



Food and Agriculture
Organization of the
United Nations



GUYANA LANDS AND
SURVEYS COMMISSION

Mainstreaming Sustainable Land Development and Management in the Co-operative Republic of Guyana



| Project Document 25August 2017 | |
|---|---|
| Project Title: | Mainstreaming Sustainable Land Development and Management |
| Project symbol: | GCP/GUY/003/WBK |
| Recipient Country(ies): | Guyana |
| Government/other counterparts: | Guyana Lands and Surveys Commission |
| Expected EOD (Start Date): | End 2017 (for 4 years) |
| Expected NTE (End Date): | End 2021 |
| Contribution to FAO's Strategic Framework: (Indicate as appropriate) | <ul style="list-style-type: none"> • Strategic Objective/Organizational Outcome SO2 (Making agriculture, fisheries and forestry more sustainable and productive) and contribute to SO5 (Increase the resilience of livelihoods to threats and crises) and SO1 (Help eliminate food insecurity and malnutrition). • Country Programming Framework(s): Outcome 2: Sustainable management and use of natural resources, climate change & resilience of livelihoods to disasters: Output 2.1 National capacities strengthened for sustainable management and use of natural resources. Output 2.2. National governance frameworks that foster sustainable NRM strengthened; and Outcome 3: Agriculture, forestry, fisheries, hinterland and rural development. Output 3.2 Capacity building provided to improve crop, livestock, forestry and fisheries production and productivity and their uptake facilitated as well as the promotion of integrated farming systems. • Regional Initiative/Priority Area: R13 Sustainable use of natural resources, adaptation to climate change and disaster risk management |
| Environmental and Social Risk Classification | Low-risk <input checked="" type="checkbox"/> moderate risk <input type="checkbox"/> high risk <input type="checkbox"/> |
| Gender Marker ¹ | G0 <input type="checkbox"/> G1 <input type="checkbox"/> G2a <input checked="" type="checkbox"/> G2b <input type="checkbox"/> |
| Source of Financing | Guyana REDD+ Investment Fund (GRIF) |
| GRIF Contribution | 14,792,277(USD) |
| FAO | 300,000 (USD) in kind |
| Total Budget: | 15,092,277(USD) |

¹See Guidance Note on 'Gender Mainstreaming in project identification and formulation

Executive Summary

Guyana is endowed with a diversity of natural resources that include fertile agricultural lands, diversified mineral deposits, and an abundance of tropical rain forests. Mining, agriculture and forest products generate export commodities upon which the economy is heavily dependent. The Guyanese natural resources endowment is threatened by a progressive pattern of land degradation through inappropriate land use and management practices and lack of reclamation efforts that is taking land out of production, affecting biodiversity and ecosystem services and exacerbating risks of climate change.

Given the observed rapid upsurge in economic activity over the last 15 years, marked by the expansion in state land leases for different uses, such as agriculture, mining, logging, settlement expansion and growth in urban and rural areas; land degradation processes have been increasing. The main culprits include uncontrolled small-scale mining leaving open pits and contaminating water resources, unsustainable agricultural systems (monocultures, inefficient irrigation, and chemical inputs) and deforestation causing soil erosion, excess runoff, landslides (on sloping land) and flash floods with associated loss of production and damage to infrastructure. This is reducing the capacity of Guyana to cope with increasingly erratic rainfall, high temperatures and extreme climatic events with increased risks of flooding, contamination, drought periods, and increased vulnerability of land users and their livelihoods.

It is also recognized that land degradation and deforestation are not only negatively affecting soil and water resources (quantity and quality), biodiversity and ecosystem services but also directly impacting on livelihoods, food security and risks of conflict and natural disasters. In the long term these trends, unless addressed, will compromise the capacity of Guyana to achieve its national economic, social and environmental goals and commitments to the Sustainable Development Goals (SDGs).

The Government of the Co-operative Republic of Guyana has acknowledged that sustainable crop, livestock and forest-based systems and management practices, as well as land reclamation post-mining and other extractive interventions, such as sand extraction and forest logging, will generate multiple benefits including sustaining the production of food, fibre, fodder, forest products and biomass for energy as well as sustaining ecosystem services such as the water cycle and carbon stocks.

There are a number of bottlenecks to reverse the negative trends and promote sustainable land development and management in the country. Firstly, inadequate institutional capacity to develop and apply a harmonised land policy and regulatory framework, inadequate information base for decision making, weakness in land administration, land governance and tenure security and incapacity of land users/developers to comply with regulations and apply cost-effective reclamation measures to restore land that has been degraded through unsustainable agriculture, logging, mining/sand extraction. Second, inadequate capacity across sectors and stakeholders to promote a participatory dynamic land planning process with the range of stakeholders and the adoption of sustainable land use systems and management practices by foresters, farmers, miners and other land developers.

Thus funding is being mobilized from the Guyana REDD+ Investment Fund (GRIF) (aimed at Reducing Emissions from Deforestation and Degradation) in support of this national project on Mainstreaming Sustainable Land Development and Management in Guyana. The essence of REDD+ success in Guyana, as well as other countries, is its adherence to an enhanced and more integrated land-use/landscape and natural resources management

approach. Such an integrated approach – aiming to reconcile targets and address pressures from different sectors – is key to providing an enabling environment for promoting sustainable land use by all actors, public and private sector, and a framework for effective management of public lands and the contribution to REDD+ implementation.

The project will support the development of a harmonized national land policy and legislative framework and strengthened capacity of the Guyana Lands and Surveys Commission (GLSC), and partner Ministries and agencies through: the design and development of an integrated and robust spatial data infrastructure and open-data geospatial information system to support improved land administration, enhanced governance of tenure, as well as improved technical support services and mechanisms to encourage adoption of sustainable and climate-smart land use systems and management practices. The information and services will strengthen the application and enforcement of regulations, land use planning, incentive measures, knowledge sharing as well as assessment and monitoring in line with the SDGs. This will require effective collaboration across concerned sectors and institution and effective and transparent information and communications for multi-sector and multi-stakeholder decision making processes for SLDM.

The Government has requested the Food and Agriculture Organization of the United Nations (FAO) to provide technical assistance throughout the project, through experts working side-by-side with national staff to enhance knowledge, skills, and experience sharing for ensuring sustainability and resilience of the land use systems in the country. A focus will be placed on putting in place the enabling environment for SLDM at national level and piloting the process and building capacity on the job in 3 target regions. Experiences on the ground will improve understanding of the costs and effectiveness of interventions and the various benefits generated in terms of livelihoods and ecosystems services, as a basis for guiding strategic investments and incentives for wider adoption of adapted SLM practices and, where cost effective, the reclamation of degraded lands to stable, productive and self-sustaining condition.

Thus, the project goal is to establish an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation in support of Guyana's Low Carbon and Green State Development Strategies through:

Outcome 1: SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT (SLDM) MAINSTREAMED IN POLICY, INSTITUTIONAL AND GOVERNANCE MECHANISMS TO PREVENT DEGRADATION AND RESTORE DEGRADED LANDS

Outcome 2: STRENGTHENED INSTITUTIONAL AND HUMAN CAPACITY FOR PARTICIPATORY AND INTEGRATED

Outcome 3: LOCAL GOVERNANCE STRENGTHENED IN 3 REGIONS FOR IMPLEMENTING

These three thematic outcomes will be backed up by an efficient and effective project management and monitoring and evaluation (M&E) framework and communication strategy to ensure that results are delivered in a timely manner and experiences shared (Outcome 4).

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ACRONYMS

| | |
|----------|--|
| AEDP | Agricultural Export Diversification Project |
| CARICOM | Caribbean Community |
| CBE | Climate, Biodiversity and Environment Department-FAO |
| CBD | Convention on Biological Diversity |
| CBL | Land and Water Division -FAO |
| CRIC | Committee for the Review of the Implementation of the Convention |
| CPA | Contract and Procurement Assistant (SLDM project) |
| CRSAP | Climate Resilience Strategy and Action Plan |
| CTA | Chief Technical Advisor (SDLM project) |
| DCs | Development Councils (Regional, Municipal, Neighbourhood. Village) |
| DEWS | Drought Early Warning Systems |
| EPA | Environmental Protection Agency of Guyana |
| FAO | Food and Agriculture Organization of the United Nations |
| FOD | Forestry Department –FAO |
| GEF | Global Environmental Facility |
| GIS | Geographical Information Systems |
| GENCAPD | Guyana Environmental Capacity Development Programme |
| GFC | Guyana Forestry Commission |
| GGDMA | Guyana Gold and Diamond Miners Association |
| GGMC | Guyana Geology and Mines Commission |
| GLSC | Guyana Lands and Surveys Commission |
| GMSSC | Green Multi-stakeholder Steering Committee |
| GRIF | Guyana REDD+ Investment Fund |
| GDP | Gross Domestic Product |
| GO | Governmental Organization |
| IA | Implementation Agency |
| ICT | Information and Communication Technology |
| IDB | Inter-American Development Bank |
| IFAD | International Fund for Agricultural Development |
| Iwokrama | International Centre for Rain Forest Conservation and Development |
| LCDS | Low Carbon Development Strategy |
| LDN | Land Degradation Neutrality |
| LEG | Legal and Ethics Office (FAO) |
| LIM | Land Information and Mapping Division (GLSC) |
| LRC | Land Reclamation Committee |

| | |
|-------------|--|
| MEAs | Multilateral Environmental Agreements |
| MOA | Ministry of Agriculture |
| MNR(E) | Ministry of Natural Resources (formerly MNR and the Environment) |
| MOU | Memorandum of Understanding |
| MRV | Monitoring, Reporting and Verification |
| NAREI | National Agriculture Research and Extension Institute |
| NAP | National Action Plan to Combat Land Degradation (Aligned NAP, 2015) |
| NFP | National Focal Point |
| NGOs | Non-Governmental Organizations |
| PMO | Project Management Office of the Ministry of the Presidency |
| NPM | National Project Manager |
| NPSC | National Project Steering Committee |
| OCC | Office of Climate Change |
| OPCL | Partnerships, Advocacy and Capacity Development Division (FAO) |
| OSI/BOS | Ordnance survey International/British Ordnance survey |
| PAC | Protected Areas Commission |
| PCO | Project Communication Officer |
| PMU | Project management unit (SLDM project) |
| PRA | Participatory Rural Appraisal |
| PST | Project Strategic Teams |
| REDD+ | Reducing Emissions from Deforestation and Degradation |
| READ | Rural Enterprise and Agricultural Development Project |
| RLC | Regional Office for Latin America and the Caribbean (FAO) |
| SDG | Sustainable Development Goal |
| SEPAL | System for Earth Observation Data Access, Processing and Analysis for Land Monitoring |
| SLC | Sub-Regional office for Latin America and the Caribbean (FAO) |
| SLDM | Sustainable Land Development and Management |
| SLM | Sustainable Land Management |
| SLUC | Special Land Use Committee |
| TCI | Investment Centre (FAO) |
| TORs | Terms of Reference |
| UNCCD | United Nations Convention to Combat Desertification |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| NDCs/UNFCCC | Nationally Determined Contributions, Paris Agreement, UNFCCC |
| VGGT | Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forest in the Context of Food Security |

SECTION 1. CONTEXT

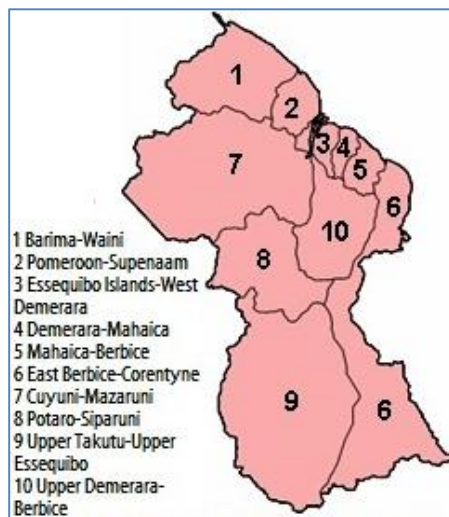
1.1. GENERAL CONTEXT

The Co-operative Republic of Guyana, commonly referred to as Guyana, is a sovereign state located on the northern mainland of South America, with neighbouring Brazil to the south and south-west, Suriname to the east, Venezuela to the west and to the north lies the Atlantic Ocean. Given its strong ties with the Caribbean Community (CARICOM), Guyana is included in the Caribbean Region.

Guyana has a rich natural resources endowment - fertile agricultural lands, mineral deposits, including gold, diamonds and bauxite, and an extensive tropical rain forest which covers approximately 85% of the country. With a very small population of less than 800,000, Guyana is classified as a lower-middle income developing country (World Bank (2015), however, it remains one of the poorest countries in South America and the Caribbean.

The country is divided into ten administrative Regions (Figure 1) covering a total area of 215,000 square km with 748,000 inhabitants at the last census in 2012.² The gross domestic product (GDP) at 2006 prices was G\$384,805Mn.³, and a per capita income equivalent to 4,090 US dollars in 2015.⁴

Figure 1. Administrative Regions of Guyana



The majority of the Guyanese inhabitants, comprising more than 90% of the country's population live in the Coastal Area (Regions 1, 2, 3, 4, 5, 6), with approximately, 90,000 square km and with a density of more than 115 people per km² and the country's annual rate of urbanisation is estimated at 0.76%⁵. It is in this coastal plain where most of the agricultural activities take place with the only exception of some large livestock farming in Region 9. Guyana has a very low development of infrastructure away from the coastal plain⁶.

Guyana's socioeconomic development has traditionally depended on a strong agricultural base (rice and sugar predominantly) along with natural resource utilisation mostly within the forestry and mining sectors. The agriculture sector contributed 13.15% to GDP in 2012 and 16.24% between 2013 and 2015. Mining and quarrying production contributed about 10.6% of GDP in 2012 of which 78% was attributable to gold production accounting for 51.1% of total export value (Guyana Bureau of Statistics, 2016). While gold, bauxite, sugar, rice and timber made up 83% of total exports (Ministry of Finance, 2016).

² Source: 2012 Housing and Population Census.

³ Bank of Guyana Annual Report, 2015

⁴ <http://www.worldbank.org/en/country/guyana/overview>, Sep 2016

⁵ Guyana Demographics Profile, 2010-15

⁶ National Land Use Plan Guyana-Summary, 2013 GLSC

With the rapid upsurge in economic activity, such as agriculture, mining and logging, and with due consideration to the pending development of the oil sector, marked with the expansion in state land leases for different uses, land degradation has been accelerating in Guyana. The Government of Guyana recognizes that the degradation trends, due to recent rates of exploitation, unsustainable land management practices and weak regulatory controls, are increasingly threatening natural resources and, if not addressed, will seriously impact on ecosystem services and functions and hence future economic growth.

Mining is a main source of employment in Guyana, estimated to provide more than 13,800 direct jobs (gold and diamond) and more than 19,000 jobs in supporting industries, including expansion of transport services, telecommunications and distribution of goods and services to remote locations. The sector also results in the generation of significant amounts of royalties that are reinvested in the economy. Currently, under the prevailing tax structure, a maximum 5% royalty is charged on gold and on Amerindian lands, 20% of the royalties are transferred to the Ministry of Indigenous People's Affairs for the benefit of the indigenous communities. With respect to gold mining, despite the downward trend in global gold prices commencing just before 2013, World Bank data indicated that in December 2013 gold production reached the highest annual production level (some 458,105 troy ounces), with a significant fall in 2014, but a leap of 16% in 2015 back to an annual production of 450,873 ounces. The GDP in Guyana was worth 3.17 billion US dollars in 2015; gold production accounting for 12.7% (a 3% growth) and 42.8% of export earnings⁷. Prospects in the diamond, bauxite and quarry stone have also been positive. Economic growth trends were sustained (4%) in 2016 and 2017 mostly from continued rapid growth of gold production and rebounding performances in construction, wholesale and retail trade industries. Mining is the purview of the Guyana Geology and Mines Commission (GGMC).

The contribution of agriculture to the country's GDP stands at 20% and it employs about 30% of the labour force; but it is highly susceptible to adverse weather conditions and fluctuations in commodity prices. Agricultural commodities, especially sugar, rice and timber, as well as edible oils, shrimp, beef, pork, and poultry are important, especially in the coastal plain regions. Agriculture also supports food subsistence of the local residence and provides staples for workers in the forestry and mining industries, which also contain immigrant populations.

The forestry sector provides a viable channel for sustainable forest harvesting, low deforestation and a low carbon economy in accordance with the Guyana's Low Carbon Development Strategy (LCDS) and Forest Act (2009). The sector creates economic opportunities and sustainable alternative livelihoods for indigenous and hinterland communities who are forest dependent.

The three sectors, mining, agriculture and forestry are key to the economy; however, they also contribute to the overall land degradation processes in Guyana, in particular, in Regions 1, 4, 7, 8, 9 and 10. Mining is identified as the main driver of deforestation and degradation and associated biodiversity loss in forest

⁷World Bank <http://www.worldbank.org/en/country/guyana/overview> (March 2016)

land. In addition to the visible impacts of mining, sand extraction, logging and agriculture; soil and water pollution due to these economic activities are also serious.

The developing oil and gas sector is positioned to impact the country's economy positively with possible increased demand of land highlighting the urgent need for good land governance policies. The U.S. Department of State 2012 report "Doing Business in Guyana" estimates that the Guyana-Suriname Basin is Latin America's third largest undiscovered oil and gas deposit, with a 50 % probability of holding 13.9 billion barrels of oil and 36.8 trillion cubic feet of natural gas. Guyana's portion of these off-shore reserves is estimated at 2.2 billion barrels of oil and 6 trillion cubic feet of natural gas. Multinational oil companies such as ExxonMobil, Shell Oil and Repsol are already working in Guyanese waters.

According to the most recent prediction for Guyana in the mining sector as it relates to oil (Latin America Newsletter Guyana: Ready for Oil Bonanza, May, 2017)⁸ *"A large amount of money is about to hit Guyana. It is now widely recognised that a series of major offshore oil and gas finds over the last two years mean that the country is likely to be catapulted into the ranks of the top five Latin American oil producers and exporters. To give a sense of the orders of magnitude involved, the value of total oil deposits now being confirmed in the Stabroek field alone is around 40 times Guyana's GDP of US\$3.3bn. On some calculations the multiple is even higher. If all goes well and as planned, when Guyana starts exporting around 100,000 barrels per day three years from now in 2020, at today's prices that will more than double the value of the country's existing exports, adding around US\$1.8bn of overseas oil and gas earnings to the approximately US\$1.3bn generated mainly by sales of other commodities such as timber, bauxite, and gold. If, as expected, Guyanese hydrocarbons exports ramp up to 450,000 bpd by the middle of next decade, the surge in annual petro-dollar revenues could be even greater."*

Expanding economic opportunities and weak regulatory controls form part of the context which ultimately facilitates land degradation and must be addressed. Additionally, reclaiming and rehabilitating degraded lands must be an integral part of all economic activities. The reclaimed and rehabilitated land should also be suitable for future alternative land uses depending on site-specific circumstances. In the agricultural and forest sectors a focus is placed on restoring the productivity of the land, including rangelands used for grazing, for continued, sustainable and viable production. In all land uses, attention should be placed to restoring the range of ecosystem services, and the biodiversity and soil formation which underpin the system, for sustained provisioning of water, food and other products, regulation of water, carbon, nutrients and climate, as well as sociocultural services.

In recognition of land degradation as a function of poverty, food insecurity and unsustainable development, Guyana ratified the United Nations Convention to Combat Desertification (UNCCD) in 1997. The National Action Plan to Combat Land Degradation (NAP) (2006, 2016), recognizes that the potential expansion of land degradation could threaten livelihoods and sustainable development, in the absence of policy and technical interventions, inadequate baseline data, insufficient inter-agency collaboration, and clear definitive measures to promote sustainable land management.

⁸(<http://www.latinnews.com/media/k2/pdf/SIP1701GuyanaOilBonanza.pdf>) ,

[illegible]

1.2. SPECIFIC CONTEXT AND JUSTIFICATION

1.2.1. Guyana Lands and Surveys Commission – Custodian of Public Lands

Over the years, expansion of land-based investments, forestry, agriculture and mining land uses on public lands have been plagued with issues of overlapping conflicts and the lack of comprehensive baseline information, base maps, geospatial data and analyses for informed decision making, as well as lack of a monitoring and management framework for public and private lands. To address these issues, the Guyana Lands and Surveys Commission (GLSC) was established and transformed from a public service entity (former Lands and Surveys Department of the Ministry of Agriculture) to a more business-oriented organization to cater for greater responsiveness of the institution through improved service and greater accountability.

Guyana Lands and Surveys Commission has the mandate to have charge of and act as guardian over all public lands, rivers, and creeks of Guyana. GLSC administers an estimated 70% of the total land in Guyana with land uses that include forestry, agriculture, mining, tourism, commercial, and industrial among others. GLSC provides the National Focal Point Agency of UNCCD (since 2003) and has the responsibility to implement the National Action Plan to combat degradation (NAP), aimed at reducing land degradation and drought and rehabilitating degraded lands. This requires implementing policies and actions to scale up sustainable land management practices and prevent loss of productivity and other negative impacts from land utilisation.

Given the upsurge in land-based economic activities in Guyana, land degradation is taking its toll on the public lands for which GLSC is mandated to act as custodian. GLSC must have the required technical expertise, land information systems, monitoring and enforcement framework as well as equipment and technology necessary to perform its land-related functions as specified under the GLSC Act, 1999. However, GLSC faces inadequate institutional, technical and infrastructural capacities to discharge its mandate and address the issues associated with Mainstreaming Sustainable Land Development and Management (SLDM) in Guyana. Given the existence of inadequate capacity, GLSC has not been able to improve its revenue base since 2001, yet there is an expectation from clients that GLSC would upgrade its services and products to meet the needs of all clients through undertaking key functions especially that of surveying and lease issuance.

1.2.2. Land Degradation in Guyana

Land degradation is characterized by the reduction and loss of the biological and economic productive capacity of the land (UNCCD). GLSC has long recognized that sustainable land management and the reclamation and rehabilitation of degraded lands is very critical in Guyana, a country considered a "high forest-low deforestation" country. Actually, the country has a record of a comparatively low deforestation rate (about 10,287 ha/yr.), relative to other forested countries. However, over the years, using the 1990's as a reference level, national rates of deforestation and land development for various purposes and hence land degradation, –while still low, have increased, more so within the last five years and mainly due to mining. In the past, there has been no comprehensive national scientific study of land degradation, or

scientific assessment, monitoring and reporting of land degradation and land reclamation solutions with trained specialists. A non-scientific four month study was conducted using observation methods and data collection to present information on land degradation in 2008. Table 1 shows estimated trends from the 2008 global assessment of land degradation commissioned by FAO/UNEP.

Table 1. Statistics of degrading areas 1981-2003⁹

| Country | Degrading area (km2) | % Territory | % global degrading area | Total NPP Loss (TC/23yr) | % total Population | Affected people |
|---------|----------------------|-------------|-------------------------|--------------------------|--------------------|-----------------|
| Guyana | 93,448 | 43.47 | 0.257 | 230,119 | 26.49 | 198,445 |

However, in 2016, the Land Degradation Neutrality (LDN) target setting pilot led by UNCCD Secretariat, in Guyana and other pilot countries, validated the use of remote sensing data to develop a land degradation baseline, using available global data sets for the three agreed indicators (land cover, land productivity - NDVI and soil organic carbon) and national expertise. Through a second phase, work is ongoing for developing the basis for monitoring and reporting on UNCCD implementation in line with its 10 year Strategy.

Guyana Forest Commission (GFC) REDD+ data shows that forested areas are under threat from mining, roads, land clearance for rotational shifting cultivation and settlements, and fire. The recent land cover analysis under LDN programme and European Space Agency's Climate Change Initiative, show areas with different rates of decline in net primary productivity (NPP) of forests, shrub and grassland, sparsely vegetated areas, as well as areas of increasing productivity under intensive agriculture on the coast and after re-growth of vegetation in the savannahs. The global data for the same period showed no change for soil organic carbon, however, exposure of peat soils to the air, releases large amounts of carbon dioxide to the atmosphere. Furthermore, excess drainage can speed up shrinkage of peat soils with loss of potential for agriculture and loss of wetlands and reduce water levels in neighbouring wetlands and conservancy areas.

Guyana forests cover approximately 85% of the country's land area, according to GFC data (<https://www.forestry.gov.gy/guyanas-engagement-with-fcpf/>) some 18.48 million hectares, the second highest in the world. It is classified as a "high forest cover - low deforestation rate" country, and while historical estimates of forest cover and deforestation rates have suffered from a lack of data and other challenges, estimates of annual deforestation remain extremely low (peaking at 0.079% in 2012 and 0.065 % in 2014). Thus, Guyana commands globally important carbon stocks (19.5 Gt.CO2eq.) and is a net carbon sink (sequestering more carbon than the nation's human activities generate). The tropical forests hold carbon in unusually high density (up to 350 tons/hectare), and store some 5.31 GT of carbon, equivalent to 6,638 tons/person, the second highest forest carbon stock per capita of any country.

⁹Source: Bai Z.G., Dent D.L., Olsson L. and Schaepman M.E. 2008. Global assessment of land degradation and improvement. 1. Identification by remote sensing. Report 2008/01, ISRIC – World Soil Information, Wageningen.

Guyana's LCDS and REDD+ programme, with important support from the Government of Norway, recognizes the trade-off between, on the one hand, developing these forests for logging, agriculture and/or extraction of mineral deposits and on the other hand, protecting the forests from deforestation and forest degradation, as a basis for maintaining critical ecosystem services, locally and globally – such as biodiversity, water regulation and especially carbon sequestration.

The national action plan to combat land degradation (NAP, 2006) highlighted the key land degradation issues in Guyana as: incidence of floods, drought, salt water intrusion in agricultural areas, and natural resource use in the mining, forestry and agriculture sectors. Drought and flooding are both a cause and an effect of land degradation, resulting from inappropriate land use and management practices and exacerbated by changing climatic patterns. The **2008 National Assessment of Land Degradation in Guyana** - Diagnostic Report - Lands and Surveys Commission (UNDP/GEF) identified areas that are potentially vulnerable to land degradation, in particular, forest and mining lands; highlighting that these could be mitigated and/or prevented if appropriate policy mechanisms are instituted in a timely manner. Based on information from stakeholders and visual observation, it was found conservatively that national degradation ranges were 150,000 to 160,000 hectares per year (extent), but were projected to increase over the next 5 to 10 years to 200,000 to 250,000 hectares per year.

While there is no comprehensive data in Guyana on land degradation status and trends in terms of extent or severity of the various degradation processes, nor the drivers such as population pressure, weak governance, inadequate tenure security and poor land administration. However, through consultations with key stakeholders and observations on the ground revealed that land degradation in Guyana, while perhaps not very visible, is increasingly occurring. Moreover, the potential exists for it to expand at an increasing rate corresponding to the increased rate of natural resources exploitation, coastal erosion and flooding, exacerbated by changing climatic patterns and sea level rise. Inadequate governance over land and natural resources and increasing conflicts were also raised as important issues.

There is a need for regular national assessments and continuous monitoring of degradation of land/ natural resources in coastal and hinterland areas and to understand status and trends, drivers and causes and impacts of degradation and effectiveness of response measures, in order to prioritise response actions for affected populations and ecosystems.

1.2.3. Degradation Causes and Restoration/Reclamation Needs

The main direct cause in Guyana of degradation of soil and water resources and loss of biodiversity is the clearing of forests and savannah vegetation due to a number of land use pressures: mining, forest logging, forest fires, settlement expansion, infrastructure and industrial development, opening up new land for agriculture and forestry, including poles and charcoal production, inappropriate agricultural practices and inadequate soil and water management to control runoff, erosion and downstream flooding. These land use pressures are addressed in more detail below:

Mining and degradation: The mining sector has the most significant impact on land degradation nationally according to the 2008 National Assessment of Land Degradation. Indeed, mining is the main driver of

deforestation (91% of total deforestation), of which the majority (85%) is observed in the State Forest Areas¹⁰, and as a result also causing forest and land degradation as well as GHG emissions.

Damage from industrial mining and infrastructure development is increasing with technology advances allowing greater geographical reach and operations area, as well as destructive practices due to uncontrolled and poorly planned interventions. Sand extraction by small-scale rural and urban dwellers for local construction purposes is also accelerating. There are associated impacts on hydrology patterns, contamination of land and water resources by chemicals, land instability as well as loss of land for productive purposes.

Inappropriate logging or clearing of forest resources: Guyana Forestry Commission (GFC) has been recognized for leadership and professional management of the nation's 13.6 million-hectare commercial forest patrimony which, with contributions of civil society advocates and organizations, has enabled Guyana to maintain one of the lowest deforestation rates in the world. Nonetheless, unsustainable harvesting of timber and other forest products is resulting in accelerated deforestation and forest degradation with loss of vegetation cover affecting soil and water resources and the microclimate. In commercial forestry, land degradation results from logging using poor harvesting techniques and inadequate mechanisation. Small-scale farmers and urban dwellers also encroach into forests for clearing new lands, access to fuelwood and other products and charcoal manufacture. Deforestation and forest degradation is estimated to account for approximately 18% of global carbon dioxide emissions from Guyana.

Unsustainable use and loss of mangroves: Overuse of mangroves for fuelwood and poles and opening up of coastal fringes and river banks for development, including tourism, result in deforestation of mangroves and degradation of exposed shorelines and ecosystems as the natural protective functions are lost, with associated risks of flooding and salt water intrusion.

Unsustainable agricultural systems and management practices: The effects of agriculture on land degradation in Guyana are caused mostly in cropping systems through nutrient mining or excessive use of agro-chemicals, erosion of topsoil, soil compaction by heavy vehicles and salinization due to inadequate drainage in irrigated systems. While in livestock production degradation results from overgrazing or poor management of animal wastes. On the basis of land use estimates some 70 - 80% of lands used for cultivation are subject to some degree of degradation¹¹.

Human settlement expansion and improper solid waste disposal: This is mainly a problem on the coastal plain where 90% of the nation's population is located and there are pressures on the land resources from all sectors. The removal of vegetation cover and loss of species and habitat diversity leave the land exposed to the elements and prone to flooding. Also, land is taken out of production by settlements while

¹⁰*Land Reclamation Project:* Ministry of Natural Resources and the Environment (MNRE,2014)

¹¹*Land Reclamation Project:* Ministry of Natural Resources and the Environment (MNRE, 2014)

improper solid waste management and disposal lead to pollution of land, air, and water, especially in Region 4 with the highest population density.

Illegal occupation and settlement encroachment, especially into pristine forest environments, results in vegetation cover and biodiversity loss, with effects on soil erosion, runoff and risks of flooding as well as greenhouse gas emissions. These negative impacts on natural resources and ecosystem services are exacerbated by unsustainable land management practices.

Inadequate governance of tenure negatively impacts on capacities of local land users to use sustainable practices and affects the livelihood of the rural poor that directly depend on access to and secure rights over natural resources. Insecure tenure rights are closely correlated with poverty, gender discrimination and lack of opportunities for youth and vulnerable groups. It constrains sustainable production of food for consumption and sale with impacts on level of malnutrition and food insecurity. In Guyana, insecurity of tenure is due to a number of issues such as limited land registration, sublets and short term leases without any legal provision, illegitimate land claims, illegal land clearing, threats to smallholders from private sector developments, lack of knowledge on laws and regulations, tenure disputes, conflicts and opportunities for corruption.

Land reform: Land Tenure Policy in Guyana has led to relaxation of the existing leasehold restrictions and eventual conversion from leasehold to freehold for all parcels up to 15 acres in size beneficially occupied for at least 25 years. Land Tenure Regularisation (LTR) is an administrative procedure to secure existing rights of people and organisations other than the State over public lands.

Land degradation and climate change: As in the rest of the region, climate change in Guyana is impacting on land resources and land productivity through increased frequency and severity of extended drought periods and seasonal weather pattern changes, as well as long-term phenomena notably sea level rise and global warming due to greenhouse gas emissions (GHG) generated through various productive, energy and industrial sectors. Drought, especially in the drier savanna lands in Regions 9 and 10, results in reduced crop and livestock productivity due to crop water stress and water scarcity and reduced grazing capacity for livestock that exacerbate overgrazing. There is serious flood risk, along Guyana's developed and vulnerable coastal plain regions due to accelerated runoff from deforested land, as well as increasing risks of **sea level rise and salt water intrusion** affecting agricultural productivity. Destruction of mangroves and coastal subsidence is also weakening the coastal sea defenses, as noted by GLSC (2006) and the updated Aligned National Action Plan to combat Land Degradation (NAP, 2015).

To address land degradation and cope with climate change, there is a need for adequate investment in land and water resources management and restoration, including land improvements through drainage and flood control in lowlands, soil and water conservation and adequate design of road drainage to reduce risk of landslides in sloping lands as well as drought risk management in drier areas (Region 9). Sustainable and responsible investments need to be promoted through incentive measures including capacity development on appropriate technologies and tenure governance and administration for secure tenure over resources

1.2.4. Weak Policy Coordination and Governance

These direct pressures on land and natural resources are driven also by weak un-coordinated policy and need for improved governance of public lands as well as population growth, market forces and climate change. According to the NAP, 2015, immediate needs to address land degradation are: dynamic, long-term programmes and project planning mechanisms that respond to land degradation, allocate more resources to the planning units within the agencies and for improving coordination among land regulatory/administration and management agencies. This requires enhanced monitoring of land degradation and identifying and promoting sustainable land management, as a high priority for Guyana in view of its dependency on the land and its resources for livelihoods and development.

Land governance Evtimov, personal communication) is about the policies, processes, rules and institutions by which land, property and natural resources are managed. This includes the manner in which decisions are made, implemented and enforced in regard to access to land, land rights, land use, and land development. All countries have to deal with the management of land and the four functions of land tenure, land value, land use, and land development in some way or another.

The weak policy and legislative framework in Guyana indirectly leads to, or exacerbates, land degradation issues and hinders the response to promote sustainable land development, management and enforce reclamation and rehabilitation of land that has been seriously degraded. Weak legislative and policy frameworks, combined with little to no monitoring and enforcement of whether or not individuals or organizations "do the right thing", act as disincentives for people to behave in an environmentally responsible manner. Good practice, such as reclaiming mine sites or applying regulations, can imply substantial time and additional costs. Some organizations and individuals are unlikely to comply or undergo these activities unless they know they are being monitored and even fined for bad practice.

The situation in Guyana regarding land governance reflects to some extent, but limited mainly to the more populated coastal regions, a general trend seen in many countries since the mid-2000. That is an increase of land-based investments, driven by several converging factors (e.g. rising commodity prices, erratic functioning of trading markets, development of special economic or tourist zones, carbon markets); in addition to rural-urban transformations and the need to face new economic, technical and social demands on land resources. These are taking place in the context of an already highly challenging situation for governance of tenure and recognition of legitimate tenure rights.

Land is a cross-sectoral resource that is dealt with through multiple policies, legal instruments, agencies and is a major concern to the diverse stakeholders that use the land resources. In this regard, a number of common issues and problems that negatively impact the way the land is managed and governed were identified in Guyana through consultations that are captured below:

- **Fragmented institutional jurisdictions and poor coordination:** Overlapping mandates among institutions, as they have been created or reformed, and limited understanding of roles and responsibilities, leads to weak and uncoordinated approaches to land management and governance and mixed messaging in the public domain. Mandates in many areas involve more than one

institution, such as land allocation and leasing, environmental protection, national parks, eco-tourism and certain forestry applications. The policies may not be well known or fully supported by all Government agencies due to conflict or competition. Coordination is not only inadequate across the range of actors (government institutions and sectors, the private sector and civil society) but also between levels of decision making (local-regional and national). Inadequate sharing of information, including geospatial data and imagery, across sectors and institutions and duplication of efforts by government agencies.

- **Lack of policy incentives and weak enforcement of regulations** for sustainable land and environmental management, and overlapping mandates, result in unsustainable resource exploitation, by mining, forestry, and agriculture, and there are inadequate incentives for accountable and responsible businesses and investments. Inadequate monitoring and enforcement protocols and weak enforcement lead to few fines being issued for inappropriate behaviour and, in turn, limited revenue for operationalising environmental strategies.
- **Sectoral and overlapping legislation:** Existing legislation hinders to some extent effective performance as it has evolved incrementally, on a sectoral and ad hoc basis, e.g. in relation to mining, forestry and the environment. Individual pieces of legislation address different environmental and land management issues, based on sectoral perspectives and in some cases new laws do not supersede previous regulations.
- **Lack of an integrating SLDM policy and planning framework:** There is no specific policy on sustainable land development and management for public or private lands to promote appropriate land uses, good management practices and integrated approaches. The absence of a clear implementation framework for land policy, legislation and lack of **land planning and management guidelines** is also a constraint to informed decision making with multiple stakeholders and promoting strategic investments in SLM as a basis for sustainable development in the short and long term. For example, hindering allocation of specific land areas for specific land uses (urban expansion, mining concessions etc.) or to secure good to moderate potential soils for agriculture in the hinterlands as a basis for national food security. This lack of guidance and inadequate capacity in integrated land use planning across sectors and levels of decision making (national to local) results in degradation of the land resource (quantity, quality) and loss of ecosystem services (e.g., through deforestation, shifting cultivation, unsustainable crop, livestock and forestry management practices, pollution from wastes and chemicals, mining, settlement expansion). Issues of land use, administration, and tenure need to be integrated into policies and strategies addressing conservation, management, and reclamation.
- **Knowledge Management and Strategic Planning for SLDM:** There is a centralisation of knowledge by national focal points and specialised offices, but few persons have the requisite skills and understanding of environmental conventions and national policy for SLDM, including in technical and education sectors. Moreover, there is no mechanism to capitalise on the successes and lessons from past projects for enhanced knowledge on addressing land degradation and promoting sustainable land management. Through an EU funded project (DLUPP) Guyana developed a **National Land Use Plan** that was approved by Cabinet in September 2013. Many land use plans have been developed over the years for specific Regions and areas: initially for Regions 1, 2 and 10 and more recently by

GLSC for Region 6 East Berbice/Corentyne in 2004, Region 9 (Sub-Region 1) in 2005, and for the Linden-Lethem-Road Corridor (2006 and Soesdyke-Linden Highway in 2007. But to date only the land use plan for Region 6 has been approved. Moreover, the plans need objective targets and performance indicators if they are to be used as a dynamic tool for promoting good land management practice, for monitoring implementation and to assess effectiveness of resource allocations. Moreover, there are inadequate tools or capacities to assess and monitor land degradation, land reclamation and landscape restoration.

- **Unclear property rights**, especially land use rights, lead to resource exploitation, and social issues, such as conflicts amongst stakeholders over the uses of the available land and other natural resources such as water and forest, with impacts on malnutrition, food insecurity, and poverty.
- **Inadequate land administration:** Limited digitised systems are in place for generating and managing information, accessing records, updating information on land tenure (information on private lands deeds / titles / concessions / estates / leases / licences, updated regularly, accurately mapped boundaries, the value of the parcel of land, legitimate tenure rights holders, monitoring of the terms and conditions of lease holder, linkages of the parcel, records of the holder and the rent payments) and on land resources for the management, administration and valuation of lands. Land administration operations are also constrained by poor access to archived records which are out-of-date and in paper copy, inefficient operations such as manual processing of land information and monitoring and separate land and deeds registers and cadastres. The EU funded DLUPP project supported the development of a **Lease Approval and Management System (LAMS) database**, an e-governance application system for registration, approval, and management to reduce errors and speed up the process of issuing land leases linked to a robust spatial attribute database. This has paved the way for regionalization, a paperless system and scientifically based approach to land leasing and hence improving GLSCs performance.
- **Inadequate valuation of public lands:** Rental charges for residential, commercial and industrial land are currently based upon valuations of the plots with structures and the date of the most recent valuation. Some plots have not been revalued for over twenty years and rents are at the 2001 level, even though, in most cases, there are provisions in the leases for annual rent reviews. There is a need for enhanced valuation and classification of public lands, in collaboration with the Guyana revenue authority and other government, or private values of land, to support realistic rental rates and land transfers, taking into account the benefits and costs of sustaining ecosystem services (non-market values) as well as contingent valuation methods in line with international standards. This would encourage private and public sector investments in public lands and would also allow policy makers to appreciate the importance of investing in SLDM, preventing degradation, enforcement of reclamation measures so as to protect land for current and future generations.
- **Constraints to land reclamation:** An active concession is liable to be classified as public land. The users may not be enforced to reclaim the land to its pre-use condition for example post-mining or logging, and the degradation or damage (holes, pits, exposed subsoil etc.) may make its use for other purposes undesirable or unfeasible (time to reclaim or investment costs exceed the potential benefits). Mining non-compliance with the regulatory framework in regard to post-operation site restoration requirements, as per the 2005 Mining Regulations and respective codes of practice, has

to some extent become common practice. This is driven by weak enforcement as well as insufficient knowledge among miners (on how to implement ecologically appropriate land reclamation intervention, the costs and time required to do so) and lack of incentives by investors to conduct good practice. This challenge has the potential to perpetuate negative long term damaging impacts on forest and land resources and therefore warrants aggressive national level intervention.

- **Community engagement capacity:** Communities are directly involved in land resource utilisation and are the direct custodians and beneficiaries of land development and management and interact with land resources on a daily basis. Some agencies notably the Ministry of Agriculture, National Agricultural Research and Extension Institute (NAREI) and Ministry of Indigenous People's Affairs have systems in place to engage and involve communities on land resource management and planning. However, support to land user groups /communities is usually implemented during projects and is not a continuous iterative process to address the affected local population and there are inadequate mechanisms in place to support awareness and knowledge sharing for land resources stewardship.

1.2.5. Information and Technology Needs for Spatial Planning and Governance

Guyana Lands and Survey Commission is the prime source and provider of accurate and up-to date geographic data for Guyana (land use, land cover, land parcels) and has 10 offices, in all Regions except 5 and 8. It is responsible for public land (76% - the rest is Amerindian 14% and private 10%) and collaborates closely with the Deeds and Land Registries, Neighbourhood Development Councils, City Councils and Central Housing and Planning Authority (CHPA).

In developing this project, a rapid diagnostics was conducted with the managers of concerned divisions of GLSC and a number of specific constraints, have been identified and outlined below, that hinder activities and operations of GLSC and partner agencies for spatial planning, as well as land administration and governance over land resources, in regard to data information availability, access and use, monitoring, analytical and planning capacities, technologies and tools. Reference is also made to the report of the World Bank mission to Guyana to **Assess ICT readiness, trade and competitiveness** (June 2016) which covers a number of actors including, GLSC, and makes many relevant recommendations such as consolidating Commercial, Deeds and Lands registries, computerisation and digitisation of the Land registry, data exchange and information flow, development of a spatial data infrastructure, business optimisation, public awareness, and stakeholder and political engagement. Some of the challenges that face the GLSC as it regards ICT needs include:

- **Outdated geographical information** and lack of updated high-resolution satellite imagery and software hinder the updating of records that are used by the various agencies dealing with land and natural resources in the country. There are fragmented data sets and limited sharing across institutions and the 2015 **National Policy on Geographic Information** calls for the development of a **national spatial data infrastructure (SDI)** by 2020. GLSC highlights the need to update the national coverage of 1:50,000 topographic map sheets from the 1960s and 1970s and additional aerial photos and topographic series from the 1980s. These are out-dated and have errors in geographic features

and annotations due to technology limitations at the time. Outdated and low resolution maps and imagery increases costs of ground truthing and mapping for private and government-led investments and, coupled with inadequate software, restricts analysis. GFC recently procured 5m imagery resolution for forest mapping and monitoring of forest cover and land use change (the data covers 121,500 km²). GLSC used this satellite imagery for developing the national land use plan and for mapping functions at large scale, however, cloud cover limited the use of this imagery and resolution is insufficient for updating 1:50,000 scale maps or cadastral mapping.

- **High resolution maps/images** are needed for geo-referencing of cadastral parcels (40cms.) and to digitize parcels in feet / acreage (1-2 meters resolution), and more detailed mapping (scale of 1:10,000 or less), for example of lease lands, land use planning and identifying available public lands for national mapping of Guyana in order to increase investment opportunities and addressing competition over land / conflicts with more accuracy. High resolution images (40cms) are required for the densely populated coastal zones (Regions 1-6; approximately 12,000 km²), as a basis to update the land parcel data and for planning, monitoring and management of lands.
- **Low resolution imagery** (up to 2 metres) is required for the rest of the country that is characterised by low population density, with settlement clusters along road arteries, near airports and mining concessions and areas of extensive forest and rangelands (e.g. Region 9), to support the updating of information and the national topographic map series.
- **Appropriate software applications and capacity development** in their use is required, preferably open-source, in keeping with human resources and financial capacities. Areas identified for support through the project include: i) mapping of updated parcels at detailed scales to identify available lands, ii) mapping of reserves, iii) geo-referencing cadastral plans, updating of stock sheets and integration with the lease management database; and iv) monitoring of occupation on public lands
- **Digitisation of records and storage:** A large volume of cadastral plans and records remains in paper format which is hard to access and deteriorates over time. GLSC is systematically scanning the cadastral plan for digitisation, but only about 10% of the cadastral plan is in digital GIS format (parts of Regions 2, 3, 4 and 6) and the process is estimated to take 3-5 years for completion. Additionally, for the LIS, there is a need to convert bound paper-based registers to digital records, including the Land Register which includes the revenue portfolio of GLSC, and the old paper-based filing system in Head Office and Regional Offices. The book based Land Register has bound GLSC to a manual system of rent calculation and invoicing which affects the analysis of current and arrear rental collection for reaching out to defaulters. This system creates delays in the retrieval of information on land, in addition to delays in responses to the court resolution of arrears. There is a lack of adequate storage of paper-based records and for housing for resources and equipment for the land information products. Data is stored locally in the different GLSC offices and is not centralised due to bandwidth problems internet connectivity). The volume of applications for titles is about 120 per month (30 per week) peaking to 240 per week, but this is expected to grow.

- **Equipment:** A key constraint is the unavailability of computer servers to host the GIS database, as well as large data and high-capacity networked storage devices for storing the high volume of scanned cadastral plans. The limited capacity for scanning paper format cadastral plans for geo-referencing and digital storage and allowing for updating of the **GIS based Land Information System (LIS)**, is a challenge for safely storing cadastral records and digitally serving the general public.
- **Inefficient Information flows:** Guyana has separate but interrelated registries, notably the **Commercial Registry** for business registration, the **Deeds Registry** for land titles called “transports” such as mortgages, leases, bills of sale etc. (Roman-Dutch system) and the **Land Registry** which deals with land titles over properties (Torrens system), whereby land is divided into blocks and subdivided in parcels. These registries are semi-autonomous and their specific tasks are governed by different Acts and require a number of information flows.
- **Lack of a data flow protocol within GLSC.** There are numerous entry points for data within GLSC, however, tracking and information dissemination mechanisms are inadequate across actors and in both directions (bottom-up and top-down). A data flow protocol would inform all users of new data entering the Land Information System (LIS), to facilitate access, tracking and analysis.
- **No integrated, interoperable data base system** exists for the storage, analysis, management and retrieval of data on land, classification, value, and tenure. There is also inadequate or out-of-date data on existing land-use, affected areas, affected populations, soil type and productivity, land tenure, physical infrastructure, social infrastructure, and population, etc. The lack of data and interoperability across agencies hinders analysis and the planning and implementation of land management and affects the policy advice and decisions regarding land. GIS investment and analysis tends to be driven by projects and sectors leading to duplication of efforts, inefficient use of resources and capacities, and limited access by potential clients. Moreover, the required expertise is lacking to make the best use of modern technological advances in information and communication technology (ICT). This is hampering the capacity to put in place effective long-term monitoring and support informed land governance for strategic decision on access to and use of land, land developments and land allocations.

The country has substantively advanced, in the framework of the climate and forest partnership between the Government of Guyana and the Government of the Kingdom of Norway (started in 2009) with the strengthening of forest monitoring system and in the preparation of essential elements for the country to participate in the REDD+ process (specifically GFC and for example with the submission of the Forest Reference Emission Level in December 2014). However, the promotion of institutional arrangements and linkages between GLSC and GFC and with the various sectors and institutions is needed to build on the already solid advances the country has made on monitoring. This would allow to address gaps in land resources information and knowledge, enhance integration and interoperability across data sets and institutions, and strengthen capacities in the analysis, sharing and use of land resources data for informed decision making. These are underpinned by the need for a policy framework and institutional standards for data sharing and management.

1.2.6. Inadequate Institutional, Human and Financial Resources

The diagnostic with the managers of concerned divisions of GLSC also identified a number of specific constraints in regard to human and financial resources as outlined below:

- **Inadequate human resources capacities:** While GLSC managers are of a high calibre, GLSC confirmed that its offices and partner agencies often lack the required human resources or enabling systems to effectively carry out their mandate, especially at decentralised levels. Past projects have contributed to training and capacity building but with the movement of staff and technical resources, there is a loss of knowledge and skills and institutional memory. Line ministries and technical /extension services tend to work in an isolated sectoral manner (Ministry of Agriculture, GFC, GGMC, etc.) without adequate strategic or operational partnerships, which duplicates / multiplies efforts, adds much red tape to government services, fosters corruption and hinders information dissemination. **The University of Guyana's** Agricultural and Forestry, Earth and Environmental Sciences and Social Sciences Faculties can support capacity development and training in the use of modern technologies but other colleges or vocational schools are limited in their capacity.
- **Capacities for surveying and monitoring public lands:** There is a severe lack of skilled technical personnel in programming, networks and systems administration and the use of geospatial information systems and resources are limited for equipment and for training. Capacity development is also needed in two specific areas. Firstly, for the identification of available lands and monitoring of accessible and inaccessible areas in terms of land use and land cover and terrain variables (soil, topography etc.) and to undertake specific, rapid assessments squatting and non-beneficial occupation of lands for monitoring and enforcement. Secondly, to develop capacity to survey, using geo-referenced aerial photos/satellite images, lease areas and public lands to be leased, to determine land use/ cover and increase the benefits generated from leased lands.
- **Financial resources are inadequate for SLDM implementation:** Funds in the national budget are insufficient for addressing land degradation and sustainable land management. Although sustainable practices are part and parcel of the mandates and work in all technical agencies dealing with land, over the last two decades, donor funds have been relied upon to implement land degradation, sustainable land management and reclamation projects.
- **Inadequate budgetary allocation to address land management issues:** There is a need for data and analysis to demonstrate the value of the land in terms of its potential and natural resources endowment. Cost-benefit analyses and options of resources degradation or sustainable use in terms of assets and opportunities can be used to leverage support for investing in SLDM.
- **Potential revenue is not recovered:** The Government loses a considerable amount of revenue due to the lack of valuation of public land resources and, while the natural resources agencies have an allocation of public land and they benefit from the collection of rents and fees from land uses, often they are not recovered since there is no stringent enforcement.

A minimum level of capacity is available to drive the required policy and institutional support for sustainable land/natural resources management but it is mainly at national level and is fragmented across multiple institutions and uncoordinated. The capacity needs for harmonised and integrated policy and planning for improved land administration, land governance, and sustainable land development, management and restoration need to be further analysed and met through developing and implementing a comprehensive but targeted capacity development / training plan for GLSC staff and staff of partner institutions. This should be anchored in sustainable academic institutions in the country and aim at enhanced technical competency and motivation through refresher courses and targeted training on emerging land management techniques. There is also a need to enhance efficiency and coordination between GLSC and partner institutions through clear division of roles and responsibilities, facilitated mobility and career development, as well as regular M&E to ensure effectiveness and relevance of training and resources allocations. Such institutional cooperation should be backed up by negotiation across institutions and as required policy reform.

1.3. PROJECT STRATEGY AND EXPECTED RESULTS

1.3.1. Project Strategy

The goal of the project **Mainstreaming Sustainable Land Development and Management in Guyana** is to establish an enabling environment for promoting sustainable and climate-resilient land development and management (and reclamation). This initiative is directly in support of Guyana's Low Carbon Development Strategy and Green State Development Strategy. In the long term it will promote good environmental stewardship and through mainstreaming SLDM and reclamation will result in improved standard of living and reduced degradation areas and trends.

The project has three main outcomes:

Outcome 1: SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT (SLDM) MAINSTREAMED IN POLICY, INSTITUTIONAL AND GOVERNANCE MECHANISMS TO PREVENT DEGRADATION AND RESTORE DEGRADED LANDS

Outcome 2: STRENGTHENED INSTITUTIONAL AND HUMAN CAPACITY FOR PARTICIPATORY AND INTEGRATED SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT

Outcome 3: LOCAL GOVERNANCE STRENGTHENED IN 3 REGIONS FOR IMPLEMENTING SLDM

While the main aim is to mitigate degradation, the focus will be placed on putting in place an enabling policy, legal and institutional environment and making available technological innovations, tools and approaches and building capacities at national level and in the targeted Regions for effective land governance and for land assessment, planning and monitoring and for the implementation of sustainable management practices and reclamation measures.

The main outputs /deliverables per outcome are specified below and the detailed activities are elaborated in Annex 1, including indicators and targets and expected timing in line with the work plan in Annex 2.

OUTCOME 1: SUSTAINABLE USE OF DEGRADED LAND

This outcome will reform/strengthen GLSCs services, capacitate human resources in carrying out mandated responsibilities and enhance institutional collaboration across sectors, levels and all agencies dealing with land, such as GGMC, GFC, and CHPA. It will provide the required governance and oversight for the harmonisation and further development of a national land policy, including policy on spatial data infrastructure, strengthening of the institutional and regulatory frameworks through measures to enhance synergy and avoid competition and overlap, incentive and enforcement measures as a basis to address increasing pressures and demands on land, reduce risks and enhance livelihoods. It will support the development and integration, to the extent possible, of the SDI platform interlinking geospatial information, the integrated land administration system and a stakeholder platform (linked to Guyana's e-governance programme <https://egov.gy/en/>) for delivering land policy, land administration services, spatial data (maps, images, plans) and enhancing citizen participation for SLDM. It will also develop a financial sustainability plan for GLSC in the short, medium and long-term for cost effective, and effective services and delivery given prevailing socio-economic conditions and standards, and encourage stakeholder feedback to continuously improve delivery to the public.¹² The financial sustainability plan would be in alignment with national strategic objectives, targets and indicators. Finally, it will build the capacity of GLSC and other agency staff and all stakeholders (public and private sector, civil society, and academia) aiming at an enhanced tenure governance through an inclusive land policy process and improved land administration system. There are 2 main expected outputs:

Output 1.1 Harmonised land policies formulated, negotiated, submitted for adoption and institutional capacities in place for mainstreaming responsible governance of tenure and SLDM

Output 1.2 Enhanced land governance through regulatory and financial systems, spatial data information management and enhanced institutional capacities.

OUTCOME 2: STRENGTHENED CAPACITY FOR PARTICIPATORY AND INTEGRATED SUSTAINABLE DEVELOPMENT AND MANAGEMENT

This outcome will lead to strengthened capacities of GLSC and partner institutions in the processes of information management, planning, assessment and monitoring and land governance for SLDM and reclamation, as a basis for meeting national priorities in terms of climate resilience and food security. It will enable capacities to be built in the design and development of an adapted open-data, national integrated land information system including a spatial administration model and updated cadastre, referred as the national spatial data infrastructure (NSDI). Capacity will also be built in the use of the integrated geospatial information systems, and in the application of adapted methods and tools for improved land administration, governance of tenure, participatory land planning, assessment and monitoring with stakeholders. In the targeted Regions, practitioners /experts will be enabled to assess,

¹²(e.g. expenditure and revenue sustainable models and predictions, breakeven points and acceptable profit margins, cost adjustments to current/ improved services in line with prevailing conditions and standards).

document and share proven climate resilient SLM practices and results through the global WOCAT-UNCCD database and through training and advocacy events, and practical guidelines such as on enhancing tenure security, territorial planning and watershed management will enable SLM practices and reclamation measures to be scaled out from parcel to landscape level. The focus will be on cost-effective and adapted technologies to the context at national, regional and local levels to ensure their sustained use and effective application and updating by concerned agencies and service providers at decentralised levels. There are 3 main expected outputs:

Output 2.1: Strengthened human capabilities for SLDM- needs assessment, consultations and institutional capacity development plans

Output 2.2: Strengthened human capabilities for SLDM - training and experience sharing workshops, materials development (training and communications) and exchange visits

Output 2.3 Enhanced physical capacity (knowledge, systems, infrastructure, and processes) for SLDM

OUTCOME 3: INSTITUTIONAL STRENGTHENING FOR SUSTAINABLE LAND MANAGEMENT THROUGH LOCAL GOVERNANCE

Outcome 3 has an implementation focus at the institutional level and on the ground with particular attention to at least three targeted Regions and areas/landscapes within those regions that face serious pressures and risks of degradation. It will focus on improved capacities of national and regional institutions (GLSC, Regional and Neighbourhood Development Councils, partner agencies, agriculture sector, University of Guyana) in working with stakeholders on the ground for effective land governance, land planning, land management and restoration. In particular it will support the development and implementation of land use plans with service providers and land users/local communities for piloting improved land use systems, management practices and reclamation measures and their scaling up across target landscapes/hotspots and monitoring impacts on livelihoods and ecosystem services (productivity, climate resilience, income etc.). There are 3 expected outputs:

Output 3.1: Strengthened capacity of actors in at least 3 Regions to assess land resources status and trends

Output 3.2: Raised awareness and capacity of local actors on land policy and governance mechanisms for enhancing tenure security

Output 3.3: Strengthened capacity for promoting territorial approaches for scaling up of proven SLM practices and rehabilitation measures

OUTCOME 4: PROJECT MANAGEMENT STRUCTURES AND MECHANISMS INCLUDING M&E FRAMEWORK STRENGTHENED

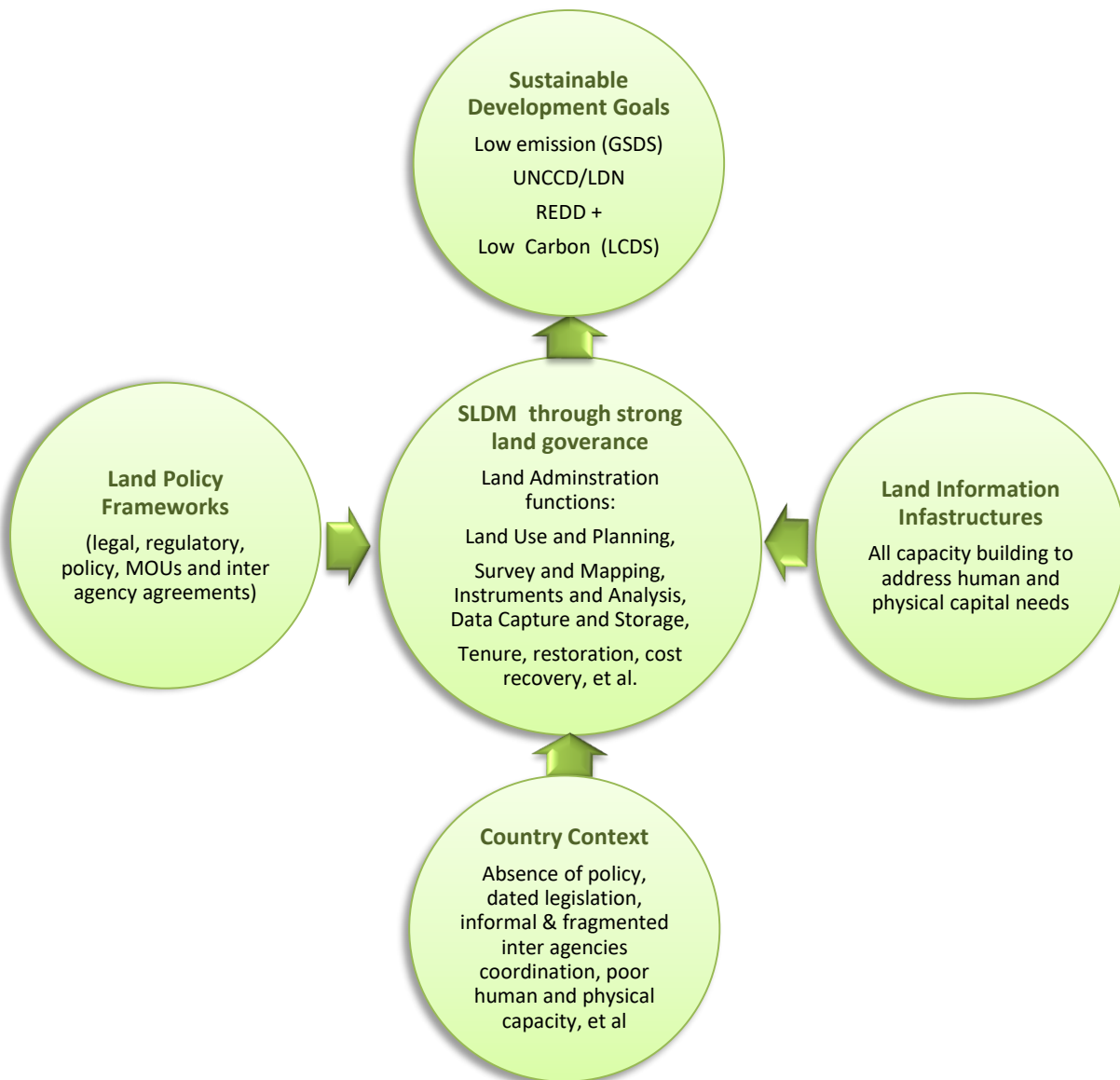
Outcome 4 will ensure effective project management, work planning and budget allocations to ensure that a competent team of experts and required software and equipment is in place and working with national counterparts and institutions to ensure that project activities will be effectively conducted and targets achieved in a timely manner. This will require mobilising effective partnerships and as stakeholder engagement at national level and in the targeted Regions and will be backed up by a communications strategy for raising visibility and interest in the project activities and sharing its achievements and ensuring their sustainability. Continuous monitoring and regular reporting on project outputs and targets will enable to track progress in regard to establishing an enabling environment for SLDM (Outcome 1), building capacities of institutions and beneficiaries at national level and in targeted Regions (Outcome 2 and 3) and contributing to national commitments and targets including Land Degradation Neutrality (LDN), Reducing emissions from deforestation and degradation (REDD+) and land related SDG targets (such as area under SLM, area of restored degraded lands, climate resilience, and carbon sequestration/reduced GHG emissions). A project steering committee will guide the project and ensure required coordination and collaboration across institutions and stakeholders throughout the project life. There are 2 project outputs:

Output 4.1: Project staff hired and management structures and mechanisms in place for effective partnerships, stakeholder engagement, communications, and procurement

Output 4.2: Project Monitoring and Evaluation (M&E) framework in place

The mainstreaming activities will take place at national level and in three Regions. The selection of targeted Regions was informed through the project baseline information and data gathering and the stakeholder consultation process including identification of constraints and risks that could affect project implementation. GLSC guided the process drawing from previous literature review of project documents and reports, geospatial analysis of degradation (LDN-TSP etc.), land degradation observations including types, severity, drivers and impacts; early warning study for climate change and reclamation work at detailed scale, backed up by interviews of key informants, focus group discussions and reviews of needs of stakeholders (GLSC divisions, government ministries and respective agencies).

Figure 3. Project Theory of change (adapted from Enemark 2005 on ILM for sustainable development)



1.3.2. Strategy/Methodology for Mainstreaming SLDM in Guyana

The strategy for the implementation of the project is based on three initial elements, namely to:

- Formalize the roles and responsibilities of all the project actors including project management (PMU), GLSC, FAO and the decision-making process through the PSC with key agencies and partners;
- Develop the work plan on an annual basis, including required human resources and budget for approval and regular progress review through the PSC;
- Establish implementation mechanisms for each project outcome to ensure effective collaboration and consultation with concerned stakeholders in achieving project outputs as well as communications and outreach.

The project results framework will be implemented through an iterative, dynamic and phased process, with several activities running in parallel:

Inception phase (3 months): Recruit staff, set up the PMU and PSC (first quarter-inception phase), review needs in terms of stakeholder platforms and initiate in depth diagnostics, participatory assessments and reviews at national level and in the targeted Regions with hired consultants and partners as required. Develop detailed annual workplan and budget for year 1.

Year 1(): Complete in depth diagnostics, participatory assessments and reviews at national level and in the Regions with project and GLSC staff, hired consultants and partners and stakeholders as required, and develop strategies, road maps and detailed plans (development, training, communications, partnership and stakeholder process, etc.) on the basis of identified needs and priorities in terms of the outcomes for SLDM mainstreaming: 1) enabling environment, 2) tools, guidelines, capacity and skills development process, 3) selection of target landscapes (watersheds or specific territories) and interventions on the ground and 4) developing the monitoring and evaluation scheme. Develop detailed annual workplan for years 2 and consecutive years, adjust budget allocations.

Year 2 and 3: Implementation of the main activities for the 3 main outcomes, through consultants or contracts with competent bodies for expertise, capacity and skills development, and appropriate consultation platforms and communications mechanisms (awareness raising, transparency and feedback from stakeholders) and monitor and evaluate project performance and impacts including conduct of the mid-term review during year 3.

Year 4: The focus will be on ensuring completion of the project activities, with an adjusted work plan in line with mid-term review recommendations, and providing required expertise for timely and quality delivery of those activities and products that are outstanding so as to successfully achieve expected results.

Project Workplan:

The general direction of the project will be guided by an overarching work plan for mainstreaming of sustainable land development and management in Guyana. The work plan in Annex 3 presents the timing and duration of activities and will guide procurement and human resources inputs for the delivery of

expected outputs. Including staff/ consultants, training and technical support. It will guide the preparation of realistic estimations of the required budget and allocations per year.

The workplan will guide planning and implementation of activities for the institutional strengthening of GLSC, with partners, to effectively execute its mandate as the repository for land and land management in Guyana, and to deliver up to date and reliable service to its clients. It will also guide capacity development activities at national level and in targeted regions with all concerned agencies and stakeholders concerned with land and the monitoring of results and impacts in line with performance and impact targets and indicators as detailed in the logframe/results matrix Annex 1.

1.4. ALIGNMENT WITH NATIONAL STRATEGIES AND COMMITMENTS TOWARDS SUSTAINABLE LAND/NATURAL RESOURCES MANAGEMENT

In keeping with a global direction for achieving sustainable resource management, Guyana's commitment to provisions of various MEAs remains a top priority and it has pledged national support through a number of environmental mechanisms. In particular, this project for Mainstreaming Sustainable Land Development and Management (SLDM), is funded through the Guyana REDD+ Investment Fund, and aligned with Guyana's Green State Development Strategy and Low Carbon Development Strategy (LCDS). It is also closely aligned with the United Nations Convention to Combat Desertification (UNCCD), in regard to drought and land degradation, and with the United Nations Convention on Climate Change (UNFCCC) in regard to climate adaptation as well as mitigation co-benefits, through the Reducing Emissions from Deforestation and Degradation (REDD+) mechanism and LCDS. These are outlined below as an important part of the baseline and critical to SLDM.

Guyana's Green State Development Strategy (GSDS), as supported by the 2017 National Budget, involves promotion of sustainable exploitation of natural resources, aiming at a transitioned economy using renewable, cleaner and cheaper sources of energy and solid waste management plans. The Strategy will guide Guyana's economic and sociocultural development over the next 15 years. The objective is to reorient and diversify Guyana's economy, reducing reliance on traditional sectors and opening up new sustainable income and investment opportunities in higher value adding and higher growth sectors.¹³ It has 6 main principles: Social cohesion and inclusion; Well-being, education and quality of life; Sustainable use of biodiversity and increased resource efficiency; Decarbonisation and climate resilience; Sustainable finance: redirecting and mobilising investments; Good governance, decentralisation and participatory processes. These are in line with and 2030 Agenda for Development and implementation of the SDGs at national level.

Guyana's Low Carbon Development Strategy (LCDS)—which aims to combat climate change while simultaneously promoting economic growth and development. It sets out how Guyana's economy can be realigned along a low carbon development path, by investing payments received for avoided deforestation into strategic low carbon sectors. These payments will catalyse Guyana's efforts to diversify

¹³ Source: - Framework of the Guyana Green State Development Strategy and Financing Mechanisms

its economy and provide new economic opportunities, employment and more efficient use of resources while maintaining a valuable forest ecosystem. The LCDS Strategy harnesses finance for strategic investments towards **reducing emissions from deforestation and degradation (REDD+)**.

Guyana REDD+ Investment Fund (GRIF) is an innovative climate finance mechanism which balances national sovereignty with investment priorities while ensuring that REDD+ funds adhere to the highest internationally recognized standards for financial, environmental and social safeguards. GRIF was established in October 2010, as a multi-Contributor trust fund with the World Bank as Trustee, following a Memorandum of Understanding between Guyana and Norway in November 2009, which committed to the establishment of a framework for results-based Norwegian financial support to Guyana's REDD+ efforts.

United Nations Convention to Combat Desertification (UNCCD). Recognising that land degradation negatively impacts on its social, environmental and economic sectors, Guyana became a signatory to the UNCCD on September 24, 1996. It has an obligation to implement its National Action Plan (NAP) to Combat Land Degradation, and commits to improve, maintain and restore land and soil productivity and mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability. Guyana's NAP has been aligned to the UNCCD 10-year Strategy (2008-18) through its endorsement by the UNCCD, which allows Guyana to synergize measures to make the land resilient to climate change and to halt the biodiversity loss that accompanies the degradation of ecosystems (i.e. across the 3 Rio Conventions– Desertification, Climate Change and Biodiversity).

A Land Degradation Neutrality (LDN) Agreement and definition were adopted at UNCCD COP12 that targets desertification, land degradation and drought and the sustainable management and restoration of degraded land. Member countries such as Guyana are expected to set voluntary targets, according to their specific National Circumstances and Development Priorities, to achieve a land-degradation neutral world such that the amount of healthy and productive land may remain stable from 2030. In addition, COP12 agreed on a minimum set of land-based indicators that will be used to measure progress; which are recommended for adoption as the primary measures of LDN globally. The LDN Agreement follows the adoption of the **Global Goals for Sustainable Development** in New York in 2014 in particular, **SDG 15.3** "By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation-neutral world".

United Nations Framework Convention on Climate Change (UNFCCC) focuses on the mitigation of greenhouse gas emissions as well as adaptation and financing needed to tackle climate change. In its **Nationally Determined Contribution (NDC/UNFCCC)**, Guyana declares to remain committed to the fight against global climate change in support of COP21 decisions in developing an international system that will effectively limit global temperature increase to 1.5C and make manifest the commitment of developed and developing nations to the agreed goal of common and differentiated responsibility for sustainable development.

Climate Resilience Strategy and Action Plan (CRSAP) of Guyana is expected to provide a comprehensive framework for adaptation and resilience building, but will require significant resources to implement.

Conditional to requisite support, Guyana will undertake actions in 8 main areas: Upgrading infrastructure and other assets to protect against flooding; Mangrove restoration; Hinterland Adaptation Measures; Development and implementation of Early Warning Systems; Enhanced weather forecasting including microclimate studies and localized forecasting; Development and introduction of crop varieties which are flood resistant, drought tolerant, disease resistant; Develop environmental and climate change awareness programmes at all levels; and Develop innovative financial risk management and insurance measures.

Convention on Biological Diversity (CBD). Guyana signed and ratified the CBD in June 1992 and August 1994 respectively. The **5thNational Report to the CBD (2014)** recognized that climate change, deforestation, and land degradation have been increasing over the past decade and are current and future drivers of environmental change and threats to Guyana's biodiversity. It identified as emerging threats to biodiversity, overfishing, depletion of the mangrove fringe, expansion of extractive industries and new settlements. The Report also highlighted the inability of severely degraded land to provide ecosystem functions and services and associated loss of environmental, social, economic and non-material benefits that could lead to problems such as food insecurity, poverty and limited development, land use conflicts and migration, damage to basic resources and ecosystems and loss of biodiversity.

Guyana updated and expanded its 3rd **National Biodiversity Action Plan (NBAP)** to reflect the new national development context, emerging threats to biodiversity and ecosystems, the strategic approach to biodiversity management, an M&E framework to measure results and resource mobilization and capacity building frameworks for its implementation. The plan is implemented via a synergistic environmental capacity development approach for biodiversity, climate change and land degradation and is mainstreaming biodiversity at various levels through Guyana's LCDS, Agriculture Strategy, EU Forest Law Enforcement, Governance and Trade; and its Sea and River Defence Policy.¹⁴

Agriculture, Food Security and Adaptation to Climate change: Guyana's vision for Agriculture seeks to promote and develop the sector to produce food and non-food commodities to meet local and export demands. The **National Agriculture Strategy** seeks to expand subsistence agriculture, promote entrepreneurial enterprise and diversify agriculture by embracing non-traditional crops and support large-scale agriculture expansion. The strategy recognizes that food security is a function of various factors such as access to agricultural land by the poor communities, land quality, soil fertility, and climatic variability with particular attention to droughts and floods. Moreover, climate change could negatively affect the food security of the country through increased incidence of droughts and flooding.

The **Disaster Risk Management Plan for the Agriculture Sector**(2013– 2018) highlights the importance of food security, notably “the need to integrate disaster risk management (DRM) in the agriculture sector as imperative, cognizant of the immense importance of the industry to socio-economic development, food, and nutrition security”. Significant efforts are being made by the Ministry of Agriculture, other

¹⁴¹⁴<https://www.cbd.int/doc/world/gy/gy-nbsap-v3-en.pdf>
<https://www.cbd.int/doc/world/gy/gy-nr-05-en.pdf>

government institutions, development partners, farmers and civil society organizations to mainstream DRM in the agriculture sector and rural communities.

1.5. FAO's COMPARATIVE ADVANTAGE

The government of Guyana has identified the Food and Agriculture Organization of the United Nations (FAO) as the partner entity best placed among others to provide the requisite project support and deliver quality and timely results. The decision was reached recognizing FAO's length and breadth of experience not only in Guyana but globally based on the unique, multidisciplinary technical and policy expertise and capacity that FAO offers in countries worldwide towards achieving its 5 strategic objectives (SOs) and contributing to the SDGs. In particular, of relevance to the Initiative for Mainstreaming SLDM in Guyana is SO2 - **Making agriculture, fisheries and forestry more sustainable and productive**; SO5 - **Increase the resilience of livelihoods to threats and crises and thereby** SO1 - **Help eliminate food insecurity and malnutrition**.

FAO assists member countries in creating an enabling environment for sustainable development of land resources in order to meet the ever-increasing needs and demands of the world's rapidly growing population and as a means for achieving Food Security for All (SDG 2). FAO is also custodian of 21 indicators for the **Sustainable Development Goals (SDGs)** and is leading work on developing indicators and monitoring methods with countries and partners in the UN system¹⁵. Additionally, since the adoption of the Voluntary Guidelines on the Responsible Governance of Tenure for Land, Fisheries, and Forests by the FAO Conference in 2012, FAO has supported over 30 countries in developing policy and building capacity and in implementing the guidelines, in partnership with tenure professionals and all concerned stakeholders. Technical expertise, methods and tools and experiences of pilot countries will be available to Guyana through this project and indirectly through the **Global Strategy for Agricultural and Rural Statistics (GS) in Guyana**, an initiative led by FAO in collaboration with the World Bank and United Nations Statistical Commission.

FAO is a leader in land resources assessment, planning, and management and uses up-to-date technologies and user-friendly and cost effective methods and tools for land assessment and monitoring, for example i) as part of the **Open-FORIS initiative** to facilitate flexible and efficient data collection, analysis and reporting, and ii) the **System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL)** - an easy to use platform which facilitates countries' access to and processing of earth observation data; and iii) interpreting geospatial imagery using a cloud-based supercomputer to overcome barriers of poor internet connections and low computing power.

FAO – together with other international partners – is advancing on national level and global studies on relations and contributions from SDG to REDD+ and vice-versa. FAO, in Latin America and in the rest of the world, has also been recognized by countries as a key partner in the enhancement of national capacities in moving towards REDD+ preparation (especially on strengthening of National Forest Monitoring Systems (consisting of satellite land monitoring system, national forest and GHG inventories,

¹⁵including on Water stress and water use efficiency (target 6.4); Land cover change, land productivity and soil organic carbon (target 15.3), Sustainable forest management (target 15.2), Sustainable agricultural practices (target 2.4), Productivity and income of small-scale food producers and access to natural resources and services (2.3); Rights and access of all to food, resources, services etc. (target 1.4)

web dissemination platforms), reporting (NDCs,...) as well as support to creation/strengthening of the enabling environment for the implementation of REDD+ and application of specific related mitigation actions.

Furthermore, FAO has developed decentralized capabilities for delivering its normative/regular programme and its field programme and projects. Thus, it will support the SLDM project through its in-country Representation in Georgetown, Regional office for Latin America and the Caribbean in Santiago, Chile (as lead technical unit), Sub-regional offices in Panama and Barbados and FAO headquarters' technical divisions and offices (CBL, CBC, OPCL, LEG, FOD, TCI, etc.). This will also draw on the availability of qualified professional staff with multidisciplinary expertise and experience in the region, including neighbouring countries to Guyana, and worldwide.

SECTION 2. FEASIBILITY

2.1. RISK MANAGEMENT

Throughout the project implementation, it is anticipated that a number of technical and logistical barriers will arise. As such, in keeping with good logistical practices for ensuring successful implementation of the mainstreaming SLDM project, a number of risk strategies have been identified to mitigate the effect of foreseeable challenges.

2.1.1. Significant Risks Facing the Project

The riskiest stages are related to project implementation on the ground and in regard to ensuring guidance for the project management team. A preliminary analysis identifies known potential risks as follows:

Table 2. Potential Risks Facing the Project

| Risk | Probability | Mitigation |
|---|--------------------|--|
| Institutions working in silos, protecting existing institutional roles and responsibilities and not sharing geospatial information among stakeholders | High | GLSC would facilitate transparent negotiation process to reach agreement towards improved collaborative cross-sectoral and harmonised process for mainstreaming SLDM and developing streamlined capacities |
| Amendments to legal documents and land policy hindered by competing interests and inadequate support to revise legislation. | Medium | GLSC would undertake sensitization of decision makers to ensure these obstacles are mitigated and there is support for reform ensuring the strategic direction of GLSC as the custodian of public lands. |
| Stakeholders' reluctance to engage and cooperate in policy and legal activities | Medium | Full engagement of stakeholders by GLSC through consultations and one-to-one agency dialogue/ engagement. Also, the provision of training and public awareness campaign. |

| Risk | Probability | Mitigation |
|---|--------------------|--|
| Active and persistent illegal mining and non-compliance with reclamation intervention. | Medium | Consultations with mining bodies and local actors involved in illegal small-scale mining; agree on ways to provide incentives for and enforce reclamation measures, develop awareness-raising and legal instruments, build capacities and monitor progress with stakeholders. |
| Weak legislative infrastructure to ensure/ enforce stakeholder compliance with reclamation intervention | Low | GLSC in consultation with actors to agree on and put in place the necessary legal and binding agreements to ensure conformity with the strategic direction for SLDM and compliance with legal amendments and application of legal instruments and other governance mechanisms. |
| Difficulties in mobilizing local stakeholders to participate in land planning and adoption of SLM practices, to use integrated watershed or territorial approaches and to rehabilitate degraded lands | Low | GLSC with concerned sectors and partners to set up local landscape level strategic teams and project animators from the respective communities and enhance awareness and exchange visits on the benefits of land plans, SLM and reclamation measures. |
| A surge in illegal land occupation or unplanned settlements in project regions or unplanned developments due to petroleum exploitation leading to increased pressures and degradation risks. | Medium | GLSC to lead land planning and zoning with stakeholders and to identify unplanned settlements/ squatters (early stages) and consultations on how to enhance land rights, allocations, leases for various actors while strengthening negotiation capacities and opportunities of weaker actors to reduce power differentials etc. |
| Project raising unrealistic expectations for employment creation particularly for the youth | Unknown | Education, and outreach programmes and awareness raising in communities and municipalities. |
| Poor cooperation from land users- smallholder and larger farmers and other users of soil, sand, water and biomass in arable lands, savannahs and forest areas (fodder, timber, charcoal, etc.) and wetlands and waterways | Medium | GLSC, with other actors to undertake awareness raising, public fora for dialogue, education materials etc. on Mainstreaming Sustainable Land Development and Management at the local level. Interventions identified to control and manage over-exploitation of resources. |
| Limited access to machinery (earthworks), transport and inputs (seed, seedlings, etc.) | Medium | GLSC to conduct selective bidding and enter into contractual agreements with suitably qualified bodies to execute identified activities with a focus |

| Risk | Probability | Mitigation |
|--|--------------------|--|
| necessary to facilitate reclamation. | | on cost effectiveness, delivery, competency, and sustainability. |
| Pressure from stakeholders to undertake implementation over wide areas in the 3 targeted regions thus thinly spreading the available resources | Low | PSC to provide rationale, due guidance and selection criteria for selection of project areas, as well as expected site-specific outputs and expected outcomes from interventions. Also, Democratic Councils to support required dialogue and consensus building with actors |
| Potential change of government priorities, duplication of efforts and/or weaknesses arising in the chain of command | Low | PSC to provide due guidance and meetings of main actors to be convened if necessary (GLSC, other partners, FAO, GRIF, Government of Norway, other donors) to negotiate and agree on way forward |
| Lack of administrative capacity and weak capacity in Regions / or misuse of funds and other resources allocated for specific activities due to weak internal and external controls (corruption or mismanagement) | Medium | Workplan and budget to be reviewed and revised in line with capacities. Project management and PSC to ensure procedures are adhered to ensure accountable use of funds and human resources, including reporting and financial monitoring. |
| Corruption and lack of transparency in the procurement of equipment and issuance of contracts | Medium | Adherence to relevant UN guidelines and National Procurement and Tender Administration Board rules |
| Poor land use planning and land development and management practices | Medium | <p>All land use planning and coordination, including for newly established towns, will be in accordance with the GLSC's Land Use Policy, principles, regulations and guidelines, which will be mainstreamed and harmonised across agencies, including the Environmental Protection Agency, which is responsible for requesting, reviewing, evaluating, and approving environmental impact assessments and risk analyses of proposed activities.</p> <p>FAO's environmental and social safeguards and standards will be implemented where necessary. There will be raised awareness, sensitisation and capacity building of local actors on land policy and governance, through a series of training programmes, focus group meetings, exchange of best practices and lessons learnt with communities and with local leaders. This will be in accordance with best practices GLSC's manual for stakeholder engagement and community strategy.</p> |

2.1.2. Environmental and Social Risks

It is recognized that both legal and illegal mining, deforestation/logging, sand extraction and inappropriate agricultural practices are the major causes of land degradation. Hence the government of Guyana has acknowledged that promoting sustainable land use systems and sustainable management practices across the range of land uses as well as land reclamation activities within the extractive mining and logging sectors will provide an effective and replicable solution towards sustainable land development and management. Incentive measures will be identified for increasing crop and livestock productivity while sustaining and restoring soil, water, vegetation and biodiversity resources, enhancing forest productivity (wood and non-wood forest products, such as honey), as well as forest biomass and carbon stocks, i.e. ensuring sustainable resource consumption. Incentive measures could be provided through, inter alia, knowledge management, valuation, taxation, and community grants for watershed management, sustaining quality drinking water supply, local markets for locally produced agro-ecological products and other support measures. Awareness could also be raised on potential payment for environmental services (PES) schemes between suppliers and buyers of specific services (water, carbon, etc.), however, recognising that these take time and resources to establish and have recurrent costs in their implementation.

The project will promote environmentally benign practices that enhance productivity and reduce the negative impacts of extractive economic activities on forest and other land resources, by demonstrating efficiency and cost-effective management and reclamation practices.

In the process, local resource management agencies and communities will be engaged to determine their willingness and build capacity to implement SLM and land reclamation. In regard to mining activities, this will include support for enhancing respect and compliance of provisions of the code of practice for mine closure and rehabilitation requirements post-mining. In that regard, poor stakeholder and community buy-in remains a prominent threat for the successful implementation of the project. Adequate stakeholder engagement, therefore, remains a core priority. To this end, the project will ensure maximum stakeholder involvement and raise community awareness through facilitating intense community participation during the implementation phase of the project and arrangements for continued actions post project.

2.1.3. Risk Management Strategy

The main risks and mitigation mechanisms were outlined in 2.1.1. For control and solution of risks or unforeseen problems that might arise, a communication protocol between GLSC and the national project management unit (PMU) will be established. When the solution of the problem is beyond the capacity of GLSC, the situation will be reported to the NPSC, which will be responsible for giving the requisite guidelines and setting the plan of action. Regular reporting by the project management unit to FAO, GRIF PMO and the project steering committee on progress and achievements will also enable risks to be averted before they seriously affect project delivery and achievements.

2.2. IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

Mainstreaming Sustainable Land Development and Management (SLDM) in Guyana will be executed under the direction of the Guyana Lands and Surveys Commission (GLSC), which has direct responsibility for taking charge and acting as guardian over all public lands, rivers, and creeks of Guyana. The commission, in the process of implementing the project, will ensure a multi-stakeholder and multidisciplinary approach of engagement. The management structure of the project will consist of a **National Project Management Unit** supported by a **National Project Steering Committee**. The project will also be supported through a project task force in FAO to ensure that multidisciplinary expertise will be accessible to the project in line with the results matrix.

2.2.1. Institutional Framework and Coordination

2.2.1.1. National Project Steering Committee (PSC)

The **national Project Steering Committee (PSC)** will have an advisory role throughout project implementation and will provide policy guidance to ensure smooth implementation of the project so as to achieve all the stated outcomes. It will (a) provide policy guidance to the project team ensuring synergies with other ongoing governmental processes (b) review project progress through annual meetings, and as required ad hoc meetings to address emerging issues, and the review of quarterly reports and c) help find solutions to address any major challenges or problems arising. The PSC will be chaired by GLSC, with FAO as co-chair, and will comprise: PMO, representatives from key organs of government with land management interest, a representative from each of the private sector (mining, forestry and/or commercial agriculture), representatives from target districts (RDCs) and civil society. The composition and TOR will be confirmed during the 1st meeting of the PSC.

FAO as implementing agency will have the overall responsibility for the implementation of this project, in close collaboration with GLSC and under guidance of the national PSC. The recruitment of project human resources, staff and consultants/ technical experts will be conducted in consultation with GLSC and in line with FAO's established procedures. The FAO recruited project staff and consultants will work with assigned staff from the GLSC to facilitate the transfer of skills and enhance capacity for sustainability.

Collaborating institutions to the project will also include, for example, the Guyana Revenue Authority, National Statistics Office as well as Private Sector and NGOs partners which will benefit from project implementation, including a wide cross-section of non-governmental and Amerindian Peoples' and community-based organizations in the targeted Regions. The project will build capacity by increasing awareness, education and skills level for SLM for the empowerment of land users in local communities, CBOs and NGOs. The stakeholders and their **respective roles in Guyana and specifically within the context of the project** are outlined below.

- **Guyana Lands and Surveys Commission, under the Ministry of the Presidency**, will be responsible for the day-to-day management of the project. GLSC acts as the guardian over all public lands, rivers, and creeks of Guyana as established by and prescribed in the **Guyana Lands and Surveys Commission Act** No. 15 of 1999, assented to, on June 1, 2001. This legislation comprehensively addresses the areas

of management and sustainable use of all land resources. GLCS also acts as National Focal Point Agency of the UNCCD. As a semi-autonomous agency, it offers flexibility for policy formulation, land tenure regularisation, the orientation of delivery of goods and services to clients, and undertaking of diverse land management projects. GLCS has 4 main divisions for executing its functions, namely, the Surveys Division; Land Information and Mapping Division; Information Systems Division and Land Administration Division. It will collaborate, as appropriate, with many other bodies for geospatial information and NDSI policy, e-governance as well as SLM implementation.

- **FAO Country Office in Guyana** will serve as the Implementation Agency (IA) for the project. It will ensure that required technical and policy assistance is effectively provided facilitate the implementation of the initiative to mainstream SLDM in Guyana. In this role, FAO will ensure that the project is executed on time, within the scope and budget and provide technical quality assurance. The country office will be supported by Regional office for Latin America, as lead technical unit, and the multidisciplinary project task force for technical backstopping.
- **The Project Management Office (PMO) of the Ministry of the Presidency** is the Government of Guyana body responsible for managing the development and overseeing the implementation of all GRIF projects. In its oversight role, the PMO is responsible for:
 - i. Monitoring progress of the project against the agreed results framework and work plan to ensure that the Executing Agency and Partner Entity to the project work to successfully achieve intended outputs, outcomes, and impacts of the project within given constraints;
 - ii. Ensuring that the GRIF funds, that Guyana has earned for its forest climate services under its partnership with Norway, are utilized by all parties for the purposes intended and within agreed frameworks;
 - iii. Ensuring that projects are developed and implemented in accordance with the vision of the Government of Guyana and in line with the LCDS, GRIF framework and decisions of the GRIF Steering Committee; and,
 - iv. Providing technical inputs and guidance throughout the project, as necessary.

The PMO is the interface with the GRIF Secretariat to obtain approvals and decisions related to the project from the GRIF Steering Committee.

- **Office of Climate Change (OCC)**, within the Ministry of the Presidency, supports work on climate adaptation, mitigation, and forest conservation. It has the overall responsibility for the LCDS. It will provide relevant technical input to the project and act in an advisory role.
- **Department of Environment (DOE)** oversees the activities of environmental compliance and management, protected areas development and management, national parks management and wildlife conservation and protection. It is the repository for environmental compliance and management in Guyana. DOE works to ensure the improvement of the legal and administrative coordination of the various sectoral initiatives related to management of Guyana's environment. The **Protected Areas Commission (PAC)** is responsible for the management, maintenance, and promotion of the nation's protected area systems in Guyana. It will be consulted as and when appropriate. The **Environmental Protection Agency (EPA)** is responsible for the management, conservation, protection, and improvement of the environment, the prevention or control of pollution, the assessment of the impact of economic development on the environment and the sustainable use of natural resources. Thus, the agency provides technical support for the integration of environmental concerns in the planning of development activities. To ensure a comprehensive, holistic and integrated approach towards sustainable operational and environmental practices, EPA will

complement the strategic direction of the SLDM project by providing technical oversight and support for promoting and ensuring stakeholder conformity with Guyana's national environmental framework.

- **Ministry of Natural Resources (MNR)** is the national authority on environmental protection and has the responsibility for mining and forestry. Further, to promote the use of the nation's land and its natural resources in accordance with sustainable management principles. The role of the Ministry will be to provide support on public awareness on natural resources and environmental issues and to effectively communicate and share strategic information amongst agencies. MNR oversees the following bodies:
 - **Geology and Mines Commission (GMC)** is responsible for the regulation and enforcement of laws in relation to mining activities. As the agency, responsible for Guyana's mining sector, GMC will function as a key stakeholder in providing technical guidance, logistical support and information relative to various project outputs based on foreseeable and emerging project demands with a focus on coordination with stakeholders of activities and outputs relating to land reclamation of degraded area relating to mining.
 - **Guyana Forestry Commission (GFC)** is mandated to manage the natural forest resources within the State Forest Estate. The work of GFC is governed by the GFC Act (2007), the Forest Act (2009) and the National Forest Policy and National Forest Plan (2011). GFC is responsible for advising the subject Minister on issues relating to forest policy, forestry laws and regulations. GFC is also responsible for the administration and management of all State Forest land. As the principle agency for managing forests, GFC will serve as a key stakeholder for providing technical guidance and logistical support relative to relevant project activities and outputs, ensuring conformity with policy and institutional directives and in keeping with national commitment under the monitoring, reporting and verification (MRV) roadmap regarding REDD+.
- **Ministry of Indigenous People's Affairs (MoIPA)** is responsible for representing the interest of the Amerindian population. **FAO's Free Prior Informed Consent (FPIC) process** will be applied to ensure that indigenous people are duly and appropriately consulted in regard to project implementation.
- **Ministry of Legal Affairs (MoLA)** is primarily responsible for the drafting of legislation, the administration of justice and providing timely and legal advice to the government and statutory bodies. MLA will be duly consulted in regard to legal and regulatory matters.
- **Ministry of Agriculture (MOA)** ensures the formulation and implementation of policies and programmes which facilitate the development of agriculture to include crops, livestock, and fisheries in Guyana. MOA contributes to the enhancement of rural life, the sustainable improvement of incomes and livelihoods of producers and other participants in the agricultural production and marketing chain; and the maintenance of a sound physical and institutional environment for present and future productive activities. It is responsible for assisting with identifying, planning, demarcating and recommending land for agriculture purposes, and monitor land use changes. In this SLDM project, MOA's role will include facilitating good agricultural practice by large and small-scale landholders as well as, ensuring compliance with SLM guidelines. Their role does overlap with GLSC, but GLSC is the custodian of public lands, and is the official national mapping and GIS policy agency. MOA depends on GLSC for support in surveying, mapping, land information system and land use planning. The conflicts are detailed in the needs assessment reports. The project should not be seen as having to do the work of other agencies or to create duplication of roles.

- **Central Housing and Planning Authority (CHPA), under the Ministry of Communities,** is responsible for the divestment of government land for residential use. It will provide guidance and technical knowledge, as appropriate, in regard to orderly and progressive development of land, urban and rural areas, granting security of tenure for residential purposes, collaboration with stakeholders for the development of sustainable communities.
- **Ministry of Public Infrastructure (MoPI)** is responsible for the planning, creation, and maintenance of major public civil works infrastructure throughout Guyana. MPI role will be in an advisory role as appropriate in regard to the GLSC infrastructure and SLM infrastructure in the target regions.
- **Regional Development Councils (RDCs)** provide administrative functions at regional levels. They will have the oversight function for determining land use within the Region and administration of land management regulations, in particular in the three regions (4, 7 and 10) that are preliminarily considered as the project's target pilot areas. In consultation with RDCs, the project will also work, as appropriate, with local Municipal Councils (MCs) and Neighbourhood Democratic Councils (NDCs).
- **Guyana Bureau of Statistics (GBS)** is the central authority and main producer of economic statistics, including national accounts, data on population, economic and social conditions of households from censuses and surveys. As such it will play an advisory role and provide assistance in the assessment and monitoring of land related SDGs.
- **Private Sector bodies** involved in the project could include private and parastatal companies/ industries that will be expected to collaborate to ensure social and environmental sustainability in their investments in land development and related economic activities, such as:
 - **Guyana Gold and Diamond Mining Association (GGDMA)** will collaborate with the project in regard to facilitating and optimising stakeholder awareness and engagement and improving post-mining compliance in terms of land reclamation.
 - **Georgetown Chambers of Commerce (GCC)** would be interested in the opening and development of commercial and industrial land uses on public lands thereby promoting business needs for investment needs and expansion of investments.
- **Non-governmental organisations (NGOs) and Civil Society Organizations (CSOs)** will provide information, technical support to capacity building and act as potential collaborators in SLDM networking and on the ground activities. In particular, **local village and community groups, inclusive of Amerindian communities**, such as National Toshias Council (NTC), are among the key beneficiaries of the SLDM project and, as such, will be directly engaged to support ongoing and future sustainable land management and reclamation interventions. The groups and their leaders will facilitate the support and involvement of target communities in effective post-mining land reclamation practices and sustainable land management practices in cropping, livestock and forestry systems, and capacity development including in conflict resolution at local levels and, thereby, will ensure enhance sustainability post project. Conflict resolution involves dispute resolution at GLSC outside the court or advice from GLSC.

2.2.1.2. Project Technical Support – Local Project Unit Staff

- a) **National Project Coordinator (NPC)** (full time) will be designated to allow for capacity building in the institution and will have responsibility for managing the day-to-day implementation of the project for mainstreaming SLDM, with support from a Project Assistant for undertaking secretarial

and communication duties. The Project Coordinator would work in close consultation with the Commissioner of GLSC and the project **Chief Technical Adviser (CTA)** on project implementation progress and any challenges arising.

- b) **Chief Technical Adviser (CTA)** (International full time) will be an internationally recruited specialist by FAO with the responsibility to provide the necessary technical backstopping and required strategic vision for successful project implementation in mainstreaming SLDM. He/she will or should have valid knowledge and experience on all aspects of the project but with a specialisation on one of the main areas (land administration or land tenure or land assessment/management/reclamation) for which he/she will play the lead technical support role. The CTA will have the responsibilities, inter alia, of liaising closely with FAO Representative and with project task force members for required support, overseeing work of FAO consultants and producing the quarterly progress reports to FAO and PMO with inputs by the NPM and administrative & finance officer, as well as ensuring the review and dissemination of products and communications across FAO offices in close consultation with GLSC.
- c) **Operations Manager** (International P3 part time, half day arrangement) will be recruited by FAO and will be required to handle all the administrative and financial matters related to FAO project implementation, including budget preparation and monitoring, financial reporting to FAO and the PMO and supervision of contracts and procurement of project materials and equipment supported by the project contracts and procurement assistant under the guidance of the CTA and RLC administrative unit. The FAO Country office will provide appropriate training and technical support to ensure compliance with the FAO Financial Rules and Procedures. The post would be based in the FAO office.
- d) **Project Communication Specialist** (full time) will be recruited by FAO and will be responsible for planning and facilitating of the project education, outreach programmes and public awareness raising activities. He/she will ensure the timely, and appropriate generation, regular dissemination and sharing of information to stakeholders on the project's implementation issues and ensuring effective stakeholders' participation and support. He/she will also manage media association activities and organise visits to project sites.
- e) **Project Monitoring and Evaluation Officer** (full time) will be recruited by FAO to develop the project M&E system and agree on indicators and assessment methods with all the stakeholders, and will develop tools and a database and supervise the continuous monitoring of project performance and results/ impacts, with attention to effective use of resources, sustainability and gender. He/she will also assist with the mid-term review and terminal assessment and continuous monitoring and evaluation of the project.
- f) **Project Administrative/Secretarial Assistant** (full time) will be recruited by FAO and will have the responsibility of managing the project office, maintaining records of correspondence and project reports, organising workshops, training sessions and public awareness events, under the

supervision of the NPM and CTA, and in close consultation with GLSC national and regional offices and key project partners.

- g) Project Contracts and Procurement Assistant** (full time) will be recruited by FAO and will be responsible for supporting the overall management and implementation of all the contracts/letters of agreement (LOAs) and procurement under the project. He/she will ensure that all contractual and procurement activities to be implemented under the project are prepared in a timely manner in accordance with FAO contractual and procurement rules and procedures. He/she will also with the supervision and administration of contracts for infrastructure work and would be supported by the Project Associate for administrative support of procurement functions. However, the management and supervision of any infrastructural works will be done by GLSC.
- h) Project Drivers/Attendants** (4 FAO, hired on time-bound PSA contracts) to ensure timely and safe mobility of the project management team and act as the project messengers. They will share responsibilities for national duties and work in Guyana as advised by the CTA and as coordinated by the operations manager in consultation with the NPC. The NPC in consultation with the CTA will also coordinate the national drivers/field attendants (2) designated and recruited by GLSC to support project implementation in Guyana and other required transportation duties such as workshops, meetings and fieldwork

2.2.1.3 Project Technical Support – Short/Medium Term Specialists

Cognizant of the need to enhance capacity and skills within GLSC, the project will identify and recruit a range of international /regional specialists, and/or as appropriate, establish contracts with competent institutions, with substantial and relevant experience in the Caribbean, Mesoamerica and South America sub-regions to provide specialist technical advice, skills training and capacity development to national experts in the capital and in target regions as outlined. The selection of experts and contracting institutions and further development of the TOR will be led by the CTA, under guidance of the PSC, and recruitment and contractual arrangements will follow FAO procedures. The required specialisations outlined below are indicative and could be further amended and specified according to needs arising during implementation.

Required expertise (consultants or contracts with institutions preferably in the Region) for guidance and capacity development (on when actually employed contracts to work as and when needed):

- a) Land Administration Expert** (International 24 months) will work with the concerned division and partners to design and establish an adequate and robust capacity to capture information and manage, update and digitise data registers on land allocation (leasing, deeds, titles etc.), and in parallel, cadastral mapping in the targeted Regions (to enhance efficiency and avoid duplication of efforts), to apply gender and social safeguards and enhance participation in and access by clients to information on land ownership and user rights (i.e. who owns/occupies what land, the purpose, rights, capital and rental land values, etc.), to prevent and rectify multiple land allocations of the same parcels and provide guidance and tools for streamlined land allocation, including transfers and other changes to tenure rights, due to markets, investments and policy/legal reforms and to resolve disputes over land

ownership and use. Specific support will be provided in the 3 targeted Regions to update the digitisation of land registers, promote the use of geospatial information and integration with the Land and Deeds registries, leases etc.¹⁶, and use of appropriate technologies and data management for good land administration and thereby sustainable management. Activities will be conducted in close consultation with the Land tenure and governance specialist, to ensure that land administration systems, laws, and procedures that are put in place do not adversely affect the rights of groups and individuals.

- b) Land Resources Planning and Management expert** (International 24 months): will provide capacity development in the use of LADA-WOCAT tools for land assessment, monitoring, data management and mapping, and the selection, evaluation and documentation of suitable soil management and restoration practices (approaches and technologies) with the help of field sampling and interviews. This will include use of WOCAT tools and database, remote sensing images and maps and analysis of degradation (type, extent, and severity, across different land uses) and SLM impacts on livelihoods and ecosystem services. The expert will lead the preparation of a revised National Land Use Plan in alignment with the Green Strategy and Green Framework of the country. The work of the revised National Land Use Plan would entail data collection, mapping, consultations in the regions, and analysis of land use options to inform a national strategy of land development for land related agencies. The expert would support compilation of soil, watershed and land data using agreed indicators and methods for monitoring progress towards the SDGs, as a basis for documenting and monitoring on-site (land user, land parcel level) and off-site (e.g. downstream) impacts of land use/management on ecosystems services (provisioning, ecological and sociocultural). He/she will promote the adoption of adapted, environmentally and socially responsible solutions/practices to address specific land degradation problems and the use of watershed management approaches as a basis for a shift towards land use systems that are sustainable, productive and resilient to climate change, based to the extent possible on scientific analysis. Recommendations will be presented to stakeholders and environmental experts to raise public awareness and develop capacity in monitoring and demonstrating impacts and identifying required support measures (funding, incentive mechanisms, policies, and regulations. The expert, with the land tenure and governance expert in particular, will work closely with GLSC and all other relevant stakeholders in reviewing existing land resources management and spatial planning regulations, guidelines and processes in the country and support the development of a comprehensive “Guyana Land Use Planning Framework” through a multi-sector and multi-stakeholder process for application at relevant scales from local to national levels. This will include inter alia, participatory negotiated territorial development, and integrated landscape/watershed management approaches. Support will be provided for capacity development in spatial planning in targeted regions for WOCAT demonstration and use for districts and communities at catchment level and in designated administrative units and territories.

¹⁶cf. VGGT principles 6.5, 8.4, 8.9, 9.8, 11.4, 11.5, 13.6, 16.2, **17.2**, 17.3, **17.4**, 17.5, 18.3, 18.5, 24.3, 24.4

- c) **Land tenure and governance specialist (International 24 months)** will work with the concerned divisions and partners to identify and address the main land administration tenure and governance issues with a focus on applying the VGGT for enhanced tenure security and access rights through support in i) Legal recognition and allocation of tenure rights for public lands, fisheries, and forests, including gender equity, customary tenure and IPs rights; ii) Guidance for transfers and other changes to tenure rights, like compulsory purchase, alienation, expropriation, etc. due to markets, investments, and policy/legal reforms; and iii) Resolution of conflicts and disputes over tenure and access and user rights including through valuation and taxation, compensation etc. The Specialist will work in close collaboration with the ICT, GIS, remote sensing, mapping, geospatial specialists, the project Land administration specialist and the Spatial planning specialist as well as GLSC divisions. A focus will be placed on education, training and awareness, in addition to developing sustainable institutional capacity in regard to land governance, and enhance tenure security and access /user rights over land and water resources. The specialist with the land management and planning expert, in particular, will work closely with GLSC and all other relevant stakeholders in reviewing existing land resources management and spatial planning regulations, guidelines and processes in the country and support the development of a comprehensive “Guyana Land Use Planning Framework” through a multi-sector and multi-stakeholder process for application at relevant scales from local to national levels. This will include inter alia, participatory negotiated territorial development, and integrated landscape/watershed management approaches.
- d) **Land Policy/Legislation specialist(s)** (International 12 months) one or two persons, as appropriate, will support the review and harmonisation of land policy and legislation in Guyana related to land administration, land governance, sustainable land management and reclamation of degraded land post mining and logging as well as geospatial information management policies and laws. This will include support in the development of an integrating national land policy, through a consultative open and transparent process, and drafting of specific texts to fill gaps and address specific constraints. The specialist (s) will work closely with and guide the legal section within GLSC to develop the land policy and spearhead mechanisms for improved enforcement of the laws and regulations dealing with land. The specialist(s) will be designated a specific national legal officer as counterpart and will be backed up, as needed, by contracts with competent institutions or ad hoc expertise for example on the mining or forestry sectors, revenue collection (valuation and tax authorities), land grabbing/ unplanned settlements/ squatters, etc. The specialist(s) will contribute in particular to Outputs 1.1 and 3.2
- e) **GIS /Web Mapping/remote sensing specialist** (International 12 months) would undertake Geospatial analysis of GLSC needs to effectively undertake its functions. This specialist will ensure that clearly defined protocols/geospatial interoperable standards are put in place for the harmonisation and integration of raster and point source data across sectors and institutions and enhance data analysis, exchange and sharing of information by the (geospatial) data producers, data users and value adders. He/she will test the application and usability of various digital data collection tools, such as Open Tenure, SOLA, EX-ACT, Collect Earth, SMART as well as data storage, maintenance and dissemination, and promote their use through on the job training. He/she will carry out gap analysis and recommend

software which GLSC will procure and develop the capacity of the staff to manage and maintain a GIS-based Land Information System (LIS) as well as, to develop a NSDI web geo-portal in close collaboration with ICT experts. He will support effective use of various images (aerial photos, satellite photos, Google maps etc.)f)

- f) **Cadastral surveyor\mapping specialist** (International 12 months) will seamlessly integrate a field-to-office-GIS workflow/data to ensure that high-quality data on land ownership and use/access rights is collected, processed (catalogued, stored, maintained, disseminated) and analysed, in the most efficient way, utilizing the geodetic reference framework as required.
- f) **ICT/Network Specialist (Data Management-Systems)** (International 12 months) will review the existing network systems such as local area network (LAN), wide area network (WAN) and the various databases and registers and put in place measures to ensure effective and efficient ICT services in GLSC for effective and coordinated delivery of its services. This will include the enhancement of the configuration and operation of the network management and software systems and confer and reach agreement with the GLSC managers and decentralised offices regarding networking and connectivity and integrated database requirements (avoiding duplication of efforts).g)
- g) **Institutional reform/finance-business planning expert** (International 12 months) will review the institutional structure and current and future requirements with GLSC staff and will support the development of recommendations for more streamlined efficient and effective work by GLSC with partners, including interlinkages with registries and other units dealing with land resources from various perspectives. This will include the development of a new strategic plan, a financial or business plan, and options for GLSC for cost recovery, etc.

FAO Technical Advisory Services (FAO staff in country, (sub)regional and HQ offices) would be provided in the following technical areas as appropriate: Land Administration/Valuation, Land Policy and Legislation, Land resources assessment, planning and management, Land governance/tenure, Geospatial analysis/mapping, ICT system specialist and management information, Institutional reform/finance-business planning, Impact assessment & monitoring /SDGs, and Gender indigenous and other social issues.

This would include direct technical support and supervision of national staff and any additional required ad hoc consultants:

- h) **Soil and Water Resources / Land rehabilitation /reclamation specialists** (International/National 3-6 months): will address specific problems occurring in the 3 targeted Regions, such as salinization, sea-water intrusion, mangrove rehabilitation, land mining and soil and water contamination, and taking into account experiences in Guyana and the LAC region. The recommendations will be reviewed by stakeholders and environmental experts and pilot tested including public awareness-raising on impacts of extractive land use and participation in the enforcement of regulations and monitoring of reclamation responses (costs and benefits) as a basis for a better-informed policy making process. They will visit project sites with project experts to assess specific problems and successes and review

available reports and case studies on land restoration taking into account topography, land use, soil type and land users, causes of degradation and successful rehabilitation responses in target areas and elsewhere. The specialists could as needed support capacity development on the job in the conduct of soil and land resources survey, soil digital mapping(using interoperable standards), land classification, etc. They will promote the adoption of adapted, environmentally and socially responsible solutions/practices to address specific land degradation problems (in forest, pasture/rangeland, cropland as well as mined and peri-urban areas).

- i) **Gender /social development specialist** (International/National 6 months) will ensure that all project activities are planned and conducted in a gender sensitive manner and take into account, as appropriate, needs of women, youth, indigenous peoples and other marginalised groups. He/she will also establish gender criteria for monitoring and for the collection of gender disaggregated data and support the application of Free Prior Informed Consent (FPIC) procedures and measures to facilitate equitable relations with all groups of people in the target communities, with attention to marginalised groups.
- j) **M&E Specialists** (International 2 persons x 1.5 months x 2 evaluations): These independent evaluators will prepare and conduct the mid-term and terminal project evaluations to evaluate project achievements, assess delivery, and identify challenges and solutions /the way forward, with a focus on effective use of resources, sustainability, and gender. The mid-term review will propose any amendments in the project strategy and results in framework as required to enhance project delivery, performance and enhanced communications and dissemination for eventual replication of lessons and experiences in other regions, as may be appropriate.

2.2.2. Management and Operational Support Arrangements

The basis of the coordination and distribution of responsibilities at the institutional level has already been outlined in 2.2.1. However, the nature of the operations is quite different for the various components of the projects and specific arrangements will be required for some activities and the planning and day to day organisation will require close working relations between the NPM and the chief technical adviser, as well as policy guidance and institutional support of the GLSC Commissioner and his staff.

In particular, the roles and division of responsibility between GLSC and FAO need to be clearly established in a project operational manual with GLSC being primarily responsible for ensuring required human resources (within its division, units, registries, data management systems etc.) as well as logistics for workshops, training and participation of actors in the targeted regions and landscapes, including local authorities and communities. This applies to all activities that involve consultations, reviews, and field work in terms of surveying, mapping, land planning, SLM, land reclamation etc.

FAO as manager of the funds, in close consultation and support of GLSC staff will be responsible for all the administrative, accounting and financial aspects of the project, the selection and recruitment of national and international technical assistance, timely provision of technical and supervisory support and for

monitoring compliance with the goals and objectives of the project. This will be done through direct oversight and established management relationship between FAO, the national PMU and GLSC.

To formalize the above issues – and others that are required for smooth implementation and division of responsibilities a Memorandum of Understanding (MOU) will be developed and signed between FAO, GLSC and the PMO and a project operations manual will be developed.

2.2.3. Contracts

Contractual Arrangements will be established with competent regional and national service providers (governmental, research, academic etc.) as required to support the project with a focus on capacity development for implementation and monitoring of expected results. Specific institutions will be identified that have required expertise for undertaking contracts under the project. As required, expertise could be solicited from a number of private sector or parastatal institutions, and contracts with such profit based organisations facilitated, for example through IICA or CARICOM, including support in the selection and hiring of specific experts.

To address specific capacity and sustainability issues GLSC has established long-term relations with Ordnance Survey (OS), British Mapping Agency, and its international arm known as Ordnance survey International (OSI). It is GLSC's expectation that through an MoU signed directly with OS and through the SDLM project, OS will ensure ongoing knowledge transfer, integration of international best practices as GLSC continually evolves, participates in thought leadership in land administration and creates a sustained generational strategy for land administration, information systems, training and development.

The agreement will ensure the sharing of expertise in the fields of geospatial data and land administration management. This could also include the selection and deployment of associated infrastructure to develop a centre of geospatial excellence in Guyana. The following activities are potentially in scope of this agreement:

- Assistance to develop the National Spatial Data Infrastructure strategy, standards and policies
- Assistance with recovery of the current CORS network as a component of a densified and integrated geodetic infrastructure. Assistance with geoid determination and integration of key stations into international and regional terrestrial reference frames.
- Through the introduction of appropriate technology, workflows and training to re-vitalise the Surveying, Photogrammetry, Remote Sensing and Mapping Services in order to produce a range of geospatial products needed to support the SDLM programme and the wider national needs.
- Support with GIS system design and application development. Deployment of web services to support an extended cross stakeholder geospatial user community
- Investigation of requirements and options to introduce modern land administration systems and services
- Joint concept identification and development for the updating of mapping products, creation and development of a business plan for mapping products and services

The scope of this arrangement covers a longer period and may be wider than that required to directly support the SDLM programme, however, it is recognised that some of these activities will contribute significantly to the achievement of Outcome 2 as far as they will - *Develop the decision support and service delivery capacities of GLSC.*

It is the wish of the Government of Guyana that Ordnance Survey and its experts operate within the overall SDLM Programme and, through agreement with FAO, take the technical lead on those SLMD activities that relate to establishing the capability and capacity included above. Areas where Ordnance Survey can take a technical lead are described throughout section 3.5. In addition, Annex 3 lists several activities where Ordnance Survey can either lead or contribute. A contract (LOA) would be established with OSI as appropriate

2.2.4. Equipment procurement

Prior to the commencement of the studies, an assessment of training needs, resources imagery (e.g. open source data, free for all government and private users/value adders, accessible through a web geo-portal), equipment and expected capacity building, for specific skills and consultations, should inform the equipment procurement. The budget contains a list of resources indicative of the needs based on the workplan.

Needed would be inter alia: Computers to support work of GLSC and FAO staff and consultants, project activities, reporting and monitoring; Off-road vehicles to facilitate GLSC and project staff mobility, transport of participants for training and workshops in the field in the targeted regions and study tours and field work for SLM and land reclamation. Equipment will be procured as required using FAO procurement procedures. The indicative list of non-expendable equipment provided below and as indicated in the budget is based on the initial needs assessment of the GLSC to enhance its efficiency.

Table 3: Non expendable Equipment

| List of Non-Expendable Equipment (Tentative) |
|--|
| Furniture for project staff (desks, chairs, filing cabinet, air conditioners) |
| Cubicles and other retro-fitting for GLSC offices |
| Computers (6 Desktops, 5 Laptops and 2 printers for project staff and 10 Desktops, 10 Laptops and 6 printers for GLSC divisions and Smart tablets for fieldwork data recording and monitoring) |
| Large format Plotter/Scanners (5000 per Y). Head office and 3 Regions |
| Satellite phones |
| Surveying equipment (total stations for surveyors, Global Positioning Systems, hand held GPSs to increase accuracy and efficiency of land information); surveying works for the development and opening of public lands for various land uses (in Regions 4 & 10, Cadastral Surveys Region 1 & 2, and fieldwork to georeference and draw AutoCAD Creation of Cadastral Plans to support the capacity development of staff and the development of a land information system, Surveying equipment (6 differential handheld GPS, 12 prismatic compasses, 12 prisms, 12 tripods, 12 walkie talkies, 36 ranging rods) |
| Differential GPS, GIS and Remote sensing software to support training, post processing GPS data and satellite imagery for feature extraction using satellite imagery, increase accuracy from updated mapping and improved capacity for client services |

| |
|--|
| Drones for detailed mapping/surveys |
| Digital Camera/Camcorder |
| Multi-media systems for training (projector\projector screen\smart board etc) |
| IT management information systems (hardware and software, network servers, cloud services) and Teammate Auditing Software, Spatial Data Infrastructure |
| Copying machine and printers (heavy duty) for regional offices to print maps and cadastral plans |
| Vehicles 6 (Four 4x4 twin cab pick-ups and two field based vehicles) |
| Satellite Imagery (high resolution satellite imagery for coastal areas covering 12,000 sq km; 2 m ortho-rectification; 8 band satellite imagery rest of country) |

2.2.5. Government Inputs

GLSC in accordance with its mandate and functions and on behalf of the Government of Guyana, will designate the national project manager, establish the PSC and facilitate the project management unit (PMU) through in-kind support, notably:

- Providing a fully equipped office in a central location in Georgetown and covering costs of functioning and maintenance (telephone, water, electricity, air conditioning, etc.).
- Facilitate contacts with all the Divisions and units in Georgetown and decentralised offices of GLSC in the targeted regions and establish agreements, if applicable, with partner organizations/institutions, public and private.
- Designate the National project manager and support personnel from GLSC for implementing the project, both in Georgetown and in targeted regions.
- Nominate counterpart staff to work with the FAO recruited project consultants during their missions and for follow-up actions.
- Provide to the PMU and the consultants all the necessary background documentation and access to databases, and ensure continuous sharing of information relevant to the project, etc.
- Facilitate the organisation of workshops, training sessions, reviews and surveys and consultations in Georgetown and the targeted regions.
- Facilitate the implementation of fieldwork (including assessment, planning, implementation, and monitoring of land plans, SLM and reclamation measures in target landscapes).
- Facilitate official internal travel of project staff and consultants and contacts with partners including RDCs and other actors in the targeted regions.
- Actively participate in all PSC meetings and any other activities as may be appropriate

2.2.6. Resource Partner Inputs

The total cost of undertaking Mainstreaming Sustainable Land Development and Management in Guyana is estimated at US\$ 15,092,277 million. Table 7 below shows the contribution of GRIF and FAO partners and Table 4 shows the distribution of the project implementation costs by purpose of expenditure.¹⁷

Table 4. Partners' contribution towards implementation cost.

¹⁷Full detail of the cost matrix is presented in Annex V (Excel budget)

| Partner | Cost | |
|---------------|-------------------|---------------|
| | (US\$) | (%) |
| Total | 15,092,277 | 100.00 |
| GRIF | 14,792,277 | 98.01 |
| FAO (in kind) | 300,000 | 1.99 |

Table 5. Summary of indicative implementation costs by purpose of expenditure and partner

| EXPENDITURE | % | PARTNERS | |
|---|------------|-------------------|----------------|
| | | GRIF | FAO |
| Outcome 1: Sustainable use of degraded lands mainstreamed | 23 | 3,418,976.71 | |
| Outcome 2: : Strengthened capacity for participatory and integrated sustainable land development and management | 30 | 4,459,534.84 | |
| Outcome 3: Institutional strengthening for sustainable land management through local governance | 28 | 4,162,232.52 | |
| Outcome 4: Project management structures and mechanisms including M&E framework strengthened | 12 | 1,783,813.94 | |
| Admin. Cost (7%) | 7 | 967,719.06 | |
| Total | 100 | 14,792,277 | 300,000 |

SECTION 3. MONITORING, PERFORMANCE ASSESSMENT, AND REPORTING

3.1. NATIONAL MONITORING AND REPORTING

Over the years, led by Guyana Forest Commission, Guyana has made much progress in developing a national forest Monitoring, Reporting and Verification (MRV) system in regard to reduced emissions from deforestation and degradation. In particular, as a means of evaluating national performance in keeping with the MOU with the Kingdom of Norway, Guyana has established a deforestation baseline (reference) for monitoring and analysing changes using a set of key indicators as noted in the Monitoring Reporting and Verification System Reports for the period 1990-2009¹⁸

GLSC has procured the third licence of the RapidEye imagery and have received the MRVS forest degradation data. However, this helps with land degradation at a 5 meter scale of each pixel but is not suitable for updating of the topographic maps which are 1:50,000 (some maps are in meters, some are in feet), geo-referencing of cadastral plans and detailed maps for land use planning and development of schemes.

¹⁸http://www.forestry.gov.gy/wp-content/uploads/2016/04/MRVS_Summary_Report_Year_5.pdf

GFC & GGMC monitoring has focused on areas with related concessions while GL&SC monitoring is focused on the country as a whole in its role as custodian of public lands, rivers and creeks.

There has been significant progress in linking resource management to the Geographic Information Systems (GIS), particularly for forest monitoring. In accordance with the national policy for geographic information it is envisaged that the mainstreaming SLDM in Guyana will complement existing gaps and needs, in particular, as it relates to monitoring of agricultural land uses (crop and livestock management), and soil and water management and land reclamation and rehabilitation measures that enhance the restoration of soil organic carbon and above ground biomass and carbon stocks. The project will also build on progress by GFC and other stakeholders and could jointly explore potential enhancement and improvement of the monitoring system. In 2017 FAO technical assistance is already planned (UN-REDD and SEPAL collaboration) on testing potential use of SEPAL and alignment of monitoring and reporting to international requirements. In addition further discussions with the counterparts will be undertaken to explore the use of several other FAO developed tools such as LADA tools for assessing land degradation processes and impacts, WOCAT tools for assessing SLM practices, EX-ACT for ex-ante and ex-post analysis of carbon balances from land and agricultural projects and investments (GHG emissions and C stocks) and SMART for assessing resilience and food security at household level.

In this regard, over time mainstreaming SLDM in Guyana will allow for the assessment of key indicator(s) on increased carbon stocks, biodiversity, productivity and sustainable use by examining changes between degraded and restored forests (sustainable forest management, enrichment planting, etc.) and the range of agricultural land use systems and management and restoration/reclamation practices in Guyana.

This data and information analysis will provide a basis for better informed and integrated land use planning and management across the forest, agriculture, land, water and environment sectors and for linking local catchment and watershed management and monitoring with national information, analysis, and reporting, through the use of standard indicators and methods.

3.2. PROJECT PROGRESS AND IMPACT MONITORING

The scope and purpose of project monitoring are straightforward, specifically:

- Ensure that the chain of command works properly throughout all the operations of the project in Mainstreaming Sustainable Land Development and Management in Guyana
- Ensure that the activities are carried out in a timely manner and with adequate coordination between them, if applicable
- Check that the outputs are of high quality and match the project's outcomes, objectives and goals as planned
- Issue early warnings when problems or delays are detected, and propose remedial actions

3.3. FOCUS ON ACHIEVEMENT OF RESULTS (OUTPUTS AND OUTCOME)

GLSC and FAO will hold joint responsibility for the project implementation. The FAO Representative in Guyana will identify the responsible unit for the oversight, monitoring and knowledge sharing. Within GLSC, responsibility will rely on the National Project Manager under Guidance of the Commissioner of Lands. Within FAO, the Chief Technical Adviser (CTA) will be responsible for project implementation and management under the supervision of the FAO Country Representative and the Lead Technical unit (to be designated). All the relevant information related to the project will be reported to the national PSC.

A project inception report will be provided to the PSC after the first 3 months of the CTA. **Annual project implementation reports (PIR)** will be submitted jointly by the NPM and CTA to the GLSC, PSC, PMO and FAOR. The NPM and CTA will be responsible for supervising and following the course of activities by project staff, supervising consultants and contracted bodies (institutions and service providers in target areas) to obtain and review draft reports and products/results (training materials, presentations, fieldwork) when arriving to the expected completion date for each activity, to liaise with technical divisions and units in GLSC and FAO as appropriate for technical clearance, to manage the workplan and budget allocations and monitor progress and budget delivery, including an early warning system for detecting risks/events that may cause delays.

Besides this, **quarterly reports of progress** under each output will be required during the implementation of the project's three thematic components/outcomes, backed up by the 4th outcome on project management and monitoring, will ensure adequate data collection and analysis (see outputs and indicators in Annex 1). The quarterly reports will be made available to the GLSC that will, in turn, share them with the PSC, PMO, and FAOR (with comments, observations, warnings, and suggestions, as applicable). Annual reports will be submitted to the Trustee as agreed in the funding agreement.

National/international consultants recruited during the course of the project will be required to produce and submit **reports** according to their Terms of Reference. Short-term consultants will report after completing their missions. Long-term consultants will be required to present periodic reports as stipulated in their TOR. The CTA and national project manager and the appropriate FAO office and/or technical unit will be responsible for clearing the consultant's reports.

3.4. PROVISION FOR EVALUATION AND AUDIT

In line with FAO procedures, it is envisaged to undertake a project mid-term evaluation and terminal evaluation. The project planning provides for the recruitment of two independent monitoring and evaluation experts to undertake the mid-term and terminal evaluations. The envisaged evaluations are expected to provide accountability on results, lessons learned and recommendations for the improvement of the future project performance and an evidence-base for informed decision-making. It is therefore accepted that adequate provisions for the project evaluation are already included at this project formulation stage.

The audit will be done in line with FAO Auditing rules, regulations and procedures.

SECTION 4. SUSTAINABILITY OF RESULTS

4.1. POLITICAL COMMITMENT

The Project is in line with the President of the Cooperative Republic of Guyana's vision of a Green economy and the Low-carbon development strategy and the NAP-UNCCD in Guyana. Cabinet has approved the aligned NAP to combat land degradation (2015-2025), which has been endorsed by UNCCD. Further, the Land Commissioner and National Political Focal Point of UNCCD is responsible for Guyana's commitments to implementing the Convention and addressing land degradation and drought through the recent alignment of the national action plan to the UNCCD 10 year strategy and the ongoing Land Degradation Neutrality target setting process (LDN-TSP) which seeks to align Guyana to the 2030 SDG agenda for achieving land degradation neutrality (Goal 15).

4.2. PROGRAMME STRATEGY, ORGANIZATIONAL CAPACITY, AND DATA MANAGEMENT

The project will facilitate continuous integration and synchronization across the relevant land and natural resource management agencies through interactive digital platforms and communication channels as well as effective coordination mechanisms and collaborative arrangements. This will include:

- Improved capacities of national and regional institutions (GLSC, RDCs, NDCs, partner agencies, agriculture sector, University of Guyana) in promoting land governance, land planning, land management and restoration on the ground
- Improved capacity of GLSC in its role as national focal point to the UNCCD in regard to strategy development for promoting investment in SLM and reclamation and monitoring on progress in line with SDG 15.3 on LDN and other land related SDGs
- The needs assessments and baseline studies conducted at national level and in the 3 regions would provide a status report of land resources condition and would support the monitoring of identified indicators and targets to achieve sustainability and contribute to reporting towards the Rio Conventions and SDGs
- Institutional capacity will be built through the design and development of an open-data, national spatial data infrastructure (NSDI) that is designed with and accessible across institutions. The process will be informed as result of exchange visits/ experiences sharing on available models and tools and through an in depth NSDI diagnostics, road map and action plan (3-5 years) for the NSDI and its online portal and 1-2 regional pilots
- Capacity built in GLSC and partner institutions in the development and use of integrated information systems, methods and indicators for improved land administration, governance of tenure, land planning, assessment and monitoring with stakeholders

- Minimum set of agro-environmental indicators agreed on for monitoring on the ground and contributing to LDN and REDD+ target setting and related SDGs by mid-2019, and used for monitoring interventions (continuous)

4.3. FINANCE & FUNDING STABILITY

Throughout the life span of the Mainstreaming Sustainable Land Development and Management project, GLSC will explore, especially through the business plan and financial sustainability strategy to be developed under the project, the most direct and forthcoming channels for securing financial contributions to ensure sustainability and reliability of project interventions and use of project products to achieve results. The land sector is arguably the basis for investments and readiness for business in Guyana and is dependent on the facilitation of land issuance of public lands. The finance sector is committed to promoting economic growth which requires allocations to be provided to support the administration and management of land. In particular, the financial sustainability of GLSCs activities in land administration and management will depend on a number of measures:

- Drafting of a GLSC long term business plan, including financial sustainability strategy and road map, for adoption by GLSC Board and immediate implementation
- Support for efficient streamlined land transactions as the first element for an investment by government and the private sector including mechanisms for land valuation, registration, allocation of deeds, conflict and dispute resolution and legal arbitration among others
- Funding allocated for digitising paper-based records to a digital system of data storage for easy retrieval and ease of analysis and the training of human resources in the use of land registration software. Up to date data records would provide easy access and enhance the identification and follow-up of defaulting arrears of leaseholders and hence enhance revenue
- Sustainable land management framework backed up by monitoring of land resources, prevention of illegal occupation, and security of leasehold arrangement for public lands as a basis for enhancing responsible investments in land and increasing national revenues
- Support in the classification of lands for land valuation as a basis for appropriate and planned development of land for residential, agricultural, commercial and industrial purposes. Land values need to be adjusted to reflect the actual and realistic value of land. The services of land valuation should provide finances necessary to sustain the activities of land valuation and development.
- Establishment of a land reclamation/rehabilitation fund through Private sector contribution
- Government Annual Budgetary allocation
- Institutional cash and in-kind contributions

4.4. PROJECT EXIT STRATEGY AND RELATED HANDOVER MECHANISM

The project exit strategy will entail concerted mainstreaming and prioritizing of sustainable land management and land reclamation/ rehabilitation within the respective government land resource management agencies during the life cycle of the project. Target institutions will include among others,

GLSC, MNR, GFC, GGMC, EPA, and GGDMA and farmers' organisations. These institutions will play a pivotal role in developing a harmonised land policy and land planning guidelines, promoting the VGGT principles, helping stakeholders to develop and implement land plans and SLM and reclamation activities in the 3 targeted regions and effectively monitoring and enforcing relevant regulations within mining, forestry and agricultural sectors and industries.

The strategy will also include enhancing inter-institutional coordination towards SLM and land reclamation/ rehabilitation including monitoring and enforcement of relevant policies and regulations through established protocols for collecting, analysing and sharing of critical data and information relevant to SLM and land reclamation/rehabilitation interventions.

Respective government land management agencies will further identify focal points within the respective agencies that will provide continuous support for institutional level dialogue and participation in SLM and land reclamation/ rehabilitation interventions.

Strengthening GLSC's Management Information Systems along with other interventions are set to target three (3) regions, consideration and an effective exit strategy for the sustainability of the similar works for the remaining Regions should be done to fully deploy the LIS as part of the project exit strategy.

SECTION 5. COMMUNICATION MANAGEMENT AND STAKEHOLDER ENGAGEMENT

5.1. COMMUNICATION MANAGEMENT

In this project, the communication strategy is clearly divided into three levels of intervention and outreach, as well as an eventual fourth, namely:

- Information to relevant national and district level stakeholders, to mobilise their buy-in and involvement in the definition of the scope and thematic coverage of the project activities in mainstreaming SLDM in Guyana and to regularly share results;
- Public awareness to obtain feedback and suggestions from stakeholders and enhance collaboration and synergy with other projects and partners and reduce risks of duplication or conflicts of interests;
- Communications through local consultations and media as a basis for communities' sensitisation and mobilization for action planning and project implementation on the ground;
- To the extent possible, sharing experiences within the LAC Region and with UNCCD partners.

Communication and interaction with national stakeholders will be done through a project flyer, website and regular consultation fora and workshops to solicit and monitor cooperation, collaboration and as appropriate material contribution towards the implementation of the project.

Public awareness to inform on the oncoming project activities on the ground in the 3 target districts will be aimed at sensitizing the mining, timber and farming communities and Amerindian Peoples to ensure that they have a good understanding of the nature and objectives of the project in Mainstreaming

Sustainable Land Development and Management in Guyana, including use of FAOs Free prior informed consent (FPIC) procedures.

As for the communities' mobilization for action planning and project implementation on the ground, in principle three stages are envisaged, namely:

- Field visits to consult with respective leaderships and identify potential project sites and to conduct introductory meetings with the relevant mining, timber or farming communities as applicable.
- Undertaking of participatory diagnostics in selected catchments /territories using PRA tools and stakeholder workshops for the purpose of collective action planning of activities on the ground.
- On the ground, local level communities 'organisation (groups, associations etc.) for participatory implementation and monitoring of activities to enhance community ownership and sustainability.

The project also provides for the subsequent elaboration and publication of progress reports, **mid-term review and Terminal evaluation Reports**, as well as their dissemination to relevant decision makers and in turn communication of results and findings to project stakeholders. It shall be the responsibility of the PMU to ensure the technical validity of the communication materials and reports as well as to ensure inputs from other partners and guide on distribution, as needed.

5.2.1. Communication and Visibility Plan

A communication plan will be developed during the first 6 months of the project by the communication specialist with the project team and GLSC staff and through consultation with all concerned stakeholders. The aim will be twofold. Firstly, the project will ensure transparency and effective dissemination of information on related activities and expected results, and provide a mechanism for feedback and interaction with stakeholders. Secondly, the aim will be to enhance the visibility of GLSC mandate and activities and the importance of improved land administration, land planning and governance of tenure and access rights over land and natural resources for achieving sustainable land development and management for today, the present and future generations of citizens in Guyana and to contribute to the global goals of good environmental stewardship and natural resources management. The linkages to SDG Goal 15 are well documented for the three Rio Conventions. SLMD will include information sharing and consultations for the project outcomes and expected results.

The communications/ information management could enhance the following: -

- 1) Dissemination of information on land management and development to improve land uses, land planning and management practices by leaseholders,
- 2) Address legal questions and updates on area regularization and other issues affecting communities on public lands,
- 3) Improve coordination and facilitation of land information to leaseholders,
- 4) Improve land tenure security on public lands for residents without land titles by addressing land questions and conflicts and communicating matters to the Commission for support in their resolution,

- 5) Increase knowledge of legal rights and tenure jurisdiction among other land agencies and the public,
- 6) Increase knowledge among land and natural resources agencies of GLSC Act and the procedures that reduce issues of conflicts and overlapping legislation,
- 7) Reduce land use conflicts and disputes due to the increase of knowledge of agencies' functions and mechanisms to resolve conflicts and disputes within state entities,
- 8) Established indicators of achievement to monitor and disseminate information and prepare feedback, analysis and evaluate progress, to assess and document impacts and effectiveness of implementation of activities and their dissemination for awareness of clients through the communication and visibility plan,
- 9) Written records of activities to track work and to inform decision making and to identify and address required follow up actions by GLSC and other stakeholders.

The aim of the project Communication and visibility strategy in SLDM is to encourage a wider network of national, regional and international exchange of information. This would also have a more extensive impact through, for example, exchange of Guyana's experiences through hosting of the UNCCD Conference of the Parties (COP) in 2019 and/or Committee for the Review of the Implementation of the Convention (CRIC) and/or associated regional technical workshops on key aspects of mainstreaming SDLM. This could include, for example, sharing experiences on technological innovations and tools for linking land policy/legislation, land administration, land use planning, land governance (VGGT principles) and watershed or territorial approaches and incentive measures for promoting effective SLM adoption and reclamation measures.

The target audience is grouped as follows: -

- 1) The Public- The communication of information for land users in areas such as land management and development options, tenure, policy and legal functions among other areas would involve the targeted members of the public. The role of the public is to support the land resources which are vital for livelihoods and includes resources such as water, food, and ecosystems. This group includes leaseholders, legal and illegal occupants and academic Institutions.
- 2) Policy makers- Information needed for this target audience should include a national policy on GLSC's functions such as Guyana's sovereignty, land administration, surveys, land information, and procedures; policy related to United Nations Convention to Combat Desertification (UNCCD) and its voluntary target-setting programmes and projects.
- 3) Institutions - The strengthening of human resources capacity- the staff of the Guyana Lands and Surveys Commission and partner institutions through project implementation.

Communication and visibility would entail the following: -

- Press releases- should be utilised to commence and announce results of activities on the ground. Each press release should contain a title of the event, essential outputs and activities, limited background information with contact details for further information;
- Public events and visits by authorities, technical experts, and the press to enhance outreach and community consultations;

- Public Information Campaigns and events such as World Day on Desertification (16 June), World Soil Day (5 December);
- Information and banners on technical workshops, consultation fora and meetings and on the job training;
- Promotional posters, leaflets, brochures, and newsletters- on the procedures, processes, project outputs and activities and GLSC mandate, vision and support in addressing land issues and resolution of conflicts and disputes, including changes in policy and procedures, as appropriate;
- GLSC Website including up-to-date SLDM project information;
- Display panels on strategic events in key locations to increase information dissemination and plaques for new infrastructure;
- Vehicles, supplies and equipment, buildings and correspondence clearly marked with GLSC name and/or mainstreaming SLDM project logo;
- Display area in the target regions and at public information events of GLSC and partner activities including information on land registers, surveying equipment, maps, land use plans, and photographs- archive of progress in securing land tenure and promoting SLM and restoration;
- Audio-visual materials, learning kits, standard operating procedures, manuals, guidelines, GLSC functions and processes, for example for lease issuance and transfers, could be displayed, and made available through information events in electronic format and the GLSC's website, as well as advertisements, infomercials on GLSC functions through print media where cost effective.

5.2.1. Communication and Visibility Reporting

Reports prepared for project and programme activities should be prepared and available for dissemination via the GLSC's website and other print media, as appropriate, to assure transparency of the project implementation, and sustained programme execution.

Project Reports, Evaluation Reports, Progress Reports and minutes of conferences, workshops, training, press conferences, opening, closing workshops and any other event are to be maintained by the Project Unit and GLSC.

5.2. STAKEHOLDER CONSULTATION AND ENGAGEMENT PLAN

5.2.1. Stakeholder Consultation

An operation of the size and importance and complexity as the initiative for Mainstreaming Sustainable Land Development and Management in Guyana involves a great number of stakeholders. Thus, during the SLDM project development process a wide stakeholder consultation process was organised by GLSC and the FAO-Guyana Country Office.

Consultations took place with 41 stakeholders during November 2016 with many government institutions including Guyana Lands and Surveys Commission (GLSC), Guyana Environmental Protection Agency (EPA), Guyana Geology and Mines Commission (GGMC), Guyana Forestry Commission (GFC), IWOKRAMA - International Centre for Rain Forest Conservation and Development, Ministry of Natural Resources (MNR),

Protected Areas Commission (PAC). Field visits were also made to a few target sites and Regions and initial contacts made with Regional Democratic Councils (RDCs), municipalities, and individuals representing private sector and non-governmental organisations (NGOs).

Also a wide stakeholder sensitization and validation workshop was held in Georgetown on 4th March 2017 with 101 stakeholders and representatives of all the main actors involved in land management and governance, including those involved in the legal, regulatory and policy, land management and land use related agencies, private sector, indigenous groups, finance, urban planning, environmental and conservation, natural resource management, agriculture/livestock sector, forestry and mining sector, NGOs and climate change and biodiversity entities among others. This allowed the stakeholders to evaluate and make known their requirements to fulfill their respective roles in project implementation, and those are included in the project design. The results framework with detailed objectives, outcomes, outputs, and activities was shared (written version) and discussed in working groups and valuable suggestions were provided on the project strategy and results framework and duly incorporated.

Thus far, stakeholders, in particular those at regional, municipality and indigenous community levels, have welcomed the project proposal as an employment creation opportunity for the youth and have not reported major concerns or objections regarding the implementation of the SLDM project in Guyana.

A previous version of the draft project document (version 1) was posted on the GRIF website for 20 days in May for prior disclosure and to obtain feedback and concrete suggestions from stakeholders for finalization of the project document. Comments were received from the Government of Norway, British Ordnance Survey, and a representative of Amerindian Peoples (TAAMOG) and by many technical units and offices in FAO. The comments and suggestions were duly reviewed and addressed, as appropriate, by an ad hoc task group between FAO and GLSC and this version (2) of the project document reflects the proposed changes.

During the first year of project implementation, further consultation mechanisms will be put in place, as appropriate within each target Region, with farmers' associations, tourist board, private sector representatives, representatives of indigenous peoples, municipalities/local authorities, to ensure all direct and indirect interests in SLDM are addressed and to ensure support and sustainability of the project outcomes and outputs.

Engagement will be enhanced through consultation fora, technical workshops, participatory rural appraisals including the use of several land diagnostic and assessment tools. The project will make available and promote the FAO developed holistic, participatory and negotiated approach to land use planning and territorial development for enhancing governance and resolving conflicts over land resources. These processes will facilitate achieving direct and interactive feedback between stakeholders and the project team so as to ensure that stakeholders at local/community levels are directly involved in the project implementation and decision-making processes.

FAOs Free prior informed consent procedures (FPIC) will be applied for due consultation with indigenous peoples during the implementation of the project. During the design phase, Amerindian Peoples' representatives were involved in the stakeholder consultations and comments were received on the project document (version 1) that was posted on the GRIF website.

Grievance Mechanism: Stakeholders shall settle any grievances concerning the implementation of the SLDM project in Guyana through discussions or any other peaceful means of their choice. Also, stakeholders shall consider and adopt procedures and institutional mechanisms for the resolution of questions that may arise with regard to the implementation of the project.

Indigenous Peoples¹⁹

For sustainability and success of the project, in the targeted Regions where activities will be conducted in the target sites /landscapes on the ground, concerned indigenous communities should participate, as appropriate, in project activities in regard to land administration, land planning, sustainable management and reclamation of degraded lands from mining and unsustainable agriculture and forestry practices. The SLDM project will address all public lands except for those being addressed by the Amerindian Land Titling (ALT) Project, which will enable Amerindians to secure their lands and natural resources with a view towards sustainable social and economic development. It is expected that titling and demarcation will strengthen land tenure security and the expansion of the asset base of Amerindians, thus enabling improved long term planning for their future development. This does not exclude GLSC from providing support to communities under the ALT project. The land related activities will put in place measures that promote fair and equitable benefits sharing among all members of the selected target communities to benefit from the project activities and resulting sustainable land/natural resources management and land administration and security of tenure within their areas.

In this regard, the issues of cultural and ethnic considerations, including the application of the principle of free, prior, informed consent (FPIC) will be taken into account during the project implementation on the ground.

During the stakeholder workshop (March 2017) to obtain feedback on the project proposal, representation of Amerindian peoples and the Ministry of Indigenous People's Affairs (MoIPA) was ensured that such involvement will be facilitated throughout project implementation. The comments received on the draft project documents (version 1) from the Indigenous Peoples representative have been duly addressed in this document.

Gender Equality

¹⁹Indigenous peoples is the internationally agreed term (United Nations Declaration on the Rights of Indigenous Peoples) and it encompasses tribal peoples, natives, First Nations, "pueblos originarios, pueblos autóctonos", nomadic and pastoralists, aboriginal and traditional peoples.

Gender issues will be considered in Mainstreaming Sustainable Land Development and Management in Guyana, which involves all persons living or working in areas engaged in mining, forestry or agricultural activities.

In principle, it is planned to sensitize and mobilize all stakeholders and all members of target communities to take an effective role in the project action planning and implementation with particular sensitivity to their needs according to gender, age, ethnicity, etc.). To avoid bias, it will require an appropriate identification and monitoring of the relative roles of women and men and specific groups such as youth and elderly during project implementation including participation in activities and decision-making roles. Particular attention will be made to ensure effective representation of women in decision-making roles during project implementation.

To further mainstream gender issues in sustainable land management, a gender social/community development specialist will be recruited to ensure due attention to gender issues and social inclusive processes.

Human Rights Based Approaches, Including Right to Food, Decent Work, Accountability to Affected Populations

As mentioned above, by the nature of the project operations the implementation of the SLDM in Guyana by itself will have a direct impact on the issue of human rights through enhancing responsible land governance and tenure and access and user rights and as required tenure reforms. This will be done through awareness raising and identifying gaps and barriers that need to be addressed to enhance tenure security with particular attention to family farmers and rural communities.

Mainstreaming Sustainable Land Development and Management will have a strong bearing on food security, through land planning to ensure that, to the extent possible, lands that are suitable for agriculture are sustained for productive purposes (crop, livestock), to enhance aquaculture and horticulture in peri-urban areas for income and livelihoods and to reduce negative impacts of mining, tourism and urban expansion in terms of loss and damage to productive lands through excavation, contamination etc.

The agricultural sector in Guyana and the coastal hinterlands are highly sensitive to adverse weather conditions and flooding due to sea level rise. The SLDM project will also promote sustainable land management practices, soil and water and biodiversity conservation, flood control and drainage systems that help local farming communities to adapt to and mitigate climate change and reduce risk to crops, livestock, human life and wellbeing.

In addition, it is envisioned through the implementation of the Mainstreaming Sustainable Land Development and Management project that secure employment opportunities will be created at local levels in target landscapes. Particular attention will be made to ensure equitable representation of women and men in the employment opportunities arising from the project implementation, thus making a substantial contribution towards alleviating poverty and enhancing human wellbeing at local levels.

ANNEX 1. FAO LOGICAL FRAMEWORK MATRIX²⁰

Project LogFrame – Mainstreaming Sustainable Land Development and Management (Sept. 2017- Sept. 2021)

The outcomes and outputs of the project are crosscutting in nature and are expected over the life of the project to ensure net positive impact of land reclamation and maintaining forest cover whilst enabling continued sustainable development and improved livelihood opportunities for the country’s population. Activities and inputs and expected targets and indicators are also provided in the Matrix below.

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|---|--|---|---|---|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| Goal - Impact²³ Sustainable Land Development and Management mainstreamed into national policies and programmes for the sustainable management and utilization of natural resources (land, soil, water, climate and genetic resources) for the benefit of present and future generations in Guyana and in support of Guyana’s Low Carbon and Green State Development Strategies. | Harmonised land policy & regulatory framework in place for SLDM and GLSC providing improved support for land administration, planning, sustainable land management SLM and reclamation of degraded lands, through enhanced capacity, contributing to improved livelihoods, resilient populations and climate mitigation in target regions. | Fragmented policy and legislation Weakly coordinated divisions and information on land GLSC limited capacity to fulfil its mandate Degraded land and natural resources affecting livelihoods and ecosystems and future development opportunities. | 90% of GLSC staff and staff in key sectors trained and using updated policy, tools, information systems for supporting sustainable land administration, governance, management and restoration Harmonised land policy and land use plans being implemented by multiple sectors and stakeholders in 3 targeted Regions and contributing to Sustainable management of natural resources, climate change and natural disaster risk management (priority area 2, FAO-Guyana CPF) | Policy and institutional records Policy fora/ communications Reports to UNCCD and other international processes (e.g SDGs) FAO-Guyana country program-ming framework (CPF) | Funds secured and disbursed for project implementation. |

²⁰To support strategic planning, the results matrix and the work plan and budget describe the entire chain of inputs, activities, outputs, outcomes and strategic goals. It provides an effective and transparent linkage between means and ends.

²¹ It is recommended to formulate up to two indicators for a project outcome and up to three indicators for each output.

²²When a baseline is not available and may require additional resources to determine, a preliminary activity could be created in the work plan.

²³The Impact measures project contribution to higher level results, including contributions to the CPF (country programming framework). For that purpose, the relevant CPF Outcome indicator(s) should be included in the results matrix and tracked

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---|--|---|--|---|--|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| OUTCOME 1: SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT MAINSTREAMED IN POLICY, INSTITUTIONAL AND GOVERNANCE MECHANISMS TO PREVENT DEGRADATION AND RESTORE DEGRADED LANDS | <p>Land policy in place to enhance the enabling environment for SLDM</p> <p># of inter-agency cooperation agreements</p> <p># of regulations and/or laws adjusted where necessary to meet the needs of the enabling environment</p> <p>Business sustainability plan for GLSC completed</p> | <p>Uncoordinated land policy and legislation across sectors</p> <p>Information and data fragmented across sectors/ institutions, out-of-date on some aspects and limited on SLM impacts.</p> <p>Lack of incentives for responsible investments</p> <p>Unsustainable financial model</p> | <ul style="list-style-type: none"> Land policy drafted and submitted for adoption Harmonised regulations and/or laws in place to promote SDLM as a basis for enhanced climate resilience and food security GLSC business sustainability plan, in place Inter-agency roles and responsibilities established and coordinated through at least 4 agreements | <ul style="list-style-type: none"> Country reports to UNCCD Guyana Legal Office and OTP reports - policy & legal documents Content of tv'radio/press releases Business sustainability plan MoUs/Agreements | <p>Institutions collaborating and agreeing to leadership and coordinating role by GLSC</p> <p>Stakeholders effectively involved</p> |
| Output 1.1 Harmonised land policies developed and submitted for adoption and institutional capacities in place for mainstreaming responsible governance of tenure and SLDM | <p>High-level inter-sectoral mechanism/task force established</p> <p>Guyana land policy completed</p> <p>Open-data policy/ strategy for SLDM developed</p> <p># of agencies in which new policies have been mainstreamed</p> | Incomplete land policy | <ul style="list-style-type: none"> One High-level inter-sectoral mechanism/task force established by the end of 2018 Harmonised land policy formulated and negotiated by the end of 2018 Open-data policy/ strategy for SLDM developed by the end of 2018 New policies mainstreamed across 7 relevant agencies | <ul style="list-style-type: none"> Minutes from High-level taskforce GLSC/other agency reports from policy awareness sessions Public awareness events conducted Updated policy in offices of GLSC and partner bodies Adopted financial sustainability plan Information on multi-stakeholder meetings & FPIC process | <p>Required high-level support by GLSC and MOTP</p> <p>Political will to take action on existing land policies</p> <p>Cooperation and buy-in from other agencies</p> |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|--|---|---|---|--|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| Main Activities and results | | | | | |
| 1.1.1 | High-level inter-sectoral mechanism/task force established, with key public land agencies and stakeholders, and a broad-based national dialogue /consultation platform set up, with representation of private and public sector, civil society and academic actors, and supporting sensitisation and the review and drafting of Guyana land policy. | | | | |
| 1.1.2 | The effectiveness of existing policies, legislation, financial sustainability plan, strategic plans and institutional collaboration across sectors and levels reviewed and measures identified for enhancing the SDLM enabling environment by end 2019, supported by Sub-committee for Policy and Planning of GLSC Board of Directors. | | | | |
| 1.1.3 | The extent and effectiveness of application of policies and regulations for SLDM reviewed in 3 target regions and constraints and response measures identified to fill gaps, enhance synergies and provide incentive measures for sustainable land use/management, allocation and governance of tenure in line with national commitments | | | | |
| 1.1.4 | Concrete actions identified to capacitate GLSC to perform its core functions and play a lead/coordinating role in SLDM by mid-2018,including institutional mechanisms, interlinked spatial data/information systems, technical, operational ®ulatory tools, public awareness, transparency, responsiveness to public enquiry. | | | | |
| 1.1.5 | Inter-sectoral mechanism operationalised to guide cross-sectoral land policy development, specific revisions to laws and policies and incentive measures, in line with VGGT, LDN-TSP and other land-related instruments and conventions | | | | |
| 1.1.6 | Regional meeting (Georgetown, 2018) to share Guyana and LAC experiences in implementing the UNCCD, organised in close consultation with UNCCD Secretariat and RCU (including LDN target setting, documenting SLM best practices in WOCAT-UNCCD database, implementing aligned NAP and enhancing synergy with UNFCCC, CBD and SDGs). | | | | |
| 1.1.7 | Open data policy / strategy developed for SLDM across institutions and submitted for higher level decision making(including data use for precise land survey, land allocation, titling, mapping and analysis, dynamic land planning and decision making using international standards and adapted technologies as well as online access, retrieval and delivery of land information by all land users -data producers, providers and value adders) | | | | |
| Output 1.2 Enhanced land governance through regulatory and financial systems, spatial data information management and enhanced institutional capacities. | Multi-stakeholder platform and events for awareness raising on SDLM policy and governance Develop business plan (including revenue collection, services payment, human resources allocations, roles and responsibilities, etc.) Report(s) with recommendations for action on tenure security and | Weak governance of tenure, VGGT little known or applied Land investments /development leading to degradation and inequity Land Cadastre and registers incomplete and records in hard copy | • Multi-stakeholder events conducted on Guyana land policy and VGGT and RAI principles (at least 2 national 2018-2019 and 3 in target regions 2019-2020) • GLSC long term business plan, including financial sustainability strategy drafted and adopted by GLSC Board for implementation by | • Reports of GLSC on awareness raising events • Financial survey, process and system issues reported • Information on VGGT and RAI principles delivered via various platforms | Existence of political will to take action on existing land governance |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|------------------------------------|---|--|--|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | a manual supporting implementation | Land information systems fragmented overlapping legislation and poorly coordinated institutions leading to problems and conflicts in application | mid-2019 and measures initiated 2019-21 • VGGT principles widely known across key institutions and in 3 targeted Regions by end of project, • Gaps identified and measures to enhance governance of tenure are identified by mid-2018 • Manual developed by the end of 2019 for enhancing tenure security (e.g. application procedures and regulations for national level and in Regions) | <ul style="list-style-type: none"> • Accurate, updated cadastre and land registers, • Titles allocated and measures for enhancing inclusive governance of tenure | |
| Main Activities and Results 1.2.1 National stakeholder dialogue platform (see 1.1.1) holding regular events and contributing to awareness of VGGT, capacity development in their application and information sharing on land tenure and access/user rights (e.g. through the NSDI) in relation to sustainable agriculture and forestry and Guyana's Low Carbon and Green State Development Strategies. 1.2.2 GLSC business plan, including financial sustainability strategy and roadmap, developed with short, medium and long-term objectives and performance indicators and clearly positioning GLSC vis à vis other land agencies. 1.2.3 Land tenure information systems, processes and user capacities reviewed (cadastre, registration, contracts, leases, licences, claims, disclosure, etc.) at national level and in target regions, gaps and needs of institutions and actors identified, and concrete actions agreed upon for updating and enhancing tenure security and promoting SLDM and reclamation (by end 2018) 1.2.4 Existing and potential barriers to harmonised and equitable land governance and access to information on land administration, secure tenure, access to land resources and land rights by all concerned stakeholders identified 1.2.5 Guidance/mechanisms/procedures developed for improved governance and decision making for SDLM at all levels, in accordance with VGGT principles on securing land tenure and access/user rights, with particular attention to local actors, women, youth and Amerindian Peoples | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|---|--|---|---|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| OUTCOME 2: STRENGTHENED INSTITUTIONAL AND HUMAN CAPACITY FOR PARTICIPATORY AND INTEGRATED SUSTAINABLE LAND DEVELOPMENT AND MANAGEMENT | <p># of information systems and knowledge products developed for SLDM at the regional and national level</p> <p># of GLSC staff and stakeholders at the national and regional level trained and otherwise capacitated for SLDM</p> <p>A set of revised procedures for land administration, land use planning and governance of tenure, etc. in place, as a result of aligned and coordinated processes and infrastructure development</p> <p># of meetings and level of participation in established public and participatory platforms</p> | <p>Weak capacities and limited data for supporting improved land tenure and sustainable management and compromising capacity to cope land pressures and climate change</p> <p>Lack of M&E tools for SLDM</p> | <ul style="list-style-type: none"> • Open-data, national integrated land information system including i) a spatial administration model ii) and updated cadastre (NDSI) in place by 2020 • Capacity built in GLSC and 10 partner institutions in the development and use of integrated information systems, methods and indicators for improved land administration, governance of tenure, land planning, assessment and monitoring with stakeholders by 2021. • SLDM being promoted and scaled up through the following by 2020: <ul style="list-style-type: none"> ○ guidelines (e.g. on participatory processes for land planning, assessment, monitoring, knowledge management, governance of tenure incentives, etc.), and ○ Guyana practitioners /experts sharing climate resilient SLM practices and results through global WOCAT-UNCCD database and at least 8 national events. | <ul style="list-style-type: none"> • Approved reports confirming support from GLSC and partners (for land administration and climate resilient land management) • Reports of on-the-job training (field based and formal) • Case studies documenting productivity , climate adaptation and mitigation • Guidelines on participatory processes | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---|---|---|--|---|--|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| Output 2.1 Strengthened human capabilities for sustainable land development and management- needs assessment, consultations and institutional capacity development plans | <p>Capacity development plan for GLSC; and strategies for mainstreaming SLDM based on identified needs</p> <p># of GLSC and partners' staff aware of land policy, governance of tenure, land rights and related issues</p> <p># of public awareness events and materials shared and access of data and information facilitated on SLDM</p> <p># of agencies/staff aware of land degradation, land administration/ governance and SLM interactions and (synergy effective and operational between SLDM and Land Degradation Neutrality target setting processes (LDN-TSP)</p> <p>At least 3 consultative multi-stakeholder platforms established regionally</p> <p>An analysis of land market effects on land and needs /incentives for SLDM</p> | <p>Institutional overlaps and competition</p> <p>Poor awareness and limited information on tenure and rights</p> <p>No incentives or coherent support for SLDM and restoration</p> <p>Fragmented capacities on land assessment, LD, and SLM across sectors</p> <p>Weak knowledge of tenure and rights in the regions</p> <p>Lack of incentives for SLDM</p> <p>Land Cadastre not up-to-date</p> | <ul style="list-style-type: none"> • Roles & responsibilities of GLSC and key agencies clarified and strengthened by mid-2018 • Raised awareness on SLDM mechanisms using at least 6 platforms (including hosting CRIC 2018 and WOCAT) • At least 1 national and 3 regional land degradation, land management and land use assessments conducted by multi-sector team and data collected, analysed and available by end 2018 • Raised awareness on interactions between land degradation, land administration/governance and SLM (survey) • An integrated multi-stakeholder platform facilitating effective consultation towards integrated land planning and governance for SDLM and restoration by mid-2018 • Capacity development plan for 3 pilot regions in VGGT and spatial land administration prepared by mid-2018 | <ul style="list-style-type: none"> • Awareness raising and consultation reports (ministries, agencies, RDC NDCs etc.) • Stakeholder feedback (survey) • Results of PA events and CRIC • Database on LD and SLM • FAO tools shared and reviewed (LADA-WOCAT, Collect Earth, SMART, other) • Assessment reports and maps • Indicators and measurement methods for land related SDGs applied (pressures and responses - climate smart agriculture, SFM, productivity; tenure security, access | <p>Appropriate persons and needs identified for training</p> <p>Public awareness events reach all stakeholders</p> <p>Willingness of staff to adapt and use available tools</p> <p>Support of institutions in regions</p> <p>Cooperation by Democratic and Village councils and other partners</p> |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---|--|------------------------|--|--|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | # of regions exposed to land Cadastre and equitable land allocations | | <ul style="list-style-type: none"> • Plan developed and implemented for improving geodetic reference framework and digitizing the cadastre in 3 Regions | rights, GHG emissions, etc.). <ul style="list-style-type: none"> • Stakeholder feedback on land planning and VGGT • Report on gaps and needs of actors • Land records digitized • Tenure security needs assessment • Capacity development plan • Digitised records in cadastre • Land markets and incentive systems analysis | |
| Main activities and results 2.1.1 Capacities strengthened of GLSC and partner agency for enhanced governance of tenure and sustainable use and management of public lands through updating and streamlining institutional responsibilities and modalities, establishing an open-data environment through the NSDI and updated policy and legal mechanisms 2.1.2 A continuous institutional capacity development programme designed and implemented for GLSC and other government agency staff on the application of land policy and related instruments through transparent, inclusive, accountable and multi-stakeholder processes (building Centre of Excellence) 2.1.3 An open-data environment facilitated for transparency and sharing of information on land administration of public and private lands across sectors, stakeholders and levels - partnership, consultation, awareness raising events, online systems for improved access to land information systems. 2.1.4 Consultative fora organised for sharing experiences on incentive measures and develop a plan for piloting incentive mechanisms for SDLM contributing to the LCDS and green economy and building on experiences in the LAC Region (knowledge, educational, financial, insurance, other reward and certification schemes targeted to sectors and stakeholders), | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---------------|---|------------------------|--------|------------------------------|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| 2.1.5 | Experiences, methods, tools and modern technologies for land appraisal, assessment and mapping at different scales and levels shared by FAO, GLSC, OSI and others, and needs identified to align with SDGs (including land degradation and SLM, best practices documentation, evaluation of impacts on ecosystem services and livelihoods). | | | | |
| 2.1.6 | GLSC and partner capacities and needs reviewed (national level; target regions) for land appraisal, classification, strategic land use/resources planning and informed decision making for land use planning and SLDM in line with national goals & priorities and taking into account ongoing processes by GLSC and partner agencies (e.g. LDN-TSP REDD+, etc.). | | | | |
| 2.1.7 | A stakeholder consultation and dialogue platform established and events organised in 3 targeted Regions for enhanced governance for SLDM , to identify opportunities and resolve conflicts and constraints, and enhance user /access rights over land/natural resources (private & public sector, DCs, CSOs, academia, service providers, the range of land users). | | | | |
| 2.1.8 | Data on land markets and incentives for SLM and land restoration reviewed and analysed in the 3 regions and proposals and actions identified (How markets are driving land use change, degradation processes and investments: Extent that existing tenure, regulations, incentive measures, zoning, etc. support or hinder SLM/use (agriculture/ forestry, mining, tourism, urbanisation, etc.). | | | | |
| 2.1.9 | Needs assessed for enhanced tenure and conflict resolution through stakeholder consultations and a pilot capacity development programme for VGGT application developed in target regions to address specific gaps and constraints identified with attention to needs of marginalised groups (women, youth, and IPs). | | | | |
| 2.1.10 | Mechanisms developed and concrete land administration actions agreed upon in pilot areas to actualize the cadastre, enhance access to information of land users, define responsibilities and strengthen capacities for land allocation and delimitation (e.g. zoning, leases, buffer zones around urban / protected areas, etc.). | | | | |
| 2.1.11 | Participatory National (1) and Regional (3) level assessments and mapping of land degradation, land management practices (conservation, sustainable use and restoration) conducted for the main land use systems, impacts assessed on ecosystem services and livelihoods and hot & bright spots identified (with technical sectors, research, local actors and development partners). | | | | |
| 2.1.12 | A pilot for automatic land cover/land use mapping and analysis in a specific area /region developed based on cost free, very high resolution RS data, GIS and spatial distributed outputs from 2.1.3 and a cloud computing platform as a basis for supporting SDG reporting in particular SDG 15 (LDN, biodiversity, etc.). | | | | |
| 2.1.13 | Priorities and actions/measures agreed upon to promote and enforce SLM/use and responsible investments through analysis of findings of the assessments at national level and in 3 targeted Regions in terms of drivers of change, pressures/demands on land/natural resources, effectiveness of existing response measures | | | | |
| 2.1.14 | Advice provided on the establishment of a low-cost permanent system for monitoring land cover and land use at national level and on a yearly basis at least(land cover change, land degradation/restoration, ecosystem types, health and ecosystem services as a basis to understand the drivers of degradation and trade-offs and impacts | | | | |
| 2.1.15 | Measures to facilitate knowledge sharing, decision making and priority setting reviewed and identified at different levels for SLM and responsible investments, and to streamline monitoring, analysis and reporting, in line with the SDGs. | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---|--|------------------------|--|--|--|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| Output 2.2 Strengthened human capabilities for sustainable land development and management through training and experience sharing workshops, materials development and exchange visits | <p># of GLSC and partners' staff trained on promoting land policy, governance of tenure, land rights and related issues</p> <p># of persons trained in land use systems classification, land assessment and SLM documentation using a range of FAO tools</p> | | <ul style="list-style-type: none"> • Capacity development targets set and achieved annually as from 2018 • 100 individuals trained (in GLSC and partner agencies) on the job training on land administration, assessment and monitoring tools, data collection, analysis and sharing (national level in 2018 and in 3 targeted regions in 2019) • Information and experiences shared annually through 2 national / regional workshops / symposium (2018-2021) on spatial information technology, land assessment, planning, SLM best practices and incentive mechanisms | <ul style="list-style-type: none"> • Consultation and training reports ((ministries, agencies, RDC NDCs etc.) • PA and communications media • Training materials on VGGT, RIA principles, LDN process, and LADA-WOCAT, EX-ACT, SMART and other tools • Staff trained in use (LADA-WOCAT, Collect Earth, SMART, other • Training reports | <p>Appropriate persons trained and able to use their knowledge Willingness of staff to learn</p> <p>Support of training /academic institutions</p> |
| Main activities and results | | | | | |
| <p>2.2.1 GLSC staff trained in practical use of a range of land valuation, land assessment and monitoring tools and indicators in support of national reporting compliance for SLDM and tracking contributions of SLDM to SDGs by mid-2019 (notably on land degradation neutrality, climate resilience, biodiversity conservation, sustainable agriculture and forestry, food security) (e.g. LADA-WOCAT, EXACT, SMART and other tools and indicators on land, soils, water, carbon sequestration, GHG emissions, DRM)</p> <p>2.2.2 Communication materials and media programmes developed for public awareness and outreach on GLSC activities, progress and results, including on national land policy and revised national land use plan, and progress towards sustainable and climate resilient land development in Guyana, in line with the SDGs.</p> <p>2.2.3 Training workshop conducted with resource persons in each targeted Region to further develop capacity in up-to-date methods and tools towards an enhanced, integrated spatial land administration model.</p> | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|--|--|---|---|---|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| 2.2.4 GLSC staff participating in exchange visits and experience sharing | workshops of available spatial data models, tools and applications for enhanced awareness/ knowledge of options for Guyana and to raise awareness with partner agencies on NDSI opportunities and benefits. | | | | |
| 2.2.5 A cross-sectoral team established to develop and implement practical on the job training | for competent institutions on the use of participatory and automated land assessment, mapping, indicators and monitoring | | | | |
| 2.2.6 Workshops in Guyana (2) and a symposium in LAC region organised | to share experiences/lessons on geospatial information technology, land assessment, land use planning, land valuation and incentive mechanisms(countries, FAO HQ, WOCAT partners, competent organizations–public and private sectors) | | | | |
| Output 2.3 Enhanced physical capacity (knowledge, systems, infrastructure, and processes) for sustainable land development and management | <p>Improved integrated national spatial data infrastructure (NSDI)</p> <p>Gap analysis for enhanced land planning, monitoring and coordinated decision making</p> <p>Guidelines on territorial planning and watershed management formulated and being piloted with stakeholders</p> <p># of processes and plans in place by 2021</p> | <p>Land data and information fragmented across sectors, separate registers and databases (raster and vectorised information), impeding access by stakeholders and use for land planning, administration and management</p> <p>Ineffective land planning and poorly informed decisions</p> <p>Lack of culture of information sharing or open data policy hindering intersectoral and private-public sector cooperation.</p> <p>Land-use planning not effective for decision</p> | <ul style="list-style-type: none"> Improved integrated national spatial data infrastructure (NSDI) for SLDM developed through: <ul style="list-style-type: none"> NSDI Road Map and Action Plan (3-5 years) by mid-2018 Improved NSDI with online portal, and 2 regional pilots in place, accessible across institutions, by 2021 Integrated land/ natural resources planning process in place in targeted regions by 2020 Guidelines for participatory negotiated territorial planning and watershed management developed and available for wider use by end 2019 Target land use plan and monitoring system developed in at least 1 target region (by end 2019) and reclamation measures | <ul style="list-style-type: none"> NSDI in place and # of stakeholders have access to portal for national and regional data (digitisation ongoing) Guidelines and methods on data management for enhanced land administration Land and deeds registers and cadastre and land allocation data interlinked for use in pilot regions Land planning /PNTD and watershed guidelines Land use and watershed management plans | <p>Equipment in place and funds allocated for updating IT and land information systems</p> <p>Multiple actors cooperating for integrating land planning</p> <p>Gaps and needs identified for enhanced land planning, monitoring and coordinated decision making for achieving climate resilience and food security</p> <p>Guidelines formulated and being piloted with stakeholders</p> |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|--------------------------|---|---|--|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | | making or monitoring progress Sectors and stakeholders with uncoordinated or conflicting actions | implemented on 100ha of affected land/ hotspots by end 2019 and on 100ha of affected lands / hotspots by 2021 | <ul style="list-style-type: none"> Updated national land use plan addressing climate resilience and food security | |
| Main Activities and results <p>2.3.1 An initial NSDI Diagnostics performed to identify gaps and define priority areas building on previous analysis (World Bank, 2016) and develop an NSDI Road Map and Action Plan including desired environmental, socio-economic and gender benefits, for the project duration with a focus on sustainable land tenure administration, land development and planning for climate resilient and sustainable agriculture and rural development.</p> <p>2.3.2 Strategic capacity development needs of staff of GLSC & partner agencies determined (at national and decentralised levels) in management and use of open-access geospatial land information systems and technological innovations for land administration and land use planning.</p> <p>2.3.3. An improved interoperable open-source national spatial data infrastructure (NSDI) and geodetic reference framework designed and developed that is adapted to Guyana capacities and communication infrastructure(based on ISO 19152:2012 – Geographic information - Land Administration Domain Model -LADM)</p> <p>2.3.4 Data digitisation and migration/entry planned and entered into the NSDI using national and open- source data and data from pilots in 1-2 target regions, backed up by safely-housed archival registry of paper-based land records (e.g. leases, registers, plans, applications).</p> <p>2.3.5 Guidance tools, operational standards and methods developed for data and document management to support land administration functions and GLSC and other agency staff trained in archiving, updating and use of the NSDI and GIS/RS tools through pilots in 1-2 target regions</p> <p>2.3.6 Cadastral plans and lands and deeds registers updated and interlinked, with a focus on providing comprehensive, accurate, digitised information in 1-2 target regions to support land administration functions over public lands (land tenure, land value, land use, land development as well as rights, responsibilities, and restrictions)</p> <p>2.3.7 Communication and connectivity enhanced for all GLSC staff for timely, efficient work and enhance collaboration with partner institutions on land issues through procurement/updating of essential ICT services, equipment (hardware, software) and spatial data infrastructure (local and wide area networks).</p> <p>2.3.8 Business models developed for the operation of a national Centre of Excellence in regard to NSDI to support the building of the NSDI, the use of geospatial data and various existing applications, build new innovative solutions and organize capacity building and awareness raising</p> | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|---|--|---|---|---|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| <p>2.3.9 Lessons, experiences and capacities for land/natural resources planning at national level reviewed, mechanisms developed for integrated planning across sectors and institutions and national land use plan updated to mainstream climate resilience, food security and the new land policy (by GLSC with the various Ministries/Offices, involved in planning, e-Governance, national statistics, valuation and taxation, etc.).</p> <p>2.3.10 Gaps and needs identified for supporting a dynamic, multi-stakeholder land resources planning, decision-making and management process, to address demands and mitigate risks at relevant scales and across sectors, institutions and actors (e.g. territorial planning, watershed management, incentives, regulations, etc.) based on findings and suggestions of reviews (1.1, 2.1, 2.3), of lessons, experiences and existing capacities at decentralised levels and coordinated by GLSC.</p> <p>2.3.11 Guidelines /an implementation framework for a long term, multi-actor participatory negotiated territorial planning process developed and piloted at decentralised levels (village, municipal, neighbourhood, regional) applying as appropriate a watershed management approach (land and water interactions, negative effects of land use on soil & water resources, e.g. erosion, flooding, soil and water contamination from mining, salt water intrusion, etc.).</p> <p>2.3.12 An integrated land use/ management plan and monitoring system in the target regions developed and being implemented for sustainable and climate resilient land development, management and restoration through a multi-stakeholder process (at an appropriate scale to meet needs) and supported by service providers for addressing priorities and targeting responsible investments by private & public sectors</p> <p>2.3.13 Concrete actions identified for monitoring progress towards the various governance instruments, national action plans and international commitments (food security, land degradation, biodiversity, climate change, agriculture, fisheries and forestry sectors, disaster risk reduction and monitoring the SDGs).</p> | | | | | |
| OUTCOME 3: LOCAL GOVERNANCE STRENGTHENED IN 3 REGIONS FOR IMPLEMENTING SUSTAINABLE LAND MANAGEMENT | <p>Institutional capacity in targeted regions improved In land governance, planning, management and restoration</p> <p>Decentralised services provided at the local level in targeted regions to ensure sustainable land management (SLM), and climate resilience.</p> <p># of communities and local leaders sensitised and encouraged to adopt SLM practices</p> | <p>Weak and uncoordinated capacities across sectors for addressing land degradation and climate change resulting in costly, time consuming and excessive bureaucratic processes that affect the efficiency and effectiveness of land management.</p> | <ul style="list-style-type: none">Improved capacities of at least 3 regional institutions in land governance, land planning, land management and restoration on the ground.Regional land use plans developed along with concomitant monitoring system in place for scaling up SLM in target landscapes by 202160 communities and 100 local leaders are sensitised and | <ul style="list-style-type: none">Regional land plansDecentralised SLM practicesRecords of training to service providersTraining reports from 60 communitiesCommunity meeting minutes | <p>Staff interested to use tools and cooperate</p> <p>Local actors engage in the process</p> <p>Attrition of those trained to build institutional and organisational capacity</p> |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|--|---|--|---|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | | | encouraged to adopt SLM practices | | |
| Output 3.1 Strengthened capacity of actors in at least 3 regions to assess land resources status and trends | <p># of local actors capacitated on land degradation and SLM options</p> <p># of SLM and reclamation technologies and approaches documented and shared</p> | <p>Weak knowledge of degradation and SLM in regions</p> <p>Inadequate involvement of local decentralised actors in decision making on SLDM that leads to a stockpile of decisions to be made at the central level</p> <p>Lack of extension materials on SLM and restoration practices</p> | <ul style="list-style-type: none"> Local actors and communities in at least 3 regions demonstrate awareness of degradation processes and SLM and restoration options by end 2020 45 local actors per year commencing 2018, Capacity built for selecting, assessing and documenting SLM and reclamation practices in WOCAT database 10 SLM and 5 specific reclamation practices in targeted regions assessed and documented locally, peer reviewed at national level, shared through WOCAT-UNCCCD database and promoted for wider replication by service providers | <ul style="list-style-type: none"> LADA local assessment reports Flyers/facts sheets on SLM practices and approaches available and used for training Reports of training of local actors Reports of democratic councils | |
| Main Activities and results 3.1.1 Diagnostics conducted in 1 or 2 target landscapes in each target Region for land degradation and SLM assessment and mapping using adapted LADA local manual and diagnostic tools (specific degradation problems, capacities, experiences) 3.1.2 The “best” land management and reclamation measures selected and documented in pilot landscapes in each of the main land use systems / agro-ecosystems in the 3 target regions , to address major constraints and meet needs of different stakeholders on the ground, through use of WOCAT tools and with support of sectors and development actors (local/traditional innovations, introduced technologies and approaches for sustained soil & water resources, biodiversity and ecosystem services) and undertake land development schemes. | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
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| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| 3.1.3. Selected SLM “ best” practices peer reviewed (operational task force members) and case studies shared through the UNCCD-WOCAT global database and with service providers for awareness raising (national, targeted Regions and communities) and knowledge sharing and training for scaling up of adapted practices. (i.e. best in the local context) | | | | | |
| Output 3.2 Raised awareness and capacity of local actors on land policy and governance mechanisms for enhancing tenure security | #/% of relevant stakeholders giving feedback through reports on tenure % reduction in land tenure issues annually # of case studies produced on tenure | Stakeholders at local level are unaware of the VGGT and national land administration framework Cadastre is not up to date and data not digitised Absence of multi-stakeholder dialogue mechanism Insecure tenure for land occupiers without title | <ul style="list-style-type: none">• % of stakeholders providing feedback on tenure issues (e.g conflicts, practices)• 35% reduction in land tenure issues annually• 3 case studies/ experiences on enhanced governance of tenure (at least 3 per year as from 2019) | <ul style="list-style-type: none">• Reports of multi stakeholder dialogue• Cadastral maps• Copies of case studies/reports• GLSC annual report (section on lease issuance) | Local staff will be capacitated for implementation. Local stakeholders will engage in the process |
| Main Activities and Results | | | | | |
| 3.2.1 A local level multi-stakeholder platform established or strengthened for dialogue in target intervention areas to analyze the current situation in regard to tenure conflicts, causes, actors involved and conflict resolution practices, and actions/measures for SLM and rehabilitation of degraded lands identified and promoted, and feedback to higher decision-making levels facilitated. This activity will feed into the process of policy drafting. | | | | | |
| 3.2.2 A local mapping/assessment conducted of land tenure status, changes, and conflicts and situations of informal occupation regularised for enhanced tenure security, access/user rights and reduced conflicts (What information is available to whom, What operators are involved, How to enhance user /access rights and recognition, resolve conflicts, and secure/safeguard rights, in particular for local stakeholders and Amerindian peoples.) | | | | | |
| 3.2.3.A capacity development programme developed and implemented for enhanced and responsible governance of tenure for multi-stakeholder platform members including land administration and trends in governance of land, in partnership with University of Guyana, local CSOs and government actors, and share results at intermediary (regional, municipal, neighbourhood and village) and national levels. | | | | | |
| Output 3.3 Strengthened capacity for promoting territorial approaches for scaling up of proven SLM practices and rehabilitation measures | Strengthened extension services through 12 training and piloting events | No support for local actors for adopting SLM and restoration | <ul style="list-style-type: none">• Extension officers trained and competent in SLM practices and catchment/ territorial | <ul style="list-style-type: none">• Reports of training• Land use, watershed and SLM plans | Service providers have competent staff to support communities |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
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| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | # of communities involved and number of plans developed and area (ha) under Integrated catchment /territorial planning and development approaches | Sector driven interventions and lack of priority setting among stakeholders | management. (At least 2 extension offices / NGOs/CSOs in each targeted Region by end 2020) • Catchment/territorial management and SLM plans developed by end 2020 and implemented in at least 2 of the landscapes in each of the 3 targeted regions by 2020-2021 | • MoU on agreed set of indicators and methods used for monitoring • Data compiled on impacts and shared with decision makers | |
| Main Activities and results 3.3.1 Available knowledge and know-how assessed, capacity development needs of service providers identified (extension, research, NGOs, technical sectors, local authorities) in target landscapes and Regions to select, adapt and promote resilient SLM and Restoration measures (to enhance land productivity, restore degraded lands (natural resources, biodiversity and ecosystem services), adapt to climate change, reduce carbon emissions and reduce risks of natural disasters (drought, flood, landslides)while ensuring equitable development and welfare. 3.3.2 A training programme developed and implemented for service providers /trainers of trainers to support adoption by land users and communities of adapted SLM practices building on SLM knowledge bases, local innovations, scientific advances and lessons learned from previous interventions. 3.3.3. Experiences and lessons in land use /catchment planning and territorial development approaches reviewed at regional and decentralised levels (municipal, village), and a training programme for service providers in PNTD and integrated catchment /watershed management developed and implemented with competent resource persons to scale out SLM and rehabilitation measures. 3.3.4 A consultative process organised across sectors & projects in 3 targeted regions, led by M&E expert in consultation with GLSC and partner agencies, to identify a minimum set of indicators and methods/tools to assess and monitor impacts of land management and development interventions at parcel & landscape level in line with LDN and REDD+ targets, Guyana Low carbon and Green state strategies and SDG targets (e.g. on land/ vegetation cover, land productivity (NDVI), genetic, species and habitat diversity, soil health, water quality & availability, above & below ground carbon stocks (soil, biomass), nutrition, food security, tenure security, income, gender equity, resilience). | | | | | |
| OUTCOME 4: PROJECT MANAGEMENT STRUCTURES AND MECHANISMS INCLUDING M&E FRAMEWORK STRENGTHENED | % of project indicators achieved through establishment of project management unit and staff in place | | • At least 65% of project targets achieved in a timely and cost effective manner. | • Progress and M&E reports • PSC minutes | Funding available and required qualified staff recruited |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|---|------------------------|---|--|--|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| | M&E framework applied in alignment with SLDM | | <ul style="list-style-type: none"> Guidance provided by PSC on a quarterly basis | | Results based M&E indicators agreed upon |
| Output 4.1: Project staff hired and management structures in place, for effective partnerships, stakeholder engagement, communications and procurement | % of project staff in place and specialists hired # of stakeholder engagement and communication strategies/plans % of procurement plans and contracts drafted | | <ul style="list-style-type: none"> 60% of project staff and specialists functional for the life of the project Stakeholder engagement and communication strategy/plan developed by mid-2018 Execute at least 60% of procurement plans and contracts annually | <ul style="list-style-type: none"> Terms of reference of staff/experts and contracts endorsed by PSC Detailed annual budget and work plan endorsed by PSC Monthly progress reports PSC minutes Communications and outreach materials Procurement plan Stakeholder engagement plan | Availability of competent staff, specialists and counterparts Effective management and communications |
| Main Activities and results 4.1.1 Competent national project management unit (PMU) established by FAO and GLSC and supported by regular meetings of project steering committee (PSC), facilitating recruitment, contracts, procurement, skills transfer and capacity development (competent project team in place, guided by Principal Technical adviser (PTA), and international experts working in tandem with designated counterparts). 4.1.2 PMU implementing the project in a timely manner through detailed planning, reporting on a quarterly /six monthly basis on progress, results, constraints and solutions proposed, supported by partnership with other agencies, strong stakeholder engagement process and decision making process via PSC and ensuring regular communications and outreach on progress. | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|--|--|--|--|--|---|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| 4.1.3 A stakeholder engagement plan and a communication strategy on SDLM developed to encourage the engagement and involvement of stakeholders and enhance visibility of work conducted by GLSC and partner agencies on land administration, governance, management and reclamation and awareness raised on GLSC role (as custodian of public lands and national focal point to UNCCD, in meeting national LDN targets and implementing Aligned NAP to Combat Land Degradation as a basis for good land stewardship on all Guyana’s lands). | | | | | |
| Output 4.2 Project Monitoring and Evaluation (M&E) framework in place | <p># and type of M&E framework established to monitor SLDM activities during and beyond life of project</p> <p># of trained institutional stakeholders to conduct M&E</p> <p># of M&E databases and types of data captured</p> | <p>Projects monitoring activities rather than results/impacts</p> <p>Lack of systematic data collection from SDLM projects.</p> <p>Poor information on SLDM capacities and achievements at different levels of decision making</p> | <ul style="list-style-type: none">• SLDM project monitoring systems on progress of deliverables, mid-term and final evaluation of project impacts• Resident system of M&E within GLSC established by 2020• Pilot M&E systems at the local level in at least 3 regions• 20 persons trained annually for 4 years to implement M&E systems• M&E database developed to monitor biophysical, socio-economic and governance indicators | <ul style="list-style-type: none">• M&E plan• M&E training report• National database with information on impacts of SLDM activities (area of degraded crop and pasture land restored, forest area protected/restored, mining land reclaimed, farm productivity, number of parcels with secure tenure, prevented/reduced GHG emissions, etc.)• Mid and terminal evaluation reports | Interest among GLSC and other agencies to align monitoring, data collection and reporting |
| Main Activities and Results | | | | | |
| 4.2.1 Project monitoring system established guided by M&E expert, with agreed set of biophysical, socio-economic and governance indicators & methods/tools for data collection, management & monitoring to assess project progress and performance (products, delivery, beneficiaries) and SLDM impacts at land user, parcel & landscape level in line with national and SDG targets (e.g. vegetation, soil, water, biodiversity, carbon stocks, nutrition, food security, tenure security, income, gender equity, resilience, etc.). | | | | | |
| 4.2.2 A Guyana SDLM monitoring and bi-annual review process developed for GLSC and partner interventions and development projects to assess and track progress in relation to contributions to national commitments (LDN & NAP/UNCCD, NDC/UNFCCC, CBD Aichi targets, Guyana’s Low Carbon & Green State Development Strategies and SDGs). | | | | | |

| Results Chain | Indicators ²¹ | | | | Assumptions/ Risks |
|---------------|---|------------------------|--------|------------------------------|-----------------------|
| | Indicators | Baseline ²² | Target | MOV-Means of Verification | |
| 4.2.3 | Experiences and lessons learned in Guyana on environmental & social impact assessments relating to land development, management and reclamation by private & public investors reviewed and shared with key agencies (EPA, DOE, CH&PA), local government and other key stakeholders (i.e. to minimise land degradation & damage (unsuitable land use/ practices, mining) and risks (flood, drought landslides, damage to infrastructure), and demonstrate benefits of SDLM in terms of climate resilience, secure livelihoods and job opportunities). | | | | |
| 4.2.4 | Needs identified & training programme designed & conducted to build capacity of GLSC staff & partner institutions in streamlined monitoring of environmental, social and economic impacts of SLDM interventions, to inform decision making and climate-smart investments , with particular attention to negative effects and positive benefits at land user, parcel & landscape levels on land (SDG 15), water (SDG 6), climate change (SDG 13) and sustainable food and agriculture (SDG 2). | | | | |
| 4.2.5 | Mid-term and terminal project evaluations organised and conducted to provide accountability on results, lessons learned & develop recommendations for the improvement of project performance and provide an evidence-base for informed decision making | | | | |

ANNEX 2. PROJECT BUDGET REVISED

| Project Title: Mainstreaming Sustainable Land Development and Management | | | | | | | | | |
|--|-------------|---------------|---------------|-----------------------|----------------|----------------|----------------|----------------|----------------|
| Categories | Budget Line | Unit Cost USD | QTY | Total Cost USD (GRIF) | Year 1 | Year 2 | Year 3 | Year 4 | TOTAL COST |
| HUMAN RESOURCES | | | | | | | | | |
| Project Staff | | | Months | | | | | | |
| Chief Technical Adviser (FAO International) | 5570 | 8,360 | 36 | 300,960 | 100,320 | 100,320 | 100,320 | | 300,960 |
| Operations Officer (P-3 50%) | 5300 | 6,594.5 | 48 | 316,536 | 79,134 | 79,134 | 79,134 | 79,134 | 316,536 |
| subtotal | | | 84 | 617,496 | 179,454 | 179,454 | 179,454 | 79,134 | 617,496 |
| National Staff | | | | | | | | | - |
| Project Coordinator (GLSC Allowance) | 5660 | 400 | 42 | 16,800 | 4,200 | 4,200 | 4,200 | 4,200 | 16,800 |
| Project Administrative Assistant (NPP FAO) | 5570 | 2,500 | 42 | 105,000 | 15,000 | 30,000 | 30,000 | 30,000 | 105,000 |
| M&E Officer (NPP- FAO) | 5570 | 2,500 | 42 | 105,000 | 15,000 | 30,000 | 30,000 | 30,000 | 105,000 |
| Project Communication Specialist (NPP-FAO) | 5570 | 2,500 | 42 | 105,000 | 15,000 | 30,000 | 30,000 | 30,000 | 105,000 |
| Project Contract and Procurement Assistant (NPP-FAO) | 5570 | 2,000 | 42 | 84,000 | 12,000 | 24,000 | 24,000 | 24,000 | 84,000 |
| Project Drivers (4 FAO) | 5660 | 800 | 192 | 153,600 | 38,400 | 38,400 | 38,400 | 38,400 | 153,600 |
| Project Assistant (GLSC Allowance) | 5660 | 300 | 42 | 12,600 | 3,600 | 3,600 | 3,600 | 1,800 | 12,600 |
| Administrative Assistant (GLSC Allowance) | 5660 | 300 | 42 | 12,600 | 3,600 | 3,600 | 3,600 | 1,800 | 12,600 |
| M&E Officer (GLSC allowance) | 5660 | 300 | 42 | 12,600 | 3,600 | 3,600 | 3,600 | 1,800 | 12,600 |
| Drivers (2 GLSC Allowance) | 5660 | 300 | 84 | 25,200 | 3,600 | 7,200 | 7,200 | 7,200 | 25,200 |
| subtotal | | | 612 | 632,400 | 114,000 | 174,600 | 174,600 | 169,200 | 632,400 |
| Consultants (Short/medium term) | | | | | | | | | - |
| Land Administration, tenure/Management | 5570 | 12,100 | 24 | 290,400 | 72,600 | 72,600 | 72,600 | 72,600 | 290,400 |
| Valuation / Classification Specialist | 5570 | 8,360 | 24 | 200,640 | 50,160 | 50,160 | 50,160 | 50,160 | 200,640 |
| Land tenure/governance expert | 5570 | 8,360 | 24 | 200,640 | 50,160 | 50,160 | 50,160 | 50,160 | 200,640 |
| Land policy and legislation and governance Expert | 5570 | 11,000 | 12 | 132,000 | - | - | 66,000 | 66,000 | 132,000 |
| GIS /Web Mapping/remote sensing Expert | 5570 | 8,360 | 12 | 100,320 | 8,360 | 41,800 | 41,800 | 8,360 | 100,320 |

| | | | | | | | | | |
|---|-------------|---------|------------|------------------|----------------|----------------|----------------|----------------|------------------|
| Cadastral surveyor\mapping expert | 5570 | 8,360 | 12 | 100,320 | 25,080 | 25,080 | 25,080 | 25,080 | 100,320 |
| ICT spatial data infrastructure expert IT specialist (Data management-Systems Administration) | 5570 | 12,100 | 12 | 145,200 | 36,300 | 36,300 | 36,300 | 36,300 | 145,200 |
| Soil and water resources management/Land reclamation experts (ad hoc for specific problems soil, water, forest, rangeland, cropland, mining land) | 5570 | 11,000 | 24 | 264,000 | 66,000 | 66,000 | 66,000 | 66,000 | 264,000 |
| Gender /social development Expert (includes social Impact assessment) | 5570 | 8,360 | 6 | 50,160 | 16,720 | 16,720 | 16,720 | - | 50,160 |
| Climate change adaptation & mitigation expert | 5570 | 8,360 | 6 | 50,160 | 16,720 | 16,720 | 16,720 | - | 50,160 |
| subtotal | | | 156 | 1,533,840 | 342,100 | 375,540 | 441,540 | 374,660 | 1,533,840 |
| Total Human Resources | | | 852 | 2,783,736 | 635,554 | 729,594 | 795,594 | 622,994 | 2,783,736 |
| DIRECT COSTS | | | | | | | | | |
| Technical Advisory Services | 6150 | 1,014 | 362 | 367,068 | 91,260 | 91,260 | 92,274 | 92,274 | 367,068 |
| Terminal report | 6111 | 6,550 | 1 | 6,550 | - | - | - | 6,550 | 6,550 |
| Mid-term and end of project evaluation | 6116 | 148,000 | 1 | 148,000 | - | - | - | 148,000 | 148,000 |
| sub-total | | | | 521,618 | 91,260 | 91,260 | 92,274 | 246,824 | 521,618 |
| EQUIPMENT | | | | | | | | | |
| Non expendable Equipment | | | | | | | | | |
| Furniture and equipment for project staff (e.g. desks, chairs, filing cabinet, air conditioners) | 6100 | | | 10,000 | 10,000 | - | - | - | 10,000 |
| Cubicles and other retro-fitting for GLSC offices | 6000 | | | 10,000 | 10,000 | - | - | - | 10,000 |
| Computers (6 Desktops, 5 Laptops) and 2 printers for project staff | 6100 | 1,200 | 12 | 14,400 | 14,400 | - | - | - | 14,400 |
| Computers (10 Desktops, 10 Laptops) and 6 printers for GLSC divisions | 6100 | 1,200 | 23 | 27,600 | 27,600 | - | - | - | 27,600 |
| Smart tablets for fieldwork data recording and monitoring | 6100 | 400 | 6 | 2,400 | 2,400 | - | - | - | 2,400 |
| Large format Plotter/Scanners (5000 per Y). Head office and 3 Regions | 6100 | | 4 | 60,000 | 30,000 | 30,000 | - | - | 60,000 |
| Satellite phones | 6100 | 2,500 | 6 | 15,000 | 15,000 | - | - | - | 15,000 |
| Surveying equipment | 6100 | | 4 | 691,500 | 172,875 | 207,450 | 172,875 | 138,300 | 691,500 |
| Differential GPS, GIS and Remote sensing software | 6100 | | | 39,100 | 29,325 | 3,910 | 3,910 | 1,955 | 39,100 |

| | | | | | | | | | |
|---|------|---------|--------|------------------|------------------|------------------|----------------|----------------|------------------|
| Drones for detailed mapping/surveys | 6100 | 10,000 | 4 | 40,000 | 40,000 | - | - | - | 40,000 |
| Digital Camera/Camcorder | 6100 | 1,200 | 5 | 6,000 | 6,000 | - | - | - | 6,000 |
| Multi-media systems for training (projector\projector screen\smart board etc) | 6100 | | | 20,000 | 20,000 | - | - | - | 20,000 |
| IT management information systems (hardware and software, network servers, cloud services) and Teammate Auditing Software, Spatial Data Infrastructure | 6100 | | | 411,000 | 200,000 | 95,000 | 69,900 | 46,100 | 411,000 |
| Copying machine and printers (heavy duty) for regional offices to print maps and cadastral plans | 6100 | 10,000 | 10 | 100,000 | 100,000 | - | - | - | 100,000 |
| Vehicles 4 (4x4 twin cab pick-up) and 2 field based= 6 vehicles | 6100 | | 6 | 350,000 | 350,000 | - | - | - | 350,000 |
| Satellite Imagery | 6100 | | | 2,338,292 | - | 2,338,292 | - | - | 2,338,292 |
| sub-total | | | | 4,135,292 | 1,027,600 | 2,674,652 | 246,685 | 186,355 | 4,135,292 |
| CONTRACTS | | | | | | | | | |
| Management system for all land management (cadastral plans, lease records, surveyed plans of all public and private lands in Guyana), and retro-fitting for more space for land information management) | 5650 | 20 | 50,000 | 1,000,000 | 350,000 | 250,000 | 250,000 | 150,000 | 1,000,000 |
| Regional Land Administration Information System development to improve financial management of lease payments, improve land administration, client related services (in regions 1,2,3,4,6,7,8,9,10) | 5650 | 10 | 40,000 | 400,000 | 160,000 | 120,000 | 80,000 | 40,000 | 400,000 |
| Capacity development and establishment of 3 demonstration catchments in each of Regions 4, 7 and 10 - Phase 1 Multistakeholder diagnostics /appraisal | 5650 | 132,000 | 3 | 396,000 | 132,000 | 132,000 | 132,000 | - | 396,000 |
| Capacity development and establishment of 3 demonstration catchments in each of Regions 4, 7 and 10 - Phase 2 Multistakeholder development of land use plans | 5650 | 132,000 | 3 | 396,000 | 132,000 | 132,000 | 132,000 | - | 396,000 |
| Capacity development and establishment of 3 demonstration catchments in each of Regions 4, 7 and 10 - Phase 3 Implementing plans and best practices for SLM with concerned actors | 5650 | 132,000 | 3 | 396,000 | 132,000 | 132,000 | 132,000 | - | 396,000 |
| Land reclamation in severely degraded lands and mining areas for productive uses - soil/land decontamination / restoration /levelling etc (9 catchments in the 3 Regions) | 5650 | 120,000 | 3 | 360,000 | 120,000 | 120,000 | 120,000 | | 360,000 |

| | | | | | | | | | |
|--|------|---------|---|------------------|------------------|------------------|------------------|----------------|------------------|
| Land reclamation in severely degraded lands and mining areas-restoration of water resources (small water infrastructure, filtration, drainage etc.) (3 Regions) | 5650 | 120,000 | 3 | 360,000 | 120,000 | 120,000 | 120,000 | | 360,000 |
| Land reclamation in severely degraded lands and mining areas-agroforestry activities tree nurseries, planting, clearing, maintenance (3 Regions) | 5650 | 120,000 | 3 | 360,000 | 120,000 | 120,000 | 120,000 | | 360,000 |
| Organising the hosting of international/regional conferences on UNCCD implementation and SLDM best practices for knowledge sharing, policy awareness and development (contract an institution e.g. University) | 5650 | | | 400,000 | 400,000 | - | - | - | 400,000 |
| Land mapping and survey national coverage (1:50,000) and detailed scale in Target regions- Ordnance survey International/British Ordnance survey | 5650 | 50,000 | 2 | 100,000 | 50,000 | | 50,000 | - | 100,000 |
| Land administration and governance support- University of Guyana/University of west indies) (to be detailed) | 5650 | | | 80,000 | - | 80,000 | - | - | 80,000 |
| Spatial data infrastructure and institutional reform and building GLSC as a centre of excellence (e.g. with CARICOM) to be detailed | 5650 | | | 50,000 | 50,000 | - | - | - | 50,000 |
| Communications development support (media, awareness materials development and printing etc.) | 5650 | | | 20,000 | 20,000 | - | - | - | 20,000 |
| sub-total | | | | 4,318,000 | 1,786,000 | 1,206,000 | 1,136,000 | 190,000 | 4,318,000 |
| TRAVEL and TRAINING | | | | | | | | | |
| Training | | | | | | | | | |
| Overseas training & Local training of GLSC staff with local, regional and international trainers; Training materials, capacity development and workshops with GLSC staff and partner agencies 1) Project Management, presentation and communication skills 2) Certified CIPS procurement training for programmes/projects for audit and finance staff 3) Website design schematics, communications and outreach etc. | 5694 | 25,000 | 4 | 150,000 | 37,500 | 37,500 | 37,500 | 37,500 | 150,000 |
| Training materials, capacity development on the job and workshops in country with GLSC staff and partner agencies on Land Governance: 4) Land related legislation awareness (VGGT RAI, etc), 5) Land planning, interpretation of Plans and Blueprints 6) Land use, conflict/dispute resolution, illegal uses of land/NR etc. | 5920 | | | 200,000 | 70,000 | 50,000 | 50,000 | 30,000 | 200,000 |

| | | | | | | | | | |
|---|------|--------|---|----------------|----------------|----------------|----------------|----------------|----------------|
| Partnership and stakeholder engagement in implementation of the 4 project components (national consultations\regional consultations\seminars and workshops | 5920 | | | 170,000 | 42,500 | 42,500 | 42,500 | 42,500 | 170,000 |
| Hosting of international conferences to increase awareness and knowledge of SLM, upscale SLM work undertaken in the Project, and increase exposure of SLDM work and contribute to best practices on SLM | 5920 | | | 288,702 | 288,702 | - | - | - | 288,702 |
| sub-total | | | | 808,702 | 438,702 | 130,000 | 130,000 | 110,000 | 808,702 |
| Travel | | | | | | | | | |
| Overseas study tours and training of GLSC and other agency staff | 5694 | 25,000 | 4 | 100,000 | 25,000 | 25,000 | 25,000 | 25,000 | 100,000 |
| Travel consultants (flights, DSA and in country travel) | 5900 | | | 300,000 | 90,000 | 90,000 | 90,000 | 30,000 | 300,000 |
| Travel for technical backstopping missions (HQ and regional /subregional offices (RLC, SLM, SLC) | 5661 | | | 340,000 | 90,000 | 90,000 | 90,000 | 70,000 | 340,000 |
| In country travel (DSA of project staff and GLSC staff and drivers) | 5900 | | | 200,000 | 50,000 | 50,000 | 50,000 | 50,000 | 200,000 |
| sub-total | | | | 940,000 | 255,000 | 255,000 | 255,000 | 175,000 | 940,000 |
| OPERATION AND Maintance | | | | | | | | | |
| Stationery and office supplies including training materials | 6000 | | | 20,000 | 6,000 | 6,000 | 5,000 | 3,000 | 20,000 |
| Cubicles and other retro-fitting for GLSC offices | 6000 | | | 10,000 | 10,000 | - | - | - | 10,000 |
| Fuel for vehicles (per vehicle per year, approx 2 tanks per week) | 6300 | | | 59,354 | 15,000 | 14,354 | 15,000 | 15,000 | 59,354 |
| Maintenance for vehicles | 6300 | | | 48,000 | 14,000 | 14,000 | 14,000 | 6,000 | 48,000 |
| Insurance for vehicles and equipment | 6300 | | | 40,000 | 10,000 | 10,000 | 10,000 | 10,000 | 40,000 |
| Spare parts and servicing (printer\scanner etc) | 6300 | | | 10,000 | 2,000 | 3,000 | 3,000 | 2,000 | 10,000 |
| GPS, GIS and Remote sensing software /licences (Arcview etc) | 6300 | | | 50,000 | 40,000 | 4,000 | 4,000 | 2,000 | 50,000 |
| Subscriptions for satellite phones | 6300 | | | 15,000 | 15,000 | - | - | - | 15,000 |
| General operating expenses (miscellaneous approx. 2%) | 6300 | | | 64,856 | 18,000 | 15,000 | 15,000 | 16,856 | 64,856 |
| sub-total | | | | 317,210 | 130,000 | 66,354 | 66,000 | 54,856 | 317,210 |

| | | | | | | | | | |
|------------------------------------|--|--|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| TOTAL | | | | 13,824,558 | 4,364,116 | 5,152,860 | 2,721,553 | 1,586,029 | 13,824,558 |
| Administrative Fee (FAO 7%) | | | | 967,719.06 | 305,488.12 | 360,700.20 | 190,508.71 | 111,022.03 | 967,719.06 |
| TOTAL | | | | 14,792,277 | 4,669,604 | 5,513,560 | 2,912,062 | 1,697,051 | 14,792,277 |

ANNEX 3. PROJECT WORKPLAN MAINSTREAMING SLDM

Activities over project duration (2017-2021)

| ACTIVITIES | Start up 3 month | Year 1 | Year 2 | Year 3 | Year 4 |
|--|------------------------|--------|--------|--------|--------|
| OUTCOME 1: Sustainable use of degraded lands mainstreamed | | | | | |
| Output 1.1 Harmonised land policies developed and submitted for adoption and institutional capacities in place for mainstreaming responsible governance of tenure and SLDM | | | | | |
| 1.1.1 High-level inter-sectoral mechanism/task force established , with key public land agencies and stakeholders, and a broad-based national dialogue /consultation platform set up and supporting sensitisation and the review and drafting of Guyana land policy | | | | | |
| 1.1.2 The effectiveness of existing policies, legislation, financial sustainability plan, strategic plans and institutional collaboration reviewed and measures identified for enhancing the SDLM enabling environment by end 2019 | | | | | |
| 1.1.3 The extent and effectiveness of application of policies and regulations for SLDM reviewed in 3 target regions and constraints and response measures identified | | | | | |
| 1.1.4 Concrete actions identified to capacitate GLSC to perform its core functions and play a lead/coordinating role in SLDM by mid-2018 | | | | | |
| 1.1.5 Inter-sectoral mechanism operationalised to guide cross-sectoral land policy development, specific revisions to laws and policies and incentive measures , in line with VGGT, LDN-TSP and other land-related instruments and conventions | | | | | |
| 1.1.6 Regional meeting (Georgetown, 2018) to share Guyana and LAC experiences in implementing the UNCCD, organised in close consultation with UNCCD Secretariat and RCU | | | | | |
| 1.1.7 Open data policy / strategy developed for SLDM across institutions and submitted for higher level decision making | | | | | |
| Output 1.2 Enhanced land governance through regulatory and financial systems, spatial data information management and enhanced institutional capacities. | | | | | |
| 1.2.1 National stakeholder dialogue platform (see 1.1.1) holding regular events and contributing to awareness of VGGT, capacity development in their application and information sharing on land tenure and access/user rights | | | | | |
| 1.2.2 GLSC business plan, including financial sustainability strategy and roadmap, developed with short, medium and long-term objectives and performance indicators and clearly positioning GLSC vis à vis other land agencies. | | | | | |
| 1.2.3 Land tenure information systems, processes and user capacities reviewed at national level and in target regions, gaps and needs of institutions and actors identified, and concrete actions agreed upon for updating and enhancing tenure security and promoting SLDM and reclamation (by end 2018) | | | | | |
| 1.2.4 Existing and potential barriers to harmonised and equitable land governance and access to information on land administration, secure tenure, access to land resources and land rights by all concerned stakeholders identified | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | Year 2 | Year 3 | Year 4 |
|--|------------------------|--------|--------|--------|--------|
| 1.2.5. Guidance/mechanisms/procedures developed for improved governance and decision making for SDLM at all levels , in accordance with VGGT principles on securing land tenure and access/user rights, with attention to local actors, women, youth and Amerindian Peoples | | | | | |
| OUTCOME 2: Strengthened capacity for participatory and integrated land use planning, information systems, assessment and monitoring for sustainable land development, management, rehabilitation and resilience to climate change | | | | | |
| Output 2.1 Strengthened human capabilities for SLDM - needs assessment, consultations and institutional capacity development plans | | | | | |
| 2.1.1 Capacities strengthened of GLSC and partner agency for enhanced governance of tenure and sustainable use and management of public lands through updating and streamlining institutional responsibilities and modalities, establishing an open-data environment through the NSDI and updated policy and legal mechanisms | | | | | |
| 2.1.2 A continuous institutional capacity development programme designed and implemented for GLSC and other government agency staff on the application of land policy and related instruments through transparent, inclusive, accountable and multi-stakeholder processes (building Centre of Excellence) | | | | | |
| 2.1.3. An open-data environment facilitated for transparency and sharing of information on land administration of public and private lands across sectors, stakeholders and levels - partnership, consultation, awareness raising events, online systems for improved access to land information systems. | | | | | |
| 2.1.4. Consultative fora organised for sharing experiences on incentive measures and develop a plan for piloting incentive mechanisms for SDLM contributing to the LCDS and green economy and building on experiences in the LAC Region | | | | | |
| 2.1.5. Experiences, methods, tools and modern technologies for land appraisal, assessment and mapping at different scales and levels shared (FAO, GLSC, OSI and others) and needs identified to align with SDGs (cf. land degradation, SLM, best practices documentation, evaluation of impacts on ecosystem services and livelihoods). | | | | | |
| 2.1.6 GLSC and partner capacities and needs reviewed (national level; target regions) for land appraisal, classification, strategic land use/resources planning and informed decision making for land use planning and SLDM in line with national goals & priorities and taking into account ongoing processes by GLSC and partner agencies (e.g. LDN-TSP REDD+, etc.). | | | | | |
| 2.1.7 A stakeholder consultation and dialogue platform established and events organised in 3 target regions for enhanced governance for SLDM , to identify opportunities and resolve conflicts and constraints, and enhance user /access rights over land/natural resources | | | | | |
| 2.1.8 Data on land markets and incentives for SLM and land restoration reviewed and analysed in the 3 regions and proposals and actions identified | | | | | |
| 2.1.9 Needs assessed for enhanced tenure and conflict resolution through stakeholder consultations and a pilot capacity development programme for VGGT application developed in target regions to address specific gaps and constraints identified with attention to needs of marginalised groups | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | Year 2 | Year 3 | Year 4 |
|---|------------------------|--------|--------|--------|--------|
| 2.1.10 Mechanisms developed and concrete actions agreed upon in pilot areas to actualize the cadastre, enhance access to information of land users, define responsibilities and strengthen capacities for land allocation and delimitation. | | | | | |
| 2.1.11 Participatory National (1) and Regional (3) level assessments and mapping of land degradation, land management practices (conservation, sustainable use and restoration) conducted for the main land use systems, impacts assessed on ecosystem services and livelihoods and hot & bright spots identified (with technical sectors, research, local actors and development partners). | | | | | |
| 2.1.12 A pilot for automatic land cover/land use mapping and analysis in a specific area /region developed based on cost free, very high resolution RS data, GIS and spatial distributed outputs from 2.1.3 and a cloud computing platform as a basis for supporting SDG reporting in particular SDG 15 (LDN, biodiversity, etc.). | | | | | |
| 2.1.13 Priorities and actions/measures agreed upon to promote and enforce SLM/use and responsible investments through analysis of findings of the assessments at national level and in 3 targeted Regions in terms of drivers of change, pressures/demands on land/natural resources, effectiveness of existing response measures | | | | | |
| 2.1.14 Advice provided on the establishment of a low-cost permanent system for monitoring land cover and land use at national level and on a yearly basis at least(land cover change, land degradation/restoration, ecosystem types, health and ecosystem services as a basis to understand the drivers of degradation and trade-offs and impacts | | | | | |
| 2.1.15. Measures to facilitate knowledge sharing, decision making and priority setting reviewed and identified at different levels for SLM and responsible investments, and to streamline monitoring, analysis and reporting, in line with the SDGs | | | | | |
| Output 2.2 Strengthened human capabilities for sustainable land development and management through training and experience sharing workshops, materials development and exchange visits | | | | | |
| 2.2.1 GLSC staff trained in practical use of a range of land valuation, land assessment and monitoring tools and indicators in support of national reporting compliance for SLDM and tracking contributions of SLDM to SDGs by mid-2019 | | | | | |
| 2.2.2 Communication materials and media programmes developed for public awareness and outreach on GLSC activities , progress and results, including on national land policy and revised national land use plan, and progress towards sustainable and climate resilient land development in Guyana, in line with the SDGs. | | | | | |
| 2.2.3 Training workshop conducted with resource persons in each targeted Region to further develop capacity in up-to-date methods and tools towards an enhanced, integrated spatial land administration model. | | | | | |
| 2.2.4 GLSC staff participating in exchange visits and experience sharing workshops of available spatial data models, tools and applications for enhanced awareness/ knowledge of options for Guyana and to raise awareness with partner agencies on NDSI opportunities and benefits. | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | Year 2 | Year 3 | Year 4 |
|---|------------------------|--------|--------|--------|--------|
| 2.2.5 A cross-sectoral team established to develop and implement practical on the job training for competent institutions on the use of participatory and automated land assessment, mapping, indicators and monitoring | | | | | |
| 2.2.6. Workshops in Guyana (2) and a symposium in LAC region organised to share experiences/lessons on geospatial information technology, land assessment, land use planning, land valuation and incentive mechanisms(countries, FAO HQ, WOCAT partners, competent organizations–public and private sectors) | | | | | |
| Output 2.3 Enhanced physical capacity (knowledge, systems, infrastructure, and processes) for sustainable land development and management | | | | | |
| 2.3.1 An initial NSDI Diagnostics performed to identify gaps and define priority areas building on previous analysis (World Bank, 2016) and develop an NSDI Road Map and Action Plan including desired environmental, socio-economic and gender benefits, for the project duration with a focus on sustainable land tenure administration, land development and planning for climate resilient and sustainable agriculture and rural development. | | | | | |
| 2.3.2 Strategic capacity development needs of staff of GLSC & partner agencies determined (at national and decentralised levels) in management and use of open-access geospatial land information systems and technological innovations for land administration and land use planning. | | | | | |
| 2.3.3. An improved interoperable open-source national spatial data infrastructure (NSDI) and geodetic reference framework designed and developed that is adapted to Guyana capacities and communication infrastructure(based on ISO 19152:2012 – Geographic information - Land Administration Domain Model -LADM) | | | | | |
| 2.3.4 Data digitisation and migration/entry planned and entered into the NSDI using national and open- source data and data from pilots in 1-2 target regions, backed up by safely-housed archival registry of paper-based land records (e.g. leases, registers, plans, applications). | | | | | |
| 2.3.5 Guidance tools, operational standards and methods developed for data and document management to support land administration functions and GLSC and other agency staff trained in archiving, updating and use of the NSDI and GIS/RS tools through pilots in 1-2 target regions | | | | | |
| 2.3.6 Cadastral plans and lands and deeds registers updated and interlinked , with a focus on providing comprehensive, accurate, digitised information in 1-2 target regions to support land administration functions over public lands (land tenure, land value, land use, land development as well as rights, responsibilities, and restrictions) | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | | Year 2 | | Year 3 | | Year 4 | |
|--|------------------------|--------|--|--------|--|--------|--|--------|--|
| 2.3.7 Communication and connectivity enhanced for all GLSC staff for timely, efficient work and enhance collaboration with partner institutions on land issues through procurement/updating of essential ICT services, equipment (hardware, software) and spatial data infrastructure (local and wide area networks). | | | | | | | | | |
| 2.3.8 Business models developed for the operation of a national Centre of Excellence in regard to NSDI to support the building of the NSDI, the use of geospatial data and various existing applications, build new innovative solutions and organize capacity building and awareness raising | | | | | | | | | |
| 2.3.9 Lessons, experiences and capacities for land/natural resources planning at national level reviewed, mechanisms developed for integrated planning across sectors and institutions and national land use plan updated to mainstream climate resilience, food security and the new land policy (by GLSC with the various Ministries/Offices, involved in planning, e-Governance, national statistics, valuation and taxation, etc.). | | | | | | | | | |
| 2.3.10 Gaps and needs identified for supporting a dynamic, multi-stakeholder land resources planning, decision-making and management process , to address demands and mitigate risks at relevant scales and across sectors, institutions and actors (e.g. territorial planning, watershed management, incentives, regulations, etc.) based on findings and suggestions of reviews (1.1, 2.1, 2.3), of lessons, experiences and existing capacities at decentralised levels and coordinated by GLSC. | | | | | | | | | |
| 2.3.11 Guidelines /an implementation framework for a long term, multi-actor participatory negotiated territorial planning process developed and piloted at decentralised levels (village, municipal, neighbourhood, regional) applying as appropriate a watershed management approach | | | | | | | | | |
| 2.3.12 An integrated land use/ management plan and monitoring system in target Regions developed & being implemented for sustainable, climate resilient land development, management and restoration through a multi-stakeholder process (at an appropriate scale to meet needs) and supported by service providers for addressing priorities & targeting responsible investments | | | | | | | | | |
| 2.3.13 Concrete actions identified for applying and monitoring progress towards the various governance instruments, national action plans and international commitments | | | | | | | | | |
| Outcome 3: Institutional strengthening for sustainable land management through local governance | | | | | | | | | |
| Output 3.1 Strengthened capacity of actors in at least 3 Regions to assess land resources status and trends | | | | | | | | | |
| 3.1.1 Diagnostics conducted in 1 or 2 target landscapes in each target Region for land degradation and SLM assessment and mapping using adapted LADA local manual and diagnostic tools (specific degradation problems, capacities, experiences) | | | | | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | | Year 2 | | Year 3 | | Year 4 | |
|---|------------------------|--------|--|--------|--|--------|--|--------|--|
| 3.1.2 “Best” land management and reclamation measures selected & documented in pilot landscapes in the main land use systems/agroecosystems in 3 Regions, to address major constraints & meet needs of stakeholders on the ground with support of development actors | | | | | | | | | |
| 3.1.3. SLM best practices peer reviewed (operational task force members) and case studies shared through UNCCD-WOCAT global database and service providers for awareness raising (national, 3 Regions, communities), knowledge sharing & training for scaling up of adapted practices. | | | | | | | | | |
| Output 3.2 Raised awareness and capacity of local actors on land policy and governance mechanisms for enhancing tenure security | | | | | | | | | |
| 3.2.1 A local level multi-stakeholder platform established or strengthened for dialogue and promoting implementation in target intervention areas This activity will feed into the process of policy drafting. | | | | | | | | | |
| 3.2.2 A local mapping/analysis conducted of land tenure status, changes& conflicts and situations of informal occupation regularised for enhanced tenure security, access/user rights and reduced conflicts | | | | | | | | | |
| 3.2.3. A capacity development programme developed & implemented for enhanced, responsible governance of tenure for multi-stakeholder platform members including land administration and results shared at intermediary and national levels. | | | | | | | | | |
| Output 3.3 Strengthened capacity for promoting territorial approaches for scaling up of proven SLM practices and rehabilitation measures | | | | | | | | | |
| 3.3.1 Available knowledge and know-how assessed, capacity development needs of service providers identified in target landscapes and districts to select, adapt and promote resilient SLM and Restoration measures | | | | | | | | | |
| 3.3.2 A training programme developed and implemented for service providers /ToT to support adoption by land users and communities of adapted SLM practices building on SLM knowledge bases, local innovations, scientific advances and lessons learned from previous interventions. | | | | | | | | | |
| 3.3.3. Experiences and lessons in land use /catchment planning and territorial development approaches reviewed at regional, municipal, village level, and a training programme for service providers in PNTD and integrated catchment/watershed management developed and implemented with competent resource persons to scale out SLM and rehabilitation measures. | | | | | | | | | |
| 3.3.4 A consultative process organised across sectors & projects in 3 Regions to identify a minimum set of indicators and methods/tools to assess and monitor impacts of land management and development interventions at parcel & landscape level in line with LDN and REDD+ targets, Guyana Low Carbon and Green State strategies and SDG targets | | | | | | | | | |
| Outcome 4 Project management structures and mechanisms including M&E framework strengthened | | | | | | | | | |
| Output 4.1: : Project staff hired and management structures in place, for effective partnerships, stakeholder engagement, communications and procurement | | | | | | | | | |
| 4.1.1 Competent national project management unit (PMU) established by FAO and GLSC and supported by regular meetings of project steering committee (PSC), facilitating recruitment, contracts, procurement, skills transfer and capacity development | | | | | | | | | |

| ACTIVITIES | Start up 3 month | Year 1 | | Year 2 | | Year 3 | | Year 4 | |
|---|------------------------|--------|--|--------|--|--------|--|--------|--|
| 4.1.2 PMU implementing the project in a timely manner through detailed planning, reporting on progress, results, constraints and solutions proposed, supported by partnership, strong stakeholder engagement and decision making processes and ensuring regular communications and outreach | | | | | | | | | |
| 4.1.3 A stakeholder engagement plan and a communication strategy on SDLM developed to facilitate involvement of stakeholders & enhance visibility of work conducted on land administration, governance, management, reclamation and awareness raised on GLSC role | | | | | | | | | |
| Output 4.2 Project Monitoring and Evaluation (M&E) framework in place | | | | | | | | | |
| 4.2.1 Project monitoring system established guided by M&E expert, with agreed set of biophysical, socio-economic & governance indicators & methods/tools for data collection, management & monitoring to assess project progress and performance and SLDM impacts at land user, parcel & landscape level in line with national and SDG targets | | | | | | | | | |
| 4.2.2 A Guyana SDLM monitoring and bi-annual review process developed for GLSC and partner interventions and development projects to assess and track progress in relation to contributions to national commitments | | | | | | | | | |
| 4.2.3 Experiences & lessons learned in Guyana on environmental & social impact assessments relating to land development, management, reclamation by private & public investors reviewed and shared | | | | | | | | | |
| 4.2.4 Needs identified & training programme developed & conducted to build capacity of GLSC staff & partner institutions in streamlined monitoring of environmental, social and economic impacts of SLDM interventions , to inform decision making and climate-smart investments | | | | | | | | | |
| 4.2.5 Mid-term and terminal project evaluations organised and conducted to provide accountability on results, lessons learned & develop recommendations for the improvement of project performance and provide an evidence-base for informed decision making | | | | | | | | | |

ANNEX 4. PAST AND ONGOING PROJECTS OF RELEVANCE TO THE MAINSTREAMING SLDM INITIATIVE (BASELINE)

- **Guyana Land Administration Support Programme (GLASP) - 1997-2004** implemented to alleviate poverty by increasing the agricultural potential of land through the improvement of the drainage and irrigation and provision of secure tenure, led by GLSC.
- **Development of Land Use Planning Project (DLUPP) -2011-2013** aimed to support the government of Guyana to achieve sustainable, equitable and pro-poor regional development through spatial planning and land management leading to poverty reduction. The National Land Use Plan was developed and approved by Cabinet in September 2013 and drafted Regional Land Use Plans for regions 1, 2, 10. DLUPP also upgraded the database to a **Lease Approval and Management System (LAMS) database**, an e-governance application system for registration, approval, and management to reduce errors and speed up the process of issuing land leases linked to a robust spatial attribute database. This has paved the way for regionalization, a paperless system and scientifically based approach to land leasing and hence improving GLSCs performance.
- **On national forest monitoring** in response to technical requests from the Guyana Forestry Commission, FAO through the UN-REDD and SEPAL team, held technical dialogues and provided technical support and was provided to advance methods for national forest monitoring systems. In particular support for processing and classification especially using high spatial resolution satellite imagery for the purposes of detecting and monitoring forest change (with a special focus on degradation).
- **Climate Adaptation and Disaster risk reduction in the Agricultural sectors** are being supported by UNDP and FAO with funding from the Government of Japan. They are working with the Government of Guyana in mainstreaming disaster risk reduction and disaster risk management in the agricultural sector, as well as piloting green energy and sustainable water harvesting in hinterland communities.
- In June 2014, Guyana commenced an 18-month project, funded by the Global Environmental Facility (GEF) with support from United Nations Development Programme (UNDP) to **align the existing National Action Plan to Combat Degradation (NAP) to the UNCCD's 10-year (2008-2018) Strategic Plan** in collaboration with Guyana Lands and Surveys Commission (the National Focal Point Agency to UNCCD). **Capacity Development and Mainstreaming for Sustainable Land Management** was also supported through a UNDP/GEF small grant.
- Implementation of **UNCCD Land Degradation Neutrality Target Setting Programme (LDN TSP)** is ongoing and a key step to addressing land degradation and achieving SLM in Guyana and demonstrates the Government's commitment to addressing land degradation, land rehabilitation and land management with more long-term, concrete actions to minimise land degradation through land management practices, and undertaking land reclamation to increase gains. LDN-TSP is funded by the Global Mechanism and UNCCD and supported by the UNCCD Secretariat Office for the Caribbean and Latin America, which provides administrative, reporting and financial arrangements. A national consultant is supporting implementation and working with GLSC and

other agencies, through a 'National Working Group' to provide guidance and technical support. A structured framework is being developed for the collection, measurement, monitoring and reporting (trends) of land degradation, and to provide for land rehabilitation to address land degradation, as well as monitoring and reporting by GLSC as the custodian of public lands and the UNCCD National Focal Point.

- **The Rural Enterprise and Agricultural Development Project (READ)** is jointly funded by the Government of Guyana and the International Fund for Agricultural Development (IFAD) and aims to increase market opportunities available to small-scale producers thereby increasing rural incomes and improving social conditions among the rural poor.
- The Inter-American Development Bank (IDB) funded project **Agricultural Export Diversification Project (AEDP)** disbursed US\$20.9 million to Guyana during 2007-2014 to support government efforts to promote the diversification of the country's agricultural export, aiming at increasing non-traditional agricultural exports from aquaculture, fruits and vegetables, and livestock sub-sectors and reducing volatility. The program promoted private sector entrepreneurship in agribusiness; improved agribusiness export and facilitation services for greater market access for Guyanese exports and increased private investment in non-traditional agribusiness sector; strengthened agricultural health and food safety services, and rehabilitated drainage and irrigation systems for increasing agricultural productivity.
- Also, UNDP/GEF Small Grants Programme is supporting **Enhancing Biodiversity Protection through Strengthened Monitoring, Enforcement, and Uptake of Environmental Regulations in Guyana's Gold Mining** sector aiming to reduce biodiversity loss and maintain ecosystem functionality and benefit all Guyana's people. The project through a 3.5 million USD GEF grant during 2014-2017 aims to put in place key elements to increase enforcement of existing regulations and codes of practice, enhance EPA's role in overseeing activities in the gold mining sector, support institutional collaboration, and build institutional and individual capacity on environmental and specifically biodiversity issues as they relate to mining. Capacity building efforts focus on training trainers for the mining school, mines officers, and local leaders, on the regulatory framework, BD and mining and dissemination of user-friendly information on the existing environmental regulations and codes of practice. The project will also build capacity for the implementation of the regulatory framework and strengthening capacities to monitor and enforce compliance for the mining or forestry sectors.

FRA - Global Forest Resources Assessment (FAO) - The 2015 Global Forest Resources Assessment (FRA2015) continues the tradition of seeking to describe the world's forests. The design process has involved users, national correspondents, and experts from a wide variety of technical backgrounds. Countries representing some 75% of the world's forest area contributed to constructing FRA 2015 content. Remote sensing was used in FRA 2015 - primarily in assessing fire affected areas and estimating the area where forest canopy cover has been reduced. (Source: - <http://www.fao.org/forest-resources-assessment/current-assessment/en/>)

- In addition, FAO recently provided technical assistance to the government on the development of **Production and Market Information System**. This included a review of existing market information services; design and develop a web page which allows easy access via the internet of the production and market information system as well as provides information on the work of the Guyana Geology and Mines Commission (GGMC); and development of a project proposal to

access funds to further develop the system including the hardware and software required to make it fully operational throughout the country.

- **Support to Strengthening of Monitoring and Enforcement of Mining Regulations in Guyana:** A UNDP-GEF Medium-Sized Project currently being implemented with the objective of strengthening monitoring and implementation of biodiversity-friendly practices in Guyana's gold mining sector to reduce biodiversity loss and maintain ecosystem functionality for the benefit of all Guyanese. This will be achieved through enhanced monitoring and enforcement of the environmental regulations and codes of practices, as a result of a strengthened capacity within the sector agencies on environmental issues related to mining, increased inter-institutional collaboration, and greater satellite tracking of mining activities.

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