United Nations Development Programme
Country: Philippines
PROJECT DOCUMENT

Project Title: Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate Effects of Drought

UNDAF Outcome(s): By 2018, adaptive capacities of vulnerable communities and ecosystems are strengthened to be resilient to threats, shocks, disasters and climate change.

UNDAF Sub-Outcome: By 2018, capacities of national & local government officials and communities to conserve & sustainably manage the country's environment and natural resources, including biodiversity and sustainable energy sources are enhanced.

IRRF Output 2.5: Number of countries with legal, policy and institutional frameworks in place for conservation, sustainable use and access and benefit sharing of natural resources, biodiversity and ecosystems.

Executing Entity/Implementing Partner: Department of Agriculture - Bureau of Soils and Water Management (DA-BSWM).

Implementing Entity/Responsible Partners: Department of Environment and Natural Resources- Forest Management Bureau (DENR-FMB) Department of Agrarian Reform (DAR), Department of Interior and Local Government (DILG), Housing and Land Use Regulatory Board (HLURB), Local Government Units (LGUs) of the Provinces of Bukidnon and Leyte through their Provincial Agriculture Offices and City of Malaybalay, Bukidnon and Municipality of Abuyog, Leyte, through the City and Municipal Agriculture Offices, and respective Farmers' Associations in Malaybalay, and Abuyog.

Brief Description

Land degradation in the Philippines is largely caused by the susceptibility of its soils to erosion due to the hilly and mountainous landforms in many parts of the country. The widespread clearing of forest lands in steeply sloping and rolling topography leaves the bare soil highly vulnerable to accelerated erosion of topsoil caused by heavy rainfall and consequential erosive force of water run-off. The practice of kaingin (or shifting cultivation) and other forms of unsuitable upland farming in cleared forest areas further worsens the erosion problem and loss of fertile and productive top soils. Land degradation in the Philippines is manifested by (i) the loss of productive topsoil through water erosion, (ii) loss of soil fertility due to over-cultivation, (iii) loss of vegetation cover due to illegal logging and widespread forest tree cutting, and (iv) expansion of slash and burn agriculture in critical slopes. Other kinds of degradation which cover a relatively smaller part of the landscape include (i) water logging due to poor drainage and water management; (ii) soil salinization due to over-harvesting of ground water near coastal areas; and (iii) soil pollution from excessive pesticide application and contamination by industrial and household wastes.

The proposed project would focus principally at the systemic and institutional levels, and hence strengthen the enabling regulatory, institutional and financial framework that would govern efforts to address land degradation in the Philippines. It will mainstream Sustainable Land Management (SLM) policies and programs into the development plans of LGUs through the guidance of government agencies such as Department of Agriculture, Department of Environment and Natural Resources, Department of Agrarian Reform, Department of Interior and Local Development and Housing and Land Use Regulatory Board to strengthen complementation among these government institutions concerned with land degradation and ensure that the incidence and spread of land degradation in vulnerable ecosystems will be avoided and/or reduced. The project is expected to improve the land productivity and socioeconomic well-being of small farmers. To achieve this, the project will follow a

participatory cross-sectoral approach involving all the key stakeholders in project design and implementation. The promotion of SLM measures and technologies for the adoption of vulnerable farming communities will be the focus of the field investments of the project. Through the establishment of SLM demonstration sites, farmers will be able to learn and adopt various methods of soil conservation farming and water resources conservation that will improve their crop production and income.

Therefore, the project aims to strengthen the SLM frameworks to address land degradation process and mitigate the effects of drought in the Philippines through the following outcomes:
Outcome 1: Effective national enabling environment to promote integrated landscape management; and
Outcome 2: Long-term capacities and incentives in place for local communities and LGUs to uptake of SLM practices in two targeted municipality in the Philippines**.**

Programme Period:	2015-2018
Atlas Award ID:	To be filled
Project ID:	To be filled
PIMS #	5365
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End Date	2018
Management Arrangements	NIM
PAC Meeting Date	

Total budget	USD 6,674,052
GEF	USD 870,900
Government	USD 5,303,152
UNDP	USD 500,000

Agreed by (National Economic Development Agency):

ROLANDO G. TUNGPALAN, Deputy Director-General
Date/Month/Year

Agreed by (Department of Agriculture):

PROCESO J. ALCALA, Secretary
Date/Month/Year

Agreed by (UNDP):

TERENCE JONES, Resident Representative
Date/Month/Year

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ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AFMA	Agriculture and Fisheries Modernization Act
ALUDP	Agriculture Land Use Development Plan
ARBA	Agrarian Reform Beneficiaries Association
ATI	Agricultural Training Institute
BSWM	Bureau of Soils and Water Management
CAO	City Agriculture Office
CARP	Comprehensive Agrarian Reform Program
CBFM	Community Based Forest Management
CCC	Climate Change Commission
CCMRD	Committee on Conservation and Management of Resources for Development
CDP	Comprehensive Development Plan
CENRO	Community Environment and Natural Resources Office
CLOA	Certificate of Land Ownership Award
CLSU	Central Luzon State University
CLUP	Comprehensive Land Use Plan
CSO	Civil Society Organization
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DAR	Department of Agrarian Reform
DILG	Department of Interior and Local Government
DOST	Department of Science and Technology
DSA	Daily Subsistence Allowance
ENR	Environment and Natural Resources
FFS	Farmer Field School
FLUDP	Forest Land Use Development Plan
FMB	Forest Management Bureau
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIS	Geographic Information System
GOP	Government of the Philippines
HLURB	Housing and Land Use Regulatory Board
IEC	Information, Education and Communication
IPM	Integrated Pest Management
IRA	Internal Revenue Allotment
LADA	Land Degradation Assessment
LAMP	Land Administration and Management Project
LGC	Local Government Code
LGUs	Local Government Units
MAOs	Municipal Agriculture Offices/Officer
MAROs	Municipal Agrarian Reform Offices

MDG	Millennium Development Goals
MENRO	Municipal Environment and Natural Resource Officer
M&E	Monitoring and Evaluation
MOA	Memorandum of Agreement
MSP	Medium Scale Project
NAMRIA	National Mapping Resources and Information Administration
NAP-DLDD	National Action Plan on Drought, Land Degradation, and Desertification
NCIP	National Commission on Indigenous People
NCSA	National Capacity Self-Assessment
NGA	National Government Agencies
NIA	National Irrigation Administration
NIPAS	National Integrated Protected Areas System
NLUA	National Land Use Act
NGOs	Non-Government Organizations
PAC	Project Advisory Committee
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAO	Provincial Agriculture Office
PARO	Provincial Agrarian Reform Office
PCIC	Philippine Crop Insurance Corporation
PCSD	Philippine Council for Sustainable Development
PD	Presidential Decree
PDP	Philippine Development Plan
PENRO	Provincial Environment and Natural Resources Office
PMO	Project Management Office
POs	Peoples Organizations
RDE	Research, Development and Extension
RO	Regional Office
SALT	Sloping Agricultural Land Technology
SAFDZ	Strategic Agricultural and Fisheries Development Zone
SLM	Sustainable Land Management
SPCMAD	Special Projects Coordination and Management Assistance Division
SWAT	Soil and Water Access Team
SWIP	Small Water Impounding Project
TNA	Training Needs Assessment
TWG	Technical Working Group
TWT	Technical Working Team
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNFAO	United Nations Food and Agriculture Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
UPD	University of the Philippines Diliman
UPLB	University of the Philippines Los Baños
USAID	United States Agency for International Development

WB	World Bank

I. SITUATIONAL ANALYSIS

1.1. Introduction

1. The Philippines is an island archipelago and covers an estimated area of 29.9 million hectares of land. It has a wet tropical climate with an annual rainfall ranging from about 1,000 mm in the south to more than 4,000 mm in mountainous areas particularly along the eastern coast of the archipelago. This is aggravated by the occurrence of frequent typhoons. About 60 percent of the country has rugged and mountainous topography with large areas in some islands having more than 18 percent slope. Deforestation and land use change have reduced the forest cover in the Philippines from about 90 percent in the 16th century, to 70 percent by 1900 and about 23 percent at present.[1] Of the country's total land area, forest land covers 25.5% of which 83.4% is protection forest, 13.8% is plantation forest and 2.8% is mangrove forest. Agricultural land extends over 43.8% of the country's land area while unmanaged shrubs, grassland and wetlands make up another 28.1% of the land area. Open water areas, urban areas and barren land account for 1.5%, 0.8% and 0.3% respectively.[2]

1.2. Context and Global Significance

Environmental and Social Context

2. Land degradation is currently affecting about 33% of the Earth's land surface and continues to expand and intensify in many parts of the world. As lands become less productive, more forest lands are cleared for agriculture. Further exacerbating this situation is the extensive conversion of good agricultural lands to urban uses due to the high demand of rapid urbanization trends. Highly affected are Africa and Asia where marginal farmers are becoming more vulnerable threatening their food security and sustained productivity of agricultural lands.

3. The Philippines is also seriously confronted with this global problem that has wide scale implications on sustained land productivity and biodiversity and crippling effects on water flow and nutrient cycling of agro and forest ecosystems. Soil erosion and nutrient depletion are two forms of land degradation that plague the stability and viability of Asian agriculture and the Philippines is no exception. The increasing population of small farmers drives them to cultivate less suitable lands resulting in their progressive deterioration. Unlike other Asian countries that have bigger lands for agriculture, the Philippines is archipelagic with relatively small islands with limited flat lands suitable for intensive agriculture. Conversion of prime agricultural lands into urban uses in the country is also becoming widespread and poses a serious threat to food self-sufficiency and food security.

4. The global phenomenon of climate change further aggravates the problem of land degradation. The increasing temperature and erratic changes in the pattern and volume of precipitation have dire consequences on tropical agriculture and creates long term uncertainties on the economic growth of affected dominantly agricultural countries. Drought is becoming more frequent in drier areas thereby affecting productivity of lands. Moreover, increasing loss of forest

[1] Garity et. Al., 1993; Verburg & Veldkamp, 2004
[2] Final Report of the BSWM-FAO project "Land Degradation Assessment (LADA)" in Humid Tropics.

cover for agricultural use dampens its ability to sequester Greenhouse Gases (GHG) thereby accelerating rise in global temperature.

5. Unless arrested to a significant proportion, land degradation and drought may leave a large gap in the food production capacity of agricultural countries. The repercussion of such is quite alarming in maintaining a balance in the supply and demand of various food commodities. The stability of the income of small farmers is greatly affected and lessens their chance to wiggle out of poverty.

6. The Philippines covers an estimated area of 29.9 million hectares of land much of which are undulating with at least three-fifths classified as "uplands with sloping terrain." There are 419 river basins with steep and short topography. The country is one of the most seriously environmentally threatened nations because of widespread soil erosion that affect the sustainability of its agriculture and forestry production. Almost half (45%) of the arable lands in the Philippines have been moderately to severely eroded. Moreover, significant watershed integrity has been lost due to inappropriate upland agriculture, deforestation, road construction and mining, leading to water shortages, sedi.mentation and devastating effects of natural disasters, such as typhoons. The smaller islands have become particularly vulnerable to drought and land degradation due to inadequate and inefficient irrigation systems, increasing population and rural poverty, poor land and watershed management and increasing incidence of El Niño and La Niña.

7. About half of the total population of the country, which stands at around 93 million, are dependent on natural resources as their source of livelihood and income. Most of these people (28%) are living below the poverty line. Small farmers and fishers comprise about 60% of those living below the poverty line. The declining productivity of their farm plots due mainly to soil erosion, nutrient depletion and water deficiency further sinks them into poverty. Poverty incidence has been persistently high in some regions (Autonomous Region in Muslim Mindanao, Caraga, Region IV-B, Region V, and Region IX).

8. Continuous degradation of land resources and reduction in their productivity would affect about 35% of the labor force which is dependent on agriculture. It would also most likely lower the agriculture sector's contribution to the economy which was quite significant in 2010 posting an average of 18% of Gross Domestic Product (GDP) (NEDA, PDP, 2010). Moreover, the income generated from the export of agricultural products would not be sustained and would decline over the long term.

9. Land degradation is especially detrimental to people living in ecologically vulnerable areas and seasonally arid areas of the country. In the same vein, poverty also leads to deforestation, erosion, and desertification as poor farmers cultivate marginal lands. People living in these areas have low crop productivity, low incomes and little savings.

10. The saturation of lowlands (0-18% slope classified as alienable and disposable (A&D) lands for agriculture development) pushes landless farmers to move up into forest lands where appropriate agriculture support cannot be provided by Department of Agriculture (DA) because these areas are classified as public forest lands which are under Department of Environment and Natural Resources' (DENR) jurisdiction. Even if some upland areas beyond 18% in slope (boundary for forest lands) are found suitable for agriculture cultivation, they cannot be developed

for such by virtue of existing laws. In many such areas, DA and DENR are having difficulties in introducing Sustainable Land Management (SLM) technology packages (DA espouses the use of soil conservation farming methods while DENR requires the practice of community based agroforestry methods) because of the large number of distantly and spatially scattered and hardly accessible upland farmers and the lack of coordination between the two departments in maximizing their extension services.

Institution and Policy Context

11. *The Department of Environment and Natural Resources* (DENR) is the primary government agency responsible for the conservation, management, development and proper use of the country's environment and natural resources, especially forest and grazing lands, mineral resources, including those in reservation and watershed areas, and lands of the public domain, as well as the licensing and regulation of all natural resources as may be provided for by law in order to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations of Filipinos. DENR is tasked to formulate and implement policies, guidelines, rules and regulations relating to environmental management and pollution prevention and control. In particular, the *Forest Management Bureau* of the DENR provides support for the effective protection, development, occupancy management, and conservation of forest lands and watersheds. The *Biodiversity Management Bureau* of the DENR is responsible for establishing and managing of protected areas, conserving wildlife and promoting and institutionalizing ecotourism.

12. The *Department of Agriculture* (DA) is the government agency responsible for the promotion of agricultural development by providing the policy framework, public investments, and support services needed for domestic and export-oriented business enterprises. The *Bureau of Soil and Water Management* (BSWM) of the DA's mission is to establish a technology and policy environment that will ensure the attainment of vibrant rural areas characterized by a sustainable agriculture and fishery productivity and institutionalize the judicious use of the base soil and water resources of the country. Such, BSWM (i) advises and renders assistance on matters relative to the utilization of soils and water as vital agricultural resources; (ii) undertakes the design, preparation and implementation of Small Scale Irrigation Projects with the Local Government Units (LGUs) and Regional Field Units of the DA; (iii) formulates measures and guidelines for effective soil, land and water resources utilization; (iv) undertakes soil and water resources research programs; and (v) prepares necessary plans for the provision of technical assistance in solving soil related problems, prevention of soil erosion, fertility preservation and other related matters.

13. The *Department of Agrarian Reform* (DAR) is the lead implementing agency of the Comprehensive Agrarian Reform Program (CARP). It undertakes land tenure improvement, development of program beneficiaries, and agrarian justice delivery. Its mission is to lead in the implementation of agrarian reform and sustainable rural development in the country through land tenure improvement, the provision of integrated development services to landless farmers, farm workers, small landowners and landowner-cultivators, and the delivery of agrarian justice, as key to long lasting peace and development in the countryside. The CARP is the redistribution of public and private agricultural lands to farmers and farmworkers who are landless, irrespective of tenurial arrangement, CARP's vision us to have an equitable land ownership with empowered agrarian

reform beneficiaries who can effectively manage their economic and social development to have a better quality of life.

14. The *Department of the Interior and Local Government* (DILG) promotes peace and order, ensures public safety, and strengthens the capability of local government units through active people participation and a professional corps of civil servants. Local Government in the Philippines is divided into four levels: (i) Autonomous regions; (ii) Provinces and cities independent from provinces; (iii) Component cities and municipalities; and (iv) Barangays. All divisions below the regional level are called "Local government units (LGUs)". According to the Constitution, the LGUs "shall enjoy local autonomy" and in which the president exercises "general supervision". Provinces, with the exception of the one autonomous region, are the highest-level LGUs. The provinces are organized into component cities and municipalities. Most cities are component cities in which they are part of a province. Municipalities are composed of barangays. Barangays are the smallest of the independently elected Local Government Units.

15. The *Housing and Land Use Regulatory Board* (HLURB) mission is "to promulgate and enforce policies on land use, housing and homeowners associations which promote inclusive growth and economic advancement, social justice and environmental protection for the equitable distribution and enjoyment of development benefits."

16. *Land Use Planning:* As per Executive Order No. 72 the preparation of Comprehensive Land Use Plans is the responsibility of the LGUs, who will, in conformity with existing laws, prepare plans and enact the plans through zoning ordinances which shall be the primary and dominant bases for the future use of land resources. These plans however need to be reviewed, evaluated and approved or disapproved by the HLURB. The laws (PD 933 and EO 648 S, of 1981, as amended by EO 90 S of 1986), also authorizes HLURB to prescribe the standards and guidelines governing the preparation of land use plans and to monitor the implementation of such plans.

1.3. Threats and Root Causes

17. As per study of the Global Assessment of Land Degradation and Improvement showed that the total degraded lands in the Philippines is estimated at 132,275 square kilometers affecting about 33,064,629 Filipinos. The World Bank in 1989 estimated annual value of on-site fertility losses due to unsustainable upland agriculture in the Philippines to be around US$ 100 million, equal to 1 percent of Philippine GDP per year.

18. Land degradation in the Philippines is largely caused by the susceptibility of its soils to erosion due to the hilly and mountainous landforms in many parts of the country. The widespread clearing of forest lands in steeply sloping and rolling topography leaves the bare soil highly vulnerable to accelerated erosion of topsoil caused by heavy rainfall and consequential erosive force of water run-off. The practice of kaingin (or shifting cultivation) and other forms of unsuitable upland farming in cleared forest areas further worsens the erosion problem and loss of fertile and productive top soils. Figure 2 visually displays the extent of soil erosion in the country with emphasis on moderate and severe erosion areas.

19. In the case of alluvial plains, the intensive cultivation of lands led to soil mining and nutrient depletion wherein marginal farmers find the application of fertilizers to replenish nutrient lost highly unaffordable. For semi-arid and drought prone areas, the lack of investments on

irrigation facilities fails to sustain cropping intensity and subsequently net annual production. The rapid pace of urbanization in lowland areas resulted also in the massive conversion of prime agricultural lands and this phenomenon continues to date.

Threats to Sustainable Land Management

20. Land degradation in the Philippines is manifested by (i) the loss of productive topsoil through water erosion, (ii) loss of soil fertility due to over-cultivation, (iii) loss of vegetation cover due to illegal logging and widespread forest tree cutting, and (iv) expansion of slash and burn agriculture in critical slopes. Other kinds of degradation which cover a relatively smaller part of the landscape include (i) water logging due to poor drainage and water management; (ii) soil salinization due to over-harvesting of ground water near coastal areas, and (iii) soil pollution from excessive pesticide application and contamination by industrial and household wastes.

21. Threats to sustainable land management are both human and naturally induced.

Human-induced Threats

22. *Uncontrolled upland migration and subsistence farming:* The Philippine population is growing at an annual rate of 2.3%. As a result, large numbers of mostly subsistence farmers are moving to uplands and marginalized lands, including forestlands, in the hope of meeting their day-to-day food requirements. According to DENR, the country's forest cover in 1900 was 21million hectares (70% of land area); by 2005, this was down to 7 million hectares (23%). However, removal of primary forests should not largely be attributed to the expansion of agricultural areas; rather, logging was initially responsible for the degradation of primary to secondary forests and grasslands, but this opened up forest lands to shifting cultivation and later to intensive agriculture[3] (Cramb 2000 as mentioned in Briones 2010).

23. At present, approximately 74% of the sloping uplands are actively used for subsistence farming. This accounts for most of the 45% - or a total of 13,559,492 hectares - of all arable lands that are moderately to severely eroded. About 5.2 million ha are seriously eroded, resulting in 30-50% reduction in soil productivity and water retention capacity, which in turn leave these lands especially vulnerable to drought. Severe soil erosion makes the land less suitable to crop production. In some cases, erosion has resulted in total loss of soil productivity. Moreover, eroded soils carried by water runoff is causing sedimentation of dams, irrigation canals, riverbeds and coastal habitats like seagrass beds and coral reefs greatly affecting their productive functions.

[3] Briones, R. Addressing Land Degradation: Benefits, Costs and Policy Discussions. Philippine Journal of Development, Vol. 68, First Semester 2010. Vol. 37, No.1

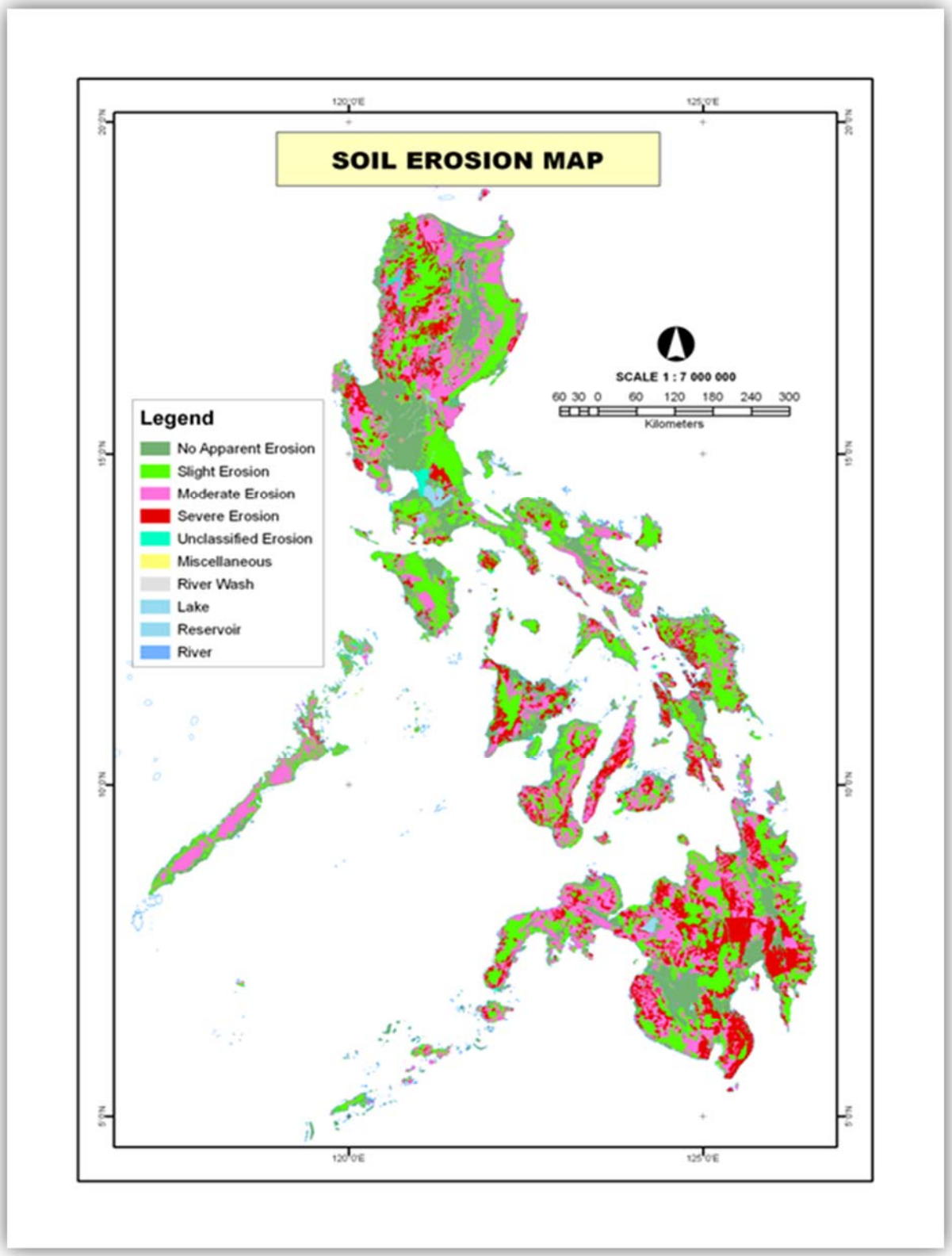


Figure 1: Soil Erosion Map of the Philippines

24. *Shifting cultivation and illegal resource extraction:* Migrant farmers continue to practice slash and burn agriculture within short time cycles leading to much stress on sloping lands. It is now a common sight to see lands destroyed by gullying that extends to the upper part of watersheds. Besides shifting cultivation, illegal logging and encroachment of dwellers in forested areas including biodiversity protected areas are becoming rampant and have further accelerated land and natural resources degradation.

25. *Farming without the use of soil conservation practices:* The cutting and burning of trees and grasses and slope cultivation without incorporating soil conservation management strategies has led to significant land degradation. These practices are widespread in hilly and mountain landscapes.

26. *Excessive use of pesticides and fertilizers:* Since the Green Revolution of the mid 1960's, the Philippine agriculture has become conventional by 1980s and highly dependent on chemical inputs. This is because of the aim to expand production to meet the food requirements of rising Filipino population. To improve crop yield, extensive use of chemical inputs such as inorganic fertilizers, herbicides and pesticides has been popularized. This has left the soil acidic and unfit for sustainable production. The long term and continued use of urea alone has resulted in serious nutrient imbalance and has contributed to the silent soil degradation widely known as soil mining. The general trend based on soil analysis conducted by the BSWM covering the period 1970 to 1990 indicated active soil mining, where over time an ever greater amount of fertilizer has been needed to maintain yields.

27. To mitigate the above human induced causes of land degradation, the SLM project will promote more investments on soil conservation technologies, such as terracing, contour ploughing, use of hedgerows, and the adoption of combined vegetative and mechanical erosion control measures. To minimize excessive use of fertilizers and pesticides, the SLM project will educate and introduce farmers to organic farming and integrated pest management. These SLM technologies will be inventoried, evaluated, documented and further promoted for their applicability in various environmental, cultural and socioeconomic milieus.

Naturally-induced Threats

28. *Rough terrain and problem soils:* As mentioned above, the Philippines is an archipelago with hilly and mountainous terrain. Problem soils are dominant in areas with steep slopes, poor drainage, coarse textures and fertility limitations. Steep slopes are land areas that are steeply dissected with slopes more than 30% distributed as follows: 30-50% slope- 6,293,362 ha (21% of total land area); 50% slope and above - 2,609,900 ha (7% of total land area).

29. *Natural disasters:* Natural disasters like volcanic eruptions, typhoons, and floods have damaged soils and destroyed habitat as well as the diversity of crop species. There are more than 200 volcanoes in the Philippines and four major volcanic belts. During the cataclysmic eruption of Mount Pinatubo in 1991, an estimated 68 billion cubic meters of pyroclastic material were deposited over a 4,000 square kilometres including the eight major river basins that drain the volcano. The interim effect was the total loss of the indigenous diversity of root crops and vegetables that were cultivated by native people. Heavy ash falls and lahar also made vast tracts of lands planted with rice and sugarcane in Central Luzon unfit for production and several residential areas unsuitable for human settlement. Every year during the wet season heavy rainfall

and typhoons continue to erode the pyroclastic material deposited on the slopes of the volcano causing lahar to continue to wreak havoc on an estimated 300,000 hectares.

30. The country is hit by about 8 to 9 typhoons every year causing destruction of agricultural crops and massive erosion of cultivated sloping lands. Strong winds and floods caused heavy damages of agricultural crops. Income of farmers affected by typhoons is severely affected and it takes longer time for them to eventually recover.

31. *Drought:* Climatological studies show that major drought events in the Philippines are associated with El Niño occurrences or warm episodes in the central and eastern equatorial Pacific. Four major drought events in the Philippines that occurred in the 20th century were recorded in 1982 - 83, 1986 - 87, 1989 - 1993 and 1997 - 98. In the 1997 - 1998 El Niño, a total of 930,435 villagers in 267 barangays in Negros Occidental were declared under state of emergency due to prolonged drought. Lands were unfit for production, water sources dried up and drought-induced diseases and pests proliferated causing widespread starvation and disease among some half a million families

32. Recurring drought patterns have resulted in a lack of sufficient water to meet the requirements of agriculture, household and industrial use. El Niño is now projected to occur in shorter intervals due to the effects of climate change. Water stress periods in the seasonally arid/semi-arid areas now stretch from four to nine months. Mean daily temperatures in these areas range from 30°C to 35°C, which is higher than other parts of the Philippines, and induce depletion of soil organic matter and significant water loss through evapotranspiration. Soil organic matter content is generally 1% or less, which is very low, compared to normal values of 2.5 to 3.5 %.

33. Water was also short in major dams as a result of El Niño. The most serious shortage was in 1997-1998, where the water level in the Angat dam fell below critical levels forcing national authorities to stop delivering irrigation water to some 25,000 hectares in Bulacan and Pampanga. Extreme heat also led to forest fires, where the subsequent clearing of vegetation increased the area prone to soil erosion. Forest fires also affected forest cover lowering water supply to rivers and streams. Changes in rainfall patterns have also caused changes in surface runoff and soil erosion.

34. In the aforementioned naturally-induced threats to sustainable land management, the project will alleviate problems soils through the promotion of improved external drainage, soil fertility management, and liming of acidic soils. With regards to natural disasters, while nothing can be done to prevent volcanic eruption, this kind of natural cause for land degradation was mentioned for baseline purposes.

35. While the effects of other types of natural disasters on land cannot be avoided completely, efforts are being undertaken by government agencies to mitigate their effects. These efforts include planting appropriate tree crops that can withstand typhoons or crop varieties that can tolerate lahar laden soils. Cropping patterns are also adjusted to avoid the destructive effects of typhoons and flooding to crops. While the effects of other types of natural disasters on land cannot be avoided completely, the SLM project will mitigate their effect by applying appropriate SLM technology and farming practices that are resilient to hydro-meteorological hazards such as typhoons and drought.

1.4. Long-term Solution and Barriers to Achieving the Solution

36. The long-term solution is to build the necessary conducive environment for sustainable land management mainly consists of a comprehensive decision-making and monitoring and compliance system at national and local level and mobilising the baseline programme to engineer a paradigm shift from unsustainable to sustainable land use while improving the livelihoods of the farming community. The barriers to the long term solution on sustainable land management that need to be addressed are multifarious. The more significant ones that demand urgent attention by the government are briefly described as follows:

Absence of national and local level framework for SLM mainstreaming, i.e., controlling land degradation and upscaling SLM

37. Philippines' production lands consist of a mosaic of agricultural land and natural ecosystems: the farming system employed by the former can have a major impact on the latter – influencing the functionality of the agro-ecosystem. Therefore, it is essential that institutions that work on agriculture and forestry and other landuses work collaboratively. Further, the plans and programmes of national government agencies (NGAs) such as DENR, Department of Agrarian Reform (DAR), Department of Science and Technology (DOST) and DA are not coordinated and generally lack SLM prescriptions for various agriculture and agro-forestry uses. Sustainable land management is not explicitly integrated into agricultural and forestry sector development plans, documents guided by the Comprehensive Land Use Plans (CLUPs) of Local Government Units (LGUs). Due to this lack of guidance and prescription from the key sectors, Department of Interior and Local Government (DILG) (and their respective LGUs) and Housing and Land Use Regulatory Board (HLURB) are unable to fully integrate SLM issues into their CLUPs and to adequately monitor and ensure compliance to SLM issues. There is also an urgent need to coordinate extension services, especially between DENR and DA, ensuring a common, agreed message is shared with landowners and other stakeholders. Further, decision-makers lack solid information on which to base their decisions regarding land use management, in particular information regarding SLM technology and farming practices.

38. Moreover, basic assessment and mapping of highly vulnerable areas to land degradation such as soil erosion, nutrient deficiency and soil pollution are lacking. Although DA's Bureau of Soils and Water Management (BSWM) has its Land Degradation Assessment (LADA) website (http://www.bswm.da.gov.ph/ladaphilippines/gallery.html) where SLM-related maps such as Land Use System Map, Erosion Rate Map and Fertility Decline Map may be downloaded by the concerned LGUs so they may use them as one of their references in the development/updating their agricultural and forestry land use plans, the maps are not complete in the regional level, i.e., there are only 3 regional maps out of the 17 regions in the Philippines. LGUs cannot rely on these incomplete maps for their SLM planning purposes. Furthermore, the map gallery is not interactive where overlaying capability is not possible. LADA is a technical cooperation program with FAO on "National Capability Building for Philippine Land Degradation Assessment and Climate Change Adaptation" (TCP/PHI/3302). One of the main outputs is the generation of Land Use System (LUS). These are sets of biophysical and socio-economic information of relevance to land resources and ecosystems degradation for national assessments. Featured map outputs together with the attributes or databases were generated at a national scale. The limitations of the LADA website are: (1) validation of the maps should be conducted to make usable at a local scale

(provincial/municipal level); (2) map galleries is simply for visualization and not interactive where overlaying capability is not possible.

39. The plans and programs of national government agencies such as DENR, DAR and DA Regional Offices generally lack SLM prescriptions for various types of agriculture and agro-forestry land uses and farming systems for the simple reason that it is viewed as a sectoral concern and that SLM practices are normally introduced at the project level The adoption of SLM practices and technology remains at the project level and are not mainstreamed or institutionalized in national and local programmes and plans. For instance, the land use and agriculture and forestry sector development plans and programs of many LGUs are usually deficient of SLM measures.

40. Upland farmers under the DENR's program on integrated social forestry are not benefitting much from available SLM farming system and technology packages such as soil and water conservation and organic farming and nutrient balance management to improve their yield and sustain their production level due to the lack of application of SLM. Soil erosion and land degradation continue to be a major problem in the farming of sloping lands.

41. Similarly, agrarian reform beneficiaries are having difficulties sustaining the productivity of their lands partly because of the lack of integration of SLM in DAR's plans and programs. The extension services that agrarian reform beneficiaries receive from DAR and its support organizations such as Agrarian Reform Beneficiaries Associations (ARBAs) still need to fully adopt and widely apply SLM farming technology and practices such as soil and water conservation, erosion control, nutrient balance management and integrated pest management. The lack of wide dissemination of SLM measures has not maximized land productivity of some distributed lands under the Comprehensive Agrarian Reform Program (CARP). As lands become less productive and marginal, they are more susceptible for land conversion into urban uses.

42. Agriculture extension services of the DA were transferred to the LGUs when the Local Government Code (LGC) was implemented during the early 1990's. Under the LGC law, the Provincial Agriculture Office (PAO) and Municipal/City Agriculture Office (MAO and CAO) were subsumed under the Local Government Units (LGUs). The LGUs road map to development is embodied in its Comprehensive Land Use Plan (CLUP) and Comprehensive Development Plan (CDP). These plans have components on agriculture land use and agriculture sector development. However, many of these plans have not integrated SLM in their programs and projects including their investment programs. As such, many small farmers lose the opportunity to properly conserve their soil fertility and water thus affecting their yield, production and income.

43. Whenever there is a request for technical support concerning SLM and farm production, the DA Regional Offices send over their farm or agriculture technicians. In the case of request for technical assistance on soil and water conservation, the Soil and Water Area Coordinator (SWAC) from the BSWM are called upon to provide support and advice to the PAO, MAO and farmers' organizations. However, the capacity of BSWM to provide technical assistance is constrained by its limited number of technical staff fully trained on soil and water conservation. In this context, the DA Regional Offices need to strengthen its technical extension program on SLM by allocating more resources to meet the demand for such services. Hence, the agriculture support development and implementation plan of the DA Regional Offices need to integrate a component on SLM packages and technical assistance services to address present gaps.

Lack of capacity and inadequate demonstrated experiences in landscape management approaches and in particular agriculture-based SLM at the local level

44. Technical competence on SLM by many of the field staff of national agencies such as the DENR, DAR, and LGUs limit their ability to educate and transfer suitable SLM packages in farming communities under their jurisdiction. Capacity building is very much needed by the staff of these national agencies as trainors and in the development of modules to incorporate SLM in existing tools and modalities such as the Farmer Field School (FFS) and to better equipped the field or extension technicians in SLM technology extension, as well as for the DA-BSWM and its partner organizations to monitor the performance and impacts of SLM technology and farming practices across landscape. New and less experience staff of the focal agency, DA-BSWM, also needs to undergo capability building through competency training on SLM. Furthermore, the focal agency could perform its SLM education and transfer well if it is equipped with modern teaching, research, and laboratory equipment and facilities.

45. There is a lack of a structured and systematic system for monitoring and evaluating the performance of SLM projects which is considered critical in improving further the adaptability of the SLM technology to specific local conditions. Currently, there are several projects on SLM which are labelled as soil conservation, soil fertility, and integrated pest management. Projects are spread out on various locations and in patches such that information on successes and failures are limited at the farm level or a given locality. While there have been efforts to expand the scope and increase level of adoption, the project cycle and design are limited to allow for replication and mainstreaming of SLM at the local level. There is lack of appreciation by the planners and decision makers to integrate SLM technologies in their respective land use plans. The discussion on SLM should go beyond farm level production as its objective but as a means to address land degradation across landscape and ecosystems. A more landscape approach should be done to ensure that interventions for productivity enhancements are targeted to favourable parts of the landscapes which can reduce pressures in fragile sloping lands while at the same time generating conservation outcomes.

46. Similarly, at the municipal level, the country does not have operational, “on-the-ground” examples of integrated sustainable land management. Without access to know-how, proven through demonstration, government decision-makers and resource users at the national and local levels do not have the tools and knowledge necessary to decrease land degradation. There is a critical unmet need to infuse new management approaches into the management system—focusing on the sectors that are driving land degradation. LGUs set aside a portion of their Internal Revenue Allotment (IRA) received from the national government for the implementation of their development programs and projects. Most agriculture-based municipalities are poor and have low revenue generating capacity. They therefore have low amount of funds available which are mostly spent for and not even enough to cover the social services requirements of their constituents. The capacity of LGUs to fund SLM projects, which are critical in improving the income of small farmers, is severely constrained. Small farmers comprise a large segment of the population of agriculture-based municipalities and their economic growth is dependent on the performance of agriculture in their area. Henceforth, the LGUs must be able to assist small farmers improve their production and conserve their land resources to sustain productivity. They need to generate enough revenues to be able to allot some funds to support their SLM projects. Better-off LGUs need to provide in their budget an adequate share for agriculture development and soil and water

conservation projects. Increase in the allotment of funds for SLM in these LGUs will further drive their economic growth while reducing poverty incidence among small farmers in their areas.

1.5. Stakeholder Analysis

47. The key institutional stakeholders to the project include: National government agencies: DA (BSWM), DENR (FMB), DAR, DILG, HLURB, local governments (provincial and municipal LGUs); local farmers' organizations; and the academe particularly state universities such as the Visayas State University (VSU) (through its College of Agriculture and Food Science and College of Forestry and Environmental Science) in Baybay, Leyte and the Central Mindanao University (CMU), (through its College of Agriculture and College of Forestry and Environmental Science), Maramag, Bukidnon. The roles and involvement of these institutional stakeholders are summarized in the Table below.

48. The feedback and comments on the proposed SLM project design and project results framework were obtained from various consultation meetings to include: 1) Consultation with SLM Project's Technical Working Group (TWG); 2) Consultation with members of the PCSD-CCMRD; 3) Consultation with representatives from government agencies, NGOs, academe and the private sector during the SLM Seminar-workshop organized by DA-BSWM; and 4) Consultation-workshop with the farmers' organization on December 2014 to confirm the physical characteristics of the selected sites and to determine the level of awareness of the stakeholders, the farmers. The comments and suggestions from the institutional stakeholders and farmers were considered in the project framework.

49. The key stakeholders who will be involved in the project preparatory activities as well as the design and implementation of the MSP will include relevant national government agencies, provincial and municipal government units and farmers' organizations, research institutions, civil society organizations, private sector and the international development organizations. In this Project design stage, there is a full participatory process with the main stakeholders involved throughout and mechanisms to ensure their participation in project implementation.

Table 1. Key Institutional Stakeholders and Roles/Involvement in the SLM Project Planning and Implementation

Institutional Stakeholders	Role/Involvement in SLM Project
Department of Agriculture – Bureau of Soil and Water Management	The BSWM is the lead agency in SLM. It develops, tests, and widely disseminates SLM practices and technology packages. For the SLM project, it will undertake project planning, implementation and management including coordination, monitoring, evaluation and project reporting. It will also develop knowledge management system and lead capacity building program; and establish SLM demonstration sites on soil conservation, erosion control, organic farming, nutrient balance management and other technology packages.
Department of Agriculture – Special Projects Coordination and Management Assistance Division (DA-SPCMAD)	DA-SPCMAD as the mandated unit of DA in the provision of M&E support to the project, will conduct performance and financial review in accordance with the requirements of the donor agencies and the DA.

Department of Environment and Natural Resources – Forest Management Bureau (DENR-FMB)	The FMB is the agency responsible for planning and implementing forest conservation policies and programs. For the SLM project, it will undertake project planning and implementation of SLM covering upland farmers and agro-forestry. It will also mainstream SLM in DENR forestry development plan and programs allotting budget thereof; conduct project performance monitoring and reporting; and establish SLM demonstration sites on agro-forestry and participate in capability building program.
Department of Agrarian Reform (DAR)	The DAR implements the country-wide program on land distribution and corresponding support services to agrarian reform beneficiaries. For the SLM project it will conduct project planning and implementation of SLM covering agrarian reform beneficiaries. It will also mainstream SLM in DAR agrarian reform development plan and programs allotting budget thereof; conduct project performance monitoring and reporting; and establish SLM demonstration sites on conservation-oriented farms of agrarian reform farming communities and participate in capability building program.
Department of Interior and Local Government (DILG)	The DILG is responsible for supervising LGUs, issuing policies, and monitoring and evaluating their progress and development, among other functions. For the SLM project, it will provide inputs in project planning and implementation. It will also issue policy directives to LGUs in mainstreaming SLM in their CDPs and allocating funds thereof; and participate in the formulation and development of financial instruments for SLM.
Housing and Land Use Regulatory Board (HLURB)	The HLURB is responsible for issuing guidelines for the preparation of CLUP by cities and reviewing the quality of their plans aside from their legal and program development functions. For the SLM project, it will provide inputs in the preparation of guidelines for mainstreaming SLM in CLUP of LGUs. It will also be tapped in the conduct of capability building program on SLM.
Provincial and Municipal LGUs (PAOs and MAOs)	The LGUs' PAOs and MAOs are responsible for preparing and implementing agriculture sector development plans and programs aside from providing extension services to farmers. For the SLM project, they will mainstream SLM in their CLUPs and CDPs and allot budget thereof. They will also be the major participants in capability building programs for SLM. They will also provide inputs in SLM project monitoring and performance evaluation.
Farmers organizations	The farmers' organizations in priority LGUs are the downstream beneficiaries of the project. They will participate in SLM project implementation as technology receiving constituents. They will also participate in SLM training and technology adoption; and provide feedback on the benefits and performance of SLM technology adopted.
NGOs and academic and research institutions	The NGOs and academic and research institutions to be tapped by the SLM project will serve as resource persons in SLM training and documentation of best practices. They will also provide advocacy support in SLM technology adoption; and participate in SLM monitoring and performance evaluation.
UNDP Manila	The UNDP is the implementing agency of the GEF and is responsible in facilitating the development, review and submission of projects for GEF financing. For the SLM project, it will be responsible for the successful management and delivery of program outcomes and monitoring of project implementation and performance. It will also approves any deviation from the project implementation plan.

50. The ultimate beneficiaries of the MSP will be the small farmers whose land productivity and income are expected to improve by practicing SLM measures and adopting appropriate farming technologies. Significant reduction of soil erosion and corresponding sediment transported which affects coastal habitats (e.g., coral reefs, seagrass meadows) and fishing grounds will benefit small fishermen. Ordinary citizens will also benefit from the project in terms of improved food security and ecological stability of life support systems. Finally, the national and local government agencies involved in the project will greatly benefit from project implementation through institutional capacity development and provision of catalytic funds to implement incremental activities necessary to accelerate the adoption of SLM.

51. National benefits accruing from the project will include exposure to innovative and pragmatic planning and sustainable farming technology management approaches, improvements in the information base and decision-making system, enhanced capacity to sustainably manage soil and water resources, upgraded skills through training opportunities, improved working partnerships among national and local institutions, and devolved implementation of SLM. Over time, SLM will allow higher budgetary appropriations for SLM programs and the use of funds would be more efficient. National benefits will also include the improved conservation of cultivated areas in uplands and the protection of critical slopes in watersheds. The increased economic value of improved landscapes would contribute to poverty reduction among small farmers particularly those occupying the upland areas.

52. Locally through the provision of alternative livelihoods to the resident population – including local/indigenous communities – the project will enhance local support for both SLM and conservation, and will stimulate the development of self-reliance and sustainable economic use of natural resources. The project will provide stakeholders with the knowledge and mechanisms to adapt their land use in ways that optimize economic and social welfare, while sustainably conserving their biodiversity values. Adoption of a sustainable land-use systems can enhance ecological support functions of land and enable land-users to derive social and economic benefits from land. SLM promotes agricultural productivity, ensuring economic and social returns while at the same time protect and enhance the quality of the environment and the land. Improved relations between the national agencies and the LGUs will also facilitate the flow of other social and economic benefits to previously disenfranchised areas.

53. The SLM policies and programs to be devolved by the consortium of the DA-BSWM, DENR-FMB, DAR, DILG and HLURB will be designed to be **gender sensitive** in accordance with the UNDP and NEDA Guidelines on Gender and Development. As such these SLM programs will provide equal opportunities to women in terms of access to training, technology and financial support or microcredit for their engagement in micro-enterprises to augment and diversify their families' sources of incomes. The women's group will be encouraged to attend planning sessions and consultation workshops and shall likewise be involved in the selection and implementation of SLM projects and in monitoring and evaluation of the performance of the projects to be piloted.

54. In the same vein, the children will be provided the opportunity to attend school and learn vocational and technical skills to prepare them for work other than farming. This will be realized through the generation of additional local revenues and allotment of budget for the education of the children of farmers who are practicing SLM. The education support will be a form of incentive for more farmers to practice SLM.

1.6. Baseline Analysis

55. The Government is committed to natural resources management in the Philippines and will invest at least US$ 1.9 billion[4] in environmental protection over the project period. The funding is largely funneled to three sectors, (i) the Environment sector, through its Department of Environment and Natural Resources which receives an annual budget of US$ 450 million[5] (US$ 1.35 billion over project period). Of this, annually, US$ 144 million will be targeted for forest

[4] http://www.dbm.gov.ph/?page_id=7906
[5] As per 2014 General Appropriations Act: DENR PhP 19,769,662,000 (US$ 459,759,581)

management and US$ 0.825 million for protected area management. (ii) the Agricultural sector which will invest US$ 1.4 billion over the project period in agricultural development through the Department of Agriculture. Of this amount, US$ 8 million is earmarked for soil and water conservation. (iii) the remaining funds will be targeted towards the Fisheries sector which is not relevant to this project. The Department of Interior and Local Government as well as its constituent LGUs will invest US$ 235 million over the next 3 years (no specified allocation is made for land use planning), while the Housing and Land Use Regulatory Board will invest US$ 280,930 over the same period reviewing and monitoring compliance. The LGUs (these include all the LGUs in the Philippines) will have a combined investment of approximately US$ 1.5 billion in social, economic and environment management[6] during the project period.

56. There are a number of field-level baseline initiatives being undertaken by BSWM:

a. The *"Watershed evaluation for sustainable use of sloping agricultural land in the southern Philippines"* project (US$ 230,000) is improving agricultural production in the Cabulig and Inabanga watersheds areas.

b. The *"Development of Environment-friendly Agricultural Production Technology in Small Islands"* project (US$ 33,000) will involve the adoption of soil conservation and organic farming methods to improve crop production on small islands.

c. The *"Enhancing Delivery of Extension Services in support to the Philippine Climate Change Adaptation Project"* (US$ 340,181 - World Bank-funded) is supporting SLM through strenghtening the enabling environment for climate change adaptation, and demonstrating climate change adaptation strategies in the agriculture sector particularly adaptive agroforestry technologies.

d. The "Vulnerability and Suitability Assessment and Digitization of Thematic Maps in support to the Philippine Rural Development Program" project (US$ 300,000 – World Bank-funded) is producing various thematic maps that can be used in SLM assessment studies.

e. The *"Natural Resources Management in support to the Mindanao Rural Development Program"* project (US$ 37,225 – World Bank-funded) is identifying areas for irrigation development and establishing a small water impounding project.

f. The "Rehabilitation of Small-scale Irrigation Projects for Upland Productivity and Resources Sustainability" project (US$ 855,154) is producing small scale irrigation projects for upland farming.

g. The "Monitoring: Nutrient Loading from Cropland into the Manila Bay in Support to the Operational Plan for the Manila Bay Coastal Strategy" project (US$ 90,000) is promoting the optimum use of fertilizers and the method of effective and efficient fertilization schemes

h. The "Application of Stable Isotopes to the Assessment of Pollution Coming from Various Sources in the Pampanga River System into the Manila Bay, Philippines" project (US$ 75,000) is buying some laboratory equipment for pollution

[6] In accordance with the Joint Memorandum, Circular issued by DILG, 20 % of the LGUs internal revenue allotment should go to development fund composed of focusing on social development, economic development and environmental management; however the 20% development was not broken down, thus the exact budget allotted for agricultural and fishery development and environmental management of the land could not be determined.

monitoring. It is also developing techniques for monitoring pollution, including measuring pesticides and fertilizer pollution (non-point pollution).

i. The "*Land Degradation Assessment"* Project (US$ 484,000-FAO-funded) aims to establish a knowledge base on land degradation, including understanding the causes and impacts, to establish priorities for intervention, participatory and sustainable management of territories and an improvement of specific investments and technical support users of the land. It also enables tracking / monitoring of impacts on ecosystem services, environmental services and livelihoods. Local land degradation assessments have been conducted in Barangay Banilad and Barangay Cadawinonan in Dumaguete City; and Barangay Blanco, Misamis Oriental.

57. The baseline scenario is additionally described according to the two (2) outcomes of the project.

Effective cross-sectoral enabling environment at the national and local level in place to promote integrated landscape management

58. In the absence of this project, HLURB, the mandated agency in the preparation of guidelines in the revision of CLUP, will not be able to integrate SLM in the revised CLUP guidelines. The current contribution of the agriculture sector is the integration of Strategic Agricultural and Fisheries Development Zones (SAFDZ) in the CLUP in which information has to be updated to suit the requirements of the CLUP. SAFDZ refers to the areas within Network of Protected Areas for Agricultural and Agro-Industrial Areas for Development (NPAAAD) identified for production, agroprocessing and marketing activities to help develop and modernize, the support of government, the agriculture and fisheries sectors in an environmentally and socioculturally sound manner. SAFDZ is designated as key production areas and should be protected from land conversion. Identification, setting aside and incorporation of the SAFDZ in the CLUP legitimizes/enhances the acceptability of their local use, and where all research and development and priority infrastructure investments are initiated and focused to jumpstart the commercialization of agriculture and fishery sectors. And since these are production zones, which most of the time in commercial scale, extensive application of farm inputs is sometimes unavoidable. Hence, non integration of SLM in these designated agricultural zones will eventually result to loss of its land productivity in the long-run due to soil infertility and/or soil erosion.

59. Similarly, non-integration of SLM in the CLUP in general will not sustain the optimal land-use allocation of an area. Land degradation of key production areas in the forestry and agricultural areas may result to land conversion into other land-uses which may threaten areas that should be under protection. This will endanger the balance of ecosystem and will further threaten the conversion of forest areas into agricultural areas. Hence, integrating SLM in CLUP can address this expansion of production areas and will sustain the productivity and efficiency of the current production system.

60. The enhanced CLUP guidelines that integrate SLM, once approved, adopted, and recommended, can then be monitored in terms of compliance in the adoption of SLM practices, thus ensure the sustained utilization of soil and water resources and mitigation of impacts of land degradation and drought at the national scale. Monitoring of compliance will not be achieved without this project,

61. Without this project, NGAs concerned such as DA-BSWM, DENR-FMB, OP-HLURB, and DILG will fail to address land degradation as an interrelated concern and environmental driver for forestry, biodiversity, and climate change while the latter are already in place.

62. Without mainstreaming efforts of SLM in key agencies such as DENR and DAR as well as in local land-use planning processes at the local level, SLM will remain a sectoral concern of BSWM and the implementation of SLM will still be uncoordinated at both levels. Land degradation issues in the country will not be addressed in a more holistic and integrated manner. Unified training of trainers from these agencies to enhance capacities of extension officers to apply SLM practice across landscape will not be done and appreciated as cross sectoral concerns.

63. Without this project, the legal framework that will mainstream SLM initiatives embodied in the aligned Philippine National Action Plan to Combat Desertification, Land Degradation and Drought (NAP-DLDD, 2014-2024) will remain weak considering that the binding agreement for the DA, DAR, DENR and DOST is only a signed Pledge of Commitment. Moreover, a disconnect between the national and local level of SLM implementation will still be seen. There will be no concrete models that could localize the NAP-DLDD and encourage the LGUs to create their local technical committee on sustainable land management and allocate budget for the implementation of SLM related activities. In terms of monitoring and evaluation, it is described in the NAP-DLDD that a rigorous system, based on participatory principles, would be built into implementation, making for not only accountability at various levels but also helping shape and refine program implementation methods over time. This national participatory SLM M &E system will remain in paper only considering that monitoring and evaluation is currently being undertaken on a per project basis with minimal consultation and inputs from concerned LGUs. Further, without this project, some indigenous knowledge backed up with science and farmers' innovations on SLM particularly in the sloping corn areas of Bukidnon and less fertile soils in Leyte will be remain scattered and undocumented. With the use the WOCAT (World Overview of Conservation Approaches and Technologies) tools and methodologies, identified SLM good practices in those areas despite the challenges of land degradation could be documented and possibly included in the global database of soil conservation measures.

64. In the absence of this project, the reporting process of NAP-DLDD implementation will be similar to M & E system wherein SLM initiatives were consolidated at the national level only. It will be difficult to report the integrated accomplishments on preventing land degradation and rehabilitating degraded lands of all sectors using the modified Performance Review and Assessment of Implementation System (PRAIS) of the UNCCD. Likewise, the level of information on land degradation will remain at the regional level and will not reflect the real status at the municipal level. SLM interventions at the municipal level may not be effective since information on the extent of the land degradation is sparse. Currently, there is no local level monitoring of land degradation problems, much more, the systematic resolution of these problems. The LGUs have greater stake in taking the best use of their land for its constituencies. Hence, without scientific information on the extent of land degradation problems in their respective localities, LGUs cannot appropriately respond. Mainstreaming of SLM in local planning processes is essential in ensuring that the LGUs are optimzing the best land-use in their area which can contribute in the economic well-being of its farmers and producers while at the same time ensure the environmental sustainability of its natural resources.

Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted city and municipality in the Philippines

65. Integrated ecosystem management that include climate change, biodiversity, forestry, and coastal resources are already mainstreamed in the CLUP. Regular updating of CLUP by HLURB in all municipalities starts in 2015. Without this project, the SLM practices will not be integrated in the updating of CLUP. And land degradation as an important consideration in integrated ecosystem management will remain absent in the CLUP guidelines.

66. The process of revision and updating of CLUP requires the participation of local planning team. Without this project, the two sites which are considered land degradation hotspots will not be included in the priority sites for updating despite of its state of land degradation in terms of extent of soil erosion and fertility decline. The local planning team will remain uninformed about this important consideration.

67. There is no existing demonstration of SLM practices in the municipalities of Malaybalay and Abuyog. In particular, on specific land degradation problem of soil erosion for Malaybalay and soil fertility decline in Abuyog. Without this project, which considered the findings from the recently concluded LADA project of the DA-BSWM that identifies these common and site specific forms of land degradation, SLM demonstration in targeted municipalities will not be implemented, hence, soil infertility and soil erosion will further degrade the land which can render them unproductive and unsuitable for any production purposes.

68. The existing modalities to capacitate LGUs and extension services through the conduct of Farmers Field School (FFS). The FFS are traditionally an adult education approach—a method to assist farmers to learn in an informal setting within their own environment. FFSs are “schools without walls” where groups of farmers meet weekly with facilitators. They are a participatory method of learning, technology development, and dissemination (FAO 2001) based on adult learning principles such as experiential learning (Davis and Place 2003). Without the Project, capacity building for farmers through this FFS will remain at the ambit of the national agricultural training institute of the Department of Agriculture and LGUs remain at the receiving end. However, if SLM will be part of the extension services of LGUs, technology transfer will be more effective with on the ground demonstration of SLM practices. The demonstration sites that will be established will serve as an outdoor laboratory for demonstration of SLM and monitoring of land degradation. Without this project, the learning will not be integrated in the FFS. The existing modules for FFS will remain lacking in terms of application of SLM in the uplands and degraded lands.

69. Similarly, the BSWM will remain the agency that has the skills and expertise on SLM. However, the BSWM has no field offices that can support and provide extension services to the LGUs, when needed. Hence, without technology and knowledge transfer, the LGUs will remain incapacitated to support learning on SLM in their locality and will remain dependent on the response of the national agency. Response to SLM will remain fragmented and capacities will still be limited at the local level. Capacitating LGUs to respond to land degradation issues can expand the reach of extension services of the government to the farmers by assisting them in problem solving and enabling them to become more actively embedded in SLM knowledge and information system. Mainstreaming in CLUP will systematize and institutionalize SLM application to existing land-uses of the municipalities and of the country in general.

II. STRATEGY

1.1. Project Rationale and Policy Conformity

2.1.1. Project Rationale

70. The Philippines is seriously confronted with the global problem of land degradation which has wide scale implications on sustained land productivity and biodiversity and crippling effects on water flow and nutrient cycling of agro and forest ecosystems. Soil erosion and nutrient depletion are two forms of land degradation that plague the stability and viability of Philippine agriculture and forestry. Land degradation in the Philippines is largely caused by the susceptibility of its soils to erosion due to the hilly and mountainous landforms in many parts of the country. The widespread clearing of forest lands in steeply sloping and rolling topography leaves the bare soil highly vulnerable to acceleratederosion of topsoil caused by heavy rainfall and consequential erosive force of water run-off. The practice of kaingin (or shifting cultivation) and other forms of unsuitable upland farming in cleared forest areas further worsens the erosion problem and loss of fertile and productive top soils. Land degradation in the Philippines is manifested by (i) the loss of productive topsoil through water erosion, (ii) loss of soil fertility due to over-cultivation, (iii) loss of vegetation cover due to illegal logging and widespread forest tree cutting, and (iv) expansion of slash and burn agriculture in critical slopes. Other kinds of degradation which cover a relatively smaller part of the landscape include (i) water logging due to poor drainage and water management; (ii) soil salinization due to over-harvesting of ground water near coastal areas, and (iii) soil pollution from excessive pesticide application and contamination by industrial and household wastes.

71. There is a need to holistically address this land degradation problem. There are on-going efforts and related programs and projects on SLM, however, these are implemented in patches and are not usually replicated in other sites. Technologies and management practices to enhance soil and water conservation are being promoted by DA-BSWM through demonstration trials and farmers training. Other projects involve: (a) planting of well suited crops or crops contributing to the sustainability of the farming system, (b) soil fertility enhancement practices such as farm waste recycling, green manuring and balanced fertilization or optimum use of organic and inorganic fertilizers, (c) use of sloping agricultural land technology in upland areas experiencing moderate to severe erosion, (d) agronomic measures such as minimum tillage, crop diversification, use of drought resistant crops in drought prone areas, mulching in dry lands and drip irrigation to improve water use efficiency in coarse textured soils. However, still many small farmers especially those in the uplands have no access to these farming systems and technologies being promoted by DA because their location is beyond the jurisdiction of the DA. Efforts to document, package and disseminate these soil and water conservation measures need to be intensified to make them accessible to remotely located upland farm areas. However, there is a lack of SLM mainstreaming in national and local land use decisions and development plans. The plans and programs of national government agencies such as DENR, DAR and DA Regional Offices generally lack SLM prescriptions for various types of agriculture and agro-forestry land uses and farming systems. On the other hand, the land use and agriculture and forestry sector development plans and programs of many LGUs are usually deficient of SLM measures.

72. To address the problem on land degradation, is it necessary to build conducive environment for sustainable land management mainly consists of a comprehensive decision-making and monitoring and compliance system at national and local level and mobilising the baseline programme to engineer a paradigm shift from unsustainable to sustainable land use while improving the livelihoods of the farming community.

2.1.2. Policy Conformity

73. The SLM project is consistent and supportive of the strategies embodied in several important national policies and plans. These are the Philippine Development Plan for 2011-2016, the Philippine National Action Plan to Combat Desertification, Land Degradation and Drought (FY 2014-2024), the Department of Agriculture's Agri-Pinoy Framework, and the Department of Environment and Natural Resources' Updated Framework Plan on Environment and Natural Resources (2011-2025).

74. *Philippine Development Plan (PDP) for 2011-2016.* The SLM project is aligned with the PDP's strategies to make the Agriculture and Fisheries Sector competitive and sustainable. Within the next six years, the agriculture and fisheries sector aims to carry out development strategies to improved food security and increased rural incomes; increase sector resilience to climate change risks; and enhance policy environment and governance. The SLM project will contribute to these agricultural development strategies by sustaining land productivity through minimizing land degradation, enhancing soil fertility, and capacitating LGUs in undertaking SLM package of technology. On the other hand, the PDP's strategies on the Conservation, Protection and Rehabilitation of the Environment and Natural Resources mainly focus on strenghtening efforts to manage and conserve watersheds while at the same time improving land productivity in agroforestry areas to alleviate poverty among the upland communities. The SLM project is attuned to these strategies inasmuch as the project will introduce sustainable farming techniques that will conserve soil and water and preserve forest cover in agroforestry areas. Stable farming system introduced will improve yield and income of farmers in agroforestry plots.

75. *Philippine National Action Plan (NAP) to Combat Desertification, Land Degradation and Drought (DLDD), FY 2014-2024.* The NAP-DLDD is a plan that clearly lays down the convergence and harmonization of efforts on sustainable land resources management by the Departments of Agriculture (DA), Environment and Natural Resources (DENR), Science and Technology (DOST) and Agrarian Reform (DAR). The NAP-DLDD is also focused on sustainable management of critical watersheds located in seasonally dry/arid areas which have poor land tenure arrangements and suffer food insecurity. These watersheds have highly threatened river systems that cut across two or more municipalities and provinces, where initiatives of local government units (LGUs) and their respective communities need guidance and harmonization. The NAP-DLDD calls for harmonization of the efforts of the DA, DOST, DENR and the DAR to address integrated watershed governance and provide needed site-specific technologies to reverse declining agricultural productivity and enhance the supply of freshwater.

76. The implementation and institutional arrangement and coordination mechanism of NAP-DLDD (FY 2014-2024) is based on the operational mechanism of the Committee on the Conservation and Management of Resources for Development (CCMRD) through NEDA-Philippine Council for Sustainable Development (PCSD). PCSD-CCMRD is mandated to

establish guidelines and mechanisms to expand, concretize and operationalize sustainable development principles as embodied in the Rio Declaration, UNCED Agenda 21, the National Conservation Strategy, and Philippine Agenda 21 Institute under Executive Order No. 15. The concerns of the four (4) Sub-Committees under the PCSD-CCMRD, namely the Sub-Committee on Biodiversity, Sub-Committee on Atmosphere, Sub-Committee on Land Resources and Sub-Committee on Water Resources, are highly responsive to the thematic concerns of the Rio Convention, i.e., sustainable development.

77. Following are the functions of CCMRD:

- Discuss, draft and propose initial country positions, especially on matters of technical, scientific and social nature, to be presented in the Conference of Parties (COPs)/MOPs of the United Nations Convention to Combat Desertification (UNCCD) and the other multilateral environmental agreements (MEAs), for approval of the CCMRD and adoption as official country positions by the PCSD and concerned MEA focal agencies;
- Serve as primary inter-agency discussion and initial policy-drafting group on desertification, land degradation and drought (DLDD) issues for eventual approval and adoption at higher levels as official government positions. This shall include identification and analysis of policy conflicts among agencies, including LGUs, for drafting of proposals on compromised or reconciled positions;
- Receive reports and feedback from Local Development Councils through the CCMRD and their respective field offices on MEA activities and projects for assessment; and
- Provide technical and scientific support to the CCMRD on all issues concerning UNCCD and the other MEAs country participation and implementation.

78. The SLM Project shall make use of the existing CCMRD in meeting one of its objectives on establishing a multi-sectoral stakeholder committee at the national level to oversee and give technical advice on the integration of SLM into LGU's development plans.

79. Agencies of the government responsible for managing land resources are faced with budget limitations in the implementation of the NAP-DLDD and related programs. The SLM project will accelerate the implementation of NAP-DLDD and help ensure that the ecosystem service projects being proposed by other donors are fully mainstreamed. The project is also viewed by the Government as a vehicle that will bring together key agencies and donors involved in mitigating the effects of drought.

80. Importantly, the SLM project directly supports the objectives of Republic Act 8435 (Agriculture and Fisheries Modernization Act). Measures for the modernization of agriculture and fisheries provided for in the law promote the sustainable conservation and utilization of agriculture. The project also supports Republic Act 8371 (Indigenous Peoples' Rights Act), which encourages the cultivation, conservation and utilization of indigenous species and medicinal plants in home gardens, health centers and schools.

81. *Agri-Pinoy Framework.* This framework is the set of principles and practices focused on developing Philippine resources and capabilities to meet the food production requirements of Filipino people. It focuses not only on the utilization and management of agricultural resources but also on enhancement of capabilities of people in the agriculture sector (particularly small

farmers and fisherfolk). Agri-Pinoy has four guiding principles: food security and self-sufficiency (roadmaps are being developed to attain self-sufficiency in our staple crops production); sustainable agriculture and fisheries (promote environmental health and crop diversification); natural resources management (soil and water resources conservation) and local development (focus on people empowerment and self-governance).

82. *Updated Environment and Natural Resource (ENR) Framework Plan (2011-2025).* Under the Forestry Management Sector of the ENR Framework Plan, the strategies which are related to the SLM project include the following: (i) establish upland livelihood enterprises that would provide technology, credit and marketing assistance; (ii) encourage communities to develop multi-purpose forest on open, denuded and degraded areas into economically-productive asset; (iii) promote alternative livelihood to encourage resource-dependent communities practice conservation measures; (iv) intensify TA for the preparation of Forest land use plans (FLUP) identifying areas for investment; (v) develop Agro-forestry farms; and (vi) encourage communities to enhance productivity of reforestation and upland areas for livelihood and poverty alleviation. The proposed SLM project is supportive of these development strategies to be pursued by the DENR-FMB particularly in improving soil conservation in agroforestry systems of the DENR's Community based Forest Management (CBFM) program.

2.1.3. Country Ownership: Country Eligibility and Country Drivenness

83. With the project's adherence to the UNCCD's strategic framework embodied in the Philippine National Action Plan to Combat Desertification, Land Degradation and Drought, it is consistent with the GEF's Land Degradation Focal Area. As a financial mechanism of the UNCCD, GEF contributes to implementation of the UNCCD 10-year (2008–2018) Strategic Plan and Framework approved by the Conference of Parties during its 8th Session. The Strategic Plan aims *"to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability."* The proposed project supports all four of its strategic objectives namely: (1) To improve the living conditions of affected populations; (2) To improve the condition of affected ecosystems; (3) To generate global benefits through effective implementation of the UNCCD; and (4) To mobilise resources to support implementation of the Convention through building effective partnerships between national and international actors.

84. The GEF-5 strategy for the land degradation focal area supports efforts to remove key barriers to the sustainable management of crop and livestock systems, as well as forest landscapes. Emphasis is given to the management of competing land uses (e.g. food production, biomass production) since they not only result in changes in land cover and ecosystem dynamics but also contribute to increase the emission of greenhouse gases.

85. The goal of the land degradation focal area as provided for in the GEF Programming Document (May 2010) is to contribute to arresting and reversing current global trends in land degradation, specifically desertification and deforestation. To achieve this goal, the strategy encompasses four objectives: 1) maintain or improve flow of agroecosystem services to sustaining the livelihoods of local communities; 2) generate sustainable flows of forest ecosystem services in arid, semi-arid and sub-humid zones, including sustaining livelihoods of forest-dependent people; 3) reduce pressures on natural resources from competing land uses in the wider landscape; and 4)

increase capacity to apply adaptive management tools in sustainable land management. The proposed project addresses LD-3 Reducing pressures on natural resources from competing land uses in the wider landscape, by promoting integrated land use planning at the municipal level, and engineering a shift from unsustainable land practices to sustainable land management. The project introduces the concept of Integrated Land Use Planning and implements investments to demonstrates its viability in two provinces, with the potential for scale up to cover the 13,559,492 ha of arable land in the Philippines that are moderately to severely eroded. These activities are in conformity with Output 3.1 *"Integrated land management plans developed and implemented"* and Output 3.2. *"Appropriate actions to diversify the financial resource base"* of the GEF LD-3. The project will also demonstrate best practices in two municipalities, with a focus on agricultural systems.

86. In terms of eligibility to GEF, the Philippines is signatory to and has ratified the key global treaties on the environment, including the United Nations Convention to Combat Desertification (UNCCD) - (February 2000); the Convention on Biological Diversity (CBD) - (October 1993), and the United Nations Framework Convention on Climate Change (UNFCCC) - (August 1994). Being highly supportive of UN Conventions, the country is eligible to continue accessing GEF resources on Land Degradation.

87. The Updated Philippine National Action Plan (NAP) covering the period 2010-2020 is the expression of full and unqualified commitment of the Philippine Government to the effective and accelerated implementation of programs and projects to combat desertification, land degradation and poverty, especially in drought vulnerable areas of the country and flood prone areas. The proposed project is based on the measures and priorities identified under the NAP which calls for a synergistic approach combining indigenous agro-pastoral practices and ecologically sustainable land use management.

88. The Bureau of Soils and Water Management (BSWM), which is the lead proponent of the proposed project, has streamlined its organization and functions in compliance with the national government's rationalization program called for under the NAP. To give due emphasis to enhancing its land resources and management program, BSMW has even reformulated and changed the title and functions of all its divisions. This restructuring has advanced the process of mainstreaming and institutionalizing SLM within the agency, and the country, and is considered a long-term commitment to pursue the initiatives proposed as part of this project.

89. The NAP is a working document for the convergence of actions of the Departments of Agriculture (DA), Environment and Natural Resources (DENR), and Agrarian Reform (DAR). Aside from land resources management, the NAP is also notably water-centered and focused on sustainable management of critical watersheds located in seasonally dry/arid areas which have poor land tenure arrangements and suffer food insecurity. These watersheds have highly threatened river systems that cut across two or more municipalities and provinces, where initiatives of local government units (LGUs) and their respective communities need guidance and harmonization. The NAP calls for harmonization of the efforts of the DA, DENR and the DAR to address integrated watershed governance and provide needed site-specific technologies to reverse declining agricultural productivity and enhance the supply of freshwater. The NAP also calls for the formulation of measures to efficiently manage underground rivers and limestone cave freshwater sources on small islands.

90. Agencies of the government responsible for managing land resources are faced with budget limitations in the implementation of the NAP and related programs. The proposed project will accelerate the implementation of NAP and help ensure that the ecosystem service projects being proposed by other donors are fully mainstreamed. The project is also viewed by the Government as a vehicle that will bring together key agencies and donors involved in mitigating the effects of drought and frequent flooding.

91. Importantly, the project directly supports the objectives of Republic Act 8435 (Agriculture and Fisheries Modernization Act). Measures for the modernization of agriculture and fisheries provided for in the law promote the sustainable conservation and utilization of agriculture. The project also supports Republic Act 8371 (Indigenous Peoples' Rights Act), which encourages the cultivation, conservation and utilization of indigenous species and medicinal plants in home gardens, health centers and schools.

2.2. Design Principles and Strategic Considerations

2.2.1. Design Principles

92. A holistic SLM is best achieved by considering the following dimensions of sustainability: 1) replicability; 2) socio-cultural acceptability; 3) scientific/technical soundness; 4) ecological soundness; and 5) economic viability.

93. Demonstration sites that will be considered should reflect the dominant landscape and landuse situation, soils, and agro-climatic environment where land degradation exists. This will ensure replicability of SLM practices on similar sites.

94. The impact of the SLM technologies to be demonstrated should be socially/culturally accepted. SLM technologies can fail if they have adverse effect to the society. By improving the income of the farmers, poor farming communities will have better access to social services such as health and nutrition, family planning and education. The improvement in the capacity of the small farmers to save money would later on lead to investment in the education of their children, better nutrition of their family and health maintenance. The productive ability of farmers will improve with the betterment of their health and quality of life.

95. SLM technologies to be demonstrated shall be scientifically/technically sound. A gamut of SLM technologies based on scientific principles have already been demonstrated in patches in the Philippines through different (mostly) foreign-funded development projects. The implementation of these SLM technologies shall be harmonized in this SLM Project.

96. SLM technologies are inherently ecologically sound. Implementation of SLM technologies are environmental enhancement activities. SLM is defined as *"The use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions"* (UN Earth Summit, 1992). Maintenance of environmental functions means ecological soundness. The reduction of soil erosion, improvement in soil fertility and enhancement of forest cover and biodiversity will make ecosystem life support services more stable and resilient. The project will integrate and institutionalize SLM into the

policies and programs of key implementing agencies and local governments, thereby ensuring that the achievements of the project are sustained by the government.

97. Potential profits shall be ensured in SLM investments. The improvement in incomes of target farming communities as a result of the project will encourage farmers to continue practicing SLM and over the long term making SLM a part of cultural practices in farming

2.2.2. Strategic Considerations

98. The proposed project would focus principally at the systemic and institutional levels, and hence strengthen the enabling regulatory, institutional and financial framework that would govern efforts to address land degradation in the Philippines. It will mainstream SLM policies and programs into the development plans of LGUs through the guidance of government agencies such as DA, DENR, DAR, DILG and HLURB to strengthen complementation among these government institutions concerned with land degradation and ensure that the incidence and spread of land degradation in vulnerable ecosystems will be avoided and/or reduced. The project is expected to improve the land productivity and socioeconomic well-being of small farmers. To achieve this, the project will follow a participatory cross-sectoral approach involving all the key stakeholders in project design and implementation. The promotion of SLM measures and technologies for the adoption of vulnerable farming communities will be the focus of the field investments of the MSP. Through the establishment of SLM demonstration sites, farmers will be able to learn and adopt various methods of soil conservation farming and water resources conservation that will improve their crop production and income.

2.3. Project Objective, Outcomes and Outputs/Activities

99. The objective of the Project is to strengthen SLM frameworks to address land degradation processes and mitigate the effects of drought to contribute in enhancing integrated natural resource management in the country.

100. The key outcomes of the proposed SLM project to address the barriers previously identified are the following:

a) Effective national enabling environment to promote integrated landscape management; and
b) Long-term capacities and incentives in place for local communities and LGUs to uptake of SLM practices in two targeted municipalities in the Philippines;

101. To realize the outcomes, the following outputs shall be delivered:

Outcome 1. Effective cross-sectoral national and local enabling environment to promote integrated landscape management

Output 1.1: Multi-sectoral stakeholders committee strengthened at national level to oversee and give technical advice on the integration of SLM into LGU's development plans.

102. The SLM Project shall make use of the existing Land Resources Sub-Committee of Committee on Conservation and Management of Resources for Development CCMRD in meeting one of its objectives of establishing a multi-sectoral stakeholder committee established at national

level to oversee and give technical advice on the integration of SLM into LGU's development plans.

103. During the PPG and based on the consultations with key stakeholders (DA-BSWM and DENR-FMB), it has been recommended to utilize the existing mechanism at the national level rather than creating new ones. The government would like to maximize the existing Land Resources Sub-Committee under the Committee on Conservation and Management of Resources for Development (CCMRD) of the Philippine Council for Sustainable Development (PCSD). PCSD-CCMRD is mandated to establish guidelines and mechanisms to expand, concretize, and operationalize sustainable development principles as embodied in the Rio Declaration, UNCED Agenda 21, the National Conservation Strategy, and Philippine Agenda 21 institute under Executive Order No. 15. The concerns of the four (4) Sub-Committees under the PCSD-CCMRD, namely the Sub-Committee on Biodiversity, Sub-Committee on Atmosphere, Sub-Committee on Land Resources and Sub-Committee on Water Resources, are highly responsive to the thematic concerns of the Rio Convention, i.e., sustainable development.

104. The Land Resources Sub-Committee of CCMRD is chaired by DA-BSWM, co-chaired by DENR-FMB, vice chaired by DILG-BLGD, co-vice chaired by NEDA-Agriculture, Natural Resources and Environment. HLURB is among the members of the Land Resources Sub-Committee. These are the same agencies who are involved in the SLM Project. The CCMRD will be tapped to provide technical inputs in the finalization of the SLM Mainstreaming Framework and Guidelines. Critiquing and workshops to enhance the framework will be supported by the Project. The project will assist in its regular meeting and in ensuring that the framework will be applicable to the LGUs.

<u>Output 1.2: Approved guidelines on SLM mainstreaming into national and local land use plans and investment programs (to be field tested under Outcome 2).</u>

105. Guidelines on SLM mainstreaming will be developed for use at national and local level to guide land use planning and implementation and the development of investment programs that are supportive of SLM practices. Part of such guidelines is the formulation of decision protocols on conflicting and competing land uses in accordance with the existing laws. An SLM strategic framework plan will be developed for highly vulnerable areas for adoption and application by the national and local governments. The Sustainable Land Management and Soil and Water Conservation Specialist will be recruited and reponsible for the development of the guidelines, decision protocols and SLM strategic framework with the Land Resources Sub-committee of CCMRD acting as guidance and eventual approval of such documents. The overall aim of these documents is to help LGUs in mainstreaming Sustainable Land Management practices in their land-use plans. These frameworks and guidelines will be pilot-tested to two LGUs with the assistance from HLURB and DA-BSWM to ensure that such tools will be applicable and relevant to users.

106. To ensure that such tools will be institutionalized, a DENR-DILG Joint Memorandum Circular and HLURB Memorandum Circular on SLM mainstreaming to LGU's comprehensive development plans shall be issued.

107. The DENR-FMB and DILG representatives of the Land Resources Sub-Committee of CCMRD shall recommend to central DENR-FMB and DILG, respectively, the mainstreaming of SLM programs to their guides to LGUs on developing their FLUPs and CLUPs, the FLUPs are actually part of the CLUPs. The forest management functions of DENR-FMB are already devolved to LGUs. The Provincial and Municipal/City Environment Officers of the LGUs are continually trained/guided by the DENR-FMB through the concerned Provincial and Municipal/City Environment Officers (PENROs and CENROs/MENROs) of DENR-FMB. The National Steering Committee (NSC) of DENR-FMB-DILG created by DENR-DILG *Joint Memorandum No. 98-01 Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and Other Forest Management Functions* shall now be invoked. They shall issue a new DENR-DILG Joint Memorandum Circular (MC) for the LGUs to consider SLM principles in the development of their FLUPs which are then incorporated in the CLUPs. The NSC of DENR-FMB-DILG is tasked to formulate policies and programs toward strengthening and institutionalizing the DENR-DILG partnership on devolved and other forest management functions. The HLURB representative to the CCMRD shall likewise advise/recommend to HLURB Central Office the incorporation of SLM principles in HLURB guide to CLUPs preparation. HLURB shall then issue a Memorandum Circular (MC) to reiterate the DENR-DILG Joint MC of integrating the SLM principles in the development of their CLUPs through the FLUPs. The DENR, DILG and HLURB shall conduct series of road shows to LGUs at the regional, provincial and municipal/city levels to disseminate the need to mainstream the SLM principles in the preparation of their CLUPs.

Output 1.3 Information management system to support SLM integration into LGU's development plans and improving informed land use allocation decisions

108. DA-BSWM shall develop a GIS-based LADA maps incorporating SLM practices and technologies with information/maps. The existing Land Degradation Assessment (LADA) website (http://www.bswm.da.gov.ph/ladaphilippines/gallery.html) of DA-BSWM shall be enhanced to include complete SLM related maps like the Land Use System Map, Erosion Rate Map and Fertility Decline Map in the national, regional, provincial, and municipal levels. The existing national and regional SLM related maps shall be validated through ground truthing to make it usable at provincial and municipal levels. The SLM related maps shall be interactive and can be overlayed to other standard baseline maps.

109. LGU access to baseline description of the status of land degradation in the Philippines and baseline information on BSWM's current SLM projects is crucial if the intention is for the LGUs to integrate SLM technologies to their land use development plans. These decision support information system shall be enhanced at the BSWM website wherein LGUs shall be having access.

110. The information management system established at BSWM will be strengthened and enhanced to enable the agency to properly document, package, and widely disseminate SLM technology and sustainable farming practices to priority areas. It shall embody a Decision Support System (DSS) facility which will be shared with SLM partner organizations such as the DENR and DAR. The DSS will be anchored on the BSWM LADA database and will have a component on monitoring the performance of SLM projects in terms of their impacts to land conservation and to increasing the production and income of small farmers. In particular, the DSS will help national and local decision-makers to address problems and issues on conflicting and competing land uses, and also resolve the misuse and abuse of land through proper allocation of land uses. The project

will endeavour to ensure that it will have a robust database to inform rational planning and implementation of SLM programs and projects in priority areas.

111. BSWM has the resource materials on SLM that have been generated by their long years of research and conduct of projects. Organizing these vast sources of materials into knowledge product would greatly benefit NGA, the LGUs, NGOs the academe and farmers organizations, among others. Therefore, the enhancement of knowledge management system in BSWM will be an important contribution of the SLM project to the field of agriculture development and land resources conservation.

112. With a robust database that is helped assembled by the SLM project, the BSWM will be in position to package best practices, proven farming systems, and conservation methods. These technologies will be transferred to PAOs and MAOs, DENR and DAR agricultural technicians and field workers, local farmers' organizations, and NGOs for replication in other agricultural areas threatened with land degradation and drought.

113. Planning and implementation of project on SLM are predicated on empirical data such as the location and status of land degradation in priority LGUs. The results of the LADA study at the national level will be downscaled by SLM project at the municipal level. Maps at appropriate bigger scale for municipal level planning and project implementation, will be generated by SLM project so that they can be used by LGUs for mainstreaming in their CLUP, CDP, ALUDP and FLUDP. These maps will be stored in the computerized and web-linked database for easy access of partners agencies and LGUs.

114. A Database Development and GIS Specialist will be recruited through the project to assist BSWM in this endeavor. The work will firstly prioritise the target city and municipality (under Outcome 2) whereafter the work will be extended to other LD-priority agricultural provinces (pending funding availability). Highly vulnerable areas within these provinces will be targeted to be included in the database.

<u>Output 1.4: Training-of-trainers from BSWM, DA Regional Offices, DENR and DAR and the PAOs and MAOs/CAOs capacitated in training extension officers from the LGUs in promotion of SLM practices and technologies</u>

115. One of the outputs of the Project is the Training-Of-Trainers. A competency development programme for the LGUs on SLM technology application and mainstreaming shall be developed. Assistance of Agriculture Training Institute (ATI) will be tapped in developing course modules, programs, and training materials on integrated SLM tools and farming systems. Working together, the BSWM and ATI shall prepare a training course design, based on the competency needs of the targeted trainees from BSWM, DA Regional Offices, DENR, DAR, HLURB, PAOs and Municipal Agriculture Organisations (MAOs). A quick competency assessment survey will be undertaken with the support of partner NGAs and the selected priority LGUs. Training materials suited to the background and experience of the trainees will be prepared. Training manuals will also be produced by the project which can be used by partner organizations in the conduct of trainings in other municipalities and provinces.

116. Capacity Development Monitoring Scorecards (CDMS) for DA-BSWM, DENR-FMB and HLURB shall be used to assess the Project's impact in developing the foundational capacity for engagement (CR1 of the CDMS, please see Annex F: Capacity Development Monitoring Scorecards) of DA-BSWM, DENR-FMB, and HLURB, i.e. capacities of targeted trainees from DA-BSWM, DENR-FMB and HLURB among others to engage proactively and constructively with one another to manage the land degradation issue. The average baseline score of CR1s of DA-BSWM, DENR-FMB and HLURB are 2, 1.67 and 1, respectively. At least an average increase of 0.33 to 1 for DA-BSWM, DENR-FMB and HLURB are targeted at the end of the project.

Outcome 2. Long term capacities and incentives in place for local communities and LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines

Output 2.1: Comprehensive Land Use Plans (CLUPs) updated/revised for targeted City and Municipality with serious LD issues

117. The latest approved CLUPs of the City of Malaybalay in Bukidnon (dated June 26, 2001) and the Municipality of Abuyog in Leyte (dated November 3, 2003) shall be updated and revised by considering the SLM Mainstreaming Framework and Guidelines developed by the Sustainable Land Management and Soil and Water Conservation Specialist of the project and approved by the CCMRD. The SLM Strategic Framework have already considered the results of the piloting exercises of SLM mainstreaming in the City of Malaybalay and Municipality of Abuyog.To ensure that such tools will be institutionalized, a HLURB Memorandum Circular on SLM mainstreaming to LGU's comprehensive development plans shall be issued later.

118. The policy and guidelines for the mainstreaming of SLM in the CLUPs will take into account the results of piloting exercises in the two municipalities. The foundation work for the Land Use Planning exercise will commence with diagnostic Land Use Ecological and Socio-economic studies and surveys of Malaybalay City and Municipality of Abuyog based primarily on available information supplemented as necessary to fill significant gaps. The surveys will also adopt the work on current legal provisions and procedures for land use planning and management and for regulating land use and the farming industry. Part of this work will include the development of a Land Degradation Index (LDI) monitoring system which will be field tested at the two demonstration sites. Since this will serve to set a baseline for one of the indicators in the Strategic Results Framework (see Section III), it will need to be carried out in the first year of project implementation. To develop the composite LDI monitoring system, the following LDI indicators shall be established first: 1) type of degradation; 2) the extent of degradation; and 3) the degree of degradation. The type of degradation at the two (2) sites shall be established based from thirty six (36) degradation types and subtypes. The degradation type are categorized also into three (3) main categories: 1) erosion; 2) degradation; and 3) 'other degradations'. After identifying the type of degradation, the extent of degradation shall now be determined. The determination of the extent of degradation generally involves the following procedures: 1) measuring the extent of degradation in a landscape by visual monitoring or on remote-sensing images; 2) locating and mapping the observations; and 3) by calculating the area involved. After identifying the extent of degradation, the degree of degradation shall now be established. The degree of degradation is the severity reached by a given type of degradation. Once the three main indicators are determined, they are combined to form a single composite index. Note 2 of the Project Results Framework presents the

detailed methodology that shall be adopted in developing Composite Land Degradation Index for this Project on the first year of Project Implementation.

119. The LD data that will be generated will be used in the updating of the CLUPs of City of Malaybalay and Municipality of Abuyog. The updating will be done following the steps below as provided in Volume 1 of HLURB's Guide to Comprehensive Land Use Planning (CLUP) dated January 2006:

Step 1: Getting organized
Step 2: Identifying stakeholders
Step 3: Setting the vision
Step 4: Situation analysis
Step 5: Setting goals and objectives
Step 6: Establishing and evaluating development options
Step 7: Preparing the land use plan (detailing of preferred development strategy)
Step 8: Drafting of zoning ordinance and other development regulations
Step 9: Conduct of public hearing of the draft CLUP/ZO
Step 10: CLUP/ZO review/adoption and approvaL
Step 11: Implementing the CLUP/ZO
Step 12: Monitoring, review and evaluation of CLUP

120. Step 4 calls for the Economic Sector Analysis (Agriculture, Industry, Tourism and Commerce and Trade). One of the activities in the agricultural sector analysis is data gathering and processing by determining the felt needs, aspirations and issues of the community relative to agriculture through consultations such as general assembly, focused group discussion, barangay consultation or other consultative meetings with identified stakeholders. Gathering of information on felt needs and aspirations of the population maybe facilitated by designing /structuring questions such as: *1) What issues and concerns related to agriculture would you want to be addressed; 2) In what ways can you (as a resident/community member, stakeholder) address/resolve these issues and concerns? 3. In what ways can the government address/resolve these issues and concerns? and 4. What are your aspirations to improve the level of the agriculture sector?*

121. Step 5 shall consider the SLM Mainstreaming Framework and Guidelines developed by the Sustainable Land Management and Soil and Water Conservation Specialist of the project and approved by the CCMRD. Steps 6 and 7 shall then follow.

122. These initiatives would be carried out in such a manner as to ensure optimal allocation of land resources to generate development benefits and critical environmental benefits in tandem. Solid and up-to-date information regarding the land degradation issues in the municipalities will be collected, documenting the main causes or drivers of land degradation, and solid recommendations will be made for avoiding and mitigating the land degradation impacts of the main sectors in the municipalities. Further, compliance monitoring, based on the newly updated CLUPs, will be strengthened. Best practices on SLM for replication in selected barangay in the municipalities will be demonstrated, documented and packaged for replication. CLUPs are completed and financed only at City and Municipal level in Philippines and not at Barangay level. For this reason the CLUPs will be done for the Malaybalay City and Municipality of Abuyog level. Focus on SLM information gathering will however be focused on Barangays Tadoc, Tinalian,

Burudud-an, Libertad, New Taligue, Old Taligue, San Rogue, Kikilo, Bahay, Tib-o Bauya and Anibongan, Abuyog Leyte and Barangays Silae, Mapulo and Can-ayan, Malaybalay City.

Output 2.2: SLM best practices implemented in target City and Municipality

123. Demonstration sites will be established while the LDI monitoring system will be set-up to showcase SLM technologies and measures to arrest land degradation and sustain flow of water. Under this output, at least two (2) pilot demonstration sites for effective and innovative SLM technologies and measures will be established. The performance of the integrated SLM packages in these demonstration sites will be monitored using the developed composite LDI monitoring system and their impacts will be measured. The strategies and mechanisms to turn-over the proven effective and economically viable and socially acceptable SLM technology package will also be developed for the eventual transfer of technology to priority LGUs, i.e., to the expansion areas.

124. Two (2) demonstration sites have been selected for the Project. These sites had been selected based on the identified top 15 provinces with large land degradation (LD) hotspots and high poverty incidence in the 2014-2024 NAP-DLDD. The provinces of Bukidnon and Leyte ranked first and fourth, respectively, in terms of the extent and degree of land degradation and poverty incidence. Bukidnon has 154,690 hectares of LD hotspots and has a poverty incidence of 49%. Further, the hotspot areas in Bukidnon are within the priority river basins (i.e. Mindanao, Tagoloan, Cagayan de Oro and Davao). Leyte has 87,864 hectares of LD hotspots and its poverty incidence rate is 39.24%. It only ranked no. 4 based on the 2010 land cover map. However, with the damage brought by Typhoon Yolanda (Hainan) in 2013, most of its land cover was reduced significantly and therefore, SLM interventions is needed to restore its agricultural landscape and improve crop productivity.

125. For the Province of Bukidnon, the municipality of Malaybalay have been selected, while in the Province of Leyte, the municipality of Abuyog has been chosen. The total production systems in these areas is 48,331.60 hectares out of their total land area (177,083 hectares). These municipalities were selected based on the following criteria: (a) with serious issues on land degradation; (b) with Agrarian Reform Communities (ARCs); (c) willingness of LGU to participate in project implementation and update their CLUP or mainstream SLM in their development plans; (d) with potential expansion/influence areas (at least 10,000 ha per site); and (e) with plan/application for CLUP updating.

Table 1: Total Production System of the Project Sites

Production System	Size in hectares		Total
	Malaybalay	Abuyog	
Agriculture	8,383	4,349.80	12,732.80
Rangeland	None	none	-
Pastoral	None	3,884.30	3,884.30
Forestry	10,200	8,765	18,965
Mixed System	none	12,749.50	12,749.50
		Total	**48,331.60**

126. There will be 1 demonstration farm in each of municipality. A farm plan covering an area of 3-5 hectares will be developed during the first year of project implementation The proposed

demonstration sites will be located in Brgy. Silae, Malaybalay City, Bukidnon and Brgy. Tadoc, Abuyog, Leyte which are both classified as cool and warm cool highland pedo-ecological zones. With the LGU support, as well intensive education activities through the farmer field schools (FFS), at least 20,000 hectares of the existing production systems of these municipalities will have improved land degradation index.

127. The terrain of the site in Malaybalay, Bukidnon comprises above 30% slope, characterized by steep hills and cliff-like stream side and most of the areas are gently sloping, and undulating, the rest are rolling and hilly while the terrain of the site in Abuyog, Leyte is relatively flat to gently rolling to rolling and low, smooth, and partly cultivated hills. Based from the ocular inspection, current land use and vegetation of the area in Malaybalay is dominated by growing corn crop, grasses and shrubs with very few patches of deep rooted tree crops. Portion of the area which remain idle are grown with cogon, talahib, and variety of shrubs. Abuyog, Leyte comprised of non-irrigated and rainfed rice terrace, upland crops, coconut, banana, corn, vegetables, fruit trees, and root crops. It has also grassland and mini- forest.

128. The climate in Malaybalay is characterized by the absence of pronounced maximum period of dry season. The period from May to October is where heavy rains occur. Annual precipitation is 2,800 mm. On the other hand, the climate in Abuyog, Leyte has no distinct wet or dry season but with pronounced rainfall from November to January. Abuyog's climate is classified as tropical, there is a great deal of rainfall in Abuyog, even in the driest month. The temperature averages 27ºC, there is about 3,502 mm of precipitation annually. In Malaybalay, the soil is predominantly clay, i.e. Kidapawan, Alimodian and Adtuyon, which are generally good for agriculture. On the other hand, soils in Abuyog ranges from poorly drained to well drained. This soil has low organic matter content and has a coarse sand to fine sandy loam texture.

129. In Malaybalay, the main land degradation problem is soil erosion due to steep slopes in the area while the municipality of Abuyog is facing the issue of soil infertility due to use of chemical inputs. In addressing these land degradation concerns in the two municipalities, the following will be applied. There will be a mixed of technologies that will be used to provide solutions to soil fertility decline and soil erosion.

Table 2. Mixed of SLM Technologies that will be Applied in Project Sites

Project Sites	Land Degradation Problem	Mixed of SLM Technologies to be Applied
Municipality of Abuyog	Soil Fertility Decline	Soil Management • Minimum tillage, • Trash line, • Use of hedgerows, • Mulching, • Proper crop rotation, • Use of cover cropt; • Minimum tillage, • Inter-cropping;

		• Composting and crop residue management; Crop Management • Use of organic fertilizer; • Biomass recycling, • Use of cover crop • Planting leguminous
City of Malaybalay	Soil Erosion	• Contoured orchard with annual crops • Contour planting of fruit trees at 5 m distance between hills at 3 m vertical distance between rows; • Establishment of contour hedgerows by planting either banana, pineapple and lemon grass/citronella planting distance between hills along the contour to serve as supporting vegetative barriers • Minimum tillage; • Mulching and cover cropping; • Brush dam shall be established along the water way with 20 m intervals; • Planting of bamboo in unstable slopes to avoid gullies formation or soil mass movement • Application of organic fertilizers to improve water holding capacity of the soil; • Industrial crop production like planning planting ilang-ilang or the likes along farm road

130. The specific technologies to be demonstrated at selected demonstration sites shall be established at the first year of project implementation during the farm planning. Additional stakeholders' consultation shall be conducted right after project approval to confirm the applicable SLM technologies suitable to the types of land degradation at the selected sites taking into consideration the basic criteria of sustainability: 1) replicability; 2) socio-cultural acceptability; 3) scientific/technical soundness; 4) ecological soundness; and 5) economic viability.

131. Demonstration farming activities shall consist of farm planning, execution of farm plan, provision of farm inputs, capacity building for the application of SLM technologies, development of model farms through application of appropriate SLM technologies; and linkage with potential partners for marketing of the produce.

132. At the end of the Project, an improved production system of 20,000 hectares is expected. Table 2 below provides the breakdown in the two municipalities.

Table 3: Target Production System in Project Sites

Production System	Size in hectares		Total
	Malaybalay	Abuyog	
Agriculture	2,887.00	151.00	3,038.00
Rangeland	None	None	0.00
Pastoral	None	None	0.00

Forestry	721.65	12.61	734.26
Mixed System	6,391.35	9,836.39	16,227.74
		Total	**20,000.00**

Note: This will cover Barangays Tadoc, Tinalian, Burudud-an, Libertad, New Taligue, Old Taligue, San Rogue, Kikilo, Bahay, Tib-o Bauya and Anibongan, Abuyog Leyte and Barangays Silae, Mapulo and Can-ayan, Malaybalay City

133. Detailed site profiles is attached as Annex C.

Output 2.3 National and LGU extension services capacitated to incorporate SLM to LD and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats

134. DA in Regions 8 and 10 will be capacitated to provide technical assistance and advise on SLM to the extension workers of LGUs through the Regional Training Programs of Agricultural Training Institute (ATI). ATI shall coordinate with DA-BSWM to develop SLM Training modules for the concerned DA Regional Offices staff and the Regional SWAC of DA-BWSM.

135. Similarly, the MAOs/CAOs and PAOs of LGUs are among those who will be trained in the Training-Of-Trainers (Output 1.4). The trained MAOs/CAOs and PAOs of LGUs will consequently impart their knowledge on SLM to their constituent farmers. In order to address the limited incorporation of SLM content in extension services, complete SLM training modules on SLM practices will be developed by the MAOs/CAOs and PAOs of LGUs for areas with all kinds of land degradation risk. These complete SLM training modules shall be integrated in the season-long Farmers Field School (FFS).

136. To ensure uptake of SLM by small farmers in the demo sites, proper information and education campaigns will be launched stressing the benefits of the SLM technology in increasing their production and income and the low cost of SLM-related agricultural practices. Further, to replicate the implementation of SLM wider than just the immediate farmers, farmers experiencing similar conditions and threats to their agricultural production will be brought to the demonstration sites to further buildup their knowledge and confidence in adopting SLM Technology and farming.

137. It is the objective of the SLM Project that at least 585 farming households within the expansion area adopt sustainable agricultural practices and integrated SFM/SLM practices. There is a total of 2,924 farming households at the expansion area located at the three (3) Barangays (Brgy. Silae, Mapulo and Can-ayan) in Malaybalay City and thirteen (13) Barangays (Brgys. Tadoc, Tinalian, Burubud-an, Lawaan, Libertad, New Taligue, Old Taligue, San Roque, Kikilo, Bahay, Tib-o, Buaya and Anibongan) in Abuyog. Five hundred eighty five (585) farming households is about 20% of the 2,924 total farming households in Malaybalay City and Abuyog.

Output 2.4: Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities.

138. A critical element of this component will be the provision of adequate financial incentives to promote greater uptake of SLM practices. The incentive system will come in the form of technical assistance in the application of SLM and the marketing of produce. The LGU can also generate revenues by charging a minimum fee for marketing which is far cheaper than what

middlemen charge. Those farmers, particularly upland farmers, who continue to practice destructive farming practices such as clearing of trees and kaingin will be penalized and fined. These fines will be used in rehabilitating the lands that were degraded by their illegal practices. Although it is recognised that the fines will not fully cover the cost of rehabilitation, it will act as a deterrent to these practices. The compliance monitoring and fining of these practices could be incorporated as duties of extension officers, thereby addressing the feasibility of the disincentive being applied in the field. These incentive and disincentive system will be pursued through the issuance of local ordinances. The process of increased funding allocation towards SLM by the project will also involve a process of review and alignment of existing funding to the agricultural and forestry in the selected municipality and city.

139. The LGUs may also increase investments on SLM through Public Private Partnership (PPP) arrangement. It can encourage private sectors in investing in SLM by providing incentives to them through tax discounts under PPP arrangements.For instance, LGUs may enter into an agreement with agro-industries that plan to establish commercial farms in SAFDZ that they could avail certain tax discounts provided that SLM technologies will be applied to their farms. Another potential partnership is through contract growing arrangements with private sectors. The LGUs can be conduit of farmers in consolidating farmlands that can be used for contract growing provided that SLM technologies will be applied and the costs of its application will be shouldered by the private sector. The farmers, on the otherhand, can benefit from this since they will have ready market for their produce.

2.4. Risks and Assumptions

140. The project is exposed to financial, political, climate change, social and environmental risks that must be anticipated and addressed in its program design. These risks are explained and summarized in the **Table 2** below.

Box 1. Risk Assessment Guiding Matrix						
	Impact					
Likelihood		**CRITICAL**	**HIGH**	**MEDIUM**	**LOW**	**NEGLIGIBLE**
	CERTAIN / IMMINENT	Critical	Critical	High	Medium	Low
	VERY LIKELY	Critical	High	High	Medium	Low
	LIKELY	High	High	Medium	Low	Negligible
	MODERATELY LIKELY	Medium	Medium	Low	Low	Negligible
	UNLIKELY	Low	Low	Negligible	Negligible	Considered to pose no determinable risk

Table 2. Summary of Project Risks

Identified Risk	Impact	Likelihood	Risk Assessment	Mitigating Actions

Political: Change in leadership resulting to change in priorities *Elaboration:* An upcoming national election in 2016 may result to change in the heads of executive branches of the government as well changes in local leaders. And any changes in the leadership may result to change in priorities, hence, may change allocation of resources which may not include SLM	Medium	Likely	Medium	The project will work closely with the HLURB in the development of supplemental guidelines in mainstreaming SLM in local land-use planning process. An enabling policy for the adoption of this will ensure that the LGUs will be enjoined to use the updated CLUP guidelines which includes SLM. The CLUP preparation is a mandatory requisite in the preparation of Comprehensive Development and Investment Plans. Regarding the contribution of national agencies in kind such as personnel complement, use of facilities and establishments of demonstration sites will be secured through official commitment and programming of resources to avoid any diversion.
Political: Failure of PAOs and MAOs of pilot project areas to fully participate in the project due to change of leadership. *Elaboration:* PAOs and MAOs cannot perform other functions if not mandated by Chief Executives, hence, any change in leadership may also mean possibility of changing priorities which may not include the support to the demonstration areas.	Low	Likely	Low	Proper coordination with the LGUs and a clear communication strategy with the new leaders can mitigate this risk. Making them understand that SLM mainstreaming can help increase the productivity of their production systems which will result to increased incomes for their constituencies. Similarly, drawing official commitment from LGU top executive to support the project through MOA can assure continued support to the Project. Issuance of policy directive (e.g., administrative order) by DILG to pilot LGUs enjoining them to participate in the SLM project for the benefit of their farming communities.
Environmental: Climate change *Elaboration:* Typhoons, monsoon rains or drought could affect SLM projects and delay the implementation especially in project sites. Project performance may suffer from natural disasters affecting pilot areas.	Medium	Very Likely	High	SLM technology packages will include hazard mitigation measures to cushion the impacts of typhoons, monsoon rains and drought. These hazard mitigation measures will be built-in to the SLM package for hazard prone pilot areas.
Social: Non-participation of small farmers in the demonstration areas *Elaboration:* Reluctance of small farmers in pilot sites to adopt SLM because of apprehension to new	Low	Moderately Likely	Low	Proper information and education campaign to farmers in pilot sites stressing the benefits of the SLM technology in increasing their production and income and the low cost of their maintenance. Bringing the farmers to demonstration sites to further build-up their knowledge and confidence in

technologies and their cost of maintenance.				adopting SLM technology and farming practices. The technologies chosen will be appropriate to the conditions and not have high maintenance costs of applying these technologies and be subsidized by equipment and extension support paid for through the project. The longer term maintenance costs should be offset by increases in yield.
Financial: Currency loss: Currency fluctuations and the project may incur currency loss	Low	Moderately Likely	Low	Having buffer funds and annual review of budgets in consideration of the currency fluctuations.

2.5. Financial Modality

141. The project will address the identified constraint through the delivery of technical assistance. This type of financing is considered appropriate to develop systemic capacities within DA-BSWM, FMB-DENR, DILG, HLURB and LGUs in the integrated management of forest and agricultural lands through integration of SLM considerations in their policy formulation, planning and program development, while at the same time fulfilling the mandates of these agencies of effective and sustainable soil, land and water resources utilization as vital agricultural resources, of effective protection, development, occupancy, management and conservation of forest lands, and watersheds, of effective supervision of LGUs, of issuing guidelines for the preparation of CLUP by cities and municipalities and reviewing the quality of their plans; and of effective preparation and implementation of agriculture sector development plans and programs. The barriers identified concern absence of national and local level framework for controlling land degradation and upscaling SLM; and lack of capacity and inadequate demonstrated experience in INRM and in particular agriculture-based SLM at the local level. These can all be addressed through effecting effective cross-sectoral enabling environment at the national and local level to promote integrated landscape management and capacitating local communities and LGUs to uptake SLM practices in two (2) targeted city and municipality in the Philippines.

2.6. Cost Effectiveness

142. A number of design alternatives were considered for the project in order to enhance cost effectiveness. These cost effectiveness considerations are as follows:

a) With regards to procurement of project inputs, standard procedures of the Government of the Philippines and of UNDP will be carefully applied to ensure value for money in all purchases of goods and procurement of services for the project, and the project will use strict internal and external audit controls that meet international standards.
b) In focusing on creating the enabling policy and institutional mechanisms to work effectively across sectors, the project will significantly leverage resources and knowledge and reduce duplication. The demonstration areas which can showcase the short-term and long-term benefits of sustainable adoption of land-use systems can make a case for an enabling environment for its nationwide uptake and can facilitate accelerated replication in many areas in the country.

c) By combating root causes of land degradation, including weak capacity and poor land use planning, the project will improve economic decision making processes and is likely to generate substantial economic benefits. The long-term effect of capacity building on improvement of local production systems could be considerable, with benefits likely to accrue over many years beyond the life of the project. As SLM through time becomes a traditional and cultural practice among the farmers, they are automatically handed down from one generation to the other thus the investment cost of the project will generate streams of benefits over a long period of time.
d) The project will identify investments in SLM that will be financially viable and determine revenue generating schemes for the LGUs. The project will continue to refine the conditions under which different forms of management and partnerships will yield positive returns on investments.
e) Cost effectiveness will be increased over time as the project includes specific replication strategies and resources to enable the successful results from pilot demonstrations to increasingly cover larger areas.

143. The many community-based approaches to soil and water resources management that will be piloted through the project are conceived explicitly to promote subsidiarity and encourage payment for services, and thereby reduce costs and increase sustainability.

2.7. Coordination with Other Relevant GEF and non-GEF Initiatives

144. UNDP from its core and non-core (i.e. GEF) resources is also providing strategic support and technical assistance to the BSWM towards the implementation of the UNCCD and to the DENR for the implementation of the UNCBD and UNFCCC.

145. Given that the proposed SLM project would establish the enabling framework for linking national and local SLM implementation system and employing the integrated landscape approach to combat land degradation in the Philippines, the following completed and on-going GEF projects and related loan initiatives in the Philippines are of particular relevance to this proposal. The SLM Project would build on the results, findings and recommendations of the following GEF projects.

146. *"Sustainable Conservation and Utilization of Philippine Indigenous Crops Species"*. This project seeks to mitigate the loss of diversity in Philippine indigenous crop species through an *in situ* conservation strategy, which integrates biodiversity conservation in agricultural production systems and sectors. The two main objectives of the project are: (i) *In situ* knowledge management system developed; and (ii) biodiversity-friendly practices for indigenous crops promoted and adopted in production system or target sites. The project developed a replicable model of conservation in farmers' fields, a form of *in situ* conservation that addresses the implementation mechanism of adaptive management that promote the positive and mitigate the negative impacts of agriculture on biodiversity using banana, abaca, root crops and indigenous vegetables. It also established conservation partnerships to strengthen the involvement of various sectors in the community and to improve linkages and coordination among institutions involved in Plant Genetic Resources (PGR) activities. Moreover, sustainable in situ conservation were implemented in farmers' field to identify sites for in situ conservation, develop the sites as local centers for conservation activities and strengthen the capacities for the local communities and other stakeholders therein to manage sustainably agricultural biodiversity using the target species. The project also supported the establishment of sustainable community-based seed supply and product

development system, along with the enhancement of public awareness on PGR conservation. The SLM project can include the conservation system developed in this study as part of its proposed array of SLM technology.

147. *"Strengthening Coordination for Effective Environmental Management (STREEM)"*. This multi-focal MSP focused on the establishment of coordination mechanisms at the Convention focal point agencies for effective environmental management. This was identified as a critical barrier to the fulfillment of the country's obligations to the MEAs and consequently to the protection of the global environment. The absence of coordination manifests itself in many levels. At the policy level, disharmonized mandates have resulted in conflict and/or duplication of the efforts of each focal point agency in a specific area. A clear example of this would be the issue of upland agriculture. Under the mandate of the Forest Management Bureau of the DENR – who is UNFCCC and UNCBD focal point – steep slopes would be considered as forest land and should not be used for agriculture. However, the BSWM – the UNCCD focal point – argues that it is impossible to disregard the rapid encroachment of agriculture into the uplands and that instead of ignoring this problem, it is better addressed by helping the upland farmers manage their farms sustainably. The findings and recommendations of this project are useful in the establishment of coordination mechanism among DENR, DAR, DA and LGUs in the planning and implementation of SLM projects at the pilot sites.

148. The proposed SLM project will be coordinated with **on-going GEF projects** related to agriculture and watershed management to avoid duplication and promote complementation among their efforts to maximize synergy of project impacts.

149. *"Partnerships for Biodiversity Conservation: Mainstreaming in Local Agricultural Landscapes"*, or *"Biodiversity Partnerships Project (BPP)"*. This project under Biodiversity Protection/Conservation Sector is being implemented by the DENR-PAWB. Its objective is to assist Local Government Units (LGUs) in critical eco-regions of the Philippines to better incorporate the conservation and sustainable use of biodiversity resources in their development planning systems and economic growth strategies.

150. The project will directly address barriers to biodiversity conservation in surrounding production landscapes of Protected Areas (PAs) and Key Biodiversity Areas (KBAs) through an integrated approach aimed at strengthening the enabling policies at the national level for encouraging LGU landscape level biodiversity conservation efforts; providing the tools for enhancing the capacities of LGUs in mainstreaming biodiversity in local development; and by demonstrating in selected pilot sites the systems, policies, and tools for landscape-level biodiversity conservation and sustainable development. These will be achieved through partnerships with key national government agencies (DA, DENR, DTI, DILG), LGUs, and national and local level NGOs to muster their resources and expertise.

151. The outputs of the BPP project in which the SLM project can build on include the promotion of LGUs of biodiversity friendly agricultural practices that will conserve the genetic stocks of indigenous agricultural crops; incorporate biodiversity and SLM policies in the NAP DDLD and AFMA Plan; and certification system for biodiversity agricultural production system. Similar to the objectives and strategies of the SLM, the BPP will also train LGUs in biodiversity friendly agricultural practices; increase the IRA allotted for agriculture in LGU budgets for

biodiversity friendly agricultural programs; and LGUs to mainstream biodiversity friendly agricultural practices in FLUP, ICRMP, and CLUP.

152. *"Expanding and Diversifying the National System of Terrestrial Protected Areas in the Philippines (EDNSTPAP)/New Conservation Areas in the Philippines Project (NewCAPP)"*. This project is categorized under the Biodiversity Protection/Conservation Sector and is being implemented by the DENR-PAWB. It covers 11 provinces: Kalinga, Pangasinan, Zambales, Quezon, Occidental/Oriental Mindoro, Cebu, Southern Leyte, Bukidnon, Agusan del Norte, Surigao del Norte, Tawi-Tawi. Aside from the DENR, the beneficiaries of the project include: local government units, local communities, indigenous peoples/communities, NCIP, national and local NGOs. The objective of the project is to expand and strengthen the terrestrial PA system in the Philippines by developing new PA models and building capacity for effective management of the system.

153. The project seeks the recognition of new conservation areas such as those managed by IPs, local communities and local government units as an opportunity to hasten the expansion of the coverage of the existing PA system, before important KBAs are degraded and eventually lost to encroachment of exploitative land uses. In partnership with key organizations, local communities and other stakeholders, the project will directly address key barriers and establish solid foundations for accelerated expansion of the terrestrial system in the Philippines, supported by strong management capacities, and sustainable financing.

154. The SLM project can benefit from the experience of this project in terms of its development of new tools and mechanisms for sustainable financing. The strategies and mechanisms for sustainable financing developed under the project could serve as a framework and sample model template that can be adopted or further custom fitted for the SLM sustainable revenue generating component.

155. *"National Program Support to Environment and Natural Resource Management Project (NPS-ENRMP)"*. This program is under the ENR Sector and is being implemented by the DENR with the LGUs as its partners and beneficiaries at the same time. The program has both a loan and a GEF grant components. The main objectives of the program are: 1) to improve DENR efficiency and effectiveness in implementing its core functions and service delivery; and strengthen the allocative efficiency of DENR's limited budget resources through better prioritization and partnership arrangements facilitating scaling-up and better linking of plans and budgets; and 2) to assist Government of the Philippines in enhancing ecosystem services for global and additional local benefits.

156. The NPS-ENRMP is a budget support program that will directly support the DENR to meet major thematic thrusts prioritized in the Medium Term Development Plan (MTDP 2004-2010) related to Environment and Natural Resources management. The GEF grant component will provide financing for the application of an integrated ecosystem management approach in priority watershed areas and selected sites of global significance. The Components are: 1) Policy, Planning, Monitoring and Evaluation; 2) Integrated Ecosystem Management; and 3) Strengthening Environmental Management.

157. The outputs of the program, which the SLM project can build on, are: watershed rehabilitation using native forest species, scheme on payment for ecosystems services schemes for watershed areas; and good practices on IEM fully support SLM.

158. *"Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS)"*. This project is being implemented by the DENR with the participation of BSWM and LGUS in three provinces, namely: Hungduan, Kiangan and Lagawe in Ifugao. The project aims to contribute to food security, sustained livelihoods and poverty reduction of traditional farmers through dynamic conservation of agricultural heritage systems, and promotion of sustainable agriculture and rural development. The project is anchored on the overall goal of the Global GIAHS initiative that promotes the "dynamic conservation and adaptive management approach."

159. In line with the overall project objectives, the implementation of GIAHS in the Philippines with the Ifugao Rice Terraces as pilot site, intends to generate the following outcomes:

- Nationally accepted system for recognition of GIAHS is in place;
- Conservation and adaptive management of globally significant agricultural biodiversity harbored in GIAHS is mainstreamed in sectoral and inter-sectoral plans and policies in the Philippines;
- Globally important agricultural biodiversity is effectively managed by indigenous and other traditional communities; and
- Lessons learned and best practices from promoting effective management of pilot site are widely disseminated to support expansion and upscaling of the GIAHS network.

160. Similarly, this SLM project will complement and coordinate with other non-GEF initiatives such as

161. The GIAHS Project as it will benefit from its project's technology and experience on the following knowledge areas which can also be adopted or integrated in the development of SLM technology packages:

- Repair and rehabilitation techniques for damaged terraces walls and slopes.
- Repair and rehabilitation techniques for irrigation canals
- Woodlot/enrichment for agro-forestry
- Crop diversification through the integrated rice farming system
- Livelihood project enhanced to capacitate communities giving preference to women

162. *"Philippines Climate Change Adaptation Project (PhilCCAP)"*. This project is categorized under Agriculture and Natural Resources Management. It is being implemented by the Climate Change Commission (CCC), DENR, DA (BSWM and ATI), National Irrigation Administration (NIA), Philippine Crop Insurance Corporation (PCIC), and Department of Science and Technology, Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA). Three regions and three provinces are covered under the project. The principal objective of the project is to develop and demonstrate approaches that would enable targeted communities to adapt to the potential impacts of climate variability and change.

163. The objective of the project would be achieved by strengthening existing institutional frameworks for climate change adaptation, and by the demonstration of cost-effective adaptation strategies in agriculture and natural resources management.

164. The project will increase communities' adaptive capacity by improving: a) farm management capability under conditions of climate risk; b) access to information on weather forecasting and climate patterns; c) access to risk management options such as weather index insurance; and d) strengthening ecosystems. The primary beneficiaries include poor farmers who often suffer climate-related losses, and other vulnerable groups that depend on natural resources for their livelihoods.

165. The measures for the adaptation of farming systems to climate change that is developed and pilot tested in the PhilCCAP project can be integrated in the SLM technology package for lowland and upland farmers that will be developed for the proposed SLM project.

166. The SLM project will collaborate with the Project Team on the "National Capacity Building for Land Degradation Assessment and Climate Change Adaptation (LADA) Project" which is also undertaken by the BSWM. The LADA project under the auspices of the UNFAO is expected to be completed by the time that the SLM project will commence.

167. This project is a prequel project of the proposed SLM project with a funding of US$484,000 taken from the GEF SLM fund and administered by the UNFAO. The LADA project started in January 2012 and was completed in second quarter of 2013. It is being implemented by the DA-BSWM and participated in by different institutions which were organized into the Philippines Land Degradation Assessment Technical Working Group (PLADA-TWG). The institutions comprising the PLADA-TWG are all engaged in improving agricultural production and conservation of natural resources. They are as follows:

- Department of Agriculture
- Bureau of Soils and Water Management
- Philippine Rice Research Institute
- National Irrigation Administration
- Philippine Coconut Authority
- Bureau of Plant Industry
- Fiber Industry Development Authority
- Sugar Regulatory Administration
- Department of Environment and Natural Resources
- Forest Management Bureau
- Ecosystems Research and Development Bureau
- National Mapping & Resource Information Authority
- Department of Agrarian Reform
- Department of Science and Technology
- Philippine Council for Agriculture, Forestry, and Natural Resources Research and
- Development
- Philippine Atmospheric, Geophysical and Astronomical Services Administration
- University of the Philippines Los Baños
- College of Agriculture

- College of Human Ecology
- National Census and Statistics Office
- Local Government Units (LGUs)
- NGOs and Farmer Groups

168. The TWG institutional members are the main beneficiaries of the project who were provided training on land degradation assessment and planning.

169. Available data on the extent of land degradation were found to be limited and weak. The country has no adequate data base on land degradation which is important in identifying priority areas for program interventions and for preparing a long term SLM policies and programs. Thus, the primary aim of the project is to apply the knowledge, tools and experiences created by LADA in other pilot test countries to the Philippines. The project will help to promote and assist governments to mitigate land degradation, desertification, deforestation and loss of biodiversity.

170. The main outcome and outputs of the project are the development of national capacities for addressing the issues on sustainable land and natural resource use and management through the establishment of a national information system on land degradation assessment and monitoring. The project will produce a national land use map including the inventory and assessment practices for sustainable land management that will benefit the formulation of SLM strategies and policies.

171. The Philippine's LADA project serves as an input to the proposed SLM project by providing the baseline data for the preparation of SLM strategies and programs. The LADA data base will further be enriched and populated with more data under the SLM project.

172. The collaboration between the LADA and the SLM project will be in terms of utilizing the data base of the former in the planning and identification of priority areas and LGUs to be covered under the latter. The data and information developed by the LADA project will be used in identifying the suitable SLM technology for application in priority areas. The findings of the LADA project will also serve as take-off points for the SLM project and further build on its foundation.

2.8. Replicability

173. Replication will be achieved through the direct replication and scaling up of sustainable practices and methods demonstrated by the project. The project will develop and use a knowledge management system to ensure the effective collation and dissemination of experiences and information gained in the course of the project's implementation. A series of workshops will be held as part of the project to trigger replication in additional municipalities including replicating the experience in the municipality that will be developing a comprehensive land use plan during the project period. The project will also be issuing a joint agreement from national agricultural, land development and environment government agencies to LGUs to integrate SLM into land use plans and guidelines will be developed on SLM mainstreaming into national and local level land use plans and investment programs. These policy documents will not only apply to the municipality the project will be covering, but will have national coverage establishing the enabling environment for the project initiatives to replicated in all other municipalities of the Philippines.

2.9. Sustainability

174. The innovativeness and sustainability of the SLM project are briefly described below.

a) *Institutional.* The SLM processes will be mainstreamed into the Philippines' broader development strategy through integration into national and local policies and budgets. A long-term NGA-LGU as well as public-private sector SLM partnership will be forged with local institutional development as its cornerstone. Long-term technical capacity at the national and local will also be developed as a result of the project.
b) *Financial.* The project has an inherent financial sustainability in it. The City of Malaybalay and Municipality of Abuyog have committed to co-finance this SLM Project in the total amount of USD 1,556,100. This amount represents the cost of the currents projects/programs they have related to SLM. All these SLM-related projects shall be geared up to contribute holistically to this SLM mainstreaming Project. This will also include the review and alignment of the existing public investments and expenditures, as well as creating the necessary incentives/disincentives and awareness raising for private sector investment in SLM to be increased.
c) *Social.* By improving their income, poor farming communities will have better access to social services such as health and nutrition, family planning and education. The improvement in the capacity of the small farmers to save would later on lead to investment in the education of their children, better nutrition of their family and health maintenance. The productive ability of farmers will improve with the betterment of their health and quality of life.
d) *Environment.* Finally, the reduction of soil erosion, improvement in soil fertility and enhancement of forest cover and biodiversity will make ecosystem life support services more stable and resilient. The project will integrate and institutionalize SLM into the policies and programs of key implementing agencies and local governments, thereby ensuring that the achievements of the project are sustained by the government.

2.10. Incremental Reasoning and Expected Global, National and Local Benefits

Incremental Reasoning

175. The objective of the Project is to strengthen SLM frameworks to address land degradation processes and mitigate the effects of drought to contribute in enhancing integrated natural resource management in the country. The project will seek to have a national paradigm shift from unsustainable to sustainable land use by Government's agriculture, land management and environmental sectors and reduce pressures on natural resources from competing land uses through an integrated natural resource management framework. Moreover, the project will also strengthen institutional capacities for promoting sustainable forest and land management as well as the extension services and availability of best practice models.

On the Development of SLM Mainstreaming Guidelines and Capacity Building

176. Without the Project, land degradation issues in the country will not be addressed in a more holistic and integrated manner. Expertise and skills on SLM will remain with BSWM. SLM application and implementation will still be uncoordinated at national and local levels especially

between and among DENR, DAR, DILG, DA and HLURB. Unified training of trainers from these agencies to enhance capacities of extension officers to apply SLM practice across landscape will not be done and appreciated as cross sectoral concerns.

177. The status quo would render slower and fragmented efforts by the DA, DENR and DAR to launch an integrated SLM program due to their limited available budget, inadequate technical competence and institutional capacity, and weak modes of coordination. SLM tools developed at the national level would not reach local people in an efficient manner. Existing capacity building efforts on SLM are focused at the national level and very much lacking at the LGU level. With the devolution of provincial and municipal agriculture offices from the DA to the LGUs, much needed capability building support should be provided through the initiatives of this proposed project. Thus, the proposed SLM project will use most of its GEF grant to capacitating the Municipal and Provincial Agricultural Offices (MAOs and PAOs) which are not supported under the existing program/project funds of the DA-BSWM for SLM and related efforts. The programs and projects of the DA-BSWM are concentrated on SLM technology development, testing and replication.

178. The proposed project will improve knowledge management and sharing on SLM technology between the national government agencies such as the DA-BSWM, DENR, DAR and the LGU's MAOs and PAOs. The PAOs and MAOs whose focus are on agicultural commodities would be able to take on responsibilities and competently provide field support to small farmers on SLM particularly on soil and water conservation wherein they are presently weak. This important concern on capacitating the LGUs is not part and parcel of on-going programs and projects of the DA-BSWM on SLM.

179. Similarly, the different component of the project will contribute to accelerating and enhancing efforts on SLM which has been inactive and lacking at the LGU level. The project will provide the much needed push and catalytic action for SLM to fully get implemented on the ground. The proposed project would also focus on how to widely disseminate best practices and SLM technogies to local level beneficiaries. Documentation of SLM technology and farming practices is severely lacking and will be supported under this GEF grant.

On the Implementation of SLM Best Practices in Targeted City and Municipality, Updating of CLUPs of these City and Municipality and Securing Additional Finances for SLM Investments

180. Without the project, integrated SLM technologies applied to integrated natural resources management (INRM) to avert soil erosion and soil fertility decline will not be showcased, personnel of concerned NGAs and farmers will not realize the advantages of SLM technologies in averting soil erosion and soil infertility while earning from the produce harvested. Land degradation in the proposed LD hotspot sites and in the whole of the Philippines would continue and addressing them will remain with the national governmen and LGUs role will remain minimal. Their response will be reactive depending on their capacity and understanding of the issues and solutions and will not be systematically integrated in the local planning processes. Without LGU's support, SLM application of farmers will also be dependent on their acceptance of the technologies and if they have seen the potential benefits arising from the use of these technologies.

181. With this GEF project, LD will be mitigated/averted in the selected SLM demonstration sites which are located within LD hotspots in the Philippines. The project would establish

demonstration sites while developing the LDI monitoring system to showcase SLM technologies and measures to arrest land degradation and sustain flow of water. The performance of the integrated SLM packages in these demonstration sites will be monitored using the developed composite LDI monitoring system and their impacts will be measured. The strategies and mechanisms to turn-over the proven effective and economically viable and socially acceptable SLM technology package will also be developed for the eventual transfer of technology to priority LGUs, i.e., to the expansion areas.

182. Likewise, SLM technologies shall be considered in CLUP revision/updating, this would redound to LD mitigation and abatement, not only in the City of Malaybalay and Municipality of Abuyog which are among the LD hotspots in the Philippines but also to all cities and municipalities in the Philippines, especially once the DENR-DILG Joint Memorandum Circular and HLURB Memorandum Circular on SLM mainstreaming to LGU's comprehensive development plans shall be issued later. The existing CLUPs of the City of Malaybalay in Bukidnon and the Municipality of Abuyog in Leyte shall be updated and revised by considering the SLM Strategic Framework (the SLM Mainstreaming Guidelines) developed by the Sustainable Land Management and Soil and Water Conservation Specialist of the project and approved by the CCMRD. The SLM Strategic Framework have already considered the results of the piloting exercises of SLM mainstreaming in the City of Malaybalay and Municipality of Abuyog. To ensure that such tools will be institutionalized, a DENR-DILG Joint Memorandum Circular and HLURB Memorandum Circular on SLM mainstreaming to LGU's comprehensive development plans shall be issued later.

183. Implementing this Project can demonstrate the appropriateness of SLM technologies and there will be greater uptake of by the farmers for the production of their crops because there will be provision of adequate financial incentives. Greater uptake of SLM technologies means continuous and long term abatement and mitigation of LD in the LD hotspots and in other areas in the Philippines as well. The incentive system will come in the form of technical assistance from the government in the application of SLM technologies. LGUs can also assist in marketing of produce through the organization of trade fairs, market day for organic produce, and/or putting additional premium to products of SLM tehnologies. On the side of the LGUs, it can also generate revenues by charging a minimum fee for marketing which is far cheaper than what middlemen charge. These incentive and disincentive system will be pursued through the issuance of local ordinances. The process of increased funding allocation towards SLM by the project will also involve a process of review and alignment of existing funding to the agricultural and forestry in the selected municipality.

Expected Global, National and Local Benefits

184. The project will contribute to global environmental benefits primarily though reduced soil erosion, reduced risk of degradation, and increased maintenance of biodiversity. The global benefits that will be delivered primarily include the adoption of SLM practices that will reduce land degradation and secure ecosystem services over an area covering at least 20,000 ha in the targeted city and municipality.

185. Key elements of the shift from the baseline to GEF alternative trajectories are provided below:

Table: Identification of benefits associated with alternative production systems promoted by project.

Current practices	Alternative production systems	Expected benefits*
Limited adoption of soil management practices (increased mechanization, failure to observe contour lines, increased monocultures, etc.)	Soil erosion control techniques: e.g. mulching, zero-tillage, hedge management and windbreakers, crop diversification, mulching systems, terracing, gully stabilization, etc.	Reduced soil and nutrient losses and soil compaction; higher soil moisture and increased water availability; improved soil biological/chemical quality and productivity Improved LDI across 20,000 ha, increased soil fertility of 151 ha of agricultural land and no forest loss in Barangay Tadoc with expansion plans across 10,000 ha through awareness; Increased vegetative cover in agricultural land area covering 2,887 ha and no net loss of forests in Barangay Silae, with expansion plans across another 10,000 ha through awareness raising
Excessive and inappropriate use of chemical inputs (herbicides, pesticides and fertilizers)	Biological control; adherence to requirements for chemical inputs; mulching systems; crop rotation to reduce pests. (possibly only through extension, to be determined during PPG)	Reduced groundwater contamination; improved soil quality; improved worker health; Improved worker's health accomplished through the development and delivering a module on responsible chemical use in agriculture in the season-long Farmer Field Schools

186. The proposed project will provide benefits of global, national and local significance. At the global level, the resilience and productivity of the landscape as a whole will be strengthened, as soil and water services are improved. Global benefits will also include conservation of currently threatened globally significant endemic species of crops and forest trees through proper land use planning and conservation policies and programs. As such, the global community will benefit from the increased protection of important gene pool of agricultural endemic crops and forest species. Benefits will also be generated through improvements in levels of soil organic matter and retention of trees which will provide increased carbon storage and sequestration. Reductions in forest clearing and burning for agriculture use will also reduce CO_2 and will therefore mitigate GHG effects on climate change. Significant reduction in soil erosion and sedimentation of coastal waters will conserve coral reef ecosystem and improve the productivity of fishing grounds that would also benefit other countries where the fishery products of the Philippines are exported to.

187. The proposed project will certainly have its contribution to Goals 1 (reduction of poverty and hunger) and 7 (environmental sustainability) of the Millennium Development Goals (MDGs). Reduction of poverty incidence may lead to better opportunities for family household as the children get better access to education; and availability of better off-farm jobs and value adding activities. The viable livelihood options provided under the project will create less pressure on land production/forestry purely for sustenance purposes.

III. PROJECT RESULTS FRAMEWORK

	INDICATOR	BASELINE	END OF PROJECT TARGETS	SOURCE OF INFORMATION	RISKS AND ASSUMPTIONS
Project Objective [1] Strengthening SLM frameworks to address land degradation processes and mitigate the effects of drought in the Philippines	Area of LD-intense municipalities where the causes of land degradation are addressed through the implementation of land use plans	0 ha	177,083 hectares	Approved Comprehensive Land Use Plans for City of Malaybalay and Abuyog municipalities	**Risk:** Assuming that the CLUP with provisions on SLM is in place, changes in political landscape may lead to changes in leadership who may not prioritize the implementation of CLUP with provisions on SLM mainstreaming. **Assumption:** Changes in political leadership will not have an effect on the implementation of the revised and approved CLUPs with provisions on SLM.
	Enhanced cross-sector enabling environment for integrated landscape management as per PMAT score: (i) Framework strengthening INRM (ii) Capacity strengthening to enhance cross-sector enabling environment	(i) Score 1 – No INRM framework in place (ii) Score 2 – Initial awareness raised (e.g. workshops, seminars)	(i) Score 4 – INRM framework has been formally adopted by stakeholders but weak (ii) Score 4 – Knowledge effectively transferred (e.g. working groups tackle cross-sectoral issues)	Completion of PMAT at mid-term and terminal phase	**Risk:** Within the 3-year project duration, INRM at the techno demo sites might have been done, however, due to changes in political landscape, the INRM applied at the demo sites might not be replicated to nearby barangays. The implementation/replication of INRM at the demo sites to expansion areas might not be a priority of the new leaders. **Assumption:** Changes in political leadership will not have an effect on the replication of the INRM at the

					demo sites to the expansion areas.
Outcome 1 Effective cross-sectoral enabling environment at the national and local level in place to promote integrated landscape management	**Outputs:** 1.1 Approved guidelines on SLM mainstreaming into national and local land use plans and investment programs (to be field tested under Outcome 2; 1.2 Multi-sectoral stakeholder committee established at national level to oversee and give technical advice on the integration of SLM into LGU's development; 1.3 Information management system to support SLM integration into LGUs development plans and improving informed land use allocation decisions (set up as a national system but only populated with the targeted municipality data to be selected under Outcome 2; 1.4 Training-of-trainers from BSWM, DA Regional Offices, DENR, DAR and the PAOs and MAOs/CAOs capacitated in training extension officers from the LGUs in promotion of SLM practices;				
	An integrated land management framework incorporating SLM practices and technologies	Presence of guidelines in mainstreaming CCA-DRR and biodiversity conservation in CLUP	A national integrated land management framework mainstreaming SLM practices and technologies developed and adopted by HLURB	Crop yield during harvest season Terminal project report	**Risk:** Projected crop yield might not be realized due to uncontrolled pest infestation and occurrence of strong typhoons. **Assumption:** There will be no pest infestation and drastic climate variability within the three (3) years of project implementation.
	Enhanced CLUP guidelines to mainstream SLM	No existing procedural guidelines on mainstreaming SLM in land use, agricultural and forestry development plans	Guidelines on mainstreaming have been applied in to pilot municipalities and further enhanced based on experience and findings of the testing exercise.	Report on guidelines for the mainstreaming process	**Risk:** Some LGUs may not be able to operationalize the guidelines due to lack of data or poor data base. **Assumption:** The guidelines are simplified and designed as user-friendly for the adoption of less trained planners of LGUs

	Relevant policy issuance for the mainstreaming of SLM in local land-use including forest land-use and development planning processes	Pledge of commitment signed by DA, DAR and DENR in support to the implementation of the National Action Plan to Combat Desertification, Land Degradation and Drought (NAP-DLDD 2010-2020)	Issuance of Joint Memorandum Circular or special order on SLM mainstreaming by DA, DENR and DAR. Issuance of memorandum order or administrative order on SLM mainstreaming by DILG to priority LGUs	Signed MO or SO on SLM Mainstreaming Signed DILG MO or AO	**Risk:** Delayed issuance due to poor coordination among NGAs **Assumptions:** Key NGAs are supportive of the mainstreaming policy; they are properly briefed on the objectives and essential contents of the policy order
	Data base and decision support information system operational and accessible to LGUs	Existing LADA web portal with maps at national and regional scales	Developed a GIS-based LADA maps incorporating SLM practices and technologies with information/maps accessible and relevant to CLUP preparation of LGUs	Project monitoring and inspection report on BSWM data base upgrading	**Risk:** Major equipment upgrading will be needed and will entail expense to BSWM. **Assumption:** Partner institutions such as DENR and DAR have the facility to link with the system; BSWM has the funds to maintain the information system.
	Competency development programme for LGUs on SLM technology application and mainstreaming developed and implemented	New and young scientists from BSWM, DA Regional Offices, DENR and DAR lacked hands-on training on SLM.	List of training modules on SLM technology application and mainstreaming for LGUs developed Potential trainors from DA-BSWM, DENR and HLURB are identified and trained on various SLM management and physical technologies on SLM.	Project Reports List of attendance and copy of certificates of training awarded.	**Risk:** Concerned NGAs may send trainees who are not qualified for the technical training. No allocated budget for the implementation of the competency programme for LGUs **Assumption:** Identified trainees from DA-BSWM, DENR and DAR are assigned and performing function on SLM and their heads of offices are making them available for the entire duration of the training.

	Increased scores of the indicators of the following capacity results in the Capacity Development Monitoring Scorecards of DA-BSWM, DENR-FMB and HLURB from the start-up of Project up to end of Project: a. Capacity for engagement (CR1); b. Capacity to generate access, and use information and knowledge (CR2); c. Capacity for strategy, policy, and legislation development (CR3); d. Capacity for management and implementation (CR4); and e. Capacity to monitor and evaluate (CR5)	Average capacity scores for (See Annex F for the Capacity Development Monitoring Scorecard) <u>DA-BSWM</u> CR1 – 2 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2 (Inds. 12-13) CR5 – 2 (Inds. 14-15) <u>DENR-FMB</u> CR1 – 1.67 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2.5 (Inds. 12-13) CR5 – 1 (Inds. 14-15) <u>HLURB</u> CR1 – 1 (Inds. 1-3) CR2 – 2 (Inds. 4-8) CR3 – 2 (Inds. 9-11) CR4 – 2.5 (Inds. 12-13) CR5 – 1 (Inds. 14-15)	At least an average increase in 5 capacity results (CR1 to CR5) by 0.33 to 1 for BSWM with a high score of 3 in the following indicators: Indicator 3, 4, 5, 7 and 13 (see Annex F for the Capacity Development Monitoring Scorecard) At least an average increase in 5 capacity results by 0.5 to 0.8 for DENR-FMB with a high score of 2 to 3 in the following indicators: Indicator 3,4,5,8,10,and 12 (see Annex F for the Capacity Development Monitoring Scorecard) At least an average increase in 5 capacity results by 0.2 to 1.33 for HLURB with a high score of 2 to 3 in the following indicators: Indicator 1, 10, 11, 12 and 14 (see Annex F for the Capacity Development Monitoring Scorecard)	Capacity Development Monitoring Scorecard	**Risk:** Changes in political landscape that may lead to changes in personnel assignment At national level, the qualification of the participants who will be sent for training might not have the appropriate educational background. The trained personnel might be assigned later to other tasks. **Assumption:** Changes in political leadership will not affect personnel assignment.
Outcome 2 Long term capacities and incentives in place for local communities and	Outputs 2.1 Comprehensive Land Use Plans (CLUPs) updated/revised for targeted City and Municipality with serious LD issues; 2.2 SLM best practices implemented in targeted City and Municipality; 2.3 National and LGU extension services capacitated to incorporate SLM to LD and drought risk areas and deliver targeted support to targeted City and Municipality and farmers with similar agricultural threats;				

LGUs to uptake SLM practices in two (2) targeted municipalities in the Philippines	2.4.Secure additional finances for SLM investments and align existing financial contributions in the forestry and agricultural sectors to support SLM practices in at least two selected municipalities				
	Plant/soil cover in the agricultural land area covering 2,887 ha and forest cover in Barangay Silae	Plant/soil cover to be established during project implementation in the first year 721.65 ha of forest land area	Increase in plant/soil cover ratio No net loss of forest cover in Barangay Silae	Year 1 and end of project vegetative cover estimates for Barangay Silae Terminal project report	**Risk:** Projected vegetative cover might not be realized due to natural occurrences like typhoons and forest fires, etc. and other activities like slash and burn and land use conversions. **Assumption:** There will be no drastic climate change variability and no forest fires. Occurrences of slash and burn activities are being monitored and executers being apprehended by the concerned government agencies.
	Dry Matter (DM) and Organic Matter (OM) Content from 5 sample sites randomly selected from the agricultural land area (151 ha) and forest land area of Barangay Tadoc	Sample sites and baseline Dry Matter and Organic Matter to be determined during Year 1 of implementation 12.61 ha of forest land area	Average increase in DM and OM Content of Soils in 5 sample sites representing the soil fertility of the 151 agricultural land area No net loss of forest cover in the Barangay Tadoc	OM content analysis in year 1 and end of project Periodic geo-tagging of the sites	
	Composite Land Degradation Index (LDI)[1] monitoring system for monitoring LD is developed and in place for City of Malaybalay and Abuyog Municipality	No LDI monitoring system in use	Stable or improved composite LDI monitoring system across 20,000 ha[7] in two municipalities Agriculture: 3,038 ha Forestry: 734.26 ha Mixed System – 16,227.74 ha	Completion of composite LDI monitoring system at project inception, mid-term and terminal periods	**Risk:** Changes in the soil erosion rate might not be realized due to natural occurrences like typhoons and forest fires, etc. and other activities like slash and burn and land use conversions. **Assumption:** There will be no drastic climate change variability and no forest fires. Occurrences of slash and burn activities are being monitored and executers being

[7] 8,100 ha Agricultural land and 11,900 forestry lands covering Barangays Silae, Mapulo and Can-ayan in Malaybalay City and Barangays Tiadoc, Tinalian, Burubud-an, Lawaan, Libertad, New Taligue, Old Taligue, San Rogue, Kikilo, Bahau, Tib-o, Buaya, and Anbongan.

					apprehended by the concerned government agencies.
	Increased in % of SLM guidance delivered by extension services	Lack of SLM modules on the existing Farmers Field School (FFS)	100% SLM guidance delivered by extension services through integration of complete SLM modules in the season-long FFS	List of modules of FFS Document on two SLM project sites	**Risk:** LGU heads of offices may send unqualified staff for the SLM training. **Assumption:** The project has a clear set of criteria and qualification requirements for the trainees from LGUs.
	Farming households adopt sustainable agricultural practices and integrated SFM/SLM practices.	There are total 2,924 farming households in the 2 target sites (3 Brgys. out of 46 Brgys. in Malaybalay City and 13 Brgys. out of 63 Brgys. in Abuyog)	At least 585 of the farming households in 2 targeted municipalities (3 Brgys. out of 46 Brgys. in Malaybalay City and 13 Brgys. out of 63 Brgys. in Abuyog) adopt sustainable agriculture practices and integrated SFM/SLM practices	Project evaluation report	**Risk:** Difficulty in influencing the farmers in nearby farms to adopt the SLM technology showcased at the two (2) demonstration sites; this may result to possibility of not attaining the project objectives **Assumption:** BSWM and LGU have successfully showcased the SLM technology package and enhanced extension services have been carried out.

Notes:

1. Draft outline of LDI scorecard was developed during the PPG (see Note 2). Scorecard will be completed in the first year of the project for City of Malaybalay and Abuyog Municipality and targets for end of project developed.

2. **Composite Land Degradation Index[8]**

   First Indicator: Types of Degradation:

   Thirty-six degradation types and subtypes have been identified and can be the focus of an assessment. They are classified in three main categories: (1) erosion; (2) degradation; and (3) 'other' degradations. All of these types are induced are aggravated by human activities. The degradation subtypes (total of 26) that can occur in desertification risk areas are indicated in brown in the following table. Each type and subtype is represented by an internationally recognizable symbol (e.g. Ws for 'water sheet erosion').

[8] Adapted from Brabant, P. 2010. A land degradation assessment and mapping method. A standard guideline proposal. Les dossiers thematiques du CSFD. No 8. November 2010. CSFD/Agropolis International, Montpellier, France. 52 pp.

The 10 subtypes most commonly encountered in areas affected by desertification (brown shading in the table) are sheet erosion, linear erosion, deflation, silting, dune formation, soil surface crusting, acidification, soil nutrient deficit, salinization and alcalinization.

List of land degradation types and subtypes and their symbols

Category	Type	Subtype
Erosion	**Water erosion** (W for Water)	Sheet erosion (Ws, s for sheet)
		Linear groove, rill and small gully erosion (Wd, d for deformation)
		Linear gully erosion (Wg, g for gully)
		Landslides and sudden subsidence (Wl, l for landslides)
		Urban erosion (Wu, u for urban)
		Coastal sea erosion (Wm, m for marine)
		River bank erosion (Wb, b for bank)
	Wind erosion (E for Eolian)	Deflation (Ew, w for wind)
		Silting (Es, s for sand)
		Dune formation (Ed, d for dune)
	Plough and mechanical erosion (M for Mechanical)	Plough erosion due to cropping practices (Mp, p for practice)
		Surface scraping during land clearing Mc, c for clearing)
Degradation *(stricto sensu)*	**Physical Degradation** (P for Physical)	Reduction in the humus layer (Pt, t for thickness)
		Destabilization of aggregates and the soil structure(Ps, s for structure)
		Soil surface crusting (Pc, c for crusting)
		Compaction, caking and hardening (Ph, h for hardening)
		Aridification (Pa, a for aridification)
		Submersion or stoppage of submersion (Pw, w for waterlogging)
		Soil subsistence (Pl, l for lowering)
	Chemical degradation (C for Chemical)	Soil nutrient deficit (Cn, n for nutrient)
		Excess soil nutrients (Ce, e for excess)
		Acidification (Ca, a for acidification)
		Salinization (Cs, s for salinization)

		Alcalinization (Ck, k for alkalinization)
		Various pollutions (*pro parte*) (Cp, p for pollution)
	Biological degradation (B for biological)	Reduction in soil organic matter content (Bm, m for organic matter)
		Reduction in soil macrofauna quantity (Bq, q for quantity)
		Reduction in macrofauna biodiversity (Bd, d for biodiversity)
Other degradations (D for Diverse)	**Urbanization and other construction projects** (Dc, c for construction)	
	Open pit and quarry mining (Dm, m for mining)	
	Radioactive pollution (Dr, r for radioactivity)	
	Degradation due to wars and conflicts (Dw, w for war)	Presence of antipersonnel mines (Dw-m, m for mines)
		Presence of explosive remnants of war (Dw-e, e for explosives)
		Land deformation due to bombing (DW-b, b for bomb)
		Massive defoliant sprays (Dw-d, d for defoliant)
		Use of depleted uranium munitions (Dw-u, u for uranium)

Second Indicator: The Extent of Degradation

Once the type of degradation has been identified, it is necessary to determine extent, which is defined as "the area of land subjected to a given type or subtype of degradation in a specific area" (Brabant, 2008).

This procedure involves three operations;

- Measuring the extent of degradation in a landscape by visual monitoring or on remote-sensing images;
- Locating and mapping the observations;
- Calculating the area involved.

Five questions can be asked to assess the extent of degradation:

1. Is the area of land to be surveyed small or large?
2. Is the type of degradation visible with the naked eye or not? In the field and/or remote sensing images?
3. Is the type of degradation always visible or does it only become visible when there is a high degree of degradation (e.g. salinization becomes visible when it reaches an advanced stage)?
4. Is the type of degradation related to the type of soil, exploitation strategy or kind of land use (rainfed cropping, irrigated cropping, grazing, etc.)?
5. Is the type of degradation related to the landscape pattern (peaks, slopes, plains, etc.)?

Extent Classes for a type of degradation:

Extent class	Extent rating	Limits of extent classes for a degradation subtype in the concerned area (in % of the field area)
1	Very low	< 5 %
2	Low	5 – 25 %
3	Medium	25 – 50 %
4	High	51 – 75 %
5	Very high	>75 %

Third Indicator: The Degree of Degradation:

The degree of degradation, which is a qualitative indicator, is the severity reached by a given type of degradation. For each type of type of degradation a specific measure needs to be developed but for the project largely dealing with water-induced sheet erosion, a sample table is provided. This will need to be adapted at project start to ensure it is applicable within the Philippines context.

The main parameter that indicates the degree of degradation is first determined. Here it involves a reduction in the thickness of the arable humus layer, which is commonly called topsoil. Other variables that could directly or indirectly impact the degree of sheet erosion are then listed.

Main parameter	Reduction in the thickness of humus layer
Variables	• Density of stones on the soil surface • Land productivity level • Landscape pattern • Land value • Major kind of land use and land tenure system • Natural vegetation status • Rainfall, distribution and intensity • Rural population density • Soil surface roughness and degree of surface fauna activity • Thickness of the humus layer • Topsoil status • Type of soil and topsoil

Class	Degree of degradation rating	Indicators
1	Zero to very low	Natural erosion marks which vary according to the soil type and field conditions. The land is generally uncultivated and under natural vegetation cover or located in a protected area, without human activities.
2	Low	Reduction in the thickness of the humus layer less than 1/5 the total thickness in uncleared soil; a few sand deposits are noted on the leeward side of obstacles in the field (clumps of grass, stones). Local accumulation of fine factions in small field depressions. Very little or no obvious decrease in productivity.
3	Medium	Reduction in the thickness of the humus layer over 1/5 and less than 1/3 the total thickness. Clumps of grass partially uprooted; accumulation of fine sand and silt on the soil surface at sites conducive to such deposits. Some surface crusting on less than 10% of the field. Substantial decline in productivity (around 25%).
4	High	Reduction of almost half of the thickness of the humus layer. Substantial uprooting of clumps of grass. Tree and shrub roots exposed below the root collar. Many sand and silt deposits on low parts of the field. Substantial crusting on the soil surface. Bare areas without natural vegetation sometimes on 10 – 25% of the surface of the field. As much as 50% decrease in productivity.
5	Very high	Reduction of almost ¾ of the humus layer. This layer may disappear in some areas, sometimes in a large part of the field. Tree and shrub roots exposed for several centimeters or decimeters. Marked reduction in natural vegetation cover. Large bare areas. Abundant sand deposits (fine and coarse) in the lowest parts of the field and along drainage routes. Substantial crusting. Highly reduced grass cover. Bare areas sometimes on over half of the field area. Over 75% decrease in productivity. Land often abandoned.

Composite Land Degradation Index:

Once the three main indicators are determined, they are combined to form a single composite index.

The extent and degree of degradation are divided into classes that are given a value ranging from 1 to 5. By definition, the subtype has no numerical value and is represented by its symbol. The extent value (1-5) and the degree value (1-5) are thus totaled, while weighting the degree value according to the soil thickness if necessary. This gives a composite numerical index that is identified by a degradation value ranging from 1 to 5.

Number of combinations of **extent** (bold) and *degree* (italic) indicators	Total value of the extent-degree combination	Degradation status index rating	Value of the composite degradation status index
1 + *1*	2	Very low	1
1+*2*/**2**+*1* **1**+*3*/**2**+*2*/**3**+*1*	3 4	Low	2
1+*4*/**2**+*3*/**3**+*2*/**4**+*1* **1**+*5*/**2**+*4*/**3**+*3*/**4**+*2*/**5**+*1*	5 6	Medium	3
2+*5*/**3**+*4*/**4**+*3*/**5**+*2* **3**+*5*/**4**+*4*/**5**+*3*	7 8	High	4
4+*5*/**5**+*4* **5**+*5*	9 10	Very high	5

IV. TOTAL BUDGET AND WORKPLAN

Award ID:	To be filled	Project ID(s):	To be filled
Award Title:	Implementation of SLM Practices		
Business Unit:	PHL10		
Project Title:	Implementation of SLM practices to Address Land Degradation and Mitigate the Effects of Drought		
PIMS no.	5365		
Implementing Partner (Executing Agency)	Bureau of Soils and Water Management – Department of Agriculture		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: Effective national enabling environment to promote integrated landscape management	BSWM	62000	GEF	71300	Local Consultants	10,260	10,260	10,260	30,780	**1**
				71400	Contractual services	12,500	24,500	24,500	61,500	**2**
				71600	Travel	15,000	10,000	6,500	31,500	**3**
				72400	Communication & audio-visual equip	3,000	4,000		7,000	**4**
				72500	Supplies	1,000	1,000	1,000	3,000	**5**
				72800	Equipment-Information Technology	17,286	16,090	10,000	43,376	**6**
				73400	Rental & Maintenance of Other Equipment	8,000			8,000	**7**
				74200	Audio-Visual and Print Production costs		4,000	2,500	6,500	**8**
				75700	Learning Costs	39,000	29,000	16,989	84,989	**9**
					Total Outcome	**106,046**	**98,850**	**71,749**	**276,645**	
OUTCOME 2: Long term capacities and incentives in place for local communities and LGUs to	BSWM	62000	GEF	71200	International Consultants			19,500	19,500	**10**
				71300	Local Consultants	14,040	14,040	14,040	42,120	**11**
				71400	Contractual services		12,000	12,000	24,000	**12**
				71600	Travel	9,000	17,998	9,000	35,998	**7**
				72300	Materials & Goods	60,000	65,000	55,000	180,000	**13**
				72500	Supplies	2,000	2,000	2,000	6,000	**5**

uptake of SLM in two targeted municipalities in the Philippines				72800	Equipment-Information Technology	12,000	10,000	10,000	32,000	**6**
				73400	Rental & Maintenance of Other Equipment		5,000		5,000	**7**
				74100	Professional services	5,000	5,000	5,000	15,000	**14**
				74200	Audio-Visual and Print Production costs	3,000	10,000	5,000	18,000	**8**
				74500	Miscellaneous	2,000	3,000	3,000	8,000	**15**
				75700	Learning Costs	36,700	53,064	39,700	129,464	**9**
					Total Outcome 2	**143,740**	**197,102**	**174,240**	**515,082**	
Project Management				71400	Contractual Services	22,752	22,752	22,752	68,256	**16**
				72500	Supplies	1,000	1,000	1,000	3,000	**5**
				75700	Learning Costs	2,639	2,639	2,639	7,917	**9**
					Total Project Management	**26,391**	**26,391**	**26,391**	**79,173**	
				PROJECT TOTAL		**276,177**	**322,343**	**272,380**	**870,900**	

Summary of Funds: [9]

	Amount Year 1	Amount Year 2	Amount Year 3	Total
GEF	$ 276,177	$322,343	$272,380	$870,900
Co-financing	$ 2,504,637	$2,045,455	$1,253,060	$5,803,152
Total	**$ 2,780,814**	**$2,367,798**	**$1,525,440**	**$6,674,052**

Budget Notes:

1	Project Technical Advisor to assist Project Manager technical in the implementation of Outcome 1 outputs and activities (Output 1.2; 1.3, and 1.4). (US$ 855 per month x 36 months)
2	Locals experts on SLM/soil and water conservation expert @USD 2,500/man-month for 15 man-months spread over for 3 years) (Output 1.2, 1.3 and 1.4) and Database Development and GIS Specialist USD 2,000 for 12 months spread for 24 months on Year 2 and Year 3;

[9] *Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...*

3	Local travel by Project Management Staff, government representatives and consultants to project sites to participate in activities or monitor Responsible Partners' progress. Costs include domestic air tickets, bus and ferry fares and local rental of vehicles if required. Also, includes pro-rated cost of a travels related to project's terminal evaluation (Year 3).
4	Costs of communication during pre, actual and post conduct of activities such as workshops (e.g. Workshops in developing/finalizing SLM Mainstreaming Framework,)
5	This budget item includes office and IT supplies; consumables for training, workshop and conferences; and production of training materials for distribution to participants.
6	Cost of IT hardware and softwares to be used in monitoring of soil and water quality, land degradation assessment, database development, spatial mapping for LGUs and networking (e.g. 5 desktop/laptop computers for the project staff, Computer software, spatial software, printer, camera, GPS)
7	Pro-rated cost of vehicle to be used for monitoring purposes, facilitate mobility of project staff to attend to meetings, workshops, and networking activities.
8	This is for the printing of publications such as brochures/guide on SLM practices, SLM Mainstreaming supplemental guidebook
9	This will include costs incurred in the conduct of trainings, workshops, conferences, meetings such as hiring of facilitators, documentors, payment to venues, transportation reimbursement to participants, kit preparation.
10	Terminal evaluation by International Project Evaluator (USD 3,250 per week x 6 weeks)
11	Salary of the two Field Coordinators who will lead the work at the Demonstration Farms in LGU Abuyog and Malaybalay (Output 2.2) (USD 585 per month x 36 months x 2 persons)
12	Locals experts on Capacity development/training specialist(@USD 2000/man months for 12 man-months spread over 24 months for Year 2 and Year 3
13	Agricultural supplies to be used in the establishment of demonstration trials. This will include seeds, organic fertilizers/compost/microbial inoculants, natural pesticides, supplies for mulching, soil test kits, hedgerows, seedlings, etc.
14	This is for audit payment. The project shall be audited at least once in its project lifetime.
15	A total of US $ 8,000 has been allocated to miscellaneous for Outcome 2. The precise costs of the site-based activities are difficult to anticipate. Travel and other costs are also likely to rise over the life of the project due to inflation and foreign currency fluctuations.
16	Salary of the Project Manager (USD 1,163 per month x 36 months) and Administrative/Finance Specialist (USD 733 per month x 36 months)

V. IMPLEMENTATION ARRANGEMENTS

Project Execution and Oversight

188. The BSWM as the GEF Operational Focal Point for UNCCD will coordinate all GEF actions in the Philippines to avoid duplication and to foster synergies between projects. It will be the lead agency in project coordination and execution. It shall also be responsible for procurement and payment of all services, subcontracts and equipment in accordance with UNDP rules and procedures. In addition, it shall also be responsible for monitoring adherence of partner institutions to the work plan, which forms the basis for project execution. The BSWM, as the Implementing Partner, shall be responsible for technical and financial reporting to GEF through the UNDP Manila Country Office.

189. A **Project Board** will be established consisting of UNDP, NEDA, HLURB, DA, DA-BSWM, DENR-FMB, DILG, DAR and one representative each from the academe and civil society. The Project Board will provide the policies and directions in the implementation of the project. It will be chaired by the DA Undersecretary for Field Operations and co-chaired by NEDA and UNDP.

190. The Project Board will meet at least twice a year during the three-year implementation period of the project. The meetings will be held during the following milestone events: 1) Project inception, 2) First year Progress Report; 3) Second year Progress Report; 4) Draft Project Report; 5) Final report; and 6) Project completion report and Project closure. The Board shall serve as the highest decision making body of the Project and shall provide over-all guidance and strategic guidance to the Implementing Partner through the PMO. It will also ensure that required financial resources are properly and judiciously allocated and disbursed in accordance with the approved AWP. The Project Board will also be responsible in approving the Project's annual work and financial plan and ensuring that the Project is progressing towards the attainment of its development objectives.

191. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

192. To ensure the technical aptness of the outputs of the Project, an interagency technical committee will be created and shall consist of senior technical staff from among the member agencies of the project board. The BSWM shall serve as the chair and DENR-FMB as vice-chair.

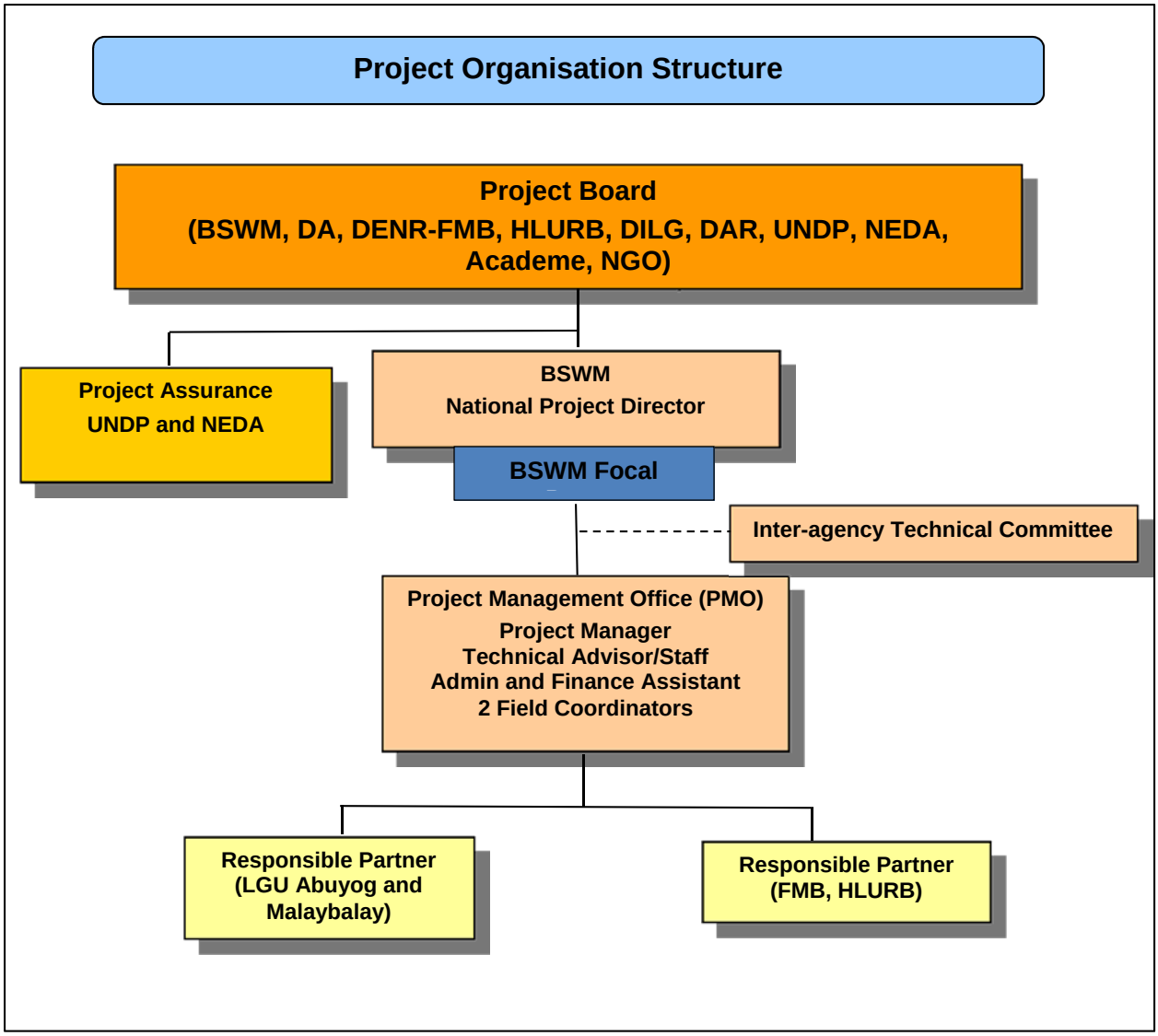
193. *Project Assurance.* The representative assuming the Project Assurance will provide support to the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. A *representative from NEDA and UNDP will assume the Project Assurance role.*

194. A *Project Management Office* (PMO) will be established at BSWM. The PMO, in behalf of the BSWM, will be responsible in the preparation of work plans, budgets and TORs of consultants; monitoring of project's progress; arrangement of regular meetings, preparation and dissemination of project reports; financial management (books and records), and submission of

timely reports as required by UNDP. Likewise, the PMO will be responsible for the day-to-day implementation of all project activities including direct supervision of the activities that will be contracted to consultants.

195. The Responsible Partners will be the LGUs of the demonstration sites. Their main responsibilities will include the following: 1) lead, through the field coordinator, the implementation of site-level activities such as establishment of demonstration farms, CLUP updating with the integration of SLM, capacity building for LGUs; 2) assist in the data gathering on LD information of the municipality; 3) facilitate linkages and secure support from and participation of local key stakeholders to ensure replication of the SLM technologies in other barangays of the municipality; 4) passage of relevant local ordinances for the adoption and replication of SLM practices and technologies.

196. The BSWM Director as the National Project Director through the BSWM Project's Focal Point, will provide an oversight function to the PMO. The BSWM will hire a Project Manager who will manage the day to day activities of the project. The Project Manager has the authority to run the project on a day-to-day basis on behalf of the BSWM within the constraints laid down by the Board. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. He/she shall also be responsible for coordinating the delivery of all inputs to the Project and for ensuring that they are delivered on time, of good quality and utilising project resources judiciously.



197. The PM will be assisted by a Technical Advisor**,** an Administrative/Finance Assistant and two field coordinators for the 2 demo sites.

198. The PMO will be supported by the following local consultants: one (1) SLM and Soil and Water Conservation Specialist; one (1) Database Development and GIS Specialist; and one (1) Capacity Development/Training Specialist. An international Project Evaluator will be procured to undertake the terminal evaluation.

199. Detailed TORs of project staff and consultants are provided in Annex C - TOR for Project Staff and Consultants.

200. HLURB and the FMB will be assisting and helping the BSWM in the mainstreaming work in the land-use and/or forest land-use planning of the two municipalities. They will also be responsible in providing enabling environment for SLM mainstreaming at the national and local levels.

201. UNDP will be accountable to GEF for project delivery and responsible for supervising the project development, guiding implementation of project activities, and contracting of staff if requested by BSWM. They will also provide technical advice on project implementation and monitoring. And, they will participate in the project review and consultation meetings, and in the monitoring of the overall work progress of implementing agencies.

202. Table 4 shows the list of consultants that will be hired by the project including their position, titles, estimated level of efforts (man-months), and brief description of their key tasks.

Table 4. Project Consultants to be hired under the GEF Grant

Consultant/ Position title	Category	Estimated duration of service (man-months)	Unit cost (Man-month) USD	Total cost USD	Key tasks
Sustainable Land Management and Soil and Water Conservation Specialist	Local	15	2,500	37,500	• Prepares guidelines on SLM mainstreaming at the national and local land use plans and investment programs • Oversees the pilot testing of the SLM mainstreaming guidelines in two selected municipalities • Formulates decision protocols on conflicting and competing land uses in accordance with existing laws • Prepares SLM strategic framework plan suited for highly vulnerable areas for adoption and application by national and local governments • Acts as resource speaker in the training of PAOs and MAOs of highly vulnerable areas on SLM technology and impact M&E. • Establishes the criteria and lead the documentation of best practices on SLM • Formulates the design and method for the establishment of two pilot demonstration sites on SLM • Establishes the criteria and selects two soil and water laboratories for ugrading of soil laboratory equipment • Prepares assessment of selected soil and water laboratories and procurement list of needed priority equipment • Identifies, evaluates and selects five outstanding SLM best practices for documentation and packaging for dissemination and replication through joint collaboration among DA, DENR and DAR.

					• Establishes, packages and documents SLM technologies in two pilot demonstration sites for technology transfer and dissemination
Data Base Development and GIS Specialist	Local	12	2,000	24,000	• Identifies and maps highly vulnerable areas to land degradation in agricultural provinces • Upgrades BSWM data base with initial data population on SLM • Establishes system to link SLM data base to DA and other partner institutions (DAR and DENR) through a dedicated website on SLM • Conducts training of BSWM and partner agencies on data base application and maintenance and on GIS mapping for SLM
Capacity Development/ Training Specialist	Local	12	2,000	24,000	• Prepares training course, program and training materials on integrated SLM tools and farming systems for national agencies, PAOs and MAOs and selected partner institutions • Conducts training courses for selected SLM specialists (potential trainors) of DA/BSWM and partner agencies on SLM technology, transfer and other management measures. • Conducts training evaluation and prepare evaluation reports
Evaluation Specialist	International	1.5 (6 weeks)	3,250/week x 6 weeks	19,500	• Develops and implements an evaluation plan near the Project end to capture the impact of the project different interventions through assessments of the results of the M&E Plan; • Contribute to the Project's evaluation, reviews and project knowledge production for informed decision making; and • Prepares and submits evaluation report at the end of the Project.

203. Table 5 shows the Project Management staff to be hired under the project, their position titles, estimated duration of service, unit cost and key tasks.

Table 5. Project Management Staff to be hired under GEF Grant

Project Management Staff	Estimated duration of service (months)	Unit cost (Month) USD	Total Cost USD	Key tasks
Project Manager	36	1,163	41,868	• -Responsible for the overall implementation of the project • Ensures project inputs in a timely and cost-effective manner; • Coordinates the implementation of the project with the other partners agencies, LGUs and CSOs

				• Convenes and reports periodically on the status of the project to the TWG and Project Steering Committee • Keeps track and monitors the progress of the project • Ensure strategic linkages and partnerships with key stakeholders; • Facilitate knowledge sharing and preparation of knowledge products; • Collaborate with IP and key stakeholders in ensuring setting in place sustainability mechanisms for the project; • Finalize project work plan and reports
Project Technical Advisor	36	855	30,780	• Assists the Project Manager in the planning and monitoring of project implementation at the national and local level; • Consolidates reports from the 2 sites; • Assist in the preparation of project work plan and reports • Monitors and reports to the PM on the activities of the consultants and staffs; • Provide technical inputs to project implementation • Makes arrangements and documents the proceedings of TWG and PSC meetings • Takes charge and monitor the procurement of goods and services needed for training, mapping and monitoring; • In particular, the advisor will provide (i) technical advice on guidelines on SLM mainstreaming into national and local land use plans and assist Field Coordinators in field testing the guidelines; (ii) Provide oversight and technical input into the development of the SLM/BSWM information system; (iii) Assist in the training and capacity development components of the project and provide the on-the-job advice and mentoring/coaching for DA-BSWM, DENR-FMB and HLURB to improve SLM capacity.
Field Coordinators (2)	36	585 per field coordinator	42,120	The LGUs currently do not have manpower who can focus on SLM Mainstreaming as well as in setting-up the demonstration farm. Hence, the project will hire field coordinators who will: • Lead the farm planning at the local level; • Lead the establishment of the demo-farm; • Monitor and report on the project status at the local level; • Coordinate with the LGU- MAO and MENRO in implementing project activities • Assists BSWM and the Consultant in the conduct of relevant training of target agencies and LGUs on SLM mainstreaming in CLUP; • Assists the Consultant document five outstanding SLM best practices • -Assists the Consultant package SLM best practices for dissemination and replication through joint collaboration with DA, DENR and DAR.

				• Assists the Consultant edit and package the Project Completion Report
Admin/ Finance Specialist	36	733	26,388	Ensures the following while focusing on achievement of the objectives of the Project: • Implementation of operational strategies • Administration of finance • Cash management • Support to administration • Support to human resources management • Support to travel arrangements • Support facilitation of knowledge building and knowledge sharing • Other duties of similar nature assigned by the Project Manager

Results of Capacity Assessment of Implementing Partner

204. The BSWM, being the lead agency in soil and water conservation, has the capacity and experience to plan and implement SLM projects. The bureau has more than five decades of experience in soil surveying and mapping, land evaluation, agricultural land use planning, soil and water conservation, soil nutrient management and soil research and development. The staff of the BSWM possesses the necessary academic preparation, experience and drive to ensure the success of the SLM project. It is therefore the most qualified agency to lead in the conduct of the SLM project.

205. An assessment of the capacity of the BSWM and cooperating institutions such as the DENR and LGUs to implement the country's commitment to the UNCCD was undertaken in 2005 with the objective of preparing an action plan to strengthen technical competence, institutional capacity, financial capacity and political support. The title of the project was National Capacity Self-Assessment (NCSA) Study. Similar assessments were carried out for UNCBD and UNFCCC.

206. This SLM project will build on the results of the assessment study which identified the need to capacitate partner agencies such as DENR, DAR and the PAOs and MAOs of the LGUs on the planning and implementation of SLM programs particularly focusing on soil conservation, erosion control and management, organic farming and nutrient balance management, integrated pest management, agro-forestry, and small scale irrigation technology (small water impounding project) among others.

VI. MONITORING AND EVALUATION PLAN AND BUDGET

Monitoring Framework and Evaluation

207. The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Project start

208. A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

209. The Inception Workshop will address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP Manila staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
b) Based on the project results framework and the relevant GEF Tracking Tool, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

210. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly Reports

a) Progress made shall be monitored in the UNDP Enhanced Results Based Managment Platform.
b) Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
c) Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.

d) Other ATLAS logs can be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annual Reports

211. *Annual Project Review/Project Implementation Reports (APR/PIR):* This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

212. The APR/PIR includes, but is not limited to, reporting on the following:

a) Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative).
b) Project outputs delivered per project outcome (annual).
c) Lesson learned/good practice.
d) AWP and other expenditure reports
e) Risk and adaptive management
f) ATLAS QPR
g) Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through Site Visit

213. UNDP Manila will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP APRC and will be circulated no less than one month after the visit to the project team and Project Board members.

End of Project

214. An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned. The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

215. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

216. The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also

lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and Knowledge Sharing

217. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

218. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

219. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Table 6. Monitoring and Evaluation Plan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop and Report	▪ Project Manager ▪ UNDP CO, UNDP GEF	Indicative cost: 3,000	Within first two months of project start up
Measurement of Means of Verification of project results.	▪ UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on *output and implementation*	▪ Oversight by Project Manager ▪ Project team	To be determined as part of the Annual Work Plan's preparation.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	▪ Project manager and team ▪ UNDP CO ▪ UNDP RTA ▪ UNDP EEG	None	Annually
Periodic status/ progress reports	▪ Project manager and team	None	Quarterly
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost : 20,000	At least three months before the end of project implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO	2,000	At least three months before the end of the project

	▪ local consultant		
Audit	▪ UNDP CO ▪ Project manager and team	Indicative cost per year: 5,000	Yearly
Visits to field sites	▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives	For GEF supported projects, paid from IA fees and operational budget	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$ 30,000	

Agreement on Intellectual Property Rights and Use of Logo on the Project's Deliverables

220. The intellectual property rights for all products produced by the SLM project will be jointly registered between the UNDP and the focal agency, the DA-BSWM. The other cooperating or partner agencies will also be duly acknowledge in all the reports and will be extended the privilege to use the knowledge management products of the project with proper citation.

221. All the reports of the project for publication will carry the logo of the UNDP, the DA-BSWM and its partner agencies such as DENR, DAR and DILG. Local reports published by the LGUs will carry their logo and the UNDP, DA-BSWM, DENR, DAR and DILG.

Communication and Visibility Requirements

222. Full compliance is required with UNDP's Branding Guidelines and guidance on the use of the UNDP logo. These can be accessed at http://web.undp.org/comtoolkit/reaching-the-outside-world/outside-world-core-concepts-visual.shtml. Full compliance is also required with the GEF Branding Guidelines and guidance on the use of GEF logo. These can be accessed at http;//www.thegef.orgh/gef/GEF_logo. The UNDP and GEF logos should be same size. When both appear on a publication, the UNDP logo should be on the left top corner and the GEF logo on the right top corner.

223. Full compliance is required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines") . Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in the project publications, vehicles, supplies, and other project equipment. The GEF Guidelines also describe other GEF promotional requirements, regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

VII. LEGAL CONTEXT

224. This document together with the CPAP signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA [or other appropriate governing agreement] and all CPAP provisions apply to this document.

225. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

226. The implementing partner shall:

a) Put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
b) Assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

227. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

228. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

229. This project forms part of an overall programmatic framework under which several separate associated country level activities will be implemented. When assistance and support services are provided from this Project to the associated country level activities, this document shall be the "Project Document" instrument referred to in: (i) the respective signed SBAAs for the specific countries; or (ii) in the Supplemental Provisions attached to the Project Document in cases where the recipient country has not signed an SBAA with UNDP, attached hereto and forming an integral part hereof.

230. This project will be implemented by the Bureau of Soils and Water Management and UNDP in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

231. The responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. The Implementing Partner shall: (a) put in place an appropriate security

plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; (b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

232. The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

VIII. ANNEXES

Annex A: Incremental Cost Analysis

233. *Broad Development Goals.* The objective of the project is to strengthen the SLM frameworks to address land degradation processes and mitigate the effects of drought in the Philippines. The project will seek to have a national paradigm shift from unsustainable to sustainable land use by Government's agriculture, land management and environmental sectors and reduce pressures on natural resources from competing land uses through an integrated natural resource management framework. Moreover, the project will also strengthen institutional capacities for promoting sustainable forest and land management as well as the extension services and availability of best practice models.

234. *Threats and Barriers.* Land degradation in the Philippines is manifested by (i) the loss of productive topsoil through water erosion, (ii) loss of soil fertility due to over-cultivation, (iii) loss of vegetation cover due to illegal logging and widespread forest tree cutting, and (iv) expansion of slash and burn agriculture in critical slopes. Other kinds of degradation which cover a relatively smaller part of the landscape include (i) water logging due to poor drainage and water management; (ii) soil salinization due to over-harvesting of ground water near coastal areas, and (iii) soil pollution from excessive pesticide application and contamination by industrial and household wastes. Threats to sustainable land management are both human and naturally induced. Human-induced threats include the following: (i) uncontrolled upland migration and subsistence farming, (ii) shifting cultivation and illegal resource extraction, (iii) farming without the use of soil conservation practices, and (iv) excessive use of fertilizers and pesticides. On one hand, naturally-induced threats to sustainable land management include the following: (i) rough terrain and problem soils, natural disasters, and drought.

235. One of the barriers towards the strengthening of SLM frameworks is the absence of national and local level framework for controlling land degradation and upscaling SLM. Philippines's production lands consists of a mosaic of agricultural land and natural ecosystems: the farming system employed by the former can have a major impact on the latter – influencing the functionality of the agro-ecosystem. Therefore, it is essential that institutions that work on agriculture and forestry and other landuses work collaboratively. Further, the plans and programmes of national government agencies (NGAs) such as DENR, DAR, DOST and DA are not coordinated and generally lack SLM prescriptions for various agriculture and agro-forestry uses. Sustainable land management is not explicitly integrated into agricultural and forestry sector development plan, documents guided by the Comprehensive Land Use Plans (CLUPs) of LGUs. Due to this lack of guidance and prescription from the key sectors, DILG (and their respective LGUs) and HLURB are unable to fully integrate SLM issues into their CLUPs and to adequately monitor and ensure compliance to SLM issues.

236. Demonstrated experiences in INRM and in particular agriculture-based SLM are inadequate at the local level. The Philippines does not have sufficient "on-the-ground" examples of integrated sustainable land management at the local level. Without access to know-how, proven through demonstration, government decision-makers and resource users do not have the tools and knowledge necessary to decrease land degradation. There is a critical unmet need to infuse new management approaches into the management system—focusing on the sectors that are driving

land degradation. LGUs set aside a portion of their Internal Revenue Allotment (IRA) received from the national government for the implementation of their development programs and projects. Most agriculture-based municipalities are poor and have low revenue generating capacity. They therefore have low amount of funds available which are mostly spent for and not even enough to cover the social services requirements of their constituents. The capacity of LGUs to fund SLM projects, which are critical in improving the income of small farmers, is severely constrained.

237. *Baseline Situation.* Under the baseline scenario, the Philippines covers an estimated area of 29.9 million hectares of land much of which are undulating with at least three-fifths classified as "uplands with sloping terrain." There are 419 river basins with steep and short topography. The country is one of the most seriously environmentally threatened nations because of widespread soil erosion and nutrient depletion that affect the sustainability of its agriculture and forestry production; as well as increase in poverty incidence in communities situated in degraded lands. Despite soil conservation efforts initiated by BSWM, selected state universities and colleges and civil society organizations, the absence of national and local level framework for combating land degradation and mitigating the effects of drought as well as inadequate extension services in INRM and agriculture-based SLM, will result to increase in soil erosion incidence, low levels of soil fertility and decrease in agricultural production. By strengthening the SLM frameworks, the GEF alternative established by the project will help to increase crop productivity and vegetative cover; and decrease soil erosion incidence.

238. The project demonstrates many approaches for the first time in Philippines, including integration of land degradation data and sustainable land management practices into land use planning and issuance of a joint statement by different sector departments in order to ensure an integrated response at the local level. Innovative SLM practices will also be demonstrated in order to showcase appropriate responses to the serious land degradation issues experienced in the Philippines. This project is building on a strong baseline. First, a policy and institutional framework for integrating natural resource management into land use planning already exists. Secondly, there is a strong commitment from Government to address the land degradation issues in the Philippines. Third, the project has financial sustainability written into it, through the review and realignment of public expenditure and the brokering of additional public and private funding towards sustainable land management.

239. The alternative scenario will focus on two outcomes:

Outcome 1: Effective national enabling environment to promote integrated landscape management

Outcome 2: Long-term capacities and incentives in place for local communities and LGUs to uptake of SLM in two targeted municipalities in the Philippines

Incremental Cost

Table 7. Total project costs per component and source of financing in USD

Project Components	Baseline Costs	Alternative Costs	Co-financing	Incremental Costs
Outcome 1	415,500	271,635	1,962,087	1.818,222

Outcome 2	1,015,429	554,220	3,521,643	3,060,434
Project Management	-	45,045	274,186	319,231
Total Costs	1,430,929	870,900	5,789,916	5,197,887

240. The baseline costs amounting to USD1.4M accounts for the past initiatives of the BSWM on sustainable land management. Currently, there is a gamut of discrete SLM technologies being introduced to different sectors, like introduction of organic farming, etc., and allocation/ budget for these discrete SLM technologies exists, this is where the baselines and co-financing for this project from DA-BSWM, DENR-FMB, HLURB and LGUs comes from.

241. *Global Benefits.* The proposed project will provide benefits of global, national and local significance. At the global level, the resilience and productivity of the landscape as a whole will be strengthened, as soil and water services are improved. Global benefits will also include conservation of currently threatened globally significant endemic species of crops and forest trees through proper land use planning and conservation policies and programs. As such, the global community will benefit from the increased protection of important gene pool of agricultural endemic crops and forest species. Benefits will also be generated through improvements in levels of soil organic matter and retention of trees which will provide increased carbon storage and sequestration. Reductions in forest clearing and burning for agriculture use will also reduce CO_2 and will therefore mitigate GHG effects on climate change. Significant reduction in soil erosion and sedimentation of coastal waters will conserve coral reef ecosystem and improve the productivity of fishing grounds that would also benefit other countries where the fishery products of the Philippines are exported to.

242. The proposed project will certainly have its contribution to Goals 1 (reduction of poverty and hunger) and 7 (environmental sustainability) of the Millennium Development Goals (MDGs). Reduction of poverty incidence may lead to better opportunities for family household as the children get better access to education; and availability of better off-farm jobs and value adding activities. The viable livelihood options provided under the project will create less pressure on land production/forestry purely for sustenance purposes.

243. This project is aimed at mainstreaming SLM policies and programs into the land use and development plans of other government agencies such as DA, DENR, DAR, DILG, HLURB and LGUs to strengthen complementation among the national agencies and local governments concerned with land degradation and ensure that the incidence and spread of land degradation in vulnerable ecosystems will be reduced or avoided in a coordinated and harmonized mode.

244. Through SLM, the flow of ecological services such as water flow and nutrient cycling will be enhanced and sustained to improve productivity and production capacity of the country's land resources. Improvement in the country's agricultural production will increase export of certain agricultural crops thereby ensuring food availability in the Asian region and other food importing countries.

Annex B: Term of Reference (TOR) for Project Staff and Consultants

1. SLM and Soil and Water Conservation Specialist (Local Consultant)
Duty Station: BSWM
Duration: 15 man-months spread over three years

Assigned tasks:

- Prepares guidelines on SLM mainstreaming at the national and local land use plans and investment programs;
- Pilot tests SLM mainstreaming guidelines in two selected municipalities;
- Formulates decision protocols on conflicting and competing land uses in accordance with existing laws;
- Prepares SLM strategic framework plan suited for highly vulnerable areas for adoption and application by national and local governments;
- Acts as resource speaker in the training of PAOs and MAOs of highly vulnerable areas on SLM technology and impact M&E;
- Establishes the criteria and lead the documentation of best practices on SLM;
- Formulates the design and method for the establishment of two pilot demonstration sites on SLM
- Establishes the criteria and selects two soil and water laboratories for ugrading of soil laboratory equipment;
- Prepares assessment of selected soil and water laboratories and procurement list of needed priority equipment;
- Identifies, evaluates and selects five outstanding SLM best practices for documentation and packaging for dissemination and replication through joint collaboration among DA, DENR and DAR; and
- Establishes, packages and documents SLM technologies in two pilot demonstration sites for technology transfer and dissemination.

Qualifications:

Work Experience. With at least seven (7) years of experience in preparing SLM plans and guidelines. With experience working with LGUs in the preparation of agricultural and forest land use plans. Preferably with experience in SLM documentation and training of technical personnel on SLM planning and project implementation. The consultant must have conducted pilot demonstration projects on SLM. Also with at least five (5) years of experience working in a soil and water laboratory; has been involved in the establishment of demonstration projects on SLM or soil and water conservation; and with experience in documenting best practices on SLM.

Educational background. B.S. Agriculture, or Agricultural Engineering or Environmental Planning, B.S. Chemistry Preferably with Master's degree in Agriculture, Agricultural Engineering or Environmental Planning or any Master's degree in his specialized field.

2. Data Base Development and GIS Specialist (Local Consultant)
Duty station: BSWM
Duration: 12 man-months spread over three years

Assigned tasks:

- Identifies and maps highly vulnerable areas to land degradation in agricultural provinces;
- Upgrades BSWM data base with initial data population on SLM ;
- Establishes system to link SLM data base to DA and other partner institutions (DAR and DENR) through a dedicated website on SLM; and
- Conducts training of BSWM and partner agencies on data base application and maintenance and on GIS mapping for SLM.

Qualifications:

Experience. With at least ten years of experience in preparing GIS maps on agriculture land use and related maps; has experience in the establishment of data base and information network system; and has training skills on the teaching of GIS mapping to LGUs.

Educational background. Bachelor's degree on Geodetic engineering**, or** Civil Engineering, or Forestry, or Agriculture Engineering.

3. Capacity Development/Training Specialist (Local Consultant)
Duty station: BSWM
Duration: 12 man-months spread over three years.

Assigned tasks:

- Prepares training course, program and training materials on integrated SLM tools and farming systems for national agencies, PAOs and MAOs and selected partner institutions;
- Conducts training courses for selected SLM specialists (potential trainors) of DA/BSWM and partner agencies on SLM technology, transfer and other management measures; and
- Conducts training evaluation and prepare evaluation reports.

Qualifications:

Experience. With at least 7 years of experience in training or teaching in academic institutions; has extensive experience in preparing training modules on agriculture related subjects; and has skills in the conduct of classroom and field training courses.

Educational background. With Master's degree on Agriculture, Agricultural Engineering, Agriculture Education and related fields.

4. Evaluation Specialist (International Consultant)
Duration: 4 man-months spread over three years

Assigned tasks:

- Develops and implements an evaluation plan near the Project end to capture the impact of the project different interventions through assessments of the results of the M&E Plan;
- Contribute to the Project's evaluation, reviews and project knowledge production for informed decision making; and
- Prepares and submits evaluation report at the end of the Project.

Qualifications:

Experience. With at least five (5) years of working experience in development project evaluation/research; has knowledge on specialized software applied to evaluation, including IT knowledge to establish and maintain databases and tracking systems; has a training in evaluation planning, design and methodologies; experienced in both managing and carrying out evaluations; and with experience with evaluations in or for UN organizations or other multi-lateral and bilateral development organizations; and with deep knowledge of current development issues and of evaluation approaches, processes and methodologies.
Educational Background: B. A. in Economics, Sociology, International Relations, Political Science, or any other related social sciences. Preferably with Master's Degree or equivalent in Economics, Sociology, International Relations, Political Science, or any other related social sciences.

5. Project Manager (PM) (Project Management Staff)
Duty Station: BSWM
Duration: 36 man-months

Assigned Tasks:

- Responsible for the overall implementation of the project;
- Oversees the activities of the consultants and staff;
- Coordinates the implementation of the project with the other partners agencies, LGUs and CSOs;
- Convenes and reports periodically on the status of the project to the TWG and Project Steering Committee ;
- Keeps track and monitors the progress of the project;
- Takes charge and monitor the procurement of equipment needed for training, mapping and monitoring;
- Prepares the project completion report;
- Conducts competency assessment of institutional stakeholders on SLM;

- Formulates capacity development program for institutional stakeholders on SLM planning and implementation;
- Prepares joint MOA among DA/BSWM, HLURB, DILG and DENR on the adoption and mainstreaming of SLM in CLUP, CDP, ALUDP and FLUDP in priority pilot areas;
- Establishes networking system among SLM agencies and practitioners;
- Prepares scheme and guidelines for coordination in the planning and implementation of SLM by agencies and LGUs;
- Prepares template for LGUs on the ordinance adopting SLM; and
- Prepares an M&E system for SLM project implementation and impact/benefit assessment.

Qualifications:

Experience. With at least ten (10) years of experience on Project management of agriculture and land resources project; knowledgeable in the use of Project Management software; with at least five years of experience on working with LGUs; and previous experience in writing project reports. With at least five years of experience on policy and institutional development along the fields of sustainable land management and related disciplines; previously engaged in the conduct of competency assessment and preparation of M&E system; with at least three years of experience in projects involving multi-agency coordination and networking; previously involved in the preparation of local ordinances related to land and natural resources.

Educational Background. Master's degree on Agriculture, Agricultural engineering, Agriculture economics with special training on Project management and Policy and Institutional Development.

6. Project Technical Advisor
Duty Station: BSWM
Duration: 36 man-months

Assigned Tasks:

- Assists the PM in the overall implementation of the project;
- Assists the PM overseeing the activities of the consultants and staff;
- Assist the PM in coordinating the implementation of the project with the other partners agencies, LGUs and CSOs
- Assists in convening and reporting periodically on the status of the project to the Project Board;
- Assists the PM in monitoring the progress of the project
- Assists in taking charge and monitoring of the procurement of equipment needed for training, mapping and monitoring
- Assists the PM in the preparation of the project completion report
- Assists in the conduct of competency assessment of institutional stakeholders on SLM
- Assists the PM in the preparation of joint MOA among DA/BSWM, HLURB, DILG and DENR on the adoption and mainstreaming of SLM in CLUP, CDP, ALUDP and FLUDP in priority pilot areas.

- Assists the PM in the establishment of networking system among SLM agencies and practitioners.
- Assists in the preparation of scheme and guidelines for coordination in the planning and implementation of SLM by agencies and LGUs.
- Assists in the preparation of template for LGUs on the ordinance adopting SLM.
- In particular, the advisor will provide (i) technical advice on guidelines on SLM mainstreaming into national and local land use plans and assist Field Coordinators in field testing the guidelines; (ii) Provide oversight and technical input into the development of the SLM/BSWM information system; (iii) Assist in the training and capacity development components of the project and provide the on-the-job advice and mentoring/coaching for DA-BSWM, DENR-FMB and HLURB to improve SLM capacity.
- Assists in the preparation of an M&E system for SLM project implementation and impact/benefit assessment

Qualifications:

Experience: With at least 3 years of experience on Project management of agriculture and land resources project; knowledgeable in the use of Project Management software; with at least two years of experience on working with LGUs; and previous experience in writing project reports.

Educational background: Bachelor's degree on Agriculture, Agricultural engineering, Agriculture economics with special training on Project management.

7. Administrative/Finance Assistant (Project Management Staff)
Duty Station: DA-BSWM
Duration: 36 man-months

Assigned Tasks:

- Ensures the following while focusing on achievement of the objectives of the Project:
  - Implementation of operational strategies
  - Administration of finance
  - Cash management
  - Support to administration
  - Support to human resources management
  - Support to travel arrangements
  - Support facilitation of knowledge building and knowledge sharing
  - Other duties of similar nature assigned by the Project Manager

Qualifications:

Experience. With at least five (5) to six (6) years of progressively responsible finance experience at the national or international level. Have experience in the usage of computers and office software packages (MS Word, Excel, etc.) and advance knowledge of spreadsheet and database packages,

in handling of web based management systems. Familiarity with UNDP and EC rules and regulations is a strong asset.

Educational background. BA Public Administration, preferably with Master's degree on Public Administration specializing on Government Finance; Or BS Accounting graduate; or BA Economics or Agricultural Economics preferably with Master's degree on Economics specializing on Resource Economics

8. Field Coordinators (Project Management Staff, there shall be 2 Field Coordinators)
Duty Station: Malaybalay Field Office and Abuyog Field Office
Duration: 36 man-months

Assigned Tasks:

- In collaboration with DA-BSWM and LGU Malaybalay and Cabanglasan or Abuyog, establish and support the management of field offices at the two sites in Malaybalay and Cabanglasan and Abuyog, there shall be one field office at each site manned by (1) field coordinator each;
- In coordination with PMO and LGU Malaybalay and Cabanglasan and Abuyog collaborates with the farmers' organization to determine the number and names of farmers who shall undergo training on SLM technologies;
- Assist the LGUs in the conduct of training of SLM technologies to the members of the farmers' organization;
- Assist the LGUs, DA-BSWM, FMB-DENR in demonstrating to the farmers how to apply what they have learned on SLM technologies in their land; and
- Document the application/implementation of the farmers' organization of the SLM
- Technologies they have learned from the training of the LGUs and submit reports to PMO.

Qualifications:

Experience. With at least 3 years of experience on Project management of agriculture and land resources project; knowledgeable in the use of Project Management software; with at least two years of experience on working with LGUs; and previous experience in writing project reports.

Educational background**.** Bachelor's degree in social sciences (i.e. Development Communication, etc.), Political Science, Police Academy or related field with special training on Project Management

Annex C: Site Profiles

The Implementation of SLM Practices to Address Land Degradation and Mitigate Effects Drought calls for two (2) techno-demonstration sites of about 3 to 5 hectares each expandable up to about 10,000 hectares with serious issues on land degradation.

The aligned National Action Plan on Drought, Land Degradation and Desertification (NAP-DLDD 2014-2024) identified the top 15 provinces with large land degradation (LD) hotspots and high poverty incidence. This is based on the extent of identified land degradation hotspots (using the 2010 land cover map released by National Mapping Resources and Information Administration (NAMRIA)), incidence of poverty of affected population (using the 2012 poverty incidence rates released by the National Economic Development Authority (NEDA)) and/or vulnerability to multi-hazards (as identified in the Philippine Development Plan (PDP)). Bukidnon and Leyte ranked second and seventh, respectively, in terms of the aforementioned criteria. Bukidnon has 154,690 hectares of LD hotspots and has a poverty incidence of 49%. Further, the hotspot areas in Bukidnon are within the priority river basins (i.e. Mindanao, Tagoloan, Cagayan de Oro and Davao). Leyte has 87,864 hectares of LD hotspots and its poverty incidence rate is 39.24%. It only ranked no. 7 based on the 2010 land cover map. However, with the damage brought by Typhoon Yolanda (Hainan) in 2013, most of its land cover was reduced significantly and therefore, SLM interventions is needed to restore its agricultural landscape and improve crop productivity.

A targeted municipality was identified in each province based on a set of selection criteria: a) with serious issues on land degradation; b) with Agrarian Reform Communities (ARCs); c) willingness of LGU to participate in project implementation and update their CLUP or mainstream SLM in their development plans; d) with potential expansion/influence areas (at least 10,000 ha each site); and e) with plan/application for CLUP updating.

Site 1

Demonstration Site: **Barangay Silae, Malaybalay City, Bukidnon**

Location. The proposed techno-demo site shall be located at Barangay Silae, Malaybalay City, Bukidnon while the expansion site shall be located adjacent to the demo site at Barangays Silae, Mapulo, and Can-ayan Malaybalay City. The techno-demo and expansion site is classified as cool highland pedo-ecological zone. It is located at about 8° 09’ 26.87” North Latitude and 125° 16’ 11.28” East Longitude. Figure 1 presents the location of the techno-demo site within the Philippines.

The *City of Malaybalay* is a first class component city and the capital and administrative center of the province of Bukidnon, Philippines.

Region:	Northern Mindanao (Region X)
Province:	Bukidnon
Number of Barangays:	46
Area:	1082.58 km^2
Population (2010)[10] Total	153,085

Climate. The climate classification of the site falls under the Fourth Type or intermediate B type, which is characterized by the absence of a pronounced maximum period and dry season. The period from May to October is where heavy rains occur. Rain falls at a yearly average of 2,800 millimeters and occurs throughout the year, though it is more intense during the country's rainy season from June to October. On the other hand, November to April is the drier months. Compared with the rest of the country, the climate in the area is relatively cooler the whole year round and the area is not on the typhoon belt.

Topography and Soil Type: The average elevation of the city is 622 meters above sea level. About 60% of the city's area has above 30% slope, characterized by steep hills and cliff-like stream side. About 25% are level, gently sloping, and undulating. The rest are rolling and hilly. About 66% of the city's soil is identified as undifferentiated mountain soil and the rest is clay.

[10] 2010. Census of Population and Housing. National Statistics Office.

Present Land Use and Vegetative Cover: At present, the project area is dominated by growing corn crop, grasses and shrubs with very few patches of deep rooted tree crops. Portion of the area which remain idle are grown with cogon, talahib, and variety of shrubs. Malaybalay City has a total land area of 108,258 hectares. The land use is generally categorized into two (2) types: alienable and disposable lands (A & D) and forestlands. The A & D land covers a total area of 34,575.97 hectares consisting of area for settlements and for agricultural land use. The agricultural land use is further divided into two (2) land uses, for protection (4,712.90 ha) and for production (27,863.39 ha). On the other hand, the forestlands has a total land area of 73,682.03 ha consisting of protection forest (46,529.96 ha) and production forest (27,152.07 ha). The existing land uses are proposed to be classified into clusters: Cluster 1: Center of Services; Cluster 2: Agricultural Protection; Cluster 3: Forest and Water Resources Protection; Cluster 4: National Integrated Protected Area System (NIPAS) Buffer and Forest Protection; Cluster 5: Agri-Industrial Center; and Cluster 6: Agricultural Protection.

Barangay Silae falls under Cluster 3: Forest and Water Resources Protection. The agricultural land area of Barangay Silae is 2,886.6 ha while the forest land area is 721.65 ha. Figure 2 presents the existing land use of Malaybalay City by clusters.

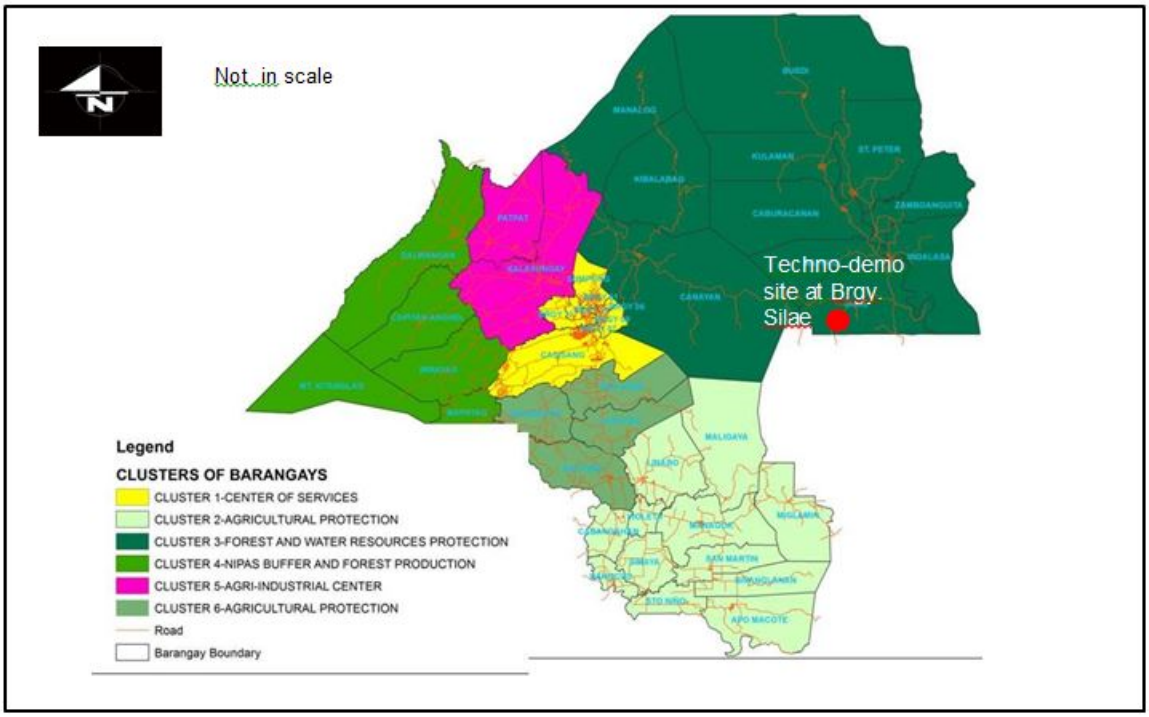


Figure 2. Existing land use map of Malaybalay City

Socio-Demographic Profile: The total population of Malaybalay City is 153,085 as of 2010. Barangay Silae has a population of 2,099, this is only about 1.37% of the total population of Malaybalay City. There are 46 barangays in Malaybalay City. There are 13 urban barangays, 4 urbanizing barangays and 29 rural barangays. Barangay Silae belongs to the rural barangays. The male to female ratio of Malaybalay is City 105.13, applying this to the population of Brgy. Silae,

there are about 1023 women and 1076 men in Barangay Silae. There are 560 farming households in Barangay Silae.

Soil Erosion: The demo and expansion area is subject to moderate and severe erosion hazard due to its steep slope ranging from 30 to >50 percent.

Soils: Soils in the techno-demo and expansion area are predominantly **undifferentiated mountain soil.**

Production system: The production system in Malaybalay City includes an agriculture area of about 8,383 hectares and forestry area of about 10,200 hectares.

Physical Constraints and Land Limitations: The nature of land degradation to be addressed directly is the **loss of vegetative cover which causes soil fertility** due to the following:

1. Soil management
   - Cultivation of highly unsuitable/vulnerable soils
   - Missing or insufficient soil conservation / runoff and erosion control measures
   - Tillage practice
2. Crop management
   - Reduction of plant cover and residues
   - Shortening of the fallow period in shifting cultivation
   - Bush encroachment and bush thickening
3. Deforestation and removal of natural vegetation
   - Conversion to agriculture
   - Road and rail construction
4. Over-exploitation of vegetation for domestic use
   - Excessive gathering of fuel wood, (local) timber, fencing materials
   - Removal of fodder
5. Overgrazing
   - Trampling along animal paths
6. Urbanization and infrastructure development
   - Settlements and roads

Effects of land degradation on ecosystem services: The loss of vegetative cover affects the following ecosystem services: productive services, water services, soil services, biodiversity, climate services; and socio-cultural services/human well-being and indicators.

Project interventions. The project interventions shall include: 1) improved agricultural management of about 2,887 hectares of agricultural land; 2) improved forest management (SFM) of about 721.65 hectares of forestry land; and 3) improved integrated landscape management (land-water-vegetation) of about 6,391.35 hectares of land.

Technologies to be demonstrated. The techno-demo proposes to introduce an integrated farming system coupled with soil and water conservation technologies. This involves the establishment of techno-demo farm which serves as a model farm in the locality to promote soil conservation technologies and demonstrate their beneficial performance as well as to explore the potential sloping land management for sustainable agriculture. Overall, it will address the physical

constraints and land limitation mentioned above. Apart from the corn crop being planted in the area, the proposed development and strategies in the project area are presented below:

1. Forest/ Wood land
   - Use of indigenous tree species in steep and very steep areas
   - Either contour or saturation planting of forest/ timber trees at 4 m between hills by 2 m vertical distance between rows without cutting of existing shrubs and secondary growth forest trees.
   - Practice cover cropping and minimum tillage
   - Planting of bamboo in farm road banks at 5 m distance between hills serves as an anchorage to reduce further soil erosion
2. Contoured Orchard with Annual Crops
   - Contour planting of fruit trees (suitable in the areas) at 5 m distance between hills at 3 m vertical distance between rows.
   - Establishment of contour hedgerows by planting of either banana, pineapple and lemon grass/ citronella at 0.5 m planting distance between hills along the contour to serve as supporting vegetative barrier to minimize overland flow which causes soil erosion.
   - Practice minimum tillage, mulching and cover cropping to lessen excessive evaporation, reduce water application and to minimize soil erosion.
   - Brush dam should be established along the water way with 20 m intervals.
   - Planting of bamboo in unstable slopes to avoid gullies formation or soil mass movement.
   - Application of organic fertilizers and other soil amendments (based on soil analysis of the laboratory) to improve water holding capacity and improve soil aggregation
   - Practice periodic maintenance.
3. Industrial Crop Production/ Floriculture
   - Planting of ilang-ilang or the likes along the farm road serves as wind breaker and buffer that minimizes soil erosion; planted at 3m distance between hills without cutting of existing shrubs and secondary growth forest trees.
   - Planting of sampaguita or the likes as intercrop of the ilang-ilang trees serves as hedges to lessen overland flow and eventually soil erosion.
   - Practice minimum tillage, mulching and cover cropping to lessen excessive evaporation, reduce water application and to minimize soil erosion.
   - Application of sufficient amount of organic fertilizers and other soil amendments based on soil analysis of the laboratory.
   - Practice periodic maintenance.
4. Field/Cover Crop Production
   - Planting of cover crops with low maintenance requirement such as upland kangkong or forage (i.e. paragrass and napier) for animal feedstuff.
   - Employ proper crop rotation
   - Application of sufficient amount of organic fertilizers and other soil amendments based on soil analysis of the laboratory.
   - Practice periodic maintenance.

Site 2

Demonstration Site: **Barangay Tadoc, Abuyog, Leyte**

Location. The proposed techno-demo site shall be located at Barangay Tadoc, Abuyog, and Leyte while the expansion site shall be located adjacent to the demo site at Barangays. Tadoc, Tinalian, Burubud-an, Lawaan, Libertad, New Taligue, Old Taligue, San Roque, Kikilo, Bahay, Tib-o, Buaya and Anibongan, Abuyog, Leyte. The techno-demo and expansion site is classified as warm cool highland pedo-ecological zone. It is located at about 10° 44' 05.19" North Latitude and 125° 01' 15.61" East Longitude.

Abuyog is a first class municipality in the province of Leyte, Philippines, facing Leyte Gulf in the Pacific Ocean.

Region:	Eastern Visayas
Province:	Leyte
Number of Barangays:	63
Area:	688.25 km^2
Population (2010)[11] Total	57,146

Relief and Drainage. The terrain of the site is relatively flat to gently rolling to rolling and low, smooth, and partly cultivated hills.

Present Land Use and Vegetative Cover. Based from the ocular inspection, current land use and vegetation of the area comprise of non-irrigated and rainfed rice terrace, upland crops, coconut, banana, corn, vegetables, fruit trees, and root crops. It has also grassland and mini- forest.

Abuyog has a total land area of 38,548.39 hectares (ha). The land use is generally categorized into two (2) types: alienable and disposable lands (A & D) and forestlands. The A & D land covers a total area of 12,461.80 ha consisting of area for settlements and for agricultural land use. The agricultural land use is further divided into two (2) land uses, for protection and for production. On the other hand, the forestlands has a total land area of 26,086.59 ha consisting of protection forest and production forest.

The agricultural land area of Barangay Tadoc is 151.92 ha and the forest land area is 12.61 ha. Figure 4 presents the existing land use of Abuyog.

Socio-Demographic Profile. The total population of Abuyog is 57,146 as of 2010. Barangay Tadoc has a population of only 445 in 2010, this is only about 0.77% of the total population of Abuyog. The 2010 male to female ratio of Abuyog is 1.03, the number of female is 28,151, and the number of male is 28,995. Applying this 2010 male to female ratio of 1.03 to the 2010 population of Barangay Tadoc, there are about 219 females and 226 males in Barangay Tadoc. There are 63 barangays in Abuyog, nine (9) are urban barangays and 54 are rural barangays. Barangay Tadoc is a rural barangay. The main source of income in rural barangays is farming. Since Barangay Tadoc is a rural barangay we can assume that all the households in Barangay Tadoc is dependent on farming as a source of income, each household then is a farming household, if the average household size of Barangay Tadoc is 4.12 (2007), there are approximately 108

[11] 2010. Census of Population and Housing. National Statistics Office.

farming households in Barangay Tadoc.

Climate: Leyte's eastern portion has a type II climate. It has no distinct wet or dry season but with pronounced rainfall from November to January while the western portion has a type IV climate with rainfall evenly distributed throughout the year. Abuyog's climate is classified as tropical. There is a great deal of rainfall in Abuyog, even in the driest month. The temperature here averages 27.0 °C. About 3,502 mm of precipitation falls annually.

Soil Erosion. The project area is subject to moderate erosion hazard with potential gully formation in the hilly part without proper conservation measures.

Soils. From the initial work of the BSWM, the soils of the techno-demo site is categorized as poorly drained to well drained. This soil has low organic matter content and has a coarse sand to fine sandy loam texture.

Figure 3. Location of techno-demo site in Leyte.

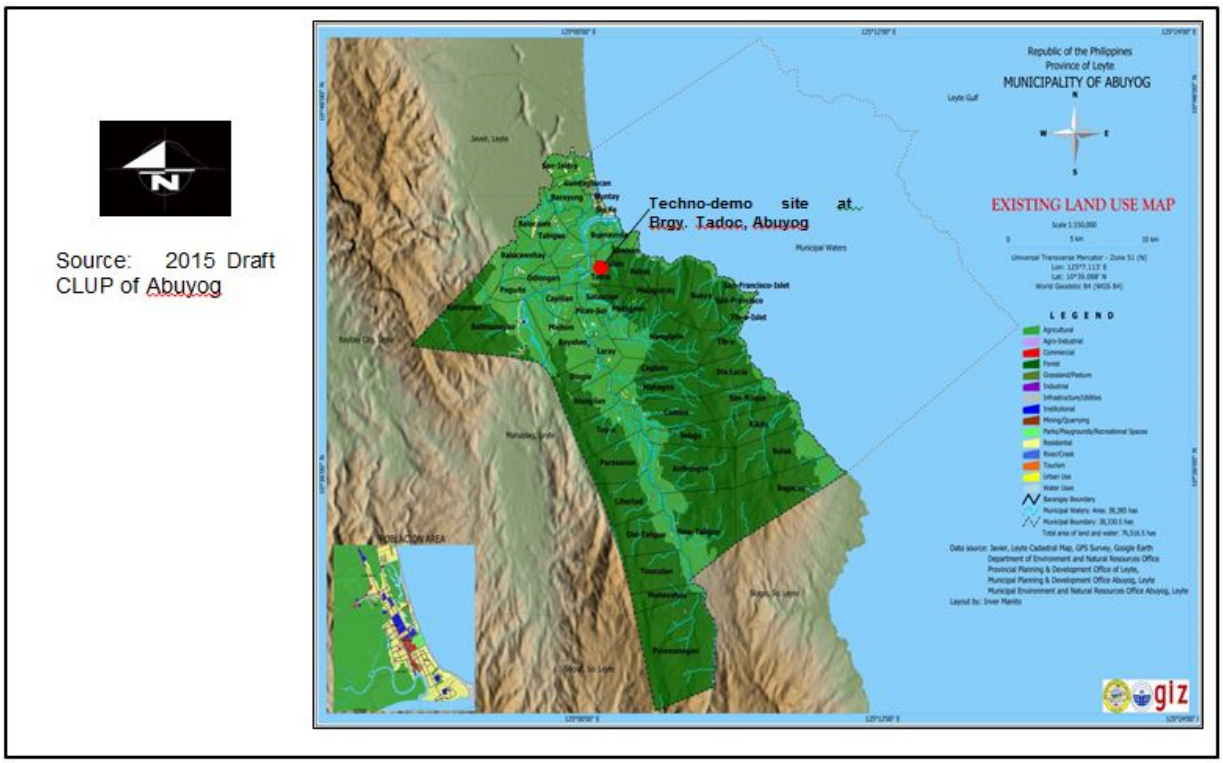


Figure 4. Existing land use map of Abuyog

Production system. The production system in the Municipality of Abuyog includes an agricultural area of about 4,349.80 hectares, a pastoral area of about 3,884.30 hectares, and a forestry area of about 8,765.00 hectares. Out of which, the project will influence the improvement of around 10,000 hectares through SLM application and investment in SLM mainstreaming.

Physical Constraints and Land Limitations in the Area. The nature of land degradation to be addressed directly is the **decline in soil fertility** which is primarily due to the following causes:

1. Soil management
   - Cultivation of highly unsuitable / vulnerable soils
   - Missing or insufficient soil conservation / runoff and erosion control measures
   - Tillage practice
   - Slash and burn cultivation in hilly areas
2. Crop and rangeland management
   - Nutrient mining
   - Shortening of the fallow period in shifting cultivation
   - Inappropriate irrigation
   - Reduction of plant cover and residues
   - Shortening of the fallow period in shifting cultivation
   - Bush encroachment and bush thickening
3. Deforestation and removal of natural vegetation

- Conversion to agriculture
- Forest / grassland fires

4. Urbanisation and infrastructure development
    - Excessive runoff

Effects of land degradation on ecosystem services: The decline in soil fertility affects the following ecosystem services: productive services, water services, soil services, biodiversity, climate services; and socio-cultural services/human well-being and indicators.

Project interventions. The project interventions shall include: 1) improved agricultural management of about 151 hectares of agricultural land; 2) improved forest management (SFM) of about 12.61 hectares of forestry land; and 3) improved integrated landscape management (land-water-vegetation) of about 9,836.39 hectares of land.

Technologies to be demonstrated: The techno-demo proposes to introduce an integrated farming system coupled with soil and water conservation technologies. This involves the establishment of techno-demo farm which serves as a model farm in the locality to promote soil conservation technologies and demonstrate their beneficial performance as well as to explore the potential sloping land management for sustainable agriculture. Based on the land degradation issues presented above, the following SLM technologies are proposed:

Conservation measures that can be applied in the area:

1. Employ proper cropping system (sequential cropping, inter-cropping, relay cropping, strip or alley cropping and multiple cropping
2. Use of natural vegetative strips (NVS)
3. Use of contour canals, bench terraces
4. Use of Basket composting
5. Use of green manures
6. Use of agro-forestry (Tree-crop combination plus livestock)
7. Employ seeds and plant propagation
8. Boundary tree planting to minimize wind erosion
9. Contour planting of corn
10. Use of hedgerows (like natural vegetative strips, pigeon pea, pineapple, etc.,), trash line and other means to minimize soil erosion
11. Practicing fallow period (just planting legumes as cover crop) for soil rehabilitation
12. Continuous use of organic amendments/fertilizer (vermi-composting and others) to improve organic matter content of the soil and over all soil fertility
13. Practice mulching and minimum tillage to improve soil fertility and minimize rapid breakdown of organic matter
14. Practice residue incorporation (corn stubbles and other weeds) to maintain and improve soil fertility)
15. Employ grass waterway to prevent gully formation
16. Use of buffer trees along cliff and road cut to minimize erosion
17. Planting of bio-pesticides along the periphery of the area which will serves as bio-pesticides and composting materials
18. Use cover crops (legumes and grasses for livestock)
19. Others (necessary training).

Annex D: Implementing Partner Capacity Assessment

AREAS FOR ASSESSMENT	ASSESSMENT QUESTIONS	RESPONSE
PART I. BACKGROUND INFORMATION		
1. History	Date of establishment of the organization	June 5, 1951, the Congress of the Republic of the Philippines enacted Republic Act No. 622 organizing the Bureau of Soil Conservation. The agency was renamed the Bureau of Soils in 1964.In June, 1987, Pres. Corazon C. Aquino reorganized the Bureau of Soils into the Bureau of Soils and Water Management through Executive Order 116.
2. Mandate and constituency	What is the current mandate or purpose of the organization? Who is the organization's primary constituency?	The Bureau of Soils and Water Management (BSWM), as mandated by Executive Order No. 116, is a staff agency under the Department of Agriculture mandated to: • Advise and render assistance on matters relative to the utilization of soils and water as vital agricultural resources. • Undertake the design, preparation and implementation of Small Scale Irrigation Projects with the Local Government Units and Regional Field Units of the Department of Agriculture. • Formulate measures and guidelines for effective soil, land and water resources utilization. • Soil conservation in croplands and other agricultural areas. • Undertake soil and water resources research programs. • Coordinate with the relevant government agencies in resettlement areas. • Prepare necessary plans for the provision of technical assistance in solving soil related problems, prevention of soil erosion, fertility preservation and other related matters. • Engage in rainmaking projects for agricultural and watershed areas to address the problems of prolonged droughts and minimize their effects to standing agricultural crops. • For each own sector, recommend plans, programs, policies, rules and regulations to the Secretary and provide technical assistance in the implementation of the same. Under the new AGRICULTURE AND FISHERIES MODERNIZATION ACT or AFMA (Republic Act 8435), the Department of Agriculture through the BSWM is

		mandated to identify Strategic Agriculture and Fisheries Development Zones (SAFDZ), within the Network of Protected Areas of Agricultural and Agro-Industrial Development (NPAAAD) in consultation with concerned agencies. The BSWM is primarily tasked to undertake the mapping of NPAAAD for all municipalities and cities at appropriate scale. The identification of SAFDZ provide the basis for a focused strategy for the foundation of research and technology development, positioning the infrastructure, credit and other support structures. Each of these efforts is focused to support the full development of agricultural conditions, crops, livestock and fisheries that have the competitive and comparative advantage for the region. The BSWM is likewise mandated to coordinate the implementation of Small Scale Irrigation Projects which have been proven effective to mitigate the impacts of El Nino event in the country.
3. Legal status	What is the organization's legal status? Has it met the legal requirement for the operation in the programmer country?	The Congress of the Republic of the Philippines enacted Republic Act No. 622 organizing the Bureau of Soil Conservation. The agency was renamed the Bureau of Soils in 1964. In June, 1987, Pres. Corazon C. Aquino reorganized the Bureau of Soils into the Bureau of Soils and Water Management through Executive Order 116.
4. Funding	What is the organization's main source(s) of funds?	National Treasury and other local and international project/programs
5. Certification	Is the organization certified in accordance with any international standards or certification procedure?	Preparation for the ISO 17025 accreditation is on-going
6. Prescribed organization	Is the organization listed in any UN reference list of prescribed organizations?	Yes, as the United Nations Convention to Combat Desertification (UNCCD) focal agency; as implementing partner of FAO in its programs and projects.
PART II. PROJECT MANAGEMENT CAPACITY		
2.1Managerial Capacity		
1. Leadership Commitment	Are leaders of the organization ready and willing to implement the proposed project?	Yes

2. Management experience and qualifications	Which managers in the organization would be concerned with the proposed project? What are their credential and experience that relate to the proposed project? Do these managers have experience implementing UNDP or other donor-funded projects?	Dr. Silvino Q. Tejada, CESO III BSWM-Director and UNCCD Focal person is the overall head of agency and implemented local and international programs on soil conservation, soil fertility enhancement and nutrient management, organic agriculture, watershed and water resource management. The compliance to the mandate of the organization on the nationwide soils and land resource utilization and management for increase productivity in agriculture, formulation of policies on soil and water management. . He also Chairs the Sub Committee on Land under the Committee on Conservation and Management of Natural Resources and Development (CCMRD) of the Philippine Council for Sustainable Development. Dr. Gina P. Nilo Division Chief, Laboratory Services and GEF5 Focal person and Vice Chair to the Director on the Sub Committee on Land of the CCMRD. Dr. Nilo has served for almost 15 years as Project Leader of the four projects funded by Australian Center for International Agricultural Research (ACIAR) as follows: • Integrated watershed management for sustainable soil and water resources management of the Inabanga watershed, Bohol Island, Philippines • Evaluation and Adoption Of Improved Farming Practices On Soil And Water Resources In Bohol Island, Philippines • Watershed evaluation for sustainable use of sloping agricultural land in the southern Philippines • Soil and nutrient management strategies for sustainable vegetable production in southern Philippines Yes. The National Capacity Self-assessment (NCSA), Streamlining Environmental Management and Coordination (STREEM), and the MDGF project. Dr. Nilo served as the focal person in all of the above projects under supervision of Director Tejada.
3. Planning and budgeting	Does the organization apply a results-based management methodology?	Yes. This is one of the major budgetary reforms of the national government and targets are client-based rather than process-based. It is not only in planning and budgeting but ultimately, the monitoring and evaluation will be RBM in methodology. Hence, under the present set up, even the staff performance

		is hinged on the approved General Appropriations Act (national budget).
	Are there measurable outputs or deliverable in the strategies, programmes and work plans?	Yes. Each department under the executive branch prepares the Organizational Performance Indicator Framework (OPIF) which cascades to its daughter organizations like BSWM which is an attached line agency under the Department of Agriculture. Based on its mandates, the plans and programs are prepared in terms of Support Function, Core Function, and Strategic Function. The achievement of measurable outputs is the basis for individual, divisional, and bureau performance evaluation.
	Are budgets commensurate with intended results?	Yes and current gaps are being addressed by policy pronouncements from the Department of Budget Management.
	How do planners identify and accommodate risks?	The General Appropriations Act is generally lump sum and has broader basis for expenditure rather than restricted for specific type of expense. This should enable project proponents to re-align budgetary items to accommodate risks and unforeseen events.
4. Supervision, review and reporting	How do managers supervise the implementation of work plans?	Before the start of the fiscal year, managers are required by the Civil Service Commission to list down their semestral targets (Jan-June, July-Dec) based on budgetary approvals, and individual staff are likewise required to do the same. The supervision comes in terms of "coaching", the terminology used by Civil Service Commission
	How do they measure progress against targets?	The Civil Service requires semestral performance appraisal (Jan-June and July-Dec) that specifies accomplishments versus the target commitments based on RBM-budgetary releases
	How does the organization documents its performance, e.g., in annual or periodic reports?	There is a monthly accomplishment report (target vs accomplishment) that each division has to submit to the Planning Unit complemented by quarterly narrative report. The monthly report is submitted to the Department of Agriculture and the Department of Budget and serves as the basis for the budgetary release and cash allocation.
	How are the organization's plans and achievements presented to stakeholders?	Since the bureaucracy is now client oriented rather than process oriented, bottoms up

		planning or participatory project planning and management is practiced. Projects normally begin with inception meeting at the start and ends with presentation of project output with the stakeholders to close the project
	Does the organization hold regular programmer or project review meetings?	Yes. For middle term plans (2004-2010, 2011-2016), midterm review is conducted to update targets.
	Are such meetings open to all stakeholders?	Yes
	Are the organizations' activities subject to external evaluation?	Yes. Financial transactions are audited by the Commission of Audit while for the technical aspects of the evaluation, there are oversight committees (e.g. – National Economic Development Authority – that monitors program progress against the targets
	How does the organization learn and adapt from its experience?	There are reports on compendium of best practices published; manuals are also updated.
5. Networking	What other organizations are critical for the successful functioning of this organization?	The Department of Agriculture (DA) and relevant bureaus such as the Bureau of Agricultural Research(BAR), Agricultural Training Institute, the Department of Environment and Natural Resources (DENR), Department of Agrarian Reform (DAR) and the Department of Science and Technology. All four departments are committed to the implementation of the Philippine national action Plan to address land degradation and drought.
	How does the organization conduct relations with these organizations?	Through Memorandum of understanding (MOU), Memorandum of agreement (MOA) and letter of commitment on particular programs and projects; through membership on inter agency committees, co-sponsorship or co-convener on various fora and conferences.
	Is the organization a party to knowledge networks, coordinating bodies and others?	See attached table, the Key Institutional Stakeholders and Roles/Involvement in the SLM Project Planning and Implementation Yes

2.2 Technical Capacity		
1. Technical knowledge and skills	Do the skills and experience of the organization's technical professionals match those required for the project?	Yes
	Would these professionals be available to the project?	Yes
	Does the organization have the necessary technical infrastructure (e.g. laboratories, equipment, software, technical data bases, etc.) to support the implementation of the project?	Yes
	How do staff members of the organization keep informed about the latest techniques and trends in their areas of expertise?	Through capacity building programs of the agency; attendance to trainings, and conferences both local and abroad.
	What external technical contacts and networks does the organization utilize?	UNCCD, ACIAR, World Overview for Conservation and Technology (WOCAT), Philippine Conservation Approaches and Technologies (PhilCAT), Asia Soil Conservation Network for the Humid Tropics (ASOCON), Research Consortia [Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (PCAARRD), Bureau of Agricultural Research (BAR) and Academe]
	What professional associations does the organization and/or its professional staff belong to?	Philippine Alliance of Laboratory Equipment Users (PALEU), Philippine Society of Soil Science and Technology (PSST), Philippine Society of Agricultural Engineers (PSAE), Integrated Chemists of the Philippines (ICP), Philippine Remote Sensing Society (PhilRSS)
PART III. ADMINISTRATIVE AND FINANCIAL MANAGEMENT CAPACITIES		
1. Facilities infrastructure and equipment	Does the organization possess sufficient administrative facilities, infrastructure, equipment and budget tocarry out its activities, particularly in relation to the requirements of the project?	Yes
	Can the organization manage and maintain the administrative and technical equipment and infrastructure?	Yes
2. Procurement and contracting	Does the organization have the legal authority to enter into contracts and agreements with other organizations?	Yes.

	Does the organization have access to legal counsel to ensure that contracts are enforceable, meet performance standards, and protect the interests of the organization and UNDP?	The BSWM follows RA 9148 - the government procurement reform act. Access to Solicitor General and policy consultant for legal advice and policy matters.
	Does the organization have dedicated procurement capacity?	Yes. There is a bids and awards committee at BSWM
	Do procurement personnel have skills and experience that are appropriate to the requirements of the project?	Yes.
	Does the organization have written procurement procedures?	Yes.
	Is there evidence that the organization conducts procurement on the bases of best value for money, transparency, and effective international competition?	Yes
	Does the organization have a system and procedures for asset management and inventory control?	The BSWM has a property unit.
3. Recruitment and personnel management	Does the organization have the legal authority to enter into employment contracts with individuals?	Yes
	Does the organization have dedicated personnel capacity?	Yes
	Do recruitment personnel have skills and experience that are appropriate to the requirements of the project?	Yes
	Does the organization have written recruitment procedures?	Yes. The agency uses the CSC-approved DA Unified Merit Promotion Plan which adheres to the principle of merit, fitness and equality. The selection of employees is based on their relative qualifications and competence to perform the duties and responsibilities of the position.
	Is there evidence that the organization conducts recruitment objectively on the basis of competition, fairness, and transparency?	Yes. The recruitment and selection process for the vacant positions, whether existing vacant or new, follows the provisions and criteria in the CSC approved recruitment and promotion system which ensures observance of merit and fitness in the selection of

		employees and creates equal opportunities to all qualified persons to enter government service.
	Does the organization have a salary scale that would apply to project personnel?	Yes. The BSWM uses the DBM prescribed salary scale per Salary Standardization Law 3 (SSL3).
	Would that scale inhibit the hiring of the best candidate?	No. SSL3 has brought the salaries of government employees closer to the levels of their counterparts in the private sector.
3.2 Financial Management Capacity		
1. Financial management organization and personnel	Does the organization have written rules and regulations for financial management that are consistent with international standards?	Yes.
	Does the organization have a dedicated finance unit?	Yes.
	Do finance managers and personnel have skills and experience that are appropriate to the requirements of the project?	Yes.
	Is the existing financial management capacity adequate to meet the additional requirements of the project?	Yes the bureau has Accounting unit headed by Certified Public Accountant (CPA). The project management office will be established for the project and will hire a financial specialist who will focus on the financial management of the project.
	Do finance personnel have experience managing donor resources?	Yes.
2. Financial position	Does the organization have a sustainable financial position?	Yes.
	What is the maximum amount of money the organization has ever managed?	PHP 40M per month over a period of project
	If the proposed project is implemented by this organization, what percentage of the organization's total funding would the project comprise?	The agency will co-finance the amount of USD 2,659,240 to the project.
3. Internal control	Does the organization maintain a bank account?	Yes

	Does the organization have written rules and procedures on segregation of duties for receipt, handling and custody of funds?	Yes
	How does the organization ensure physical security of advances, cash and records?	There is a dedicated unit Cashiers Office and facilities for safe keeping of cash and records
	Does the organization have clear written procedures and internal controls governing payments?	Yes
	How does the organization ensure that expenditures conform to their intended uses?	System of reporting is required for accomplishments per expenditures.
	Does the organization have a policy requiring two signatures for payments over a defined limit?	Yes. The Cashier and Director or Cashier and Assistant Director depending on amount.
	Is there any evidence of non-compliance with financial rules and procedures?	None
4. Accounting and financial reporting	Are accounts established and maintained in accordance with national standards or requirements?	Yes
	When and to whom does the organization provide its financial statements?	Every 10th of the following month COA, DBM, COA Central and DA
	Can the organization track and report separately on the receipt and use of funds from individual donor organizations?	Yes
	Is there any evidence of deficiencies in accounting or financial reporting?	No
5. Audit	Is the organization subject regularly to external audit?	Yes
	Is audit conducted in accordance with international audit standards?	Yes
	Are audit findings public?	Yes
	If so, have the organization's financial audits produced any significant recommendations for strengthening of financial systems and procedures?	Yes

	Have audits identified instances non-compliance with rules and procedures or misuse of financial resources? What has been done to carry out audit recommendations?	No • Discuss the findings with the Division/Section involve • Discuss the recommendation with the auditor • Carry out and monitor the recommendations to see if it is being implemented.

Annex E: GEF Land Degradation Tracking Tool

[See attached file]

Annex F: Capacity Development Monitoring Scorecard of DA-BSWM and DENR-FMB

Project Name: Implementation of SLM Practices to Address Land Degradation and Mitigate Effects of Drought
Institution: DA-BSWM
Project Cycle Phase: All Project Phases, Start Up and End of Project
Date: May 2015

Capacity Result/Indicator	Staged Indicators	Score Selection	Baseline Score	Comments	Next Steps	Projected End of Project Score	Actual End of Project Score	Contribution to which outcome
CR 1: Capacities for Engagement								
Indicator 1: Degree of legitimacy/mandate of lead environmental organizations	Authority and legitimacy of all lead organizations responsible for environmental management recognized by stakeholder	3	**3**	**BSWM, as focal agency on soil and water resources management, undertakes various programs at the national level such as the sloping agricultural land, organic agriculture, SWIP, laboratory analysis, and solid waste management among others.** *Note: Stakeholders referred to are farmers and LGUs*	**Capacitate local counterparts and LGUs on soil and water conservation and management, and application of SLM practices**	**3**		**Outcome 2**
Indicator 2: Existence of operational co-management mechanism	Some co-management mechanisms are in place and operational	1	**1**	**Co-management mechanism with private institutions are in place such as in SWIP establishment , organic fertilizer/vermicompost production; with seed company in the conduct of trainings, research consortia**	**Integrate PPP modality in the SLM practice**	**1**		**Outcome 1**
Indicator 3: Existence of cooperation with stakeholder groups	Stakeholders are identified, and regular consultations mechanisms are established	2	**2**	**Established SWISA at the regional level; Soil Conservation Guided Farm; SAFDZ integration to CLUP**	**To enhance regular consultation** **Establishment of multi-sectoral stakeholders' committee**	**3**		**Outcome 1**
CR 2: Capacities to Generate, Access and Use Information and Knowledge								

Indicator 4: Degree of environmental awareness of stakeholders	Stakeholders are aware of global environmental issues and the possible solutions, but do not know how to participate	2	**2**	**Awareness raising on land degradation issues such as soil erosion and soil fertility decline**	**Demonstration and conduct of trainings and seminars to introduce SLM as relevant solution to land degradation**	**3**		**Outcome 2**
Indicator 5: Access and sharing of environmental information by stakeholders	The environmental information is partially available and shared among stakeholders, but is not covering all focal areas and/or the information management infrastructure is limited	2	**2**	**Existing land degradation maps (soil fertility, soil erosion) are in regional and provincial scale**	**Enhancement of existing database and maps for application at municipal level**	**3**		**Outcome 1**
Indicator 6: Existence of environmental education programmes	No environmental education programmes are In place	0	**0**	**There is no formal education program on SLM.** **Videos and printouts materials on soil conservation and management technologies are available and disseminated**	**Integrate SLM modules in the FFS to formalize in the training program**	**1**		**Outcome 1**
Indicator 7: Extent of the linkage between environmental research/ science and policy development	Relevant research strategies and programmes for environmental policy development exist, but the research information is not responding fully to the policy research needs	2	**2**	**Soil and water conservation act; SAFDZ are backed up with research but lacks site specific application of impacts**	**Demonstration of SLM practices to assess impact at local level** **Development of local ordinance**	**3**		**Outcome 2**
Indicator 8: Extent of inclusion/use of traditional knowledge in environmental decision-making	Traditional knowledge is collected, but is not used systematically into relevant participative	2	**2**	**Compilation of local knowledge on land degradation and soil and water conservation is available but needs updating**	**Identify, assess, and provide science-based principles on local knowledge**	**2**		**Outcome 2**

	decision-making processes							
CR 3: Capacities for Strategy, Policy and Legislation Development								
Indicator 9: Extent of the environmental planning and strategy development process	Adequate environmental plans and strategies are produced, but are only partially implemented because of funding constraints and/or other problems	2	**2**	**Aligned Philippine National Action to Combat Desertification, Land Degradation and Drought (NAP-DLDD_ (2014-2024) is in place but funding sources need to be mobilized**	**Mainstream SLM in the regular budget**	**2**		**Outcome 2**
Indicator 10: Existence of adequate environmental policies and regulatory framework	Some relevant environmental policies and laws exist, but few are implemented and enforced	1	**1**	**AFMA (RA 8435) and Organic Agriculture Act (RA 10068) needs to be localized** **Needs to comply with the provision to create local technical committees**	**Needs to mobilized technical committee in the enhancement of CLUP guidelines**	**2**		**Outcome 2**
Indicator 11: Adequacy of the environmental information available for decision-making	Relevant environmental information is made available to environmental decision-makers, but the process for updating this information is not functioning properly	2	**2**	**Soil erosion, landuse, land degradation and SAFDZ data are available but not updated**	**Updating of soils, land use and land degradation data at municipal level at least for the two sites**	**2**		**Outcome 1**
CR 4: Capacities for Management and Implementation								
Indicator 12: existence and mobilization of resources	The funding sources for these resource requirements are partially identified, and the resource requirements are partially addressed	2	**2**	**Soil and water conservation and management projects are heavily dependent on foreign funding**	**Needs to mainstream SLM in the regular activities/budget** **Issuance of Joint Memo Circular by DA, DENR, DAR**	**2**		**Outcome 1**
Indicator 13: availability of required technical skills and	The required skills and technologies are obtained, but their	2	**2**	**Foreign assisted project and/or project based trainings are available**	**Develop mechanism for capacity building of agency and partners**	**3**		**Outcome 1**

technology transfer	access depends on foreign sources							
CR 5: Capacities to Monitor and Evaluate								
Indicator 14: Adequacy of the project/programme monitoring process	Regular participative monitoring of results is being conducted, but this information is only partially used by the project/programme implementation team	2	**2**	**Regular monitoring through field validations/consultation meetings is in place.** **No LDI monitoring is in place.**	**Enhance usability of monitoring data by making available in database** **Adopt composite LDI for monitoring**	**3**		**Outcome 1 & 2**
Indicator 15: adequacy of the project/programme evaluation process	An adequate evaluation plan is in place, but evaluation activities are irregularly conducted	1	**1**	**Project evaluation framework is (are) not uniform and dependent on funding/donor agencies**	**Utilize learnings from this project on adequate evaluation** **Develop appropriate evaluation framework**	**2**		**Outcome 1**

Project Name: Implementation of SLM Practices to Address Land Degradation and Mitigate Effects of Drought

Institution: DENR-FMB

Project Cycle Phase: All Project Phases, Start Up and End of Project

Date: May 2015

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Capacity Result/Indicator	Staged Indicators	Score Selection	Baseline Score	Comments	Next Steps	Projected End of Project Score	Actual End of Project Score	Contribution to which outcome
CR 1: Capacities for Engagement								
Indicator 1: Degree of legitimacy/ mandate of lead environmental organizations	Authority and legitimacy of all lead organizations responsible for environmental management recognized by stakeholder	3	**3**	**Core function of FMB is in forestry management**		**3**		**Outcome 1**

Indicator 2: Existence of operational co-management mechanism	No co-management mechanisms are in place	0	**0**	**Draft guideline on PPP submitted to the Department**	**Approval by the DENR of at least one guidelines on PPP** **Pilot test guidelines in Malaybalay and Abuyog**	**1**		**Outcome 1**
Indicator 3: Existence of cooperation with stakeholder groups	Stakeholders are identified, and regular consultations mechanisms are established	2	**2**	**Immediate stakeholders referred to are LGUs and regional offices.** **For three years of implementation, only 30% of FLUP have been legitimized.** ***Note: to verify whether Malaybalay and Abuyog adopted FLUP***	**It the two (2) sites have not yet adopted FLUP, will work on legitimization which cost Php 50,000.00/FLUP** **If, FLUP is adopted on the demo sites, next step is to monitor implementation.** **If the sites are covered by the Ancestral Domain there is no need for FLUP. This will be covered by Ancestral Domain Sustainability Management Plan. (ADSMP) under the mandate of NCIP.**	**3**		**Outcome 1**
CR 2: Capacities to Generate, Access and Use Information and Knowledge								
Indicator 4: Degree of environmental awareness of stakeholders	Stakeholders are aware of global environmental issues and the possible solutions, but do not know how to participate	2	**2**	**Stakeholders think that only DENR is responsible in the on issue on land degradation and deforestation.** ***Note: Stakeholders referred to are LGUs and regional offices***	**Awareness raising/action required to emphasize stakeholders' responsibilities to mitigate or control deforestation**	**3**		**Outcome 1**
Indicator 5: Access and sharing of environmental information by stakeholders	The environmental information is partially available and shared among stakeholders, but is not covering all focal areas and/or the information management infrastructure is limited	2	**2**	**Existing information are available at DENR-FMB but are limited to the central office due to agency's mandate as a staff bureau. There is limitation to disseminate information in the regions.**	**Conduct trainings of FLUP with the participations of LGUs through its TWG/Municipal Planning Team**	**3**		**Outcome 1**

Indicator 6: Existence of environmental education programmes	No environmental education programmes are In place	0	**0**	**No established education program with LGUs.**	**Provide technical assistance to LGUs on the development of education programs**	**1**		**Outcome 1**
Indicator 7: Extent of the linkage between environmental research/ science and policy development	Relevant research strategies and programmes for environmental policy development exist, but the research information is not responding fully to the policy research needs	2	**2**	**FLUP is a product of EcoGov project funded by USAID which considered research.**		**2**		**Outcome 1**
Indicator 8: Extent of inclusion/use of traditional knowledge in environmental decision-making	Traditional knowledge is collected, but is not used systematically into relevant participative decision-making processes	2	**2**	**Traditional knowledge is already considered in the planning and identification of strategies.**	**Emphasize the participation of IPs in the development of Community FLUP process.**	**3**		**Outcome 1**
CR 3: Capacities for Strategy, Policy and Legislation Development								
Indicator 9: Extent of the environmental planning and strategy development process	Adequate environmental plans and strategies are produced, but are only partially implemented because of funding constraints and/or other problems	2	**2**	**There are other problems due to agency's status as a staff bureau, where there is no direct linkage with LGUs.** **Forestry represents a part of overall environmental plan, and there are other ecosystems to consider.**	**Continuous support of FMB to DENR regional offices in the preparation of FLUP through increase in budgetary allocation in the planning process.** **Support ECLUP through HLURB.**	**2**		**Outcome 1**
Indicator 10: Existence of adequate environmental policies and regulatory framework	Adequate environmental policy and legislation frameworks exist, but there are problems in implementing and enforcing them	2	**2**	**LGUs give low priority to FLUP implementation.** **Budgetary constraints with LGU in FLUP preparation and implementation exist.**	**To support LGUs to comply with the requirements of ECLUP** ***Note: In FLUP preparation and legitimization, there is a required counterpart financing from LGUs. DENR budget allocation***	**3**		**Outcome 1**

					is estimated at Php 550,000.00			
Indicator 11: Adequacy of the environmental information available for decision-making	Some environmental information exists, but it is not sufficient to support environmental decision-making processes	1	**1**	**Available information is at the provincial and regional scale.**	**Require updating/localization of data e.g. climate rainfall, etc.**	**2**		**Outcome 1**
CR 4: Capacities for Management and Implementation								
Indicator 12: existence and mobilization of resources	The funding sources for these resource requirements are partially identified, and the resource requirements are partially addressed	2	**2**	**LGUs have no definite budget allocation for FLUP.**	**Secure financing through the issuance of EO by LGUs to allocate funds for FLUP process and implementation**	**3**		**Outcome 2**
Indicator 13: availability of required technical skills and technology transfer	The required skills and technologies are available, and there is a national-based mechanism for updating the required skills and upgrading the technologies	3	**3**	**FLUP preparation has definite fund under GAA.**	**Generate resources to support other LGUs**	**3**		**Outcome 2**
CR 5: Capacities to Monitor and Evaluate								
Indicator 14: adequacy of the project/programme monitoring process	Regular participative monitoring of results is being conducted, but this information is only partially used by the project/programme implementation team	2	**2**	**Regular monitoring of FLUP preparation is being done but not on FLUP implementation.** **FLUP preparation started in 2012.**	**Mobilize/facilitate FLUP preparation**	**2**		**Outcome 1**
Indicator 15: adequacy of the project/programme evaluation process	No or ineffective evaluations are being conducted, with no adequate evaluation plan or the necessary resources	0	**0**	**FLUP is not yet implemented.** **FLUP preparation takes 4 years**	**Development of evaluation tool on FLUP implementation**	**1**		**Outcome 1**

Project Name: Implementation of SLM Practices to Address Land Degradation and Mitigate Effects of Drought
Institution: HLURB
Project Cycle Phase: All Project Phases, Start Up and End of Project
Date: May 2015

Capacity Result/Indicator	Staged Indicators	Score Selection	Baseline Score	Comments	Next Steps	Projected End of Project Score	Actual End of Project Score	Contribution to which outcome
CR 1: Capacities for Engagement								
Indicator 1: Degree of legitimacy/ mandate of lead environmental organizations	Authority and legitimacy of all lead organizations responsible for environmental management are partially recognized by stakeholders	2	**2**	**Integrated Ecosystem Management (Climate change, biodiversity, forestry, and coastal) are mainstreamed in CLUP**	**Updating of CLUP starts in 2015, in all municipalities through regular activity of HLURB**	**3**		**Outcome 2**
Indicator 2: Existence of operational co-management mechanism	No co-management mechanisms are in place	0	**0**	**HLURB is a regulatory agency and much of the activities/programs cannot be delegated to private partners**		**0**		**Outcome 2**
Indicator 3: Existence of cooperation with stakeholder groups	Stakeholders are identified, but their participation in decision-making is limited	1	**1**	**Activities in the updating of CLUP are too technical to motivate the stakeholders**	**Regular mechanisms such as public hearing and public consultation will be established**	**2**		**Outcome 1**
CR 2: Capacities to Generate, Access and Use Information and Knowledge								
Indicator 4: Degree of environmental awareness of stakeholders	Stakeholders are aware of global environmental issues, and are actively participating in the	3	**3**	**Stakeholders referred to are the LGUs. ECLUP is in placed that integrate CC and biodiversity.**		**3**		**Outcome 1**

	implementation of relevant solution							
Indicator 5: Access and sharing of environmental information by stakeholders	The environmental information needs are identified, but the information management infrastructure is inadequate	1	**1**	**Date requirements and sources were identified. However, HLURB websites only contains guidelines on how to collect and analyze the data.**	**Reiteration on the compliance of the requirements through forums/workshops**	**1**		**Outcome 1**
Indicator 6: Existence of environmental education programmes	No environmental education programmes are in place	0	**0**	**Workshop and forum are conducted but not on a regular basis and not considered as a formal education**	**Development of modules in the planning process**	**1**		**Outcome 1**
Indicator 7: Extent of the linkage between environmental research/ science and policy development	Relevant research results are available for Environmental policy development	3	**3**	**Utilize existing agency policies such as NIPAS, AFMA, and IFRA Law in the preparation of CLUP** ***Evidence: Enhanced CLUP - CC and biodiversity are integrated***	**Integrate SLM into CLUP guidelines**	**3**		**Outcome 1**
Indicator 8: Extent of inclusion/use of traditional knowledge in environmental decision-making	Traditional knowledge is collected, used, and shared for effective participative decision making processes	3	**3**	**Ancestral domain, traditional landuses, and practices were considered in the CLUP as well as local knowledge on vulnerable areas to CC were considered in the vulnerability assessment**	**Review of SLM guidelines in accordance with HLURB principles on the value of traditional knowledge**	**3**		**Outcome 1**
CR 3: Capacities for Strategy, Policy and Legislation Development								
Indicator 9: Extent of the environmental planning and strategy development process	The environmental planning and strategy development process does produce adequate environmental plans and strategies, but they are not implemented or used	1	**1**		**Monitor compliance by LGUs to ECLUP on CC and biodiversity aspects** **Integrate SLM in the guidelines**	**2**		**Outcome 1**

Indicator 10: Existence of adequate environmental policies and regulatory framework	Adequate environmental policy and legislation frameworks exist, but there are problems in implementing and enforcing them	2	**2**		**Development of policies and regulatory frameworks through the orientation of LGUs.** **Development of control guidelines**	**3**		**Outcome 1**
Indicator 11: Adequacy of the environmental information available for decision-making	Relevant environmental information is made available to environmental decision-makers, but the process for updating this information is not functioning properly	2	**2**	**Forest cover data that are available to LGUs are not updated. Still make use of the data from 2010.** **There is also a need to update SAFDZ.**	**Updating of forest cover data** **SAFDZ updating should be done in the two municipalities (Malaybalay & Abuyog)**	**3** *(at least for the 2 sites)*		**Outcome 1**
CR 4: Capacities for Management and Implementation								
Indicator 12: existence and mobilization of resources	The funding sources for these resource requirements are partially identified, and the resource requirements are partially addressed	2	**2**	**Funding support is heavily dependent with DBM-GAA**	**To institutionalize funding sources and support the integration of SLM through this project since this is outside the mandate of HLURB.**	**3**		**Outcome 2**
Indicator 13: availability of required technical skills and technology transfer	The required skills and technologies are available, and there is a national-based mechanism for updating the required skills and upgrading the technologies	3	**3**	**Updating of CLUP and related skills development is a core function of HLURB.**	**To integrate SLM in the enhancement of CLUP guidelines** **To update skills on SLM**	**3**		**Outcome 1**
CR 5: Capacities to Monitor and Evaluate								
Indicator 14: adequacy of the project/program me monitoring process	Regular participative monitoring of results is being conducted, but this information is only partially used by the	2	**2**	**Monitoring is in placed by requiring the monthly submission of reports by region in every municipality.**	**Improve mechanism to make use of the submitted reports.** **The just completed zero back log project established a system of monitoring through on-site**	**3**		**Outcome 1**

	project/programme implementation team				**validation and 1-on-1 LGU consultation.** **This will also be applied for the 2 sites.**			
Indicator 15: adequacy of the project/programme evaluation process	No or ineffective evaluations are being conducted, with no adequate evaluation plan or the necessary resources	0	**0**	**Not within the mandate of HLURB. This is a function of LGU.**		**0**		**Outcome 1**

Annex G: Co-Financing Letters

[See separate file]

Annex H: Social and Environmental Screening Procedure

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure for guidance on how to answer the 6 questions.]

Project Information

Project Information	
1. Project Title	Implementation of Sustainable Land Management (SLM) Practices to Address Land Degradation and Mitigate Effects of Drought
2. Project Number	Atlas Award ID: 00081058; Project ID: 00090508
3. Location (Global/Region/Country)	Philippines

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The SLM Project itself will directly boost the attainment/realization of the right of the farmer beneficiaries to education related to their source of income. One of the focal area objectives of the SLM Project is LD1: Maintain or improve flows of agro-ecosystems services to sustain livelihoods of local communities, with LD1, one of the activities of the Project is the training of the farmer beneficiaries of the currently available agricultural and forestry technologies and techniques for SLM that can enhance their agricultural and forestry productivities, these enhanced agricultural and forestry productivities would redound to the boosting of the attainment/realization of the following more basic human rights of the farmer beneficiaries: 1) the right to the highest attainable standard of health; 2) the right to adequate food, housing and social; and 3) the right to education of the children of the farmer beneficiaries. Moreover, with LD1, one of the Project Component is long term capacities and incentives in place for local communities and LGUs to uptake of SLM practices in two (2) targeted municipalities in the Philippines; with this Project Component, the following Project Outcomes are targeted: 1) pressures on natural resources from competing land uses in targeted municipalities covering at least 20,000 hectares are reduced through an integrated natural resource management (INRM) framework; and 2) strengthened extension services, availability of best practice models and financing increases SLM adoption in targeted municipalities. These outcomes would redound to the realization of the above mentioned human rights. The implementation of the Project would not interfere nor exacerbate with/the current status of the attainment of the following human rights of the stakeholders: the right to life, liberty and security of person; freedom of association, expression, assembly and movement; freedom from arbitrary arrest or detention; the right to a fair trial; the right to just and favourable working conditions; the right to equal protection of the law; freedom from arbitrary interference with privacy, family, home or correspondence; freedom from torture and cruel, inhuman or degrading treatment or punishment; freedom from slavery; the right to a nationality; freedom of thought, conscience and religion; the right to vote and take part in the conduct of public affairs; and the right to participate in cultural life. The attainment of the above mentioned human rights are already taken care of the concerned government agencies/institutions assigned in the localities by the Philippine Government through the implementation and monitoring of rules and regulation related to the above mentioned human rights.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

Currently, the Philippines is implementing its Republic Act (R.A.) No. 9710: Magna Carta of Women signed into law on August 14, 2009. R.A. 9710 is a comprehensive women's human rights law that seeks to eliminate discrimination against women by recognizing, respecting, protecting, fulfilling and promoting the rights of Filipino women, especially those in the marginalized sectors. The Implementing Rules and Regulations (IRR) of R.A. 9710 requires all government and private agencies (e.g. national government agencies (NGAs), bodies, instrumentalities, including government-owned and controlled corporations (GOCCs), private entities, local government units (LGUs), private and state universities and colleges (SUCs), and private and public schools. The equivalent units in autonomous regions shall likewise be accountable to implement these Rules and Regulations) to mainstream/include gender and development (GAD) programs in their operations and submit reports on its implementation to the Philippine Women Commission (PWC). The stakeholders in the SLM Project are representatives from different National Government Agencies (NGAs), i.e., Department of Agriculture-Bureau of Soils and Water Management (BSWM); Department of Environment and Natural Resources – Forest Management Bureau (FMB); Department of Agrarian Reform (DAR); Department of Interior and Local Government (DILG); Housing and Land Use Regulatory Board (HLRUB); Local Government Units (LGUs) of Malaybalay, Bukidnon and Abuyog, Leyte; and Farmers' Cooperatives. These representatives from different NGAs are already recipients of GAD Programs in their respective offices, majority of the NGA representatives to the SLM Project are women. The effect of mainstreaming of GAD at these different government and private agencies/institutions is evident in the status of the stakeholders. The President of the Silae United Agrarian Reform Cooperative (SUARC), one of the cooperators in this SLM Project is a woman, who happens to be also the Barangay Chairwomen of Brgy. Silae, Malaybalay, Bukidnon. Many of the farmer recipients are also women.

Briefly describe in the space below how the Project mainstreams environmental sustainability

This Project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: UNDAF Outcome 4 (CPD, UNDP Philippines 2012-2016): Adaptive capacities of vulnerable communities (farmers) and ecosystems are strengthened to be resilient to threats (land degradation and drought), shocks, disasters, and climate change. **Country Programme Outcome Indicators:** Percentage of local development plans incorporating and budgeting disaster risk reduction and climate change adaptation measures; percentage of degradation rates of critical environmental and natural resources, Percentage decrease in mortalities, morbidities and economic losses from natural hazards and environmental degradation.

The SLM Project is in itself, an environmental sustainability Project. The implementation of the SLM Project shall bring about only environmental opportunities, and no adverse environmental impacts. The Project shall only have two major activities: 1) close coordination among project implementers; 2) implementation of the following sustainable land management (SLM) and sustainable forestry management (SFM) practices:

Examples of SLM Practices that will be implemented:

Soil and water management

- Terraces and other physical and biological structures to prevent soil erosion
- Contour planting
- Hedgerows and living barriers
- Low tillage
- Mulches, cover crops including biological nitrogen fixing legumes
- Grazing reserves/corridors
- Water harvesting practices

Soil fertility management

- Manures and composts
- Biomass transfer and green manures
- Agro-forestry – nitrogen-fixing trees on farms
- Integrated soil fertility management, including biological nitrogen fixing legumes

Controlling weeds and pests

• Intercropping and rotation (diversity)

• Integrated pest management

Examples of SFM that will be implemented:

Best Management Practices/Reduced Impact Logging

- Future Crop Tree demarcation
- Retention of non-target live trees
- Minimization of soil compaction within road/trail area
- Protection of water quality via adequate buffers

Biodiversity conservation

- Emulation of natural disturbances
- Coarse Wood Debris (CDW) retention
- Retention of live trees as biological legacies
- Protection of special habitats
- Reference areas without active management

Forest protection

- Forest composition oriented at natural forest plant communities including use of natural regeneration
- Browsing and invasive species control
- Biological Pest Management
- Thinning regimes focusing on forest quality and vitality

Management planning and multi-scale land-use planning

- Forest management plans
- Forest inventories and monitoring
- Land use planning across forest management units
- Zoning

Participatory forestry

- Participation of relevant stakeholders in planning, implementation, and monitoring
- Community based forest management
- Co-management arrangements
- Private smallholder ownership of forest
- Community ownership of forest

Sustained timber and NTFP production

- Optimum ecological yield
- Optimum economic yield
- Non Timber Forest Products (NTFP) management regimes

The environmental risk of the project is very minimal and not bring much concern to the project implementers and recipients. This is because of the fact that the SLM project is an environmental conservation project by itself and has no negative impacts on the environment. Instead, SLM brings about positive impacts on the land and water resources thus benefitting the flow of ecological services. The Philippine Environmental Impact Statement (EIS) System (Presidential Decree 1586, signed into law in 1978) and its most recent

implementing rules and regulations, the Department of Environment and Natural Resources Administrative Order (DAO) Nos. 2003-30 and 2014-005 did not classify the above mentioned Project activities as Environmentally Critical or the SLM Project as an Environmentally Critical Project (ECP) nor it is located in Environmentally Critical Areas (ECPs). Yes, the above mentioned SLM practices will be implemented in mostly high sloping areas, but the intention of the SLM Project is to conserve the fertility of these high sloping areas and not the other way around, the Project will not exacerbate the erosion of the top soil in these high sloping areas. In the Philippine EIS System, ECPs in non-ECA or ECPs in ECAs are required to undergo an Environmental Impact Assessment (EIA) and the Proponent needs to secure an Environmental Compliance Certificate (ECC). Again, as the SLM Project is not classified as an ECP nor it is located in ECAs, it is exempted from PD 1586 and does not need to undergo an EIA, proving once more that indeed the SLM Project actually does not have adverse environmental impacts.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses).*	**QUESTION 3: What is the level of significance of the potential social and environmental risks?** *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*			**QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?**
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: Indigenous peoples present in the Project area	I = 1 P = 1	**Low**	The indigenous people will not in any way be affected by the Project	These indigenous people (farmers) who are at one (1) of the two (2) demonstration sites would benefit from the training of the farmers by the LGU extension officers regarding promotion of SLM practices. The SLM techniques shall redound to optimal and increased harvest by the indigenous people (farmers) and consequent income increase.

QUESTION 4: What is the overall Project risk categorization?		
Select one (see SESP for guidance)		**Comments**
Low Risk	**X**	The project will contribute positively towards reducing land degradation and maintenance of ecosystem quality, as well as towards an improved enabling framework for mitigation and offsetting through which local communities will have improved livelihood potentials and wellbeing.

			Identified risks are all considered to be "Low", but could potentially have adverse impact on human rights and environmental sustainability. These have been addressed through the project design, and will be further addressed during implementation, as follows: • Addressing grievances at an early stage through the Local Coordination Committees and management planning. • Capacity building to ensure that institutions and individuals are able to deliver on the planned project outcomes • Capacity building to ensure that communities are able to defend their rights, and by ensuring full their participation in design of offset agreements • Mitigation measures and offset agreements must be developed to international standards for ecological restoration and biodiversity conservation The Mid-term and Terminal Evaluations will be tasked to assess whether these mitigation measures have been met. This will be explicitly stated in the Terms of Reference of the two consultancies.
	Moderate Risk	☐	
	High Risk	☐	
	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		**None**
	Check all that apply		**Comments**
	Principle 1: Human Rights	*N/A*	None
	Principle 2: Gender Equality and Women's Empowerment	*N/A*	
	1. Biodiversity Conservation and Natural Resource Management	*N/A*	
	2. Climate Change Mitigation and Adaptation	*N/A*	
	3. Community Health, Safety and Working Conditions	*N/A*	
	4. Cultural Heritage	*N/A*	

	5. Displacement and Resettlement	*N/A*	None
	6. Indigenous Peoples	*N/A*	
	7. Pollution Prevention and Resource Efficiency	*N/A*	

Final Sign Off

Signature	***Date***	***Description***
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
Principles 1: Human Rights		**Answer (Yes/No)**
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [12]	No
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Are there measures or mechanisms in place to respond to local community grievances?	Yes
6.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
7.	Is there a risk that rights-holders do not have the capacity to claim their rights?	No
8.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	Yes
9.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
3.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No

[12] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[13] greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	N/A
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No

[13] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[14]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	Yes
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the rights, lands and territories of indigenous peoples (regardless of whether Indigenous Peoples possess the legal titles to such areas)?	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	N/A
6.4	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.5	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.6	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.7	Would the Project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	No

14 Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

6.8	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No