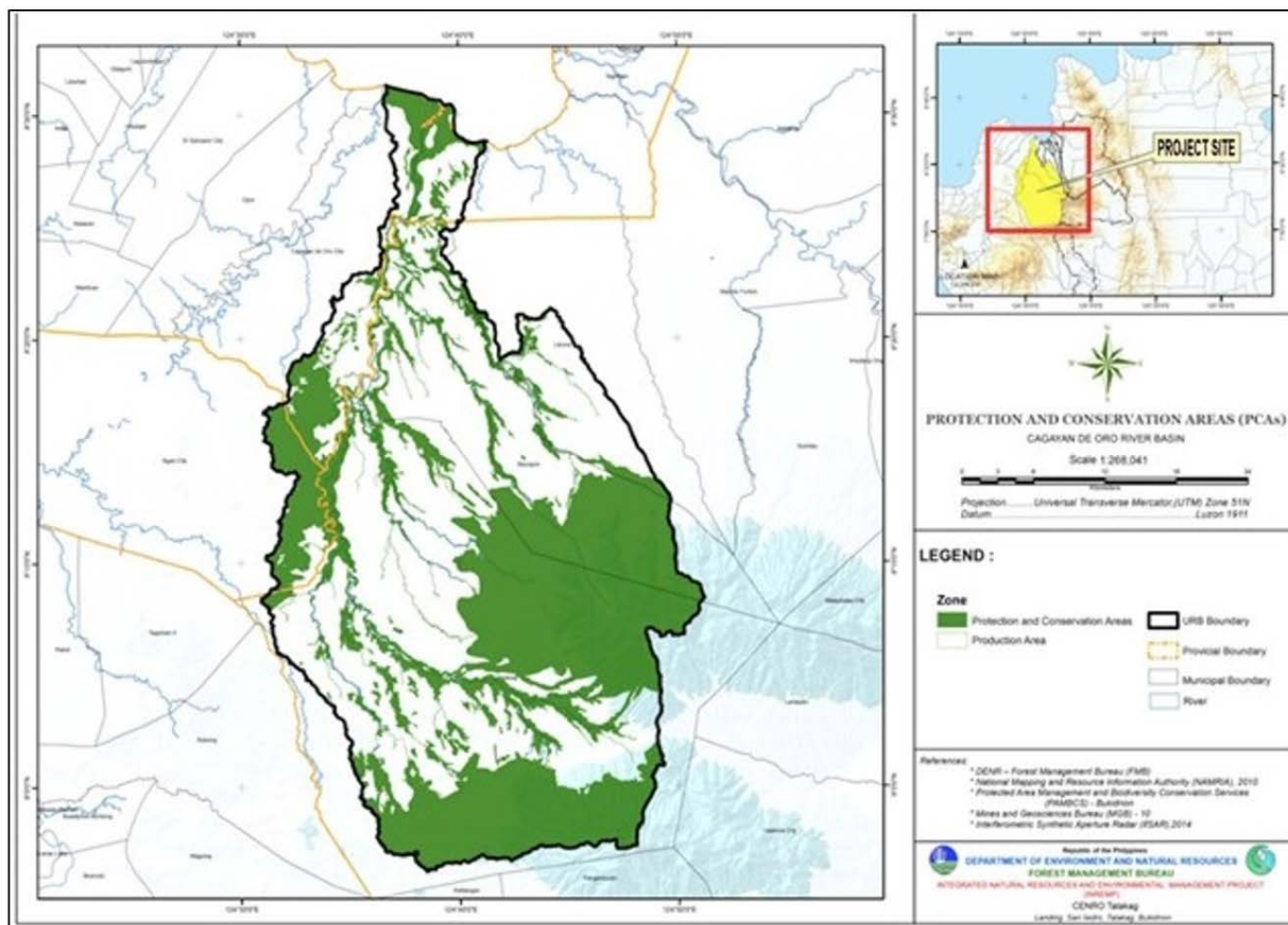


Figure 2: Location of CDORB, Northern Mindanao, Philippines

The Cagayan de Oro River Basin has been selected as the Project Area for the proposed project for several reasons. The CDORB also experienced severe climate events where Typhoon Sendong (Typhoon WASHI) caused loss of lives and properties in Cagayan de Oro City in December 2011 as did Typhoon Pablo (Typhoon Bopha) in 2012, which affected Davao Oriental and Davao de Oro. Both events highlighted the fact that unsustainable farming practices can result in flash flooding that lead to loss of lives and properties. In addition, CDORB has in the before mentioned document been identified as an area with wide areas affected by land degradation, as well as being an area with high levels of poverty

Due to the disasters in 2011 and 2012, the CDORM Management Council has been proactively implementing strategies that will help avoid similar disasters in the future and have current institutional arrangements in place, which are relatively advanced compared to other river basins in the Philippines. In addition, the CDORB Management Council has the active participation of government agencies, CSOs, academic institutions, private sector, local communities and indigenous people (IP) communities. This in turn provides for a solid base and setup in which the proposed project can be embedded, and one which can facilitate project success. These features, as well as the on-the-ground conditions and mix of stakeholder groups, including small-holder farmers, MNCs and IP communities, have been relevant for selecting CDORB as the project site for the proposed project.

Demonstration Landscape.

The CDORB that drains to the Macajalar Bay in Misamis Oriental, in Northern Mindanao region, has a land area of 139,725 hectares. It lies between 8°31'20.58" and 7°56'10.55" North and 124°30'28.08" and 124°51'11.12" East. The basin's headwaters originate in the municipalities of Talakag, Baungon and Libona in Bukidnon province, and drain into eight (8) major rivers. These rivers confluence to form the Cagayan River, which eventually discharges at Macajalar Bay after passing through Cagayan de Oro City. The bulk of natural tropical broadleaved forest in the basin covers 25% of the landscape (ca.39,000ha) located in two protected areas partly straddling the basin. Between 2003 and 2010, about 5,000 hectares of these forests (ca. 3% of basin area) were lost. The rest of the basin consists mostly of smallholder farms mostly grown to corn, root crops, temperate vegetables, wet rice and industrial crops such as sugarcane and cassava (approx 31,013 ha); large-scale banana and pineapple plantations (20,721 ha); and grasslands.

CDORB is home to around 393,000 people (Philippine Statistics Authority 2015) mostly in four of six of the basin municipalities, Talakag, Baungon, and Libona in Bukidnon province, in Cagayan de Oro City, Misamis Oriental. Nineteen (19) percent of the basin population are smallholder farmer-residents of the municipalities of Talakag, Baungon, Libona, Iligan City (Lanao del Norte), and Bubong (Lanao del Sur) while 81 percent live in Cagayan de Oro City, a highly urbanizing city in the lower reaches of the basin. The basin is generally mountainous.

Aside from the critical role the basin plays in providing vital ecosystem services for its population, it affords a significant influence on Cagayan de Oro City as a regional and economic hub of Region X and Mindanao Island. The basin is ancestral home to four (Talaandig, Manobo, Higanonon, and Bukidnon) of the seven tribes of indigenous peoples in Bukidnon and has claimed over their ancestral domain. Further, more than a fifth (22%) of the basin constitute two protected areas, namely Mt. Kitanglad Range Natural Park and Mt. Kalatungan Protected Area are both important KBAs and designated ASEAN heritage parks for their unique biological diversity. Mt. Kitanglad supports substantial populations of many montane forest specialists, including several which are only known from the higher mountains on Mindanao, such as Mindanao Lorikeet, Mindanao Racquet-tail, Mindanao Scops-owl, Slaty-backed Jungle-flycatcher, Red-eared Parrotfinch and Apo Myna. It is one of only three sites where the poorly known Whitehead's Swiftlet has been recorded. There is also an important population of Philippine Eagle in this KBA. Many lowland forest species were recorded in the Mt Kitanglad range in the past, but the lowland forests around the base of the mountains have now been almost entirely cleared. The area is rich in gymnosperms and tree ferns, and more than 300 species of flora used by the indigenous people for herbal medicine, including "ali" *Drimys piperita*, "kappa-kapa tree" *Medinilla magnifica*, and the pitcher plant *Nepenthes truncata* in the montane forest. The human activities most severely impacting these protected areas are high-value crop plantations, kaingin, small-scale logging and establishment of buildings and roads for telecommunications and military camps. There are lower intensity impacts from gathering of non-timber forest products, tourism, hunting, fishing and grazing. Overhunting and commercial collecting of wildlife are widespread. These have displaced local and migrant farmers, who have destroyed secondary forests for farming, and fires started to burn areas of forest have gone out of control.

Additionally, CDORB hosts vast areas of corporate plantations for banana and pineapple—two of the country's primary horticulture exports (e.g., Del Monte Philippines, Dole & Uni Fruitti). Multi-national corporations have significantly modified the landscape due to large scale land acquisition through existing long-term lease agreements with smallholder farmers. Once farming becomes unprofitable, farmers would lease their lands to MNCs and work as company workers or move upstream—this situation induces higher opportunity cost for adopting SLM practices and BDFAP. CDORB also supplies water to HEP companies, irrigation and

water supply companies. CDORB is under continued threat from land degradation due to the unregulated use of its agricultural lands, forests, waters, and the effects of climate change. While soil in the basin is generally deep and moderately fertile, 2/3 of the landscape has slopes over 18% making the soil susceptible to erosion, which then, limits agricultural cultivation. Past aggressive expansion of corporate agriculture into fertile lands (prior to 2011/2012), facilitated the driving of migrant farmers and small holders unto the fragile infertile slopes. Continuous tillage on sloping lands, slash-and-burn agriculture, timber poaching, forest fires, wood scarcity, and wildlife hunting are aggravating rural poverty, biodiversity loss, fragmentation of habitats and ecosystems besides contributing to GHG emissions. Increasing scarcity of water supplies during the dry months for both marginal and commercial agriculture, energy and domestic use are compromising the wellbeing of local communities. Annual eroded soil is estimated at 50 tons/ha, causing mudflows, flooding and inundation of downstream farms and settlements.

Potential private sector partners

Del Monte Philippines, Inc. (DMPI) grows pineapple across Bukidnon and Misamis Oriental. Its processing plant in Bugo, Misamis Oriental produces over 100 processed food and beverage variants. Its pineapple plantations in Bukidnon are situated on the slopes of Mt. Kitangald covering over 30,000 hectares of which 10,00 ha are within the CDORB. DMPI obtained a Rainforest Alliance Certification for complying with standards prescribed by the Sustainable Agriculture Network (SAN).

DMPI is an institutional member of the CDORBMC representing the business sector. It is an active member of the Technical Committee of the council.

Currently, it is an active player and benefactor in the implementation of the PES Scheme of the Municipality of Libona, one of the LGU located within the CDORB. DMPI participated in the planning and policy deliberations of the PES scheme development and subsequently supported the implementation in terms of providing tree seedlings. DMPI also extends in-kind assistance (seedlings) to a neighboring PES project in Mt. Kalatungan. Insofar as land degradation is concerned, DMPI continues to install soil and water conservation structures as well as to adopt cultural practices designed to mitigate runoff and erosion in their cultivated fields.

Overall, DMPI have been enthusiastic in joining efforts related to natural resources conservation and protection of the CDORB and have been consistent in their participation in all conservation related activities initiated by the CDORBMC. And while DMPI's cultivation of pineapple in sloping lands had been blamed as the major source of mudflows which devastated Cagayan de Oro City during the onslaught of Typhoon Sendong last December of 2011, their help in the efforts towards building the resilience of the basin to extreme climate events demonstrates genuine Corporate Social Responsibility.

Unifrutti Tropical Philippines, Inc. (UTPI) is a corporate fresh fruit investor operating a banana and pineapple plantation in the uplands of Lantapan, Bukidnon and several other areas in Mindanao. It is one of the country's biggest banana exporters, shipping bananas to Japan, the Republic of Korea, China, Iran and other countries in the Middle East. To better operationalize its vision and mission in the communities where it operates, Unifrutti has partnered with Hineleban Foundation Inc. (HFI) to undertake community development projects, which primarily target IP communities residing along buffer zones of mountain forest in the Province of Bukidnon. HFI was founded by Unifrutti to bring its corporate vision down to the Lumad communities and Bangsamoro areas in Mindanao. The Unifrutti Group and Hineleban Foundation have been working on rainforestation practices since 1990 and on buffer zone management for the last 8 years.

Unifrutti does not operate any banana or pineapple plantation inside the CDORB. Its presence in CDORB is because of its task to reforest an area inside the headwaters of the CDORB in collaboration with a project called the *Ridge to Coast, Rain to Tap (R2CR2T)*, *SWF Project in Cagayan de Oro implemented by partnerships of SAMDHANA, Hineleban Foundation, Wetlands International, CDO water district and Red Cross* funded by Vitens vides International and the Dutch Govt.

Unifrutti is the leading practitioner of sustainable agriculture in the Region. It subjects its operation to a regular third-party audit conducted by the Rainforest Alliance Council and other certifying bodies to ensure that it meets the high standards and indicators of sustainability and social responsibility. Its subsidiary company Mt. Kitanglad Agri-Development Corporation (MKADC) in Lurogan, Valencia was the first in the world to be awarded a Rainforest Alliance Certification while its Mt. Kitanglad Agriventure, Inc. (MKAVI) plantation in Lantapan, Bukidnon was the first recipient of the Rainforest Alliance Certification in Asia for Highland Banana in 2001.

In the R2CR2T project Unifrutti (thru Hineleban) is piloting rehabilitation practices that hasten restoration of degraded ecosystems abutting existing primary forest of the Mt. Kitanglad Protected area and the marginalized riparian zones radiating from the protected area towards the downstream areas. In addition, Unifrutti maintains a demonstration site in Bukidnon developing practices directed to biodiversity conservation, rain-forestation and sustainable agricultural practices.

Furthermore, Unifrutti lends technical expertise to the CDORBMC in terms of technical approaches to watershed rehabilitation and the sustainable development of upland communities. Its participation and leadership in the council had been very consistent and reliable over the years.

Annex B: Stakeholders' Roles and Responsibilities

Table A: Stakeholders' Roles in Project Preparation and Implementation.

Stakeholders	Roles in Project Preparation and Implementation
DA Bureau of Soil and Water Management (BSWM)	The central agency which develops and implements policies and programs BS WM will be the implementing agency mainly responsible for managing the project. It will also implement project activities primarily under components 1 and 2. As such, it will be the key agency in the preparation phase. It will enter into partnership agreements (e.g., Memorandum of Agreements) with various government agencies, NGOs, and other partners to implement major project components and activities.
DENR Biodiversity Management Bureau (BMB)	As member of the project board, BMB will provide oversight functions in project implementation. It will ensure support from DENR regional and provincial offices to the project. BMB is also responsible for implementing parallel programs on biodiversity conservation in line with the PBSAP, thus contributing to the project's goal. During project preparation, BMB and the project preparation team will ensure that biodiversity is explicitly mainstreamed in the project's goals and activities and are aligned with BMB's regular activities in the project site.
DENR Forest Management Bureau (FMB)	As member of the project board, FMB will provide oversight functions in project implementation. It will ensure support from DENR regional and provincial offices to the project. FMB is also responsible for implementing parallel programs on forest restoration, particularly the National Greening Program, thus contributing to the project goal. FMB and the project preparation team will ensure synergy

<https://gefportal2.worldbank.org>

ty, Iligan City, Bukidnon province, Municipalities of Baungon, Talakag and Libona) with their local extension system, planning and environment and natural resources management offices	provide local resources to leverage project funding and enable smooth implementation of project activities.
Cagayan de Oro River Basin Management Council (CDORBMC)	CDORBMC will be an implementing partner of various activities across the three project components. Their involvement during project preparation will be actively sought since it is both the primary beneficiary and implementing partner of the project. Specifically, it will provide relevant site information such as maps, data, etc., and will help the project preparation team during stakeholder consultations.
NGOs (Samdhana Institute, Haribon Foundation, Kitangland Integrated NGOs, Hinelaban Foundation)	Their participation in the project preparation stage will be sought since they will potentially be involved in project implementation—their specific roles will be determined during the PPG phase. They will provide socio-economic data, maps, and other relevant information, and participate in stakeholder consultations.
Research and Academia [University of Science & Technology Southern Philippines (USTP), and Northern Mindanao Integrated Agriculture Research Center (NOMIARC), Xavier University – Ateneo de Cagayan]	The project preparation team will seek their inputs particularly for components 2 and 3 where they can be potentially involved as implementing partners. Specifically, they will be likely involved in baseline studies, trainings, communication and learning events.
Development partners (ADB, IFAD, USAID, World Bank, GIZ etc.)	They will be consulted during project preparation phase for potential collaboration, and future scaling of project innovations.
Private business sector (Del Monte Philippines, Dole, Uni Fruitti etc.)	The project preparation team will engage the private sector to explore potential co-investment schemes (PES) in SLM and to seek their collaboration in relation to achieving the LDN targets through their standard practices. They will play important roles in activities under component 2.
Council of Elders in Mt Kitanglad and Kalatungan	The project preparation team will actively engage the Council of Elders right at the beginning because the project could not be effectively implemented without their engagement and support, and FPIC will be solicited during the PPG phase. As member of CDORBMC and PAMB, the Council of Elders will provide much needed advice in the smooth implementation of project activities within ancestral domains and PA buffer zone.
Civil society groups, farmer associations	Their perspectives, interests and preferences will be sought during project preparation

ciations, men and women farmers, and youth	aration as they provide legitimacy to the project. They will be the main participants and direct beneficiary of the project.
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Table B: Members of the Technical Working Group

Department of Agriculture-Bureau of Soils and Water Management (BSWM)
DA Agricultural Training Institute
DA Bureau of Agricultural Research
DA Field Operations Service
DA Special Projects Service
DA Project Development Service
DA Policy Research Service
DA Special Area for Agricultural Development
DA Systems – Wide Agriculture Climate Change Office
Department of Environment and Natural Resources-Biodiversity Management Bureau (DENR-BMB)
DENR-Forest Management Bureau (DENR-FMB)
DENR-River Basin Conservation Office (DENR-RCBO)
Philippine Statistics Authority
Civil Society Organization (CSO) partners (Samdhana Institute and Haribon Foundation).

Table C: Stakeholder consultations.

Date	Participants
January 2019	Heads of Department of Agriculture Region 10, DENR Region 10 and Mindanao Development Authority (MINDA)
May 2019 & July 2019	Head of Council of Elders of Mt. Kitanglad Natural Park
May 2019	PASu of Mt Kitangland and Mt. Kalatungan
May 2019	Provincial Agricultural Officer of Bukidnon province
June 2019	EO of CDORBMC Secretariat
December 2019	CDO Rover Basin Management Council. The meeting included representatives from Department of Agriculture – Bureau of Soils and Water Management (DA-BSWM), Department of Environment and Natural Resources (DENR) Region 10, CDORB Management Council (MC) Secretariat, Cagayan de Oro City Local Environment and Natural Resources Office (CLENRO), Department of Science and Technology (DOST) Region 10, National Commission on Indigenous Peoples (NCIP) Region 10, Cagayan de Oro Water District (COWD), Department of Agriculture (DA) Region 10, Department of Interior and Local Government (DILG) Region 10, Bukidnon State University (BUKSU), Xavier University - Research Institute for Mindanao Culture (RIMCU), Central Mindanao University (CMU), Capitol University, The Samdhana Institute, Safer River, Life Saver Foundation, Inc. (SRLSFI), Kitanglad Integrated NGOs, United Nations Development Programme (UNDP)

Annex C: Project Risks

Risks	Rate	Mitigation measures
Risk 1: Rights of affected populations (particularly of marginalized groups) are adversely impacted by, project interventions and outcomes and do not have the possibility or capacity to claim their rights or meaningful participation.	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>Further assessments of the rights of national and local level stakeholders are needed with a specific focus on gender and indigenous peoples. There is also a need to assess potential impacts of the project on rights and interests, lands, territories, resources, and traditional livelihoods and determine when Free, Prior and Informed Consent (FPIC) requirements in accordance with national contexts and preferences. Consultations with relevant stakeholder groups will be undertaken by the project's development team but also through the consultation mechanisms of the local government structures. The findings will be incorporated into the project design.</p> <p><u>Management:</u></p> <p>Develop (during PPG) and implement (during the project) a comprehensive Stakeholder Engagement Plan.</p> <p>Develop and implement a comprehensive Indigenous Peoples Plan.</p> <p>Develop and implement a comprehensive Gender Action Plan.</p> <p>During the PPG phase, the 1997 the Indigenous Peoples' Rights Act (IPRA) and the 2012 revised rule will be reviewed, and the FPIC(s) will be acquired as required by the IPRA and the 2012 revised rule. In some cases, multiple FPIC may be required at the different phases of the project by the IPRA and the 2012 revised rule.</p> <p>Include in the project design a grievance mechanism for the project based on the existing government and UNDP mechanisms.</p>
Risk 2: Prevailing gender biases in the Philippines unintentionally discriminated against women limiting or adversely impact their possibilities for accessing opportunities and/or influence	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>A full Gender Analysis (GA) is needed to clarify relevant gender concerns and identify how the mainstreaming of women into the project interventions can be achieved. This includes a focus on how to provide specific trainings for women, and how to establish women livelihood operations etc. In this regard during the project development phase specific</p>

nce on project interventions and outcomes.		<p>c consultations with relevant women's groups/leaders will be undertaken by the project's development team but also through the consultation mechanisms of the local government structures.</p> <p><u>Management:</u></p> <p>Develop and implement a comprehensive Gender Action Plan (same as above) and include gender equality and the mainstreaming of women into project documentation.</p>
Risk 3: The anticipated benefits (including ecosystem services, soil retention land cover etc.) from the project's SLM, BDFAP and agrobiodiversity conservation interventions do not materialize.	I = 4, P = 1 Moderate	<p><u>Assessment:</u></p> <p>During the project development phase focus should be placed on scoping appropriate SLM, BDFAP and agrobiodiversity conservation models and techniques that are to be included in the project activities. This will during implementation be followed up by further screening of models and techniques to ensure optimal suitability for the project localities. In addition, the project design must ensure that the project developed solutions (including regulations, plans, trainings guidelines etc.) can be effectively included into the local planning processes as well as up scaled to the planned additional five river basins.</p> <p><u>Management:</u></p> <p>During the PPG phase identify a subset of suitable models and techniques for SLM and BDFAP and agrobiodiversity conservation which could be used during project implementation.</p> <p>Include clear Theory of Change and clear project outcomes/outputs in the project documentation, clarifying the project pathways for project implementers.</p>
Risk 4: The effects of climate change such as flooding, and droughts could impact project areas and activities.	I = 3, P = 3: Moderate	<p><u>Assessment:</u></p> <p>The assessments during the PPG phase will fully consider climate vulnerability by adopting local and expert advice on how to integrate climate resilience into project design and implementation and will assess this risk at the project site level.</p> <p><u>Management:</u></p> <p>Project design will take into account the results of the assessment and fully integrate climate change mitigation and adaptation measures including through land restoration methodologies livelihoods support,</p>

		capacity building and awareness. Demonstrations on SLM and BDFAP can be a key tool in addressing climate change.
Risk 5: Introduction of new livelihood activities as part to the improved land management practices and BDFAP technology could result in lower income.	I = 2, P = 3 Moderate	<p><u>Assessment:</u></p> <p>Consultations with potential project-affected communities at demonstration sites during the PPG phase. Assess potential impacts on current levels of access and use</p> <p><u>Management:</u></p> <p>Development (during PPG) and implementation of a comprehensive Stakeholder Engagement Plan that will set out processes for engagement and consultation with communities across all stages of the project. Potential development and implementation of a Livelihood Action Plan (to be determined during PPG).</p>
Risk 6: The anticipated livelihood benefits to local people (including from indigenous peoples' communities) from the project's livelihood and financial interventions do not materialize.	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>Further assessments of the local livelihood options related to the use of local varieties and traditional crops are needed. Options for different payment for ecosystem services schemes also needs to be further explored. In addition, exploration into how stakeholders, including women and indigenous people best can be engaged in these activities. FPIC related to the project interventions should also be ensured. In addition, the project design must ensure that the project developed solutions (including regulations, plans, trainings guidelines etc.) can be effectively included into the local planning processes as well as upscaled to the planned additional five river basins.</p> <p><u>Management:</u></p> <p>Develop (during PPG) and implement (during the project) a comprehensive Livelihood Action Plan (to be determined during PPG).</p> <p>Include clear Theory of Change and clear project outcomes/outputs in the project documentation, clarifying the project pathways for project implementers.</p> <p>During the PPG phase requirements for IPRA and the revised 2012 rule on FPIC (same as under Risk 1) and meet the requirements at different stages of the project.</p> <p>As such the actions to reduce this risk are to be taken during the implementation in the development of innovative financial mechanisms in form of payment for ecosystem services. Showing that alternative far</p>

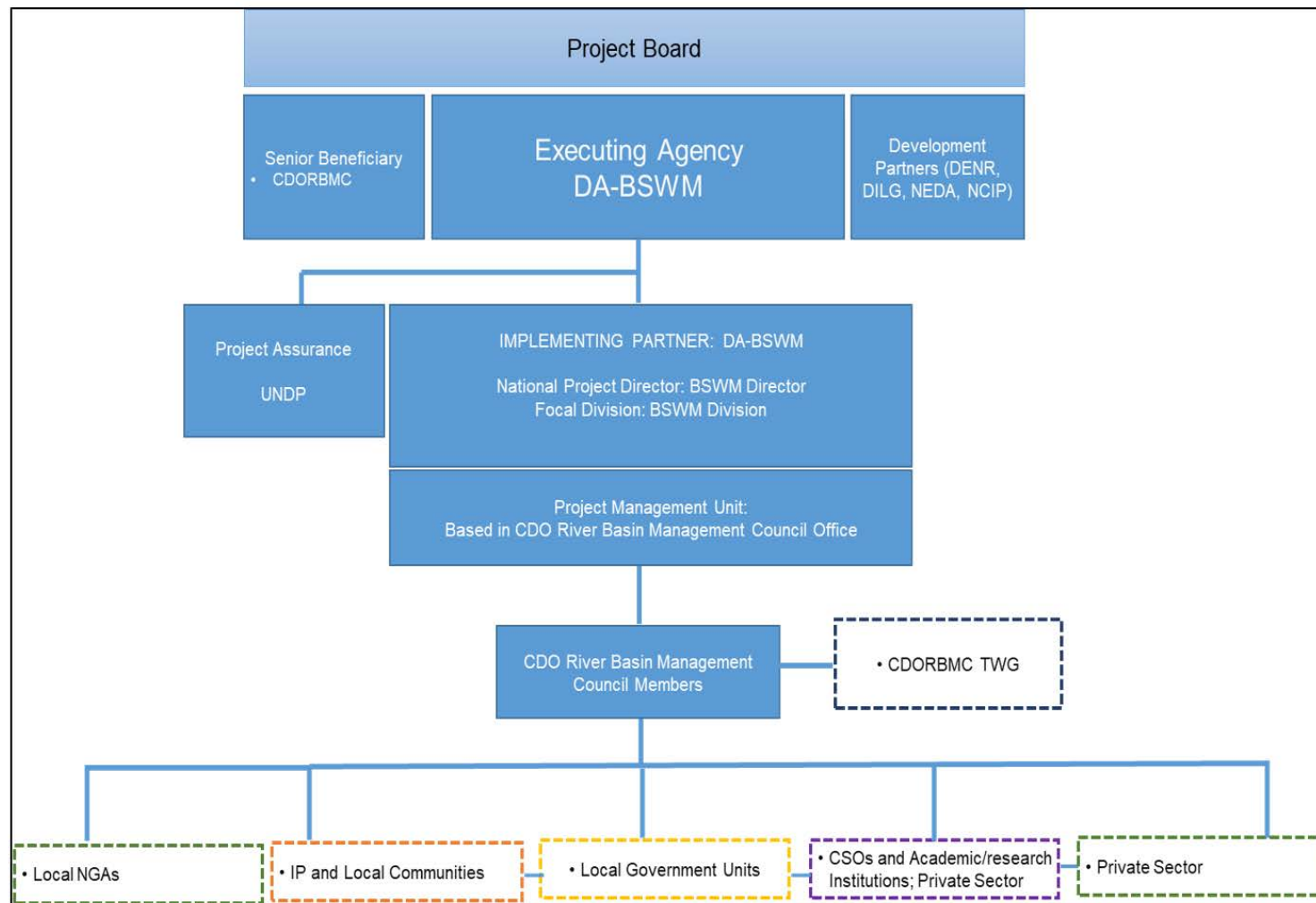
		<p>cost of payment for ecosystem services. Showing that alternative farming methods creating SLM and agrobiodiversity conservation benefits, for instance through BDFAP, are financially viable alternatives.</p>
<p>Risk 7: Alien Invasive Species are inadvertently introduced to the project areas by the project's on-the-ground engagements.</p>	<p>I = 3, P = 2 Moderate</p>	<p><u>Assessment:</u></p> <p>The risk of alien invasive species (IAS) encroachment in projects targeted areas is to be reviewed as is IAS management in these areas to ensure the project design adequately addresses this risk.</p> <p><u>Management:</u></p> <p>Concerns for IAS encroachment into the projects targeted areas is integrated into the project design and IAS management in relation to SLM, BDFAP and agrobiodiversity conservation will be included into project guidelines, trainings etc. Through IAS screening process, the project will ensure that the only native species will be used during the restoration, improved land management and biodiversity conservation activities proposed in the project.</p>
<p>Risk 8: Indigenous peoples have limited possibilities for accessing opportunities and/or influence on project interventions and outcomes which negatively affect their development priorities.</p>	<p>I = 3, P = 2 Moderate</p>	<p><u>Assessment:</u></p> <p>Specific attention to ensure that indigenous peoples concerns, and engagement are included in the project design, as well as being addressed via implementation of the Stakeholder engagement plan and the Indigenous peoples plan. In addition, FPIC will be obtained where needed. This will be particularly important for the projects engagement in Component 3 which is to be implemented in indigenous peoples' community areas. Also, the project will identify new financial and livelihood opportunities suitable for SLM, BDFAP and agrobiodiversity conservation interventions and these will also be accessible to indigenous peoples' community hereby increasing local livelihoods. With regard to the project development phase specific consultations with relevant indigenous peoples' community representatives will be undertaken by the project's development team but also through the consultation mechanisms of the local government structures.</p> <p>-</p> <p><u>Management:</u></p> <p>Develop and implement a comprehensive Stakeholder Engagement Plan (same as under Risk 1).</p> <p>Develop and implement a comprehensive Indigenous Peoples Plan (same as under Risk 1).</p>

		<p>the as under Risk 1).</p> <p>During the PPG phase requirements for IPRA and the revised 2012 rule on FPIC (same as under Risk 1) and meet the requirements at different stages of the project.</p>
Risk 9: Human health is negatively affected by the inappropriate use of pesticides and insecticides.	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>The use of pesticides and herbicides in projects targeted areas are to be reviewed, as in chemical management and handling to ensure the project design adequately addresses this risk.</p> <p><u>Management:</u></p> <p>Only environmentally friendly biocides and herbicides meeting internationally accepted standards should be used by the project. Their storage and application will be subject to the health and safety guidance and protocols developed to address Risk 8.</p>
Risk 10: The policy-backing from concerned agencies towards LDN target/priority and BDFAP framework implementation, cooperation and coordination does not materialize.	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>The project's approach and advocated government cooperation and coordination are to be reviewed and confirmed by senior decisionmakers within relevant agencies in the Philippine Government, to ensure that the project remains in line with Government's vision for the long-term transformative change in support of the LDN target/priority and BDFAP framework implementation.</p> <p><u>Management:</u></p> <p>Senior government officials and managers from relevant agencies will work closely together during the PPG phase and ensure that the project documentation fully reflects the Government's proposed vision for a holistic implementation of the LDN target/priority and BDFAP framework, which will maximize the ecological and social benefits of these programs, as well as ensure that the project's activities, outputs and outcomes effectively support the long-term transformative change needed for the implementation of these.</p>
Risk 11: Adopting the Joint Administrative Orders, the CDOR B Comprehensive Land Use Plan and strategic workplans takes longer than planned.	I = 3, P = 2 Moderate	<p><u>Assessment:</u></p> <p>The risk of "activity drift" will be assessed during the PPG phase, to ensure the project design adequately addresses this risk.</p> <p><u>Management:</u></p>

		<p>management.</p> <p>Consultations with relevant senior government staff, at national and local level will be undertaken during the PPG phase, to ensure manageable and realistic timelines for the preparation of Joint Administrative Orders, the CDORB Comprehensive Land Use Plans and strategic workplans. Internal approval processes of relevant agencies/departments etc. will also be reviewed.</p>
Risk 12: The Multinational Corporations in CDORB will, only to a limited extent (or not at all), participate in the project.	I = 4, P = 2 Moderate	<p>Assessment:</p> <p>The project's approach and advocated MNC engagement is to be reviewed and confirmed by the project's private sector partners, to ensure that the project's private sector engagement towards supporting the LDN target/priority and BDFAP framework implementation, on lands managed by MNCs, is to be actively pursued by said partners.</p> <p>Management:</p> <p>Private sector partners, local government officials and the project proponents will work closely together during the PPG phase and ensure that the project documentation fully reflects the proposed project vision for implementing aspects of the LDN target/priority and BDFAP framework on land managed by the project engaged MNCs. This work will expand on the consultations and indicative agreements obtained during the PIF formulation phase. Furthermore, following acceptable due diligence reviews the MNC will commit their engagement to the project through signed co-financing agreements.</p>
Risk 13: The Indigenous Peoples Communities have little or no interest in re/adopting or expanding the use of traditional agrobiodiversity systems.	I = 4, P = 2 Moderate	<p>Assessment:</p> <p>The project's approach towards an expanded involvement of the members of the Indigenous Peoples Communities in re/adopting or expanding the use of traditional agrobiodiversity systems is to be further developed and confirmed through additional consultation with the IP communities, IP NGOs and the National Commission on Indigenous People (NCIP) to ensure that the project proposed interventions coincide with the wishes and development strategies of the IP communities.</p> <p>Management:</p> <p>As part of the FIPC, in depth consultations with the IP communities, IP NGOs and the National Commission on Indigenous People (NCIP) will be held to confirm and ensure the IP communities (or part of its mem</p>

		<p>bers) have a genuine interest in growing traditional crops using the traditional agrobiodiversity systems and that the crops and systems to be promoted by the project are acceptable to the involved farmers. This will build on the consultation processes already undertaken during the PIF formulation. Furthermore, the project will ensure that the project documentation fully reflects the agreed collaboration with IP communities towards maximizing the project's ecological and social benefits.</p>
<p>Risk 14: Private sector partners are not thoroughly vetted resulting in the risk for unintentionally partnering with companies engaging in malpractices.</p>	<p>I = 4, P = 2 Moderate</p>	<p>Assessment:</p> <p>The risk associated with the private sector engagement will be assessed using the tool developed by UNDP under its <i>"Policy on Due Diligence and Partnership with the Private Sector"</i>.</p> <p>Management:</p> <p><u>Design Phase:</u> A decision on engagement with a partner will be taken based on the completed due diligence including a risk/benefit analysis of the partnership based on the <i>"Policy on Due Diligence and Partnership with the Private Sector"</i>.</p> <p><u>Implementation Phase:</u> The Project Manager will regularly monitor the partnership and any possible controversies surrounding the potential partner or its industry. Similarly, the Project Manager will regularly assess whether the partner is meeting the conditions of the partnership. The Project Manager will provide reports on the progress of the partnership at least once a year to their respective local office, the Regional Bureau and HQ for knowledge exchange, learning, and monitoring. Any significant issues related to the partnership should be flagged to HQ. The initial Risk Assessment and the updates need to be recorded in the Private Sector Partnerships Database in the intranet.</p>

Annex D: Preliminary Project Implementation Framework



Note: to be revisited during the PPG Phase

Annex E: Copy of the Letter of Endorsement from GEF OFP

Republic of the Philippines
Department of Environment and Natural Resources
Visayas Avenue, Diliman, Quezon City, 1100
Tel. Nos. (632) 929-66-26 to 29 • (632) 929-62-52
929-66-20 • 929-66-33 to 35 • 929-70-41 to 43

MAR 13 2020

MR. PRADEEP KURUKULASURIYA

Executive Coordinator & Director- Global Environmental Finance
& Head, Natural Capital and the Environment
United Nations Development Programme
304 East 45th Street, Room 918
New York, NY 10017, USA

Subject: Endorsement for the GEF-7 project entitled "Securing Long-Term Sustainability of Multi-functional Landscapes in Critical River Basins of the Philippines"

Dear Mr. Kurukulasuriya:

In my capacity as the GEF Operational Focal Point (OFP) for the Republic of the Philippines, I confirm that the above project proposal (a) is in accordance with my government's national priorities, including the priorities identified in the Philippines Biodiversity Strategy and Action Plan (PBSAP) for protection of biological diversity, Philippine National Action Program (NAP) to combat land degradation and desertification, and our commitment to the relevant global environmental conventions; and (b) the project design was discussed with relevant stakeholders, including the relevant global environmental convention focal points.

I am pleased to endorse the preparation of the above project proposal with the support of United Nations Development Programme (UNDP), the GEF Agency. If approved, the proposal will be prepared and implemented by Department of Agriculture (DA) - Bureau of Soils and Water Management (BSWM) in close collaboration with the relevant line departments and key sectoral stakeholders. I request UNDP to provide a copy of the Project

Document (ProDoc) before it is submitted to the GEF Secretariat for CEO endorsement.

The total financing from GEFTF being requested for this project is **US\$ 3,749,270**, inclusive of project preparation grant (PPG) and Agency fees for project cycle management services associated with the total GEF grant. The financing requested for the Philippines is detailed in the table below.

Source of Funds	GEF Agency	Focal Area	Amount (in US\$)			
			Project Preparation	Project	Fee	Total
GEFTF	UNDP	Land Degradation	150,000	2,351,616	237,654	2,739,270
GEFTF	UNDP	Biodiversity	-	922,374	87,626	1,010,000
Total GEF Resources			150,000	3,273,990	325,280	3,749,270

I consent to the utilization of the Philippines's allocations in GEF-7 as defined in the System for Transparent Allocation of Resources (STAR). Please note that following the GEFs Flexibilities and Marginal Adjustments Policy on GEF-7, effective 1 July 2018, the government of the Philippines requests to apply the marginal adjustments of US\$1,729,270 from Biodiversity (BD) to Land Degradation (LD) STAR Allocation.

Very truly yours,



ATTY. ANALIZA REBUELTA-TEH

Undersecretary

GEF Operational Focal Point for the Philippines

cc: **Atty. Juan Miguel T. Cuna, CESO I**
Undersecretary for Policy, Planning and International Affairs

Corazon C. Davis, CESO II
Assistant Secretary for Policy, Planning, Foreign Assisted and Special Projects

Ricardo L. Calderon
OIC Asst. Secretary for Climate Change and Concurrent Director, Biodiversity Management Bureau
Convention Focal Point, United Nations Convention on Biodiversity

Ms. Sonia M. Salguero
OIC Director, Bureau of Soils and Water Management
Convention Focal Point, United Nations Convention to Combat Desertification

Annex F: GEF 7 Core Indicator Worksheet

Core Indicator 1	Terrestrial protected areas created or under improved management for conservation and sustainable use	(Hectares)
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Indicator 1	and sustainable use							
		Hectares (1.1+1.2)						
		Expected			Achieved			
		PIF stage	Endorsement	MTR	TE			
Indicator 1.1	Terrestrial protected areas newly created							
Name of Protected Area	WDPA ID	IUCN category	Hectares					
			Expected		Achieved			
			PIF stage	Endorsement	MTR	TE		
		(select)						
		(select)						
		Sum						
Indicator 1.2	Terrestrial protected areas under improved management effectiveness							
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score				
				Baseline		Achieved		
				PIF stage	Endorsement	MTR	TE	
		(select)						
		(select)						
		Sum						
Core Indicator 2	Marine protected areas created or under improved management for conservation and sustainable use						(Hectares)	
		Hectares (2.1+2.2)						
		Expected			Achieved			
		PIF stage	Endorsement	MTR	TE			
Indicator 2.1	Marine protected areas newly created							
Name of Protected Area	WDPA ID	IUCN category	Hectares					
			Expected		Achieved			
			PIF stage	Endorsement	MTR	TE		
		(select)						
		(select)						
		Sum						
Indicator 2.2	Marine protected areas under improved management effectiveness							
Name of Protected Area	WDPA ID	IUCN category	Hectares	METT Score				
				Baseline		Achieved		
				PIF stage	Endorsement	MTR	TE	
		(select)						
		(select)						
		Sum						
Core Indicator 3	Area of land restored						(Hectares)	
		Hectares (3.1+3.2+3.3+3.4)						
		Expected			Achieved			

		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		5,000			
Indicator 3.1	Area of degraded agricultural land restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE
		5,000			
Indicator 3.2	Area of forest and forest land restored				
		Hectares			
		Expected		Achieved	
		PIF stage	Endorsement	MTR	TE

Indicator 3.3	Area of natural grass and shrublands restored						
		Hectares					
		Expected		Achieved			
		PIF stage	Endorsement	MTR	TE		
Indicator 3.4	Area of wetlands (including estuaries, mangroves) restored						
		Hectares					
		Expected		Achieved			
		PIF stage	Endorsement	MTR	TE		
Core Indicator 4	Area of landscapes under improved practices (hectares; excluding protected areas)				(Hectares)		
		Hectares (4.1+4.2+4.3+4.4)					
		Expected		Expected			
		PIF stage	Endorsement	MTR	TE		
		53,159					
Indicator 4.1	Area of landscapes under improved management to benefit biodiversity						
		Hectares					
		Expected		Achieved			

			PIF stage	Endorsement	MTR	TE
			5,925			
Indicator 4.2	Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 4.3	Area of landscapes under sustainable land management in production systems					
			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
			47,234			
Indicator 4.4	Area of High Conservation Value Forest (HCVF) loss avoided					
Include documentation that justifies HCVF			Hectares			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 5	Area of marine habitat under improved practices to benefit biodiversity					(Hectares)
Indicator 5.1	Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations					
Third party certification(s):			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 5.2	Number of large marine ecosystems (LMEs) with reduced pollution and hypoxia					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

Indicator 5.3	Amount of Marine Litter Avoided					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 6	Greenhouse gas emission mitigated					<i>(Metric tons of CO₂e)</i>
			Expected metric tons of CO ₂ e (6.1+6.2)			
			PIF stage	Endorsement	MTR	TE
	Expected CO ₂ e (direct)	3,418,697				
	Expected CO ₂ e (indirect)	TBD				
Indicator 6.1	Carbon sequestered or emissions avoided in the AFOLU sector					
			Expected metric tons of CO ₂ e			
			PIF stage	Endorsement	MTR	TE
	Expected CO ₂ e (direct)	3,418,697				
	Expected CO ₂ e (indirect)	TBD				
	Anticipated start year of accounting	2022				
	Duration of accounting	20 years				
Indicator 6.2	Emissions avoided Outside AFOLU					
			Expected metric tons of CO ₂ e			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	Expected CO ₂ e (direct)					
	Expected CO ₂ e (indirect)					
	Anticipated start year of accounting					
	Duration of accounting					
Indicator 6.3	Energy saved					
			MJ			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 6.4	Increase in installed renewable energy capacity per technology					
		Technology	Capacity (MW)			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE

		(select)					
		(select)					
Core Indicator 7	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management						(Number)
Indicator 7.1	Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation						
		Shared water ecosystem	Rating (scale 1-4)				
			PIF stage	Endorsement	MTR	TE	
Indicator 7.2	Level of Regional Legal Agreements and Regional Management Institutions to support its implementation						
		Shared water ecosystem	Rating (scale 1-4)				
			PIF stage	Endorsement	MTR	TE	
Indicator 7.3	Level of National/Local reforms and active participation of Inter-Ministerial Committees						
		Shared water ecosystem	Rating (scale 1-4)				
			PIF stage	Endorsement	MTR	TE	

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Indicator 7.4	Level of engagement in IWLEARN through participation and delivery of key products						
		Shared water ecosystem	Rating (scale 1-4)				
			Rating		Rating		
			PIF stage	Endorsement	MTR	TE	
Core Indicator 8	Globally over-exploited fisheries Moved to more sustainable levels						(Metric Tons)
Fishery Details	Metric Tons						
			PIF stage	Endorsement	MTR	TE	
Core	Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of						(Metric Tons)

Indicator 9	Reduction, disposal, destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products				(Metric Tons)	
			Metric Tons (9.1+9.2+9.3)			
			Expected		Achieved	
			PIF stage	PIF stage	MTR	TE
Indicator 9.1	Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)					
	POPs type		Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
	(select)	(select)	(select)			
	(select)	(select)	(select)			
	(select)	(select)	(select)			
Indicator 9.2	Quantity of mercury reduced					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.3	Hydrochlorofluorocarbons (HCFC) Reduced/Phased out					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.4	Number of countries with legislation and policy implemented to control chemicals and waste					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.5	Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities					
		Technology	Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 9.6	Quantity of POPs/Mercury containing materials and products directly avoided					
			Metric Tons			
			Expected		Achieved	
			PIF stage	Endorsement	PIF stage	Endorsement

Core Indicator 10	Reduction, avoidance of emissions of POPs to air from point and non-point sources	(grams of toxic equivalent gTEQ)
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Indicator 10.1	Number of countries with legislation and policy implemented to control emissions of POPs to air					
			Number of Countries			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Indicator 10.2	Number of emission control technologies/practices implemented					
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
Core Indicator 11	Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment					(Number)
			Number			
			Expected		Achieved	
			PIF stage	Endorsement	MTR	TE
		Female	36,288			
		Male	38,382			
		Total	74,670			

Annex G: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part I, item G by ticking the most relevant keywords/ topics/themes that best describe this project.

Level 1	Level 2	Level 3	Level 4
<input checked="" type="checkbox"/> Influencing models			
	<input checked="" type="checkbox"/> Transform policy and regulatory environments		
	<input checked="" type="checkbox"/> Strengthen institutional capacity and decision-making		
	<input checked="" type="checkbox"/> Convene multi-stakeholder alliances		

	<input checked="" type="checkbox"/> Demonstrate innovative approaches		
	<input checked="" type="checkbox"/> Deploy innovative financial instruments		
<input checked="" type="checkbox"/> Stakeholders			
	<input checked="" type="checkbox"/> Indigenous Peoples		
	<input checked="" type="checkbox"/> Private Sector		
		<input type="checkbox"/> Capital providers	
		<input type="checkbox"/> Financial intermediaries and market facilitators	
		<input checked="" type="checkbox"/> Large corporations	
		<input type="checkbox"/> SMEs	
		<input type="checkbox"/> Individuals/Entrepreneurs	
		<input type="checkbox"/> Non-Grant Pilot	
		<input type="checkbox"/> Project Reflow	
	<input type="checkbox"/> Beneficiaries		
	<input checked="" type="checkbox"/> Local Communities		
	<input checked="" type="checkbox"/> Civil Society		
		<input checked="" type="checkbox"/> Community Based Organization	
		<input checked="" type="checkbox"/> Non-Governmental Organization	
		<input type="checkbox"/> Academia	
		<input type="checkbox"/> Trade Unions and Workers Unions	
	<input checked="" type="checkbox"/> Type of Engagement		
		<input checked="" type="checkbox"/> Information Dissemination	
		<input checked="" type="checkbox"/> Partnership	
		<input checked="" type="checkbox"/> Consultation	
		<input checked="" type="checkbox"/> Participation	
	<input checked="" type="checkbox"/> Communications		
		<input checked="" type="checkbox"/> Awareness Raising	
		<input type="checkbox"/> Education	
		<input type="checkbox"/> Public Campaigns	
		<input checked="" type="checkbox"/> Behaviour Change	
<input checked="" type="checkbox"/> Capacity, Knowledge and Research			
	<input checked="" type="checkbox"/> Enabling Activities		
	<input checked="" type="checkbox"/> Capacity Development		
	<input checked="" type="checkbox"/> Knowledge Generation and Exchange		
	<input type="checkbox"/> Targeted Research		
	<input type="checkbox"/> Learning		
		<input type="checkbox"/> Theory of Change	
		<input type="checkbox"/> Adaptive Management	

		<input type="checkbox"/> Indicators to Measure Change	
	<input type="checkbox"/> Innovation		
	<input checked="" type="checkbox"/> Knowledge and Learning		

		<input checked="" type="checkbox"/> Knowledge Management	
		<input type="checkbox"/> Innovation	
		<input checked="" type="checkbox"/> Capacity Development	
		<input type="checkbox"/> Learning	
	<input checked="" type="checkbox"/> Stakeholder Engagement Plan		
<input checked="" type="checkbox"/> Gender Equality			
	<input checked="" type="checkbox"/> Gender Mainstreaming		
		<input checked="" type="checkbox"/> Beneficiaries	
		<input checked="" type="checkbox"/> Women groups	
		<input checked="" type="checkbox"/> Sex-disaggregated indicators	
		<input checked="" type="checkbox"/> Gender-sensitive indicators	
	<input checked="" type="checkbox"/> Gender results areas		
		<input checked="" type="checkbox"/> Access and control over natural resources	
		<input checked="" type="checkbox"/> Participation and leadership	
		<input checked="" type="checkbox"/> Access to benefits and services	
		<input checked="" type="checkbox"/> Capacity development	
		<input checked="" type="checkbox"/> Awareness raising	
		<input checked="" type="checkbox"/> Knowledge generation	
<input checked="" type="checkbox"/> Focal Areas/Theme			
	<input type="checkbox"/> Integrated Programs		
		<input type="checkbox"/> Commodity Supply Chains (⁵⁷ Good Growth Partnership)	
			<input type="checkbox"/> Sustainable Commodities Production
			<input type="checkbox"/> Deforestation-free Sourcing
			<input type="checkbox"/> Financial Screening Tools
			<input type="checkbox"/> High Conservation Value Forests
			<input type="checkbox"/> High Carbon Stocks Forests
			<input type="checkbox"/> Soybean Supply Chain
			<input type="checkbox"/> Oil Palm Supply Chain
			<input type="checkbox"/> Beef Supply Chain

			<input type="checkbox"/> Smallholder Farmers
			<input type="checkbox"/> Adaptive Management
		<input type="checkbox"/> Food Security in Sub-Saharan Africa	
			<input type="checkbox"/> Resilience (climate and shocks)
			<input type="checkbox"/> Sustainable Production Systems
			<input type="checkbox"/> Agroecosystems
			<input type="checkbox"/> Land and Soil Health
			<input type="checkbox"/> Diversified Farming
			<input type="checkbox"/> Integrated Land and Water Management
			<input type="checkbox"/> Smallholder Farming
			<input type="checkbox"/> Small and Medium Enterprises
			<input type="checkbox"/> Crop Genetic Diversity
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Gender Dimensions
			<input type="checkbox"/> Multi-stakeholder Platforms
		<input type="checkbox"/> Food Systems, Land Use and Restoration	
			<input type="checkbox"/> Sustainable Food Systems
			<input type="checkbox"/> Landscape Restoration
			<input type="checkbox"/> Sustainable Commodity Production
			<input type="checkbox"/> Comprehensive Land Use Planning
			<input type="checkbox"/> Integrated Landscapes
			<input type="checkbox"/> Food Value Chains
			<input type="checkbox"/> Deforestation-free Sourcing

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			<input type="checkbox"/> Smallholder Farmers
		<input type="checkbox"/> Sustainable Cities	
			<input type="checkbox"/> Integrated urban planning
			<input type="checkbox"/> Urban sustainability framework
			<input type="checkbox"/> Transport and Mobility
			<input type="checkbox"/> Buildings
			<input type="checkbox"/> Municipal waste management
			<input type="checkbox"/> Green space

			<input type="checkbox"/> Urban Biodiversity
			<input type="checkbox"/> Urban Food Systems
			<input type="checkbox"/> Energy efficiency
			<input type="checkbox"/> Municipal Financing
			<input type="checkbox"/> Global Platform for Sustainable Cities
			<input type="checkbox"/> Urban Resilience
	<input checked="" type="checkbox"/> Biodiversity		
		<input checked="" type="checkbox"/> Protected Areas and Landscapes	
			<input type="checkbox"/> Terrestrial Protected Areas
			<input type="checkbox"/> Coastal and Marine Protected Areas
			<input checked="" type="checkbox"/> Productive Landscapes
			<input type="checkbox"/> Productive Seascapes
			<input checked="" type="checkbox"/> Community Based Natural Resource Management
		<input checked="" type="checkbox"/> Mainstreaming	
			<input type="checkbox"/> Extractive Industries (oil, gas, mining)
			<input type="checkbox"/> Forestry (Including HCVF and REDD+)
			<input type="checkbox"/> Tourism
			<input checked="" type="checkbox"/> Agriculture & agrobiodiversity
			<input type="checkbox"/> Fisheries
			<input type="checkbox"/> Infrastructure
			<input type="checkbox"/> Certification (National Standards)
			<input type="checkbox"/> Certification (International Standards)
		<input type="checkbox"/> Species	
			<input type="checkbox"/> Illegal Wildlife Trade
			<input type="checkbox"/> Threatened Species
			<input type="checkbox"/> Wildlife for Sustainable Development
			<input type="checkbox"/> Crop Wild Relatives
			<input type="checkbox"/> Plant Genetic Resources
			<input type="checkbox"/> Animal Genetic Resources
			<input type="checkbox"/> Livestock Wild Relatives
			<input type="checkbox"/> Invasive Alien Species (IAS)
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangroves
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Sea Grasses
			<input type="checkbox"/> Wetlands
			<input type="checkbox"/> Rivers
			<input type="checkbox"/> Lakes

			<input type="checkbox"/> Lakes
			<input type="checkbox"/> Tropical Rain Forests
			<input type="checkbox"/> Tropical Dry Forests
			<input type="checkbox"/> Temperate Forests
			<input type="checkbox"/> Grasslands
			<input type="checkbox"/> Paramo
			<input type="checkbox"/> Desert
		<input checked="" type="checkbox"/> Financial and Accounting	
			<input checked="" type="checkbox"/> Payment for Ecosystem Services

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			<input type="checkbox"/> Natural Capital Assessment and Accounting
			<input type="checkbox"/> Conservation Trust Funds
			<input type="checkbox"/> Conservation Finance
		<input type="checkbox"/> Supplementary Protocol to the CBD	
			<input type="checkbox"/> Biosafety
			<input type="checkbox"/> Access to Genetic Resources Benefit Sharing
	<input type="checkbox"/> Forests		
		<input type="checkbox"/> Forest and Landscape Restoration	
			<input type="checkbox"/> REDD/REDD+
		<input type="checkbox"/> Forest	
			<input type="checkbox"/> Amazon
			<input type="checkbox"/> Congo
			<input type="checkbox"/> Drylands
	<input checked="" type="checkbox"/> Land Degradation		
		<input checked="" type="checkbox"/> Sustainable Land Management	
			<input checked="" type="checkbox"/> Restoration and Rehabilitation of Degraded Lands
			<input type="checkbox"/> Ecosystem Approach
			<input type="checkbox"/> Integrated and Cross-sectoral approach
			<input checked="" type="checkbox"/> Community-Based NRM
			<input checked="" type="checkbox"/> Sustainable Livelihoods
			<input checked="" type="checkbox"/> Income Generating Activities
			<input checked="" type="checkbox"/> Sustainable Agriculture

			<input type="checkbox"/> Sustainable Pasture Management
			<input type="checkbox"/> Sustainable Forest/Woodland Management
			<input checked="" type="checkbox"/> Improved Soil and Water Management Techniques
			<input type="checkbox"/> Sustainable Fire Management
			<input type="checkbox"/> Drought Mitigation/Early Warning
		<input checked="" type="checkbox"/> Land Degradation Neutrality	
			<input checked="" type="checkbox"/> Land Productivity
			<input checked="" type="checkbox"/> Land Cover and Land cover change
			<input checked="" type="checkbox"/> Carbon stocks above or below ground
		<input type="checkbox"/> Food Security	
	<input type="checkbox"/> International Waters		
		<input type="checkbox"/> Ship	
		<input type="checkbox"/> Coastal	
		<input type="checkbox"/> Freshwater	
			<input type="checkbox"/> Aquifer
			<input type="checkbox"/> River Basin
			<input type="checkbox"/> Lake Basin
		<input type="checkbox"/> Learning	
		<input type="checkbox"/> Fisheries	
		<input type="checkbox"/> Persistent toxic substances	
		<input type="checkbox"/> SIDS: Small Island Dev States	
		<input type="checkbox"/> Targeted Research	
		<input type="checkbox"/> Pollution	
			<input type="checkbox"/> Persistent toxic substances
			<input type="checkbox"/> Plastics
			<input type="checkbox"/> Nutrient pollution from all sectors except wastewater
			<input type="checkbox"/> Nutrient pollution from Wastewater
		<input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation	

		<input type="checkbox"/> Strategic Action Plan Implementation	
		<input type="checkbox"/> Areas Beyond National Jurisdiction	
		<input type="checkbox"/> Large Marine Ecosystems	



		<input type="checkbox"/> Private Sector	
		<input type="checkbox"/> Aquaculture	
		<input type="checkbox"/> Marine Protected Area	
		<input type="checkbox"/> Biomes	
			<input type="checkbox"/> Mangrove
			<input type="checkbox"/> Coral Reefs
			<input type="checkbox"/> Seagrasses
			<input type="checkbox"/> Polar Ecosystems
			<input type="checkbox"/> Constructed Wetlands
	<input type="checkbox"/> Chemicals and Waste		
		<input type="checkbox"/> Mercury	
		<input type="checkbox"/> Artisanal and Scale Gold Mining	
		<input type="checkbox"/> Coal Fired Power Plants	
		<input type="checkbox"/> Coal Fired Industrial Boilers	
		<input type="checkbox"/> Cement	
		<input type="checkbox"/> Non-Ferrous Metals Production	
		<input type="checkbox"/> Ozone	
		<input type="checkbox"/> Persistent Organic Pollutants	
		<input type="checkbox"/> Unintentional Persistent Organic Pollutants	
		<input type="checkbox"/> Sound Management of chemicals and Waste	
		<input type="checkbox"/> Waste Management	
			<input type="checkbox"/> Hazardous Waste Management
			<input type="checkbox"/> Industrial Waste
			<input type="checkbox"/> e-Waste
		<input type="checkbox"/> Emissions	
		<input type="checkbox"/> Disposal	
		<input type="checkbox"/> New Persistent Organic Pollutants	
		<input type="checkbox"/> Polychlorinated Biphenyls	
		<input type="checkbox"/> Plastics	
		<input type="checkbox"/> Eco-Efficiency	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> DDT - Vector Management	
		<input type="checkbox"/> DDT - Other	
		<input type="checkbox"/> Industrial Emissions	
		<input type="checkbox"/> Open Burning	
		<input type="checkbox"/> Best Available Technology / Best Environmental Practices	
		<input type="checkbox"/> Green Chemistry	
	<input type="checkbox"/> Climate Change		
		<input type="checkbox"/> Climate Change Adaptation	
			<input type="checkbox"/> Climate Finance
			<input type="checkbox"/> Least Developed Countries

		<input type="checkbox"/> Small Island Developing States
		<input type="checkbox"/> Disaster Risk Management
		<input type="checkbox"/> Sea-level rise
		<input type="checkbox"/> Climate Resilience
		<input type="checkbox"/> Climate information
		<input type="checkbox"/> Ecosystem-based Adaptation
		<input type="checkbox"/> Adaptation Tech Transfer
		<input type="checkbox"/> National Adaptation Programme of Action
		<input type="checkbox"/> National Adaptation Plan
		<input type="checkbox"/> Mainstreaming Adaptation
		<input type="checkbox"/> Private Sector
		<input type="checkbox"/> Innovation
		<input type="checkbox"/> Complementarity
		<input type="checkbox"/> Community-based Adaptation

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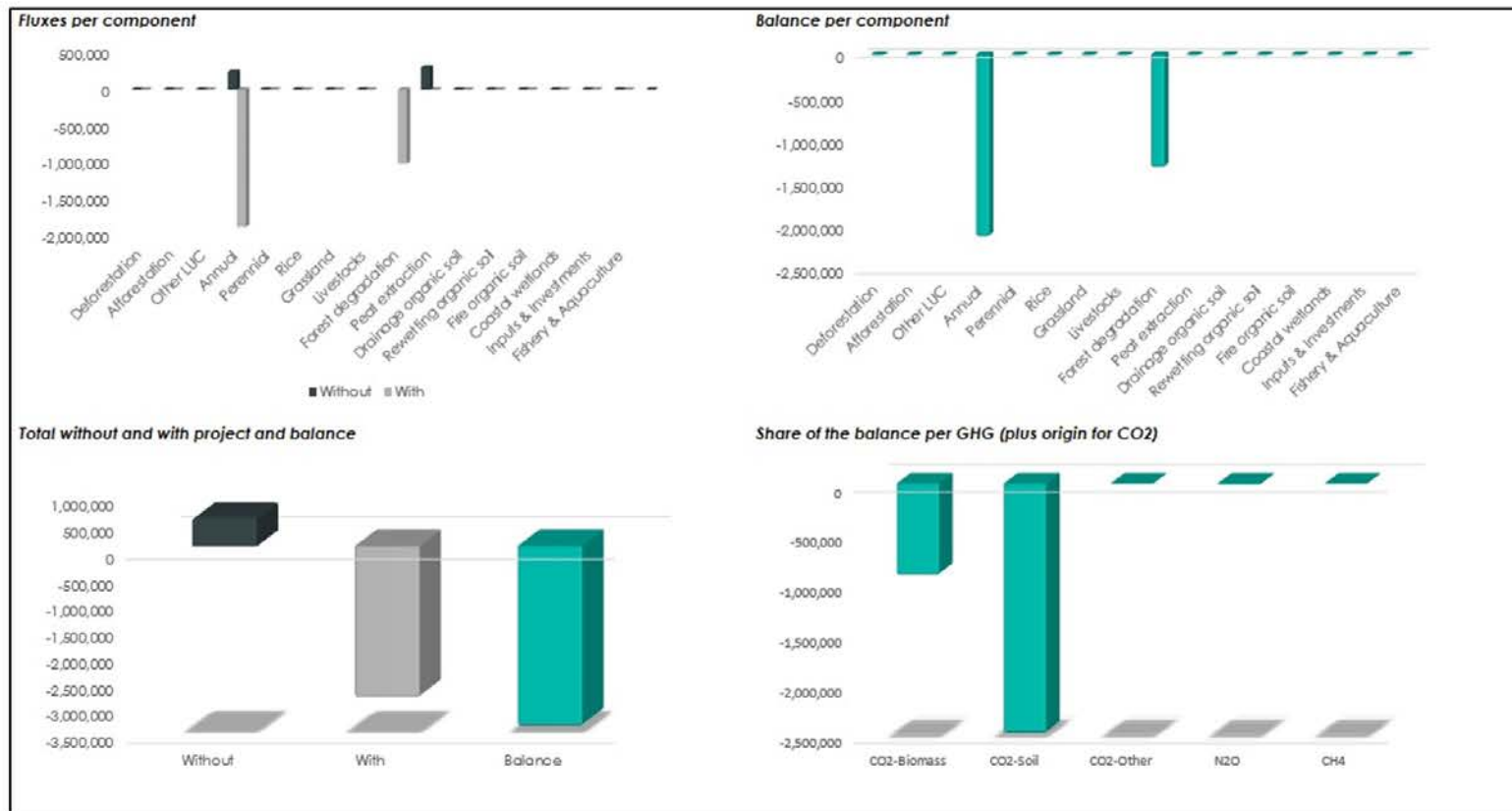
		<input type="checkbox"/> Livelihoods
	<input type="checkbox"/> Climate Change Mitigation	
		<input type="checkbox"/> Agriculture, Forestry, and other Land Use
		<input type="checkbox"/> Energy Efficiency
		<input type="checkbox"/> Sustainable Urban Systems and Transport
		<input type="checkbox"/> Technology Transfer
		<input type="checkbox"/> Renewable Energy
		<input type="checkbox"/> Financing
		<input type="checkbox"/> Enabling Activities
	<input type="checkbox"/> Technology Transfer	
		<input type="checkbox"/> Poznan Strategic Programme on Technology Transfer
		<input type="checkbox"/> Climate Technology Centre & Network (CTCN)
		<input type="checkbox"/> Endogenous technology
		<input type="checkbox"/> Technology Needs Assessment
		<input type="checkbox"/> Adaptation Tech Transfer
	<input type="checkbox"/> United Nations Framework on	

Climate Change			
			<input type="checkbox"/> Nationally Determined Contribution
		<input checked="" type="checkbox"/> Climate Finance (Rio Markers)	<input type="checkbox"/> Paris Agreement <input type="checkbox"/> Sustainable Development Goals <input checked="" type="checkbox"/> Climate Change Mitigation 1 <input type="checkbox"/> Climate Change Mitigation 2 <input checked="" type="checkbox"/> Climate Change Adaptation 1 <input type="checkbox"/> Climate Change Adaptation 2



Annex H: tCO2eq Calculations and Results Summary.

Project Name		The Philippines: Cagayan		Climate	Tropical (Moist)		Duration of the Project (Years)		20		
Continent		Asia (Insular)		Dominant Regional Soil Type	Volcanic Soils		Total area (ha)		58159		
Components of the project	Gross fluxes			Share per GHG of the Balance				Result per year			
	Without	With	Balance	All GHG in tCO2eq				Without	With	Balance	
	All GHG in tCO2eq			CO2	N2O		CH4				
Land use changes	Positive = source / negative = sink			Biomass	Soil	Other					
Deforestation	0	0	0	0	0	0	0	0	0	0	



Key Assumptions in tCO₂eq Estimates

- All estimates are made for a 20-Year (5 years implementation plus 15 years of capitalization) period.
- The anticipated start year for the GHG benefit accounting is year 2022.
- A total of 58,159 ha of the project is planned for the various degradation management (5,000 ha) and crop production improved practices (53,159 ha) through agroforestry systems and the improved management options.
- No negative impacts from natural or anthropogenic disasters, except for forest fire, are discounted in the estimates.
- All estimates are subject to the assumptions made during the development of EX-ANTE: EX-ACT
- The project will have some Investment Inputs in tCO₂eq estimates, however, due to data unavailability, this was not considered at the PIF stage. During the PPG, Investment Inputs will be included, and the project is expected to have higher GHG mitigation potential than the estimate provided on the PIF.
- Proxy crops in 3.2.1 EX-ACT: maize for pineapples; beans & pulses for the vegetables.

Annex G: Brief Description of the Mindanao, Agusan, Pampanga and Iloilo-Batiano River Basins.

Below is a short description of the LDN priority river basins. A more detailed description of the river basins will be prepared during the PPG phase.

A) Mindanao River Basin System

Recognized as the second largest river system in the Philippines following the Cagayan River of Luzon, the Mindanao River Basin (MRB) is the largest on the southern Philippine island of Mindanao. It has a total area of 21,503 sq kms and serves the majority of the central and eastern areas of the island. With a length of approximately 373 kms, the Mindanao river is the second longest river in the country and is the primary transportation route on the island for agricultural products and for timber notably in previous years.

There is one National Protected Areas System (NIPAS) proclaimed protected area within the Mindanao River Basin, i.e., the Mt. Matutum Protected Landscape, and five Watershed Forest Reserves. A significant area of MRB consists of ancestral domains and there are several groups of IPs and IP federation type of organizations within MRB. The forest cover of MRB is composed of: (i) 16% (or 165,400 ha) with >50% canopy forest cover; (ii) 17% (or 179,300 ha) with < 50% canopy forest cover; and (iii) 67% (or 714,200 ha) with no canopy forest cover. Around 73.78% of the total land area are used for agriculture.

MRB is home to major industrial plantations with three out of the five top banana producers in the country operating within MRB. Bukidnon Province, known as the "Pineapple Capital of the Philippines," produces half of the country's pineapple production.

Current and past issues and problems affecting the MRB include the following:

- Forest land conversion: Closed and open canopy forests converted to other uses, including agriculture, commercial forestry, road construction and rural development. That led to increasing flashfloods, water shortages, and landslides which in turn resulted in biodiversity habitat loss and reduction in forest productivity. This has also impacted livelihoods of upland communities by aggravating erosion on upper agricultural lands and reduced forest products flows.
- Mining activities: This results in worsened erosion, sedimentation and groundwater contamination.
- Impacts of upland agricultural farming: Farmers within MRB do not practise sustainable system that uses soil and water conservation techniques. This results in siltation of water bodies. The prevalent monocropping practice of corn and banana has also significantly contributed to rapid soil erosion.
- Degraded water quality: This stems from the use of agricultural chemicals by small and large-scale farming in the upper parts of the basin. This contaminates surface and ground water supply.
- Inadequate and unharmonized Watershed Land Use and Management Plans at national and LGU levels, and its environmental impacts.
- Water related issues: The problematic state of water resources in MRB has been evident in low irrigation coverage and low access to safe water and sanitation.
- Human encroachment: Specifically happening in wetland areas, human encroachment has increased solid waste and waste water management problems.

B) Agusan River Basin

The third largest river basin in the Philippines, the Agusan River Basin (ARB) is located in the northeastern part of Mindanao. It passes through three Provinces in Region XI and CARAGA and drains into Butuan Bay. Considering ARB's forest cover, 4.1% of the total land area (48,516 has) are closed forest (broadleaves) while 23.8% are open forest (broadleaves and coniferous). 26% of the total area, i.e., 305,445 ha out of total area of 1,193,655 ha, are grasslands which used to be forested area.

ARB hosts the Agusan Marsh and Wildlife Sanctuary (AMWS) which is the biodiversity hotspot of the basin. Considered as one of the most important wetlands in the country, it is a Ramsar-designated site and NIPAS Protected area and serves as the wintering ground of migratory bird species. A significant population of indigenous people groups live within the marsh, specifically, the Agusanon-Manobos. IP communities are dependent on the marsh's resources for water supply, wildlife, timber and non-timber products, among others.

Current and past issues and problems affecting the ARB include the following:

- Forest degradation: This causes soil erosion. In the three sub-watershed in ARB, average soil erosion is estimated at 19 tons/ha/year which is almost two times the tolerable soil loss of 10 tons/ha/year for most soil types. There have also been severe flooding and landslides in ARB due to forest degradation.
- Mining activities: Mining and gold ore processing activities within ARB are unregulated and use mercury and cyanide in large amounts. To note, there are three mining areas that drain into AMWS. Hg contamination in tributaries directly draining the mining area has also been an issue that needs to be addressed.
- Chemical contamination: There is also evident agri-chemical run-off from agricultural areas devoted to rice, banana and palm oil plantations.

- Other equally important problems are inadequate access to domestic water supply, ecological threats to Agusan Marsh, poverty and lack of economic opportunities and marginalization of IP communities.

C) Pampanga River Basin

Pampanga River Basin (PRB) covers 10 provinces, 96 municipalities and cities in Luzon. 64% of the PRB (706,114 ha) are classified as alienable and disposable and are mainly used for agriculture. 15% of the PRB land area are forest reserves. On land cover, 48% are agriculture, 35% are forestlands, 11% are built-up area and 7% are inland waters. Significant changes have been noted in PRB's land cover from 2003 to 2016 when built-up areas increased with agricultural lands being converted to this use while forestlands have been converted to agricultural production use, decreasing by 33% from 2003 to 2016.

Central Luzon, where PRB is situated, is a top producer of major agricultural crops like palay, corn and lowland vegetables. Soil erosion and excessive use of nitrogen fertilizer or urea have caused land degradation in Central Luzon. In 2003, it was found out that more than 310,000 ha declined in soil fertility because of excessive use of fertilizers. Additionally, zinc deficiency aggravated the saltwater intrusion in flood prone areas.

It is home to four species of mammals, 12 species of birds and species of reptiles included in the Red List for Conservation. There are 4 critically endangered species and 5 endangered species of plants found within the basin. It hosts the Candaba Swamp which is a unique wetland system that is visited by migratory birds; an important staging and wintering area for these migratory birds.

Environmental issues of the basin include: water shortage in existing irrigation systems; delay of large scale irrigation development projects; water shortage in Angat Multi-Purpose Dam; insufficient and deteriorating irrigation facilities; insufficient water management; inadequate water supply source; unsafe water supply; increasing pollution load in water bodies; inadequate water data quality data generation and management; contamination of surface, ground and coastal waters resulting from inadequate sewerage treatment and sanitation facilities, inadequate strategies to control pollution from industrial, agricultural and aquaculture waste, poor solid waste management, over-extraction of groundwater, siltation of rivers and illegal settlements along river easements; watershed degradation; weak reforestation; biodiversity loss; and poor institutional coordination mechanisms.

D) Iloilo-Batiano River Basin

Situated in the Iloilo Province in Panay Island in Region VI, the Iloilo-Batiano River Basin (IBRB) flows about 16 km along the coastal line from west to east with a drainage area of 107 km² and have a gentle gradient. It has four main tributaries, namely Cabaluan River, Mambog Creek, Calajunan Creek, and Dungon Creek that flows into Iloilo the River, which run almost in parallel from north to south, and the rivers are sandwiched by sandbar and alluvial plain formed by its tributaries.

The current land use in the IBRB consists mainly of agricultural areas of about 45 percent, residential of about 37 percent, including minimal percentage of commercial, industrial, fishponds and others. It is characterized by urbanized areas with increasing population and population density. It is dependent on both commercial/ industrial and agricultural sectors which has palay, corn and sugarcane as major crops.

Past and current issues affecting the watershed, competing land use pressures/needs around and within the watershed; conversion of irrigated land into residential or subdivision; indiscriminate land utilization; rapid urbanization; poor agricultural practices; improper aquaculture practices; erosion; unprotected river banks; siltation and sedimentation; encroachment of illegal settlers in mangrove areas; river encroachment of structures both permanent and semi –

permanent causing thinner water way; existence of illegal fish pens in the river; illegal encroachments on river banks resulting to siltation; illegal encroachments/structures along the river banks; population increase resulting to presence of informal settlers along Iloilo- Batiano River; and loss of biodiversity.

E) Cagayan River Basin

Cagayan River Basin is the largest river basin in the country located in the Cordillera, Isabela, and Nueva Ecija regions—bounded by Sierra Madre, Cordillera and Caraballo mountain ranges. Cagayan river is the longest river in the country running at 520km. CRB is predominantly classified as forestland (69%) while the remaining 31% is classified as alienable and disposable land. There are 18 various land cover in CRB. As an agricultural region, annual crops covered the largest portion of the river basin with an estimated area of 864,546 ha comprising about 31.44% of the total land area.

The basin is highly susceptible to landslide because most of its provinces are naturally located on steep slopes. Flooding has been a major problem in the basin. More than half of the river basin's area is determined to have soil erosion potential (SEP) within 0-5 tons/ha which constitutes 22.9% of CRB. About 48% of the river basin is classified with moderate to severe erosion.

The basin shelters 3,601,484 people in 2015, majority of which, are Ilocanos followed by Ifugao in the cordillera—an IP. Population density within the river basin ranged from 15 to 173 persons/km². Significant amount of pressure in the use of CRB's natural resources particularly land and water for settlement and food production. Such figure also indicates the potential magnitude of negative environmental impacts on human if CRB will be degraded. 82% of the basin is considered rural.

Agriculture, forestry and fishery are the top most livelihoods in CRB –3 provinces are top producers of corn in the country. Loss of forest cover and non-conformities of land cover in the river basin led to watershed degradation, resulting in loss of biodiversity and habitat, increased risk and vulnerability especially of those from the upland, decline water quality due to excessive soil erosion, and decrease of soil productivity.

The basin has a multi-sectoral management council, and a master plan with the vision: "An ecologically balanced Cagayan River Basin with biodiversity-rich resources owned and sustainably managed by empowered stakeholders enjoying fullness of life." Four principal frameworks and development strategies are: Integrated Water Resources Management, Integrated Watershed Management, Wetland Management, and Flood Mitigation.