



Food and Agriculture
Organization of the
United Nations

Final Project Evaluation:
Mainstreaming Sustainable Land
Development and Management in the
Co-operative Republic of Guyana
GCP/GUY/003/GRI

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Abbreviations and Acronyms

CHPA	Central Housing and Planning Authority	NAREI	National Agricultural Research and Extension Institute
CORS	Continuously Operating Reference Stations	NextGen	Next Generation Lease Management System
FAO	Food and Agriculture Organization of the United Nations	NSDI	National Spatial Data Infrastructure
GFC	Guyana Forestry Commission	PSC	Project Steering Committee
GGGI	Global Green Growth Institute	REDD+	Reducing Emissions from Deforestation and Forest Degradation
GGMC	Guyana Geology and Mines Commission	SDI	Spatial Data Infrastructure
GLSC	Guyana Lands and Surveys Commission	SEPAL	System for Earth Observation Data Processing and Analysis for Land Monitoring
GRIF	Guyana REDD+ Investment Fund	SLDM	Sustainable Land Development and Management
GTI	Government Technical Institute	SLM	Sustainable Land Management
LCDS	Low Carbon Development Strategy	UNCCD	United Nations Convention to Combat Desertification
LDN	Land Degradation Neutrality	UN-IGIF	United Nations Integrated Geospatial Information Management Framework
LiDAR	Light Detection and Ranging		
MARAD	Maritime Administration Department		

Executive Summary

The Mainstreaming Sustainable Land Development and Management (SLDM) project aimed to establish an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation. The project was implemented by the Government of Guyana through the Guyana Lands and Surveys Commission (GLSC) and the Food and Agriculture Organization of the United Nations (FAO), with financing provided by the Guyana REDD+ Investment Fund (GRIF).

The evaluation followed a utilization focused approach aimed at serving both accountability and learning purposes. Three key questions — focusing on identifying project design and implementation learnings, assessing project contributions, and identifying opportunities for future actions — guided the evaluation. Two independent consultants conducted the evaluation, with quality assurance and oversight provided by the FAO Office of Evaluation.

Overall, the evaluation found that the project made significant contributions to modernizing land administration, strengthening geospatial infrastructure, building human and institutional capacities and piloting sustainable land management practices. The project demonstrated strong adaptive management in response to a rapidly evolving political, institutional and economic context. However, while project revisions realigned activities with shifting government priorities and helped to advance project implementation, they also shifted the project's strategic focus, leaving key gaps in addressing land policy and land use planning challenges.

The project's most significant achievement was the institutional modernization of GLSC. Investments in digital land administration systems, national geospatial datasets, geodetic infrastructure, and regional GLSC offices substantially strengthened GLSC's technical foundations. Training, international exposure, and partnerships with national academic institutions strengthened skills across the land sector and helped to establish a future workforce pipeline. The long-term impact of these investments, however, will depend on the ability of GLSC, and the government as a whole, to sustain and deepen institutional capacity, financing and inter-agency coordination.

Sustainable land management pilots generated valuable learnings. Their scalability will depend on addressing underlying land tenure and governance constraints, as well as providing continued technical support and monitoring. At the policy level, the project delivered important analytical outputs, including a land policy paper and a National Spatial Data Infrastructure Strategy. However, further progress was constrained by limited political endorsement, fragmented institutional mandates, and the absence of a fully enabling governance framework.

Overall, the project laid strong technical and institutional foundations for sustainable land development and management but retreated from tackling some of the most important long-term issues of national policy formulation, integrated land use planning and inter-agency coordination. To consolidate and extend the advances made through the project, clear policy direction, coordinated institutional leadership, sustained investment in human and geospatial capacity, and a coherent enabling environment for sustainable land management are required.

Summary of the Evaluation Recommendations

The evaluation recommendations provide considerations, for the Government of Guyana, the Guyana Lands and Surveys Commission and the Food and Agriculture Organization, to inform future initiatives on sustainable land development and management.

- For the Government of Guyana, the recommendations include **launching the development of a comprehensive land policy** and providing endorsement for the implementation of a **National Spatial Data Infrastructure**.
- For GLSC, the recommendations endorse the follow up actions identified by the project and provide additional considerations aimed at seeking **sustained and adequate direct government budget support** and developing **renewed integrated national and regional land use plans**.
- For FAO, the recommendations target **continued partnership building** to leverage synergies across complementary projects, **advocacy** for the development of a comprehensive national land policy and **exploring initiatives targeting land degradation prevention**.

Project Context



Country Context

Socio-economic and Environmental Overview

Guyana is a small country with an abundance of natural resources and a population of just over 800,000. It is a multi-ethnic and multi-religious society, made up of Indo-Guyanese, Afro-Guyanese, Mixed-Guyanese, Amerindians, and other groups.

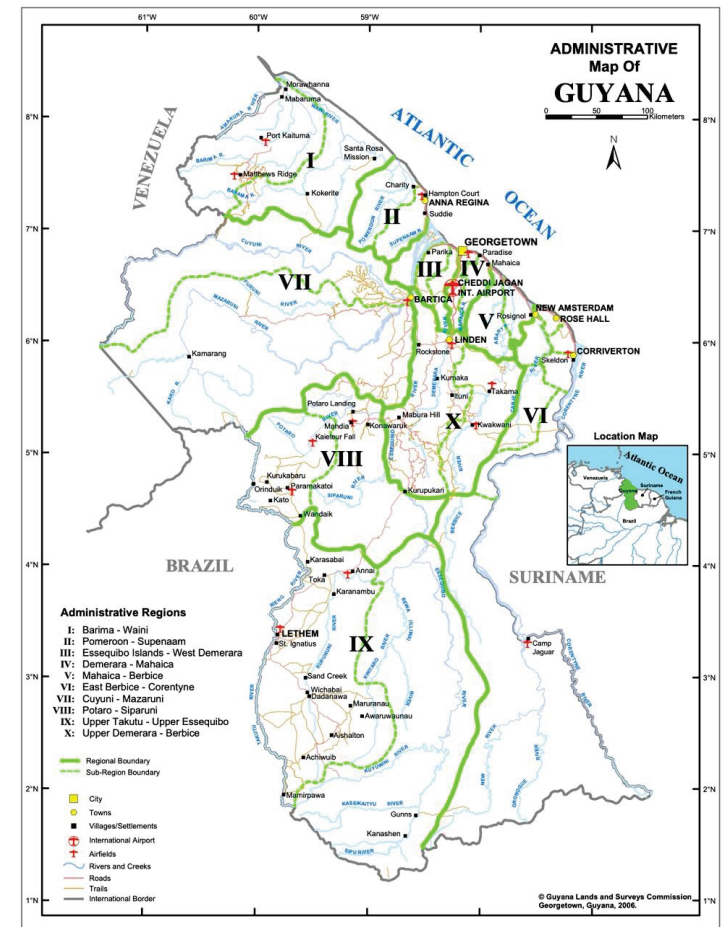
The country is endowed with extensive grasslands, tropical rainforests, deposits of gold, bauxite, diamonds, and abundant water resources. Oil and gas reserves have also recently been discovered off its Atlantic coast.

Approximately 85 percent of Guyana is covered in forests, which serve as an important carbon sink. Deforestation rates are among the lowest in the world and Guyana is one of only four countries in the world verified to have sustained a High Forest Low Deforestation state. However, Guyana is also among the countries most vulnerable to climate change. Coastal flooding poses a serious risk, as much of Guyana's population and economic activity, particularly agriculture, is concentrated in low-lying areas along the Atlantic coast.

Guyana has experienced a rapid economic transformation since large-scale offshore oil and gas production began in 2019, achieving its fifth consecutive year of double-digit growth in 2024. The World Bank reclassified Guyana as a high-income country in 2023, reflecting its rapid economic growth. However, as noted in the World Bank Group 2023–2026 Country Partnership Framework, institutional challenges pose risks to Guyana's ability to leverage its natural resource wealth to support sustainable development. The effectiveness of Guyana's public institutions face challenges such as lack of updated regulations, low levels of public trust, and poor quality of public services.

Guyana's rapid economic expansion has accelerated the allocation of state land for agriculture, mining, logging, settlements, and urban growth. Unregulated small-scale mining, unsustainable agricultural practices, and deforestation have driven soil erosion, water pollution, landslides, and flash floods, thereby undermining productivity and resilience. These pressures, compounded by climate variability, threaten biodiversity, ecosystem services, food security, and community livelihoods.

Sources: SLDM Project Document; 2023–2026 Country Partnership Framework World Bank Group; World Bank Data Bank Guyana <https://data.worldbank.org/country/Guyana>;



Country Context

Policy Context

Low Carbon Development Strategy 2030

In 2009, Guyana launched its first Low Carbon Development Strategy (LCDS), outlining the country's plans to establish a world-leading model for maintaining forests, receiving payments for globally significant forest climate services, and investing those payments in a low carbon economy.

The LCDS 2030 builds on this model by expanding the vision to include other globally significant ecosystem services. It includes commitments to deliver modern standards of urban planning and rural land use planning, as well as policy measures to improve land use planning around forestry and mining. It also includes sector specific work to build climate-resilient agriculture systems and to reclaim and restore land from mined out areas.

United Nations Convention to Combat Desertification (UNCCD)

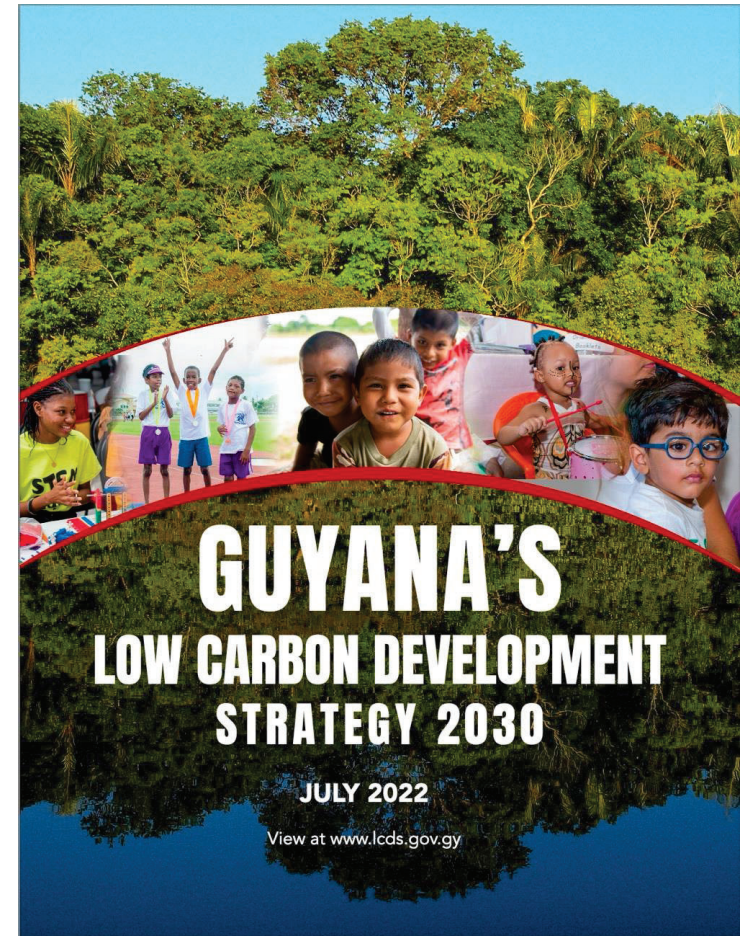
The UNCCD a legally binding international treaty that links environment and development to sustainable land management. It tackles issues such as desertification, land degradation, and drought. Through national action plans, international cooperation, and its Conference of the Parties, it aims to build resilience, restore ecosystems, and achieve land degradation neutrality (LDN)*.

The Guyana Lands and Surveys Commission (GLSC) is the National Focal Point Agency to the UNCCD. The GLSC has led various actions and initiatives enabling Guyana to integrate its international obligations with national development agenda and sectoral planning. According to Guyana's LDN Target Setting Programme Report (2017-2030), land degradation in Guyana is caused by natural resource utilization and natural disasters in sporadic areas. In 2019, Guyana reported that 15.89% of its total land area (3.34 million hectares) was degraded

Guyana's Aligned National Action Plan (NAP) 2015-2025 aims to ensure agricultural, pasture, mining, forestry, coastal and other land uses and resources are managed as sustainable, productive systems that maintain ecosystem productivity and ecological functions while contributing directly to environmental protection, economic growth and social livelihoods.

* The UNCCD defines Land Degradation Neutrality as a state where the quantity and quality of land resources stay stable or increase, supporting ecosystem functions, services, and food security, meaning losses from degradation are balanced by gains through restoration and sustainable management.

Sources: United National Convention to Combat Desertification website <https://www.unccd.int>; Guyana's Low Carbon Development Strategy 2030 website <https://lcds.gov.gy>



Project Description

Guyana REDD+ Investment Fund (GRIF)

Through the Guyana-Norway Partnership, Guyana received USD 220.8 million* in performance payments for delivering forest climate services between 2009 to 2015. The Partnership aims to:

- support Guyana's Low Carbon Development Strategy (LCDS);
- provide results-based payments for avoided deforestation; and
- demonstrate that forest countries can meaningfully contribute to climate change mitigation while pursuing sustainable development.

To facilitate the management and allocation of these funds, the Guyana REDD+ Investment Fund (GRIF) was established in 2010. The GRIF structure includes Contributors (initially Norway), a Steering Committee with representatives from both Norway and Guyana, a trustee (the World Bank), partner entities that provide operational services, and implementing entities that receive funding. In May 2021, both countries enlisted the Global Green Growth Institute (GGGI) to provide management support for Norway's roles in the GRIF Secretariat, with the aim of ensuring effective oversight and communication strategies.

As of 2024, the GRIF had allocated USD 215.9 million to 13 projects, including the Sustainable Land Development and Management (SLDM) project.

Guyana Land and Survey Commission (GLSC)

A key state institution, GLSC's functions include responsibility for: advising the government on land policies; managing state lands, including executing surveys, preparing and publishing maps; issuing land titles and leases; providing support for land use development, including preparing land use plans; and collecting land rents and land management related fees. The 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.

- Guyana earned USD 212.6 million in payments, which reached \$220.8 million when investment income is included.

Sources: Guyana's Low Carbon Development Strategy 2030 website <https://lcds.gov.gy>; Guyana's REDD+ Investment Fund website, <https://www.guyanareddfund.org>

SLDM Project Overview

Project goal

Establish an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation.

Project expected outcomes:

- Outcome 1: Sustainable land development 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: Strengthened local governance in three regions for implementing sustainable land management.
- Outcome 4: Project management structures and mechanisms, including monitoring and evaluation framework, strengthened.

The project's reconstructed theory of change, as developed in the mid-term evaluation, is included in Appendix 1.

Project duration

April 2018 to December 2025.

The project was originally scheduled to end in December 2021. It was extended an additional four years through three project extensions.

Budget

USD 15,192,204 million financed through the GRIF.

Implementation arrangements

The project is implemented by the Government of Guyana through the Guyana Lands and Survey Commission, as the national executing agency and the Food and Agriculture Organization of the United Nations (FAO), as the implementing agency.

Evaluation Approach and Methodology



Evaluation approach

The evaluation was guided by a utilization-focused approach to meet the information and learning needs of the key evaluation users. Where possible, a theory-based approach was used to examine and test the key underlying assumptions and causal mechanisms identified in the project's reconstructed theory of change.

Evaluation process

The evaluation process consisted of three phases. Each phase included opportunities for stakeholder participation and feedback.

During the preparatory phase, the FAO Office of Evaluation conducted scoping interviews with key project stakeholders from the FAO, GLSC and the Global Green Growth Institute (GGGI) to identify key areas of interest, formulate key evaluation questions and determine the evaluation approach. Subsequently, the evaluation team refined the questions and further developed the evaluation methodology, through initial document review and consultations with the project team. The resulting methodological design was circulated to key project stakeholders for review.

The data collection phase took place from September to the end of October 2025 and included a two-week field mission in Guyana. The evaluators then systematized the information and data collected through different sources and methods using Excel spreadsheets aligned with each evaluation criterion. This facilitated the analysis and triangulation of the information, as well as ensuring data traceability. Inductive and deductive coding techniques were used to identify trends and findings.

The report preparation phase began with a debrief on the evaluation's preliminary findings. This was followed by the preparation of a draft evaluation report, for stakeholder review and comment. To increase evaluation use, attention was placed on preparing a concise and accessible final report.

Evaluation standards and norms

The evaluation complied with the norms and standards of the United Nations Evaluation Group (UNEG). As part of the methodological design, interview protocols were developed in accordance with FAO Data Protection Policy and Free, Prior, and Informed Consent (FPIC) practices. The according and protocols, including procedures to protect the privacy of confidential information

SLDM Evaluation Overview

The SLDM final evaluation focused on assessing project contributions and identifying key lessons. As such, the evaluation aimed to fulfil both accountability and learning objectives.

Evaluation purpose:

- o To provide the GLSC and FAO with evidence to inform decision-making for the design and implementation of future initiatives related to sustainable development and land use planning.
- o To provide the Guyana REDD+ Investment Fund (GRIF), and other donors with learnings that could inform future projects with similar objectives or in similar contexts.

Evaluation scope:

- o Covered the implementation period, from April 2018 to the end of October 2025 (the end of evaluation data collection phase), with an emphasis on project implementation from 2022-2025 (the period following the mid-term evaluation).
- o Included key national and regional stakeholders, as well as a sample of project beneficiaries and field sites.

Evaluation team:

- o The evaluation was conducted by a two independent consultants comprised of an evaluation specialist and a technical expert in sustainable land development and management.
- o The FAO Office of Evaluation provided quality assurance, reviewing key evaluation deliverables.

Evaluation Questions

Three key questions, focusing on assessing lessons learned, key project contributions, and opportunities for future action, guided the evaluation. The questions address core evaluation criteria of effectiveness, efficiency and sustainability. They align with key areas of interest identified by key project stakeholders.

An evaluation matrix (see Appendix 2) served as the guiding evaluation tool. It included evaluation questions and sub-questions, with corresponding indicators, methods and data sources.

1. What were the key project design and implementation learnings?

- 1.1 What were the main project design and implementation challenges that hindered the realization of expected outcomes?
- 1.2 What were the main project design and implementation challenges that contributed to the realization of expected outcomes and key areas of success?

2. To what extent and how did the project contribute to the realization of expected outcomes*?

- 2.1 Outcome 1: Sustainable land development mainstreamed in policy, institutional and governance mechanisms to prevent degradation and restore degraded lands
- 2.2 Outcome 2: Strengthened institutional and human capacity for participatory and integrated sustainable land development and management.
- 2.3 Outcome 3: Strengthened local governance in three regions for implementing sustainable land management.

3. Based on the project experience and learnings, what are the key areas of opportunity to sustain and further the adoption of sustainable and climate-resilient land development, management and reclamation for the benefit of present and future generations in Guyana?

* Outcome 4 "Strengthened project management structures and mechanisms, including monitoring and evaluation framework", was considered as part of evaluation question one.

Evaluation Methods

The evaluation applied a primarily qualitative approach, using mixed methods. Data collection built on the information gathered through the mid-term evaluation, project reporting, and the project sustainability and exit plan.



Project document review: Included a structured review and analysis of the project funding agreement; annual reports, mid-term evaluation and sustainability study; Steering Committee minutes; workplans, risk assessments and budget documents; core policy documents; and a selection of project technical reports and output documents produced.

Literature review. A limited and rapid literature review focusing on a select and small number of studies addressing challenges and good practices relating to Sustainable Land Development and Management.



Semi-structured interviews: Individual and small group interviews were conducted in a semi-structured manner, which allowed for organized conversations around the evaluation questions, but also left room to delve deeper into specific topics or questions relevant to the interviewees.

In total 35 interviews were conducted with a total of 68 individuals, of which 28 were female and 40 were male.

- At a central level, key informants included representatives of FAO, GGGI, GLSC, land-related and environmental agencies, academic partners, and civil society organizations. Efforts were made to include former project team members and individuals and agencies not directly involved in the project.
- At a regional level, key informants included regional GLSC, National Agricultural Research and Extension Institute (NAREI), Guyana Geology and Mines Commission (GGMC) officials, along with individual farmers and miners as part of the project site visits.



Focus groups discussions: Three focus group, involving guided reflexive discussions, reached 17 project participants including:

- 6 out of the 20 farmers participating in the dragon fruit pilot, of which 3 were female and 3 were male;
- 6 out of the 20 farmers participating in the sustainable agriculture initiative in Administrative Region 4, of which 3 were female and 3 were male.
- 5 students enrolled in the Government Technical Institute (GTI) Survey Diploma Program, of which 1 was female and 4 were male.



Site visits: A purposive sample of project sites were selected considering a variety of criteria including accessibility, regional coverage, implementation progress, and diversity of activities. Sites include two of the three target regions for Outcome 3 (Administrative Regions 7 and 10) and included visits to:

- the NAREI Kairuni field station;
- an active Puruni gold mining site;
- a GGMC Puruni mining reclamation site;
- the Guyana Forestry Commission (GFC) Linden regional nursery; and
- 7 farm sites, of which 4 were participating in the dragon fruit initiative, and 3 in the sustainable agriculture initiative.

Additionally, visits were made to two of the four GLSC regional offices constructed and rehabilitated with project support – Bartica in Administrative Region 7, and Port Kaituma in Administrative Region 1.

Evaluation Limitations and Mitigation Measures

Key evaluation limitations and mitigation measures are described below.

Limitations

Limited time and resources

The evaluation was conducted with a small team (2 people) with a limited number of days and resources for a project of this size and complexity.

Implementation delays

Implementation delays meant that key project outputs, such as the Next Generation Lease Management System and the rehabilitation of GLSC regional offices, had not yet been operationalized at the time of the evaluation. Additionally, activities focusing on sustainable land management pilot interventions were still in the early stages of implementation, with key training and infrastructure inputs not yet fully in place. This made it difficult for the evaluators to assess the results and impacts of key project interventions. Additionally, due to the early stage of implementation it was not possible to conduct the planned case studies of the pilot interventions, as proposed in the evaluation methodology.

Performance data gaps

Project revisions led to changing targets and inconsistent performance reporting against some key indicators and targets included in the project's logical framework matrix.

Mitigation Measures

Limited time and resources

- o Focused evaluation design with a limited number of key questions responding to user information needs.
- o Purposive samples for regional visits, focused on diversity of activities (breadth vs depth).
- o Division of evaluation team members and use of small group interviews to increase stakeholder coverage.

Implementation delays

Interviews and focus groups discussions aimed to capture participant and stakeholder observations on emerging and expected results, along with identifying learnings, challenges and future opportunities.

Performance data gaps

The evaluation analysis focused on key contributions to expected outcomes rather than assessing planned vs actual levels of targets achieved.

**What were the key
project design and
implementation
learnings?**



Project Design

Key Learnings

Adjusting a project's activities to an evolving national context can help it to better align with government and institutional priorities. However, **when a project's activities and targets change, its ability to achieve its goal must be reassessed.**

Project revisions lowered the ambition of outcomes aimed at mainstreaming SLDM in policy, institutional, and governance mechanisms (outcome 1), and strengthening local governance for implementing SLM interventions (outcome 3). Project resources were reallocated to existing and new activities to strengthen GLSC's, and to a lesser extent other key land agencies', institutional and human capacities (outcome 2). While the changes were justified, they weakened the project's internal coherence, making the logical pathways to its goal of "establishing an enabling environment for promoting sustainable and climate-resilient land development and management" unclear.

Critically assessing what the adjusted project could or could not achieve, and revising its expected outcomes accordingly, could have helped to:

- increase dialogue among key project stakeholders and decision-makers about the project's changing strategic focus;
- identify alternative opportunities and pathways for addressing long-standing land use policy, governance and planning challenges; and
- communicate the revised project outcomes and goal to project stakeholders and the public.

Finding 1: Project revisions aligned with evolving government and institutional priorities. These revisions also shifted the project's strategic focus.

Project priorities shifted following the election of a new government in 2020, and the subsequent appointment of a new GLSC Commissioner. There was a growing imperative to modernize the GLSC and focus on its institutional enabling environment. While the GLSC is responsible for advising the government on matters relating to public lands, land surveys and other land issues, policy development was now clearly viewed as a core responsibility of the government and beyond the authority of the GLSC (Project Steering Committee Meeting Minutes, 2021). Additionally, as little implementation progress had been made in the project's first two years, both GLSC and FAO interviewees noted the need to reconsider what could realistically be achieved within the remaining project timeframe.

In response to this evolving context, GLSC and FAO stakeholders worked collaboratively to restructure the project. In August 2021, the project steering committee endorsed a revised implementation plan and a reallocated budget that was subsequently approved by the GRIF Steering Committee.

For **outcome 1**, the ambition changed from submitting a *land policy* for adoption and having harmonized regulations and/or laws in place, to drafting and submitting a *land use policy paper*. Activities for enhancing tenure security and implementing open-data policies were removed.

For **outcome 2**, the ambition of activities and targets relating to the implementation of an integrated national spatial data infrastructure (NSDI) were lowered. Activities relating to territorial planning and watershed management, and the development of land use plans were removed. New activities for the construction of GLSC regional offices and support for higher education training programs were added.

For **outcome 3**, activities and targets relating to governance mechanisms for enhancing tenure security and implementing regional land use plans were removed (see Finding 17). Additionally, much of the planned budget for the remaining outcome 3 activities was reallocated, reducing the remaining budget for this outcome from just over USD \$4 million to USD \$1 million.

The project restructuring process helped to better align the project with institutional priorities and government directives, clarify roles and responsibilities, strengthen collaboration between FAO and GLSC, and advance project implementation. However, the revisions also resulted in a narrowing of the project's strategic focus, leaving key gaps in addressing long-standing land policy and land use planning challenges. Further, there was limited analysis of how these changes affected the project's theory of change and the causal links explaining how the revised activities and outputs were expected to achieve the project's original expected outcomes, which had remained unchanged. Additionally, some stakeholders expressed confusion about the project's changing focus. This uncertainty increased the risk of unmet expectations for what they had expected the project to achieve and how.

Project Governance

Key Learnings

One of the key roles of a project steering committee is to provide informed decision-making. The lack of decision-making authority and irregular use of the SLDM project steering committee created challenges for meaningfully engaging project stakeholders. This also increased the risk of misperceptions regarding how and by whom decisions were made.

Interest in participating in dialogue around the project's strategic direction and activities was demonstrated by the high level of participation in the technical working group for the SLM pilot interventions. Some stakeholders suggested that engaging a broader range of stakeholders in meaningful dialogue would have been more effective through a **multi-stakeholder project advisory body**. This would have enabled more in-depth analysis and advice, reflective of a broader range of perspectives, to be transmitted to the GRIF Steering Committee.

Key project stakeholders also identified **good practices for stakeholder engagement**. These included regular face-to-face meetings with higher level governance bodies, such as the Office of the President and with the GGGI; frequent technical- and policy-level meetings between FAO, GLSC and other government bodies; and seeking opportunities to consistently communicate the project's vision at all levels.

Finding 2: While information flows supported efficient project approval processes, the complexity and ad hoc use of the project's governance arrangements limited their effectiveness in engaging stakeholders and decision-makers in critical dialogue.

The SLDM project was guided by a number of advisory and decision-making bodies including:

- The **Project Steering Committee** (PSC), an advisory body responsible for supporting the project implementation by providing policy guidance, reviewing project progress and finding solutions to address major challenges.
- **Project Task Force**, a FAO technical advisory group that provides multidisciplinary expertise.
- The **Office of the President** of the Government of Guyana, which is responsible for managing the development and overseeing the implementation of all GRIF projects
- **GRIF Steering Committee**, a decision-making body led by representatives of the Governments of Norway and Guyana, and responsible for approving the use of funds and major project changes, including project extensions.

Additionally, Norway requested the Global Green Growth Institute (GGGI), an international organization, to provide monitoring and reporting support for the management of GRIF projects.

Overall, information flowed consistently from the SLDM project management and leadership team to the key stakeholders in higher governance bodies. Regular meetings were held with the GGGI and the Office of the President to provide progress updates and respond to queries. This facilitated the efficient submission of requests to the GRIF Steering Committee for the approval of revised project workplans, budget reallocations and extensions. Additionally, the Project Task Force met regularly between 2020 to 2022 to discuss strategic project issues, after which individual specialists were engaged on an ad hoc basis to respond to specific technical requests.

Some interviewees who participated in the PSC noted missed opportunities to engage key project stakeholders in critical dialogue. They observed that meetings tended to focus on presenting progress updates, with little follow up discussion. The PSC convened only six times over the project's eight-year lifespan – twice in 2018 and once in 2021, 2022, 2023 and 2025, with varying levels of participation. Other stakeholders who had not been invited to participate in the PSC also expressed a desire to have received more regular and substantive information on the project's strategic focus and activities. For instance, some stakeholders participating in the technical working group for the project's SLM initiatives noted that they were unaware of the project's other activities and would have welcomed more regular engagement with the project as a whole. They also noted a lack of clarity over how and by whom decisions regarding the project's evolving strategic focus were made, particularly at pivotal moments in the project's implementation.

Project Implementation

Key Learnings

Project stakeholders identified key learnings stemming from implementation challenges.

- Estimating the time required to design and implement complex multi-stakeholder initiatives can be challenging. **Pre-feasibility assessments** could help to focus and calibrate project design ambitions.
- **Recruiting project staff and specialists** can be difficult and time-consuming, particularly for small country offices. Allocating time prior to project start date to initiate processes, and having access to recruitment databases and tools could help to accelerate these processes.
- **Procuring high-value equipment, vehicles and technologies** can entail lengthy processes, causing implementation delays. However, these processes also present opportunities for capacity building, particularly when they can demonstrate benefits, such as achieving better value for money.
- **Inter-agency collaboration** requires trust and mutual benefit. Consultative workshops and formalized inter-agency agreements with clearly defined objectives, can help to leverage resources and technical capacities.
- Implementation delays can make it difficult to measure results and assess project success. Accountability for **post-project monitoring**, using key performance indicators is essential.

Finding 3: A series of external and internal challenges led to significant project delays. Donor flexibility, adaptive management and strengthened inter-agency collaboration helped the project to regain momentum and advance implementation.

Initial implementation delays stemmed from external events, such as the COVID-19 pandemic and the protracted 2020 election process, as well as internal factors relating to the project's ambitious design and challenging internal dynamics (see SLDM Mid-term Evaluation, 2022). These challenges were largely overcome through the project re-organization, as described in Finding 1. Donor flexibility in approving subsequent project extensions*, workplan revisions, and budget reallocations, were identified as key facilitating factors for advancing implementation.

While recruiting and retaining key project personnel and specialized consultants remained a significant challenge throughout project implementation, many stakeholders recognized the high calibre of expertise contracted. Additionally, lengthy FAO procurement processes, including the time needed for the development and approval of technical specifications, contributed to implementation delays. However, GLSC stakeholders identified valuable learnings from these processes. Furthermore, many interviewees noted that the project design had underestimated the time required for designing and implementing complex multi-stakeholder frameworks, such as the National Spatial Data Infrastructure Strategy.

The project demonstrated adaptive management by adjusting timelines, activity scope and technical specifications to meet operational demands. For example, the use of Light Detection and Ranging (LiDAR) technology instead of satellite imagery to produce base maps was made. Although this approach was more costly and time-consuming, LiDAR technology was deemed more suitable for Guyana's topographic conditions. Additionally, to compensate for rising material and transport costs, adaptive measures were taken to modify the infrastructure required for the sustainable land management pilot interventions.

Inter-agency collaboration was also identified as a key challenge, with many interviewees noting the siloed nature of land-related agencies. Despite initial difficulties in engaging key stakeholders in land policy consultations, more progress was made through multi-stakeholder platforms that were convened for the sustainable land management pilot interventions. Consultative workshops involving a range of government, academic and civil society actors, along with the use of Letters of Agreement with implementation partners, helped to re-engage agencies. This created the renewed momentum needed to advance implementation during the final two years of the project, as well as providing continuity for post-project monitoring.

* Three project extensions, totally four additional years, were approved by the GRIF steering committee. The first extended the project 18 months from December 2021 to June 2023, the second extended the project an additional 12 months to June 2024, and the third extended the project for a final 18 months to December 2025.

Project Management and Outreach

Key Learnings

GLSC and FAO interviewees identified several **good practices** for effective collaboration including:

- The use of **mixed project teams** with GLSC staff working alongside FAO personnel and consultants, with key roles and responsibilities in place.
- **Consistent and open communication** between GLSC and FAO leadership and management teams.
- **Close technical coordination** when developing and selecting technical specifications for key project inputs.
- The use of **Letters of Understanding** to enable the GLSC to take ownership of project funds used to provide technical and administrative support services.

In terms of communication and outreach, a key learning was the **need for early and frequent communication, outreach, and dissemination of project information**, both to increase public awareness and to strengthen communication networks among key stakeholders.

Finding 4: GLSC and FAO developed an effective implementation partnership.

The SLDM project was executed under the direction of the GLSC, with the FAO Country Office in Guyana serving as the implementing agency. While GLSC was responsible for the day-to-day management of the project, FAO's role was to provide the necessary technical and policy assistance to facilitate its implementation. FAO was also responsible for ensuring that the project was executed on time, and within scope and budget (SLDM Project Document, 2024. p.35). Despite challenging dynamics in the project's initial years, both GLSC and FAO interviewees recognized the strength of the collaborative relationship they had built.

GLSC stakeholders also identified areas in which FAO added value as an implementation partner including:

- **Project management expertise** - GLSC recognized their limited capacity to manage a project of the size and scale of SLDM, which included significant procurement requirements. FAO brought in this expertise with GLSC noting "we have our own vision but FAO guided us in how to get there".
- **Technical expertise** – the calibre of international expertise that FAO was able to recruit was recognized, with GLSC noting that finding highly skilled experts would have been difficult for them. They also recognized the high quality of studies produced by FAO.

Finding 5: There was a high demand for project information. Communication and outreach efforts increased during the final two years of the project.

Although a lot of information was generated throughout the project, some stakeholders noted difficulties in accessing information, as well as low levels of perceived public awareness of the project. It was highlighted that key websites, such as the GRIF website, contained only high-level project statistics and ceased posting project documents in 2021*. Some agencies would have liked to have received more regular project communications, updates and outreach. Additionally, the project's Sustainability Study concluded that stronger communication networks were needed to sustain the SLDM outcomes (SLDM Project Sustainability Report, 2024, pp. 68).

In 2024 and 2025, the project undertook a number of communication and dissemination activities aimed at raising the visibility of the SLDM project. Efforts included the development and dissemination of success stories, media articles, and short videos showcasing project outputs. (SLDM Terminal Project Report, 2025). Additionally, a closing project workshop for key stakeholders and project beneficiaries was planned for November 2025 to highlight key project initiatives and successes.

* <https://www.guyanareddfund.org>

To what extent and how did the project contribute to the achievement of expected outcomes?

Outcome 1: Sustainable land development mainstreamed in policy, institutional and governance mechanisms to prevent degradation and restore degraded lands



International Commitments



The 17th Session of the Committee for the Review of the Implementation of the Convention (CRIC 17), under the United Nations Convention to Combat Desertification (UNCCD), hosted by Guyana in Georgetown, January 2019.

Finding 6: Participating in international events related to sustainable land management and geospatial information helped the GLSC to build institutional capacity, strengthen its role in meeting international commitments, and raise Guyana's profile on the international stage.

With project support Guyana hosted the 17th Session of the Committee for the Review of the Implementation of the Convention (CRIC 17), under the United Nations Convention to Combat Desertification (UNCCD), in January 2019. This multilateral event was the first CRIC meeting to be hosted in the English-speaking Caribbean. It attracted 566 participants from 94 countries. An early project success, the hosting of the CRIC helped to raise Guyana's international profile and increase visibility of its commitments to sustainable land management.

Building on this early success, GLSC representatives participated in a number of other international events relating to sustainable land management and geospatial information including the:

- Latin America Geo Spatial Forum.
- United Nations World Geospatial Information Congress (UN-GGIM).
- UN-GGIM Experts Group Meeting on Land Administration and Management.
- United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).
- Fourth United Nations Expert Consultation and Meeting on the Implementation Guide on Integrated Geospatial Information Framework.
- 20th Annual World Bank Conference on Land and Poverty.
- United Nations Convention to Combat Desertification (UNCCD) COP 14.
- International Federation of Surveyors Workshop.

GLSC interviewees valued the global networking opportunities and international exposure provided by these opportunities,, as well as their contribution to building GLSC's policy and technical capacity to fulfil its international commitments.

National Land Use Policy

Land Policy Paper

With project support, a detailed land policy paper was completed in August 2021 and submitted to the Government of Guyana. The document provided an extensive review of the policy, legal, and institutional framework governing land, as well as the international conventions to which Guyana is a party. It examined land use and land tenure systems, highlighted tenure security challenges, and identified systemic constraints affecting coordination, access to information, and effective land administration. Notably, the paper emphasized the **need for clearer institutional mandates and streamlined procedures to improve governance across agencies**.

A central finding of the paper (p.103) underscored the urgent need for a **National Land Policy** and associated reforms to “clarify mandates where conflict exists” and streamline operational functions across land-related institutions. While this vision aligns with ongoing political narratives around modernization and improved governance, the report noted that the political will needed to deliver this vision may not yet be fully mobilized. The lack of sustained political commitment has, in turn, limited the project's ability to translate analytical recommendations into concrete institutional change.

Finding 7: The project supported significant analytical groundwork on Guyana’s land policy and legal framework. However, the lack of political endorsement, institutional alignment, and a clear enabling environment limited progress towards establishing a coherent national land policy and an integrated land use planning system.

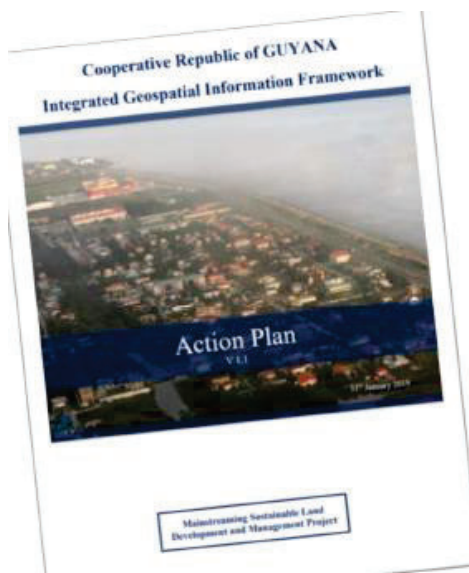
Stakeholders from land agencies, regional authorities, civil society organizations, and technical experts consistently highlighted the growing need for a National Land Use Policy supported by updated national and regional land use plans. The lack of such instruments was widely perceived as a missed opportunity—both for the project and for Guyana’s broader land governance agenda. Several interviewees noted that evolving political priorities created shifting expectations over the life of the project, as evidenced in the project revisions that lowered the project’s original vision for a harmonised land policy (see Finding 1). This fluidity in political direction created challenges for project design, feasibility, and the sequencing of technical work.

Furthermore, stakeholders spoke about the practical consequences of operating without updated land use plans, including inconsistent decision-making, overlapping mandates, and difficulties in resolving competing land uses among sectors such as forestry, mining, agriculture, and conservation. Many also emphasized the implications for tenure security, environmental management, and national development planning.

Building on the findings of the project’s land policy paper (see side box), the project sustainability study proposed several actions aimed at strengthening the enabling environment for land governance reform. Some of these recommendations—initially advanced prior to the project’s closure—focused on fostering a community of practice across key land institutions to drive a coordinated change strategy. Others focused on developing a land registration community of practice, recognizing that GLSC, the Guyana Forestry Commission (GFC), and the Guyana Geology and Mines Commission (GGMC) all provide forms of tenure security through their respective lease systems, while the Land Registry and Deeds Registry manage ownership rights through Title and Transport systems.

From a conceptual perspective, the lease management functions of GLSC, GFC, and GGMC share sufficient commonalities that co-development of solutions — or direct technical integration — could offer significant benefits. Additional recommended actions targeted broader institutional change processes. These included collective lobbying for reforms to create a more supportive enabling environment for land policy development, and the appointment of a change manager to guide cross-agency transformation. Many stakeholders felt that without a dedicated champion for reform and coordinated advocacy, momentum for a National Land Policy would be difficult to sustain.

National Spatial Data Infrastructure



Finding 8: While a National Spatial Data Infrastructure (NSDI) Strategy was completed and validated, its operationalization remains a work-in-progress. Institutional limitations, approval delays, and fragmented geospatial efforts across agencies have constrained progress toward establishing a fully functional NSDI aligned with Guyana’s digital transformation agenda.

With SLDM project resources, Guyana completed and validated its NSDI Strategy in 2019. Guyana was subsequently recognized as the first country to develop and approve an NSDI Strategy under the UN Integrated Geospatial Information Framework (UN-IGIF).

The strategy envisions the NSDI as a comprehensive framework for organizing and managing geographic information from multiple sources, ensuring consistency, accessibility, and usability of national datasets across sectors. The NSDI’s original design sought to address a series of longstanding barriers to data management and land governance, including fragmented institutional responsibilities, variable data quality, and limited mechanisms for sharing geospatial information across agencies. It also aimed to support Guyana’s wider digital transformation objectives by enabling interoperable, integrated, and user-driven geospatial services.

However, while the GLSC retains the formal mandate for NSDI coordination and administration, the establishment of the NSDI is not currently within its direct sphere of institutional control. As a result, several foundational activities envisioned, including the creation of a national governance structure, harmonized standards, and formalized mechanisms for data sharing—have not been fully operationalized. Under the project, Terms of Reference for a National Geospatial Advisory Committee and three technical working groups were completed, but the overall governance framework was not implemented due to the absence of formal government approval and sustained resourcing. Stakeholders noted that these revisions and delays narrowed the project’s ability to catalyze NSDI implementation and left key structural issues unaddressed.

GLSC continues to advocate for the formal approval and resourcing needed to implement the NSDI and land agency stakeholders widely recognize its coordinating mandate. Nonetheless, interviewees pointed to structural and political challenges that limit GLSC’s ability to drive the process forward without high-level endorsement. They also noted that an operational NSDI would significantly strengthen Guyana’s capacity for integrated decision-making, improve service delivery, and reduce inefficiencies caused by fragmented data systems.

To address these gaps, the 2024 project sustainability report recommended that GLSC develop an internal SDI strategy to strengthen data discovery and sharing within the Commission—an action that was completed prior to project closure. Additional actions, both within and beyond GLSC’s scope, include aligning agency-level SDIs to create an NSDI baseline, leveraging existing change agents and communities of practice to promote shared technical approaches, and collectively lobbying for formal approval of the NSDI. Without sustained momentum and coordinated leadership, the current fragmentation of geospatial practices risks deepening, further delaying the country’s ability to realize the full benefits of the NSDI envisioned in the 2019 Strategy.

GLSC Financial and Operational Sustainability

Capability Reform within the Land Sector

Capability reform within GLSC, and across the land sector more broadly, is likely to be disruptive of the status quo. Interviewees highlighted that meaningful transformation will inevitably generate **inter-agency competition for authority, budgets, and resources**.

For shared capabilities such as digital land administration systems, data infrastructure, or integrated workflows, additional budgets will need to be restructured, and legislative reforms may be required to ensure that mandates are coherent and aligned. Without such enabling conditions, agencies including the GLSC continue to operate independently, contributing to fragmentation and potential inefficiency. Requests for direct government budget support may result in improved revenue for GLSC in the short-term, potentially mitigating other shortfalls.

Finding 9: Implementation of GLSC’s 2021 Strategic and Business Plan was limited by changes in the political and institutional landscape, coupled with structural capacity constraints. Persistent issues relating to human resources, inter-agency coordination, and revenue sustainability pose a significant risk to consolidating and extending the gains initiated under the project.

The project supported the development of a GLSC Strategic and Business Plan, completed in 2021, providing an important starting point for financial and operational sustainability. However, while the Plan addressed many ongoing challenges, GLSC stakeholders noted that it had been developed following a business model that was no longer relevant under the evolving political and institutional vision for GLSC. The evaluation team was informed that a revised strategy had been developed by GLSC but was not yet approved at the time of the evaluation.

Stakeholders emphasized long-standing challenges related to staff retention, institutional knowledge, and data sharing. As noted in the 2021 Strategic Plan (p.91), “retention of specialised highly qualified staff at management and technical levels is critical,” and incentives in salaries and career paths must be considered to prevent the loss of skilled personnel. Interviewees confirmed that the private sector actively seeks out GLSC’s technical staff, who often face lower salaries and less attractive work packages compared to external opportunities. This dynamic weakens institutional continuity, contributes to a “missing middle” in human resources, and makes it difficult for GLSC to sustain improvements initiated under SLDM.

In response to these challenges, the project and its partners recommended several actions in its sustainability report. Some, which began prior to the project’s closure, focused on supporting the retention of key development personnel and institutionalizing their knowledge. Additional actions, falling outside the project’s immediate scope, include revising GLSC’s operational and financial strategy, building on the recommendations delivered in the 2021 Strategic Plan, and implementing an “attract, train, and retain” strategy to strengthen human capital and institutional resilience.

There remain key risks to GLSC’s ability to sustain and expand project gains, especially given gaps in human resource capacity, weak revenue generation from leases, and the competitive labor market for skilled technical staff. Emerging lessons include the challenges of designing strategic frameworks in rapidly evolving political environments, the need for flexible and adaptive approaches to institutional reform, and the importance of sustained advocacy and capacity investment to ensure that modernization efforts are not only initiated but fully embedded within the organization.

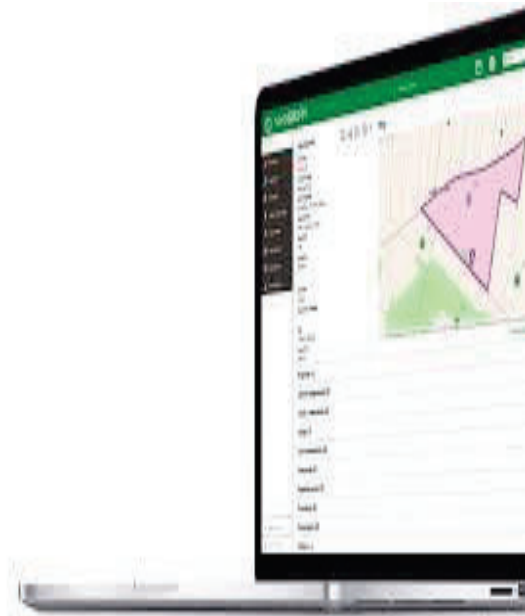
To what extent and how did the project contribute to the achievement of expected outcomes?

Outcome 2: Strengthened institutional and human capacity for participatory and integrated sustainable land development and management.



Land Administration and GIS Services

Next Generation Lease Management System



A simulated representation of the parcel viewer in the Next Generation Lease Management System.

Finding 10: The development of the Next Generation Lease Management System platform represents a significant achievement in modernizing GLSC's digital land administration environment. The system appears well-designed and well-aligned with identified institutional needs, with a high potential for improving the workflow efficiency of GLSC's operations.

As part of the project's digital transformation efforts, eleven web-based Next Generation Lease Management System (Next Gen) modules were developed to streamline land lease processing and improve workflow efficiency. These modules were designed to simplify business processes, eliminate the need for local installation, and enhance consistency through newly created Standard Operating Procedures (SOPs). Stakeholders widely acknowledged that the NextGen suite, once operational, could substantially improve service delivery within GLSC and may offer benefits for regional offices (see Finding 13) and other agencies that rely on land information.

The development process initially followed a co-creation model with the University of Twente (UoT), aimed at transferring technical and domain knowledge to GLSC's internal team. Interviewees noted that this approach helped strengthen technical capability and understanding of land administration concepts among GLSC developers. But the practical realities of system development ultimately led to the development model relying on GLSC staff and project-contracted consultants.

At the time of the evaluation, the NextGen platform was almost complete but not yet implemented, and therefore not tested or observed under real operational conditions. Because full deployment had not occurred, the evaluation could not verify system performance, alignment with end-user needs, or effectiveness in addressing known constraints in lease processing.

Stakeholders also emphasized that effective implementation would require coordination with other relevant land agencies, particularly where data sharing, interoperability, or lease-related information flows intersect. While the system has been designed to address many of these requirements, cross-agency collaboration and harmonization were still in progress.

Overall, the evaluation finds that the NextGen platform represents a meaningful and potentially high-value investment in modernizing land administration in Guyana. The system appears technically sound and responsive to GLSC's operational needs, and interviewees expressed optimism regarding its eventual usefulness.

Base Maps

LiDAR mapping and data processing

As part of project-supported activities, the National Topographic Base mapping is being updated using **Light Detection and Ranging (LiDAR) technology**. Imagery datasets covering 545 km² of urbanized area and 15,736 km² of rural land were completed. This represents the most comprehensive mapping data in over 50 years, with applications for housing, agriculture, infrastructure planning, and disaster risk management.

The updated products include terrain models, aerial imagery, and extracted features intended to support priority sectors such as hydrography, housing, environment, agriculture, forestry, and national and regional land-use planning. LiDAR and true-colour high-resolution aerial imagery were collected by Medici Land Governance (MLG) in Regions 3, 4, 5, 6, 8, 9, and 10. MLG subsequently carried out data processing and extracted additional products from the primary datasets, including building footprints and 3D building models.

Finding 11: The updating of Guyana's National Topographic Base Maps using LiDAR and high-resolution imagery constitutes a significant and forward-looking investment in geospatial infrastructure. Sustained capacity, workflows, and funding will be critical for ensuring basemap relevance and long-term impact.

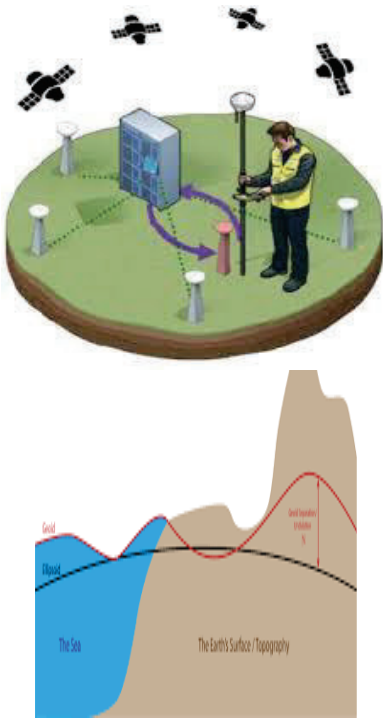
Stakeholders emphasized that the LiDAR and high-resolution aerial imagery datasets compiled through the project represent a key national spatial data asset, with value for multiple agencies and projects. Early indications suggest strong data quality. To capitalize on the potential of these spatial datasets, GLSC will need to update production workflows to incorporate LiDAR-derived products and create mechanisms to make the data available across the broader geospatial ecosystem.

FAO technical specialists, MLG, and Ordnance Survey International provided support and training on aspects of data processing, quality control, and use. Interviewees noted that much of this assistance was conceptual rather than hands-on, and that additional practical training would be required to sustain basemap updates over time. The development of quality assurance and quality control standard operating procedures and on-the-job training for staff in managing, validating, and applying LiDAR-derived datasets was ongoing at the time of the evaluation. These measures will help to consolidate long-term benefits and ensure that the data is effectively maintained and integrated into decision-making.

The evaluation identified several challenges related to long-term sustainability. First, GLSC cannot rely on donor funding to support future basemap updates. National coverage updates—including LiDAR acquisition—may not be feasible at regular intervals due to high costs. Alternative data sources, such as satellite imagery or drone-based surveys, will need to be considered for ongoing revision. Second, according to project reporting (SLDM Annual Progress Report 2024, p.101), integrating LiDAR and aerial imagery into operational basemap products is expected to take up to two years, meaning that the data may be approximately three years old before full adoption—raising concerns about data relevance in rapidly changing environments. Gaps were also identified in the deployment of drone technology and the workflows required to support more frequent basemap revisions. Several interviewees expressed interest in increased drone deployment, including training and licensing of operators, to enhance national capacity for targeted mapping updates.

As the updated base mapping products were still undergoing processing and validation at the time of the evaluation, and because key workflows and sustainability measures have yet to be established, the extent of its operational impact cannot yet be fully assessed. Realizing the long-term value of this investment will depend on continued capacity strengthening, timely workflows for data integration, and sustainable financing mechanisms for future basemap updates.

Geodetic Network Continuously Operating Reference Stations (CORS)



Schematic representations of the CORS network and the principles of the geoidal model and datum.

Finding 12: The strengthening of Guyana's geodetic infrastructure through densification of the CORS network, development of a new geodetic datum and geoid model, and enhanced survey capability, represent a major foundational achievement with early observable benefits.

The project implemented a series of foundational improvements to Guyana's national survey infrastructure. These included densifying, expanding, and upgrading the CORS from 5 to 11 stations; defining a new geodetic datum and a corresponding geoidal model; and building capacity for the effective use of the upgraded system. Collectively, these reforms were intended to modernize Guyana's geospatial reference framework and support more accurate, reliable, and interoperable spatial data across government and private-sector applications.

The evaluation found that the CORS network improvement process was well-managed and produced high-quality technical outputs. Stakeholders highlighted that the enhancements have already begun to have a positive effect—most notably through facilitating access to common data, improving positional accuracy, and prompting shifts in professional survey practice. Users now operate within a unified coordinate reference system based on the defined datum and geoidal model. This facilitates consistent and accurate measurements by ensuring all users reference the same geodetic foundation. It also improves data sharing and integration by enabling spatial datasets produced by different organizations to be combined seamlessly and supports more informed decision-making by providing credible and standardized location data.

These outcomes represent significant improvements in national geospatial capability, with implications for sectors such as land administration, infrastructure planning, mining, agriculture, and disaster risk reduction. Interviewees noted that the improvements enable Guyana to align more closely with international surveying and geospatial standards, strengthening both national capacity and professional credibility.

The improved geodetic infrastructure coincides with a period of rapid economic expansion, increasing demand for geospatial and surveying skills. This presents opportunities for Guyanese surveying companies to leverage the enhanced CORS network to meet emerging market needs using modern, high-precision methods. However, stakeholders also raised concerns about the limited number of qualified domestic surveyors and the barriers some face in transitioning to higher-skilled geospatial roles. While proposed Continuing Professional Development courses at the University of Guyana may help expand the pool of qualified practitioners, additional skill gaps remain insufficiently addressed, particularly in areas of advanced geodesy and geospatial technologies.

Despite the strong technical foundation, the evaluation noted risks related to sustaining and extending the capability. In particular, gaps in domestic geodetic expertise could result in continued reliance on international specialists for advanced maintenance, upgrades, and long-term system governance. Ensuring that GLSC and national survey professionals can fully operate, maintain, and adapt the system over time will be critical to protecting the value of the investment.

GLSC Infrastructure Regional Offices



GLSC Port Kaituma Sub-Regional Office,
Administrative Region 1, Barimi-Waini

Finding 13: The improved and expanded infrastructure of the GLSC regional offices responded to growing regional needs and challenges. The new capacities and capabilities were seen as having the potential to transform the delivery of decentralized land administration services.

The project supported the construction and refurbishment of four GLSC regional offices—Mabaruma and Port Kaituma (Region 1), Black Bush Polder (Region 6), and Bartica (Region 7). These upgrades and expansions aimed to address the growing demand for decentralized land administration services and to provide the regions with better and more convenient services (SLDM Terminal Project Report, 2025). At the time of the evaluation, the construction of the two regional offices visited by the evaluators—Port Kaituma and Bartica—had been completed but they were not yet fully operational or open to the public.

Over the previous two years, regional staff in both Port Kaituma and Bartica had observed a rapidly growing demand for land services, estimating that requests for their services had doubled. New and expanded office space was essential for accommodating larger regional teams to address these growing demands. At the time of the evaluation, the Port Kaituma team had grown from one to five members. With their expanded capacity, the regional team expected to be able to clear backlogs and work at a faster pace. A better working environment also contributed to intangible benefits by boosting staff morale. Additionally, office designs included staff living quarters, offering potential cost savings, as well as key features to better serve clients, such as accessible entryways, waiting areas, meeting spaces and cashier kiosks.

The offices were equipped with better connectivity and computers to enable seamless collaboration with other GLSC regional offices and headquarters. Alongside these upgrades, the operationalization of the Next Generation Lease Management System was identified as a key enabling factor for the delivery of more efficient decentralized services. Regional staff noted the significant time savings they expected to gain from NextGen features such as the capability to upload data and photos directly from the field for inspections and surveys. Regional training and testing of the NextGen system was planned for December 2025.

The project also provided some support for regional transport, including ATVs and boats. However, staff in both regions noted ongoing challenges in accessing hard-to-reach areas. Regional staff also viewed their expanded regional presence as an opportunity to raise public awareness of GLSC and the services that GLSC provides. As one regional manager noted, “people need to know we are present, that we’re here and we’re willing to serve”.

Human Capacities Training initiatives

A major focus of the SLDM project was **strengthening human capacities for sustainable land development and management.**

Capacity-building initiatives included:

- **Specialized training sessions and workshops** in areas such as cadastral digitization, geodatabase implementation, enterprise GIS design, geospatial technologies, geodetic infrastructure, surveying, and remote sensing and land monitoring;
- **International exposure visits and conferences** in areas such as geospatial information management, tools and methods for land administration, geoid development, and SLM practices.
- **Diploma and Certificate Programs** at the University of Guyana and the Government Technical Institute (described in Finding 16).

Project reporting indicates that over 500 participants, from within the land sector (GLSC and other agencies) participated in the project's capacity building efforts.

- SLDM Project Terminal Report, 2025

Finding 14: Capacity-building efforts contributed to the modernization of the GLSC by equipping staff with knowledge and skills to address key areas of land development and to utilize the technological advances introduced by the project.

Due to the wide range of training and capacity building activities, it was beyond the scope of the evaluation to assess their overall effectiveness and impact. However, interviews and document reviews identified some key learning outcomes, enabling factors and good practices.

Study tour participants valued opportunities to observe how other countries were managing land administration. For example, one participant in the study tour on geospatial information and land administration noted key insights from observing the online efficiencies of these agencies, and their various revenue generation methods. This helped them to envisage what was possible for GLSC.

Tailored training sessions, led by international experts, in areas such as the use of new survey equipment, imagery processing, and data acquisition, directly contributed to updating the skills of GLSC and other agencies' staff. The high quality of the international expertise brought in by the project was widely recognized by participants.

GLSC managers also noted the intangible benefits of professional development opportunities, such as increased staff confidence. As the project's sustainability study found, improved confidence made staff "more willing to offer ideas which were more analytical and sometimes resulted in more creative problem-solving techniques being applied" (SLDM Project Sustainability Report, 2024, p.90).

Interviewees also identified good practices for capacity-building, such as accompanying all new equipment acquisitions with training and enabling day-to-day knowledge transfer through staff working alongside international consultants to develop core technological and IT capabilities.

Finding 15: Although progress was made in retaining knowledge and trained staff, key challenges remain.

At the time of the evaluation, GLSC was implementing various knowledge management and retention strategies including:

- systematizing and making learnings materials available in a knowledge repository;
- employing a 'train the training' approach to replicate trainings; and
- making support for higher specialized education conditional on a five-year employment contract.

However, the high demand for skilled professionals in Guyana meant that retention remained an ongoing challenge, particularly for public sector agencies such as the GLSC, which are unable to offer salaries and benefits that are competitive with those in the private sector.

Human Capacities

Academic collaborations

The SLDM project collaborated with the **Government Technical Institute (GTI)** and the **University of Guyana** to deliver updated and new academic programs in key areas of land administration and management.

Project contributions to GTI included:

- Support for modernizing the Survey Diploma Program
- Providing stipends to sponsor students

Project contributions to University of Guyana included inputs to the curricula for the:

- Land Administration Program;
- GIS certificate program; and
- Land Valuation Program.

Additionally, support was provided for the development of a new degree program in Survey and Spatial Science.

Finding 16: The project made significant contributions to the development of new and updated curricula at the University of Guyana and the Government Technical Institute. These collaborations are helping to create a talent pipeline in key land administration areas.

The project strengthened the GLSC's partnership with the GTI by supporting the modernization of the Survey Diploma Program. This two-year program provides a pipeline of much-needed land surveyors, for both the public and private sectors. The project provided expertise and inputs for curriculum changes needed to better address the use of new technology, as well as donating more modern surveying equipment. Officials noted the support for the development of ready-made syllabus modules as a key contribution for helping them recruit occasional lecturers. Additionally, a stipend was introduced to help with student recruitment and retention. Graduates who received a stipend were then candidates for a three-year GLSC employment contract.

When asked about their motivations for pursuing the Survey Diploma Program, most focus group participants conveyed their interest in developing practical skills and securing well-paid employment. Students were most satisfied with the skills they gained to use new instruments and technologies, including drones, as well as opportunities for practical fieldwork, including internships at GLSC. Regarding their career aspirations, while all viewed the potential three-year employment contract with GLSC positively, most saw this as a steppingstone to working in the private sector or pursuing further education in areas such as law or civil engineering.

The project provided the University of Guyana with support and expertise to develop and update the curricula of several programs targeting mid-career professionals. University officials noted that the project provided them with a key impetus to build capacity in the land sector, with the supported programs being well attended by staff from several key land agencies, including GLSC, the Guyana Forestry Commission (GFC), the Guyana Geology and Mines Commission (GGMC) and the Central Housing and Planning Authority (CHPA). Additionally, expertise was provided for the development of a new Survey and Spatial Science degree program. This program was viewed as filling a key need in an area of high demand, as there were no options in Guyana for surveying graduates to continue higher education. At the time of the evaluation, this program was being presented to the Faculty of Earth and Environmental Sciences for review and approval.

Both the GTI and the University of Guyana identified the lack of budgetary support for procuring new equipment as an obstacle to maintaining and growing their programs. For instance, the GTI noted that their existing computers were unable to run post-processing software for geospatial data, making it difficult for them to fully train students.

To what extent and how did the project contribute to the achievement of expected outcomes?

Outcome 3: Strengthened local governance in three regions for implementing sustainable land management.



Established Vetiver grass at the Puruni mine reclamation demonstration site.

Sustainable Land Management

Local governance for implementing sustainable land management

Project activities to strengthen local governance for implementing sustainable land management (SLM), focused on three target administrative regions (Regions 4, 7 and 10), and included:

- **A SLM diagnostic phase**, involving soil analysis studies and research into soil degradation processes.
- **The development of regional land cover and land use maps**, using degradation indicators from imagery analysis and geospatial data.
- **Planning and selection of SLM pilot interventions**, through community consultations and a national-level technical working group.
- **The implementation of the seven selected SLM pilot interventions** in collaboration with NAREI, GGMC and GFC.

Finding 17: Project revisions resulted in a less comprehensive approach to strengthening local governance for sustainable land management. Unaddressed challenges, relating to land tenure security and regional land use, limit the project's potential impact for mainstreaming sustainable land management practices.

As part of the project's reorganization and approved revisions (as discussed in Finding 1), key regional land governance and land use planning outputs, as included in the SLDM project document, were removed from the project scope. These included activities to:

- develop and implement integrated land use, watershed and SLM plans in the three target regions;
- conduct local mapping and assessments of land tenure status, changes and conflicts;
- establish multi-stakeholder platforms for dialogue regarding tenure conflicts; and
- document cases studies on enhanced governance of tenure.

The project's planned outputs had aimed to reduce land tenure issues, implement territorial land use and SLM plans, and inform land policies. The original project design therefore sought to address some of the underlying causes of land degradation which negatively impact the capability of local land users, particularly the rural poor, to implement sustainable practices. It also sought to address the lack of guidance and capacity to develop and implement integrated land use plans across sectors and levels of decision-making (SLDM Project Document, 2018. p.13-15).

As a result of these revisions, the project adopted a more narrow and technical approach to local sustainable land management, focusing on generating knowledge and facilitating learning to implement SLM practices. However, interviewees from various land agencies, civil society organizations, along project participants, noted the ongoing need to address underlying issues. They cited persistent problems with land tenure security, land conflicts, and the lack of policy guidance and frameworks to inform land use decisions. Farmers spoke of their struggles to gain tenure security and of the lengthy processes for land regularization and the approval of land leases, despite some having occupied land for many years. Land agencies and civil society organizations noted the lack of guidance and consistent decision-making in their regions regarding overlapping land uses for sectors such as forestry, mining and agriculture.

Land tenure also surfaced as a key challenge for the implementation of the SLM pilots. Approximately 50% of the nominated farmers had to be replaced because they lacked approved land documents, causing implementation delays. Some interviewees noted that this could be leading to unanticipated negative effects, such as working with more established farmers who may not have needed as much assistance, and potential tensions between farmers who receive infrastructure and those who do not.

Sustainable Land Management Research and planning phase

SLM Technical Working Group

The project convened a SLM technical working group for four sessions between 2023 and 2025. The group brought together 30 technical experts and decision-makers from 12 different institutions. The working group roles included:

- identifying opportunities and challenges of potential SLM technologies;
- selecting the pilot SLM technologies;
- recommending service providers;
- selecting pilot implementation sites; and
- defining beneficiary criteria.

Community Consultations

In 2024, the project held consultations with community stakeholders in Regions 4, 7 and 10 to identify the drivers of degradation, potential SLM practices to address degradation, and implementation challenges and opportunities.

- SLDM Project Terminal Report, 2025

Finding 18: The project made significant contributions to increasing knowledge and awareness of land degradation processes and building capacity for land cover and land use mapping. Moving towards a more integrated approach to land degradation assessments and mapping could increase the potential impact of these contributions.

Interviewees from various agencies noted the usefulness of the project's diagnostic assessments, which were based on soil analysis studies and research into soil degradation processes in the project's target regions. Noteworthy were the findings regarding the Yarowkabra and Intermediate Savannah regions' susceptibility to degradation. Technical project studies conducted in 2023 indicated that the soil in these areas was undergoing an active geological transition to white sands and identified the need for specific measures to maintain soil productivity in the face of agricultural activities.

Alongside the diagnostic assessments, the project contributed to training and capacity-building activities for developing regional land cover and land use maps, using geospatial data infrastructures, such as the SEPAL platform*. These maps identified areas of land degradation and changes in land use and land cover over time. While these maps validated the need for SLM and reclamation efforts in the pilot regions, one expert noted the limitations of using SEPAL and other cloud-based satellite imagery to inform sustainable land management. This is because these technologies do not identify the causes, processes and types of land degradation. There may be opportunities to move towards a more integrated approach, combining on-the-ground analysis with satellite-based imagery, to create more comprehensive land degradation mapping and better inform land use decisions on a larger scale.

Key finding 19: Consultative planning processes and implementation arrangements strengthened inter-agency collaboration and capacities for implementing sustainable land management and reclamation practices.

Consultative planning and implementation arrangements between FAO, GLSC and other land agencies, particularly GGMC, NAREI and GFC, helped to align these initiatives with existing areas of institutional interest and research and set the foundation for continued support after the project ends.

Regarding the most significant areas of contribution, the agencies noted that the SLM pilots:

- enabled the agencies to move from models to on-the-ground operations more quickly;
- introduced integrated and programme-based approaches by combining and adapting existing technologies in new ways; and
- provided expanded opportunities for education and awareness.

* SEPAL is the "System for Earth Observation, Data Processing, and Analysis for Land Monitoring", an FAO-developed cloud-based satellite image processing platform.

Sustainable Land Management Pilots

Sustainable agriculture

An integrated package of **three interventions** were selected for the sustainable agriculture pilot:

- **Shade house technology with integrated drip irrigation** to promote climate-smart agriculture and support multi-cropping practices.
- **Biochar production and application** as a soil amendment to improve soil fertility, water retention, and carbon sequestration on degraded lands. Biochar is a charcoal-like substance made by burning organic material waste in a controlled process call Pyrolysis.
- **Vermicomposting** using earthworms to convert waste materials to organic fertilizer to improve soil structure and nutrient cycling.

A total of 40 farmers participated in the sustainable agriculture pilots, 20 in Region 4 and 20 in Region 10. Participants included equal numbers of male and female farmers. Most farmers identified as African and Amerindian, at 36% and 29% respectively, followed by Mixed Ethnicity at 21% and East Indian at 14%.

- SLDM Quarterly Progress Report, July to September 2025, p.16

Finding 20: The sustainable agriculture activities were well aligned with the climate adaptation and livelihood needs of local farmers. While it is too early to capture results, emerging learnings point to the need to adapt infrastructure to local conditions and to provide ongoing training and accompaniment.

At the time of the evaluation infrastructure and materials for all three interventions were being installed and operationalized at 2 NAREI field stations and 10 lead farmer sites. An additional 30 farmers were being provided complete vermicompost kits. Farmer training sessions and exposure visits had been scheduled but had not yet been delivered, and the development of the planned training handbooks was in progress.

During the evaluation site visits and focus groups, the Region 4 lead farmers frequently noted the poor soil quality of their land, containing high levels of sand and clay. Additionally, they noted the increasingly hot climate, fungal attacks, pests, and water scarcity, as significant production challenges. The farmers expressed high expectations that the interventions would help them to improve their soil conditions and increase and diversify their production. Given the farmers' low levels of available capital to invest in their farms, key motivating factors for their participation were the project's provision of infrastructure and materials, along with training and support.

Emerging learnings highlight the importance of real-time experimentation and adaptation of the interventions to local conditions and needs. For example:

- Almost all farmers expressed **concerns about the high temperature in the shade houses**. NAREI officials noted ongoing research into the required level of UV protection in different regions. Key planned modifications included experimenting with shade netting and increasing venting to improve airflow while still maintaining protection against pests.
- Regarding the biochar kilns, farmers noted **challenges related to their weight and size**, difficulties in finding accessible locations for them, and the need for training on how to safely operate the kilns and remove the resulting biochar.
- Although the vermicompost infrastructure had not yet been delivered, NAREI officials noted ongoing research to provide better **guidance on using local materials**, such as chicken manure, in the vermicompost bins.

The farmers expressed enthusiasm for innovating as they move forward with their production, in terms of both adapting the infrastructure to their local context and experimenting with different combinations of crops, biochar and vermicompost in their shade houses and gardens. Further, the evaluators observed the farmers' willingness to share their knowledge both with other farmers and NAREI.

Sustainable Land Management Pilots

Dragon fruit cultivation

Dragon fruit cultivation was added to the sustainable land management pilots as a direct outcome of the project's 2024 study tour to Brazil, where participants gained insights from successful practices cultivating dragon fruit in drought prone and degraded lands.

Eighteen farmers were supported under the dragon fruit pilot, receiving 50 trellises and 200 plants each. Additionally, two demonstration sites were established at NAREI research centers to support ongoing research and technology transfer.

In August 2025, the project provided a Training of the Trainings session on dragon fruit cultivation with 20 participants, followed by a one-day training for farmers at NAREI's Kairuni Field Station. Additionally, the project produced a training manual on dragon fruit cultivation techniques, covering topics such as ecological requirements, cultivation techniques, pest and disease management, and harvesting and post-harvesting.

- SLDM Project Terminal Report, 2025

Finding 21: Despite facing some implementation challenges, farmers were showing promising early results with dragon fruit cultivation.

Farmers were highly motivated to participate in the dragon fruit pilot as it offered them the opportunity to diversify their production with a high-value crop. The project's provision of costly infrastructure and hard-to-obtain plant cuttings was key to enabling their participation. The most significant implementation challenge noted was transporting and installing the heavy concrete trellises, which weighed up to 130 kilograms each. Farmers underestimated the time and labor required for installation, which was a particular challenge for female farmers.

The farmers highly valued the training and accompaniment they received from the project's sustainable land management specialist and international dragon fruit expert. Training sessions and materials helped them to learn about land preparation, soil testing and plant care. Farmer to farmer learning, through the dragon fruit WhatsApp group and meetings, was noted as particularly valuable, as most of the farmers had no prior experience with dragon fruit cultivation.

The farmers noted many comparative advantages of dragon fruit care and maintenance, such as its low water requirements and its ability to produce two crops per year as a perennial plant. They were also observing fewer pests, particularly ants. As the plants were being established some farmers were experimenting with using different types of mulch and intercropping with different species, such as ginger, peanuts and peppers. Emerging results were promising with some farmers reporting seeing 25-30% more shoots on their plants within one to two months of planting.

Finding 22: High expectations were being generated for the revenue potential of dragon fruit, with interest in commercial scale and value-added production.

All farmers were motivated by the high revenue potential for dragon fruit, particularly in the face of lowering demand for traditional crops, such as cassava. They expressed their excitement for the prospect of being among the country's emerging dragon fruit producers. Looking towards the future, one farmer noted "once the plants start to produce, we have to figure out what we're doing with it" adding concerns about not falling into "the popular Guyanese custom of putting produce in a basket on a table and expecting people to come and buy it". Most were interested in intensifying and expanding their production with future aspirations including group marketing and production to reach a commercial scale, exporting to other Caribbean countries, and experimenting with value added production such as making dragon fruit wine, smoothies, and chips.

Sustainable Land Management Pilots

Mine reclamation

Mine reclamation demonstration sites are a key tool for raising awareness and promoting the reclamation of mined-out areas, especially for small and medium gold-mining operations. The project is contributing to these efforts by providing support and technical guidance for the implementation of three integrated land reclamation and reforestation interventions at the GGMC Puruni demonstration site in Region 7:

- **Vetiver grass** for mine tailing rehabilitation, erosion control and the stabilization of degraded lands.
- **Assisted Natural Regeneration** to restore native vegetation through natural regeneration and enrichment planting.
- **Brushwood Check Dams** to control water runoff and sediment movement to reduce erosion and stabilize gullies.

Additionally, an exposure visit to the demonstration site for 30 miners was planned for November 2025, alongside the preparation of educational and awareness-raising materials and technical field notes.

Finding 23: The implementation of mine reclamation activities is generating significant learnings at an institutional level. However, the prospects for increased land reclamation and reforestation in small and medium mined out areas remain limited due to broader structural and systemic barriers.

The implementation of the three selected technologies faced a variety of challenges, many of which were overcome through modifications and remedial actions.

During the site visits, the evaluators observed that the vetiver grass seedlings were well established and thriving. Difficulties in sourcing the plants were overcome with NAREI's assistance in preparing 25,000 seedlings for transplanting (SLDM Project Terminal Report, 2025). While vetiver grass requires little maintenance once established, a key learning was the importance of technical oversight during the transplanting process.

Five brushwood check dams were installed in September 2025, using local materials (brushwood, branches, twigs) from the site. The need to modify the design and location of the dams, due to landscape disruptions from mining activities in the area, caused some delays. At the time of the evaluation the site had not yet received any rainfall, so it was not possible to observe their efficacy.

Enrichment planting activities faced more significant setbacks due to challenges in accessing seedlings. GGMC collaborated with GFC in seed collection activities, resulting 1,012 seedlings being collected from seven native tree species. These were transplanted at a temporary nursery in Puruni. However, within three weeks approximately 70% of them died (SLDM Project Terminal Report, 2025). The surviving seedlings were then transplanted to the demonstration site, where evaluators observed that some appeared to be surviving. Ongoing experimentation and monitoring of species selection, seed collection and nursery management could provide valuable learnings, as many stakeholders noted the lack of experience with Assisted Natural Regeneration processes in Guyana.

Stakeholders across key agencies and civil society organizations noted the significant structural and systemic challenges facing mine reclamation in Guyana. While mine reclamation and closure are legal requirements for all mining operations, stakeholders pointed to low levels of compliance.

At a policy level, the main barrier cited was the lack of financial incentive provided by the low amount (approximately USD \$500) of the environmental bond required of small- and medium-scale miners to ensure land restoration once they have ceased mining operations. While increased education and awareness-raising activities were viewed positively, stakeholders noted the need to accompany these efforts with increased enforcement. However, this is becoming more and more challenging due to increased mining activity resulting from rising gold prices (including at previously abandoned sites), the frequent movement of small- and medium-scale miners, and the limited capacity of GGMC.

Sustainable Land Management Pilots

Scaling up SLM practices



Dragon fruit cultivation being established at a participating farmer's site in Region 4.

Finding 24: To increase the potential for scaling up the pilot SLM interventions and achieving a greater impact, continued accompaniment, monitoring and knowledge sharing will be required.

The aim of the pilot sustainable land management interventions is to assess their feasibility, their effectiveness in addressing degradation issues, and their potential for future expansion and adoption by other programs (Letters of Agreement FAO-NAREI and FAO-GGMC, 2025). While significant progress was made in 2025, it was too early to measure results at the time of the evaluation.

Farmers participating in the sustainable agriculture and dragon fruit pilots have committed to continuing with the implementation of the initiatives for a five-year period, as a condition of their participation. NAREI's continued training and accompaniment for the participating farmers, over this commitment period, will help to ensure their success. Continued monitoring will be important to capture the results achieved under different conditions, in areas such as improving soil quality, increasing production, and capturing social, economic and environmental co-benefits.

While the SLM and reclamation pilot interventions were being documented and shared through the WOCAT-UNCCD* database, continued assessment of their effectiveness in addressing degradation issues is needed. As recommended in the SLDM project document, a core number of key indicators in line with Land Degradation Neutrality, REDD+, and SDG targets, and consistent with Guyana's Low Carbon Development Strategy 2030 should be used. This will help to facilitate the sharing of coherent and reliable impact data with decision-makers and support the scaling up of the most promising practices. Given the high levels of interest and capacity among the pilot farmers, the potential for participatory farmer monitoring could be explored, as well as the involvement of academic partners, such as the University of Guyana.

For mine reclamation activities, GGMC's long term monitoring** of the interventions and continued collaboration with GFC in experimenting with Assisted Natural Regeneration, at the Puruni and other demonstration sites, will help to inform not only GGMC's work but can provide valuable learnings to other key agencies such as the Environmental Protection Agency. Additionally, stakeholders from different agencies and civil society organizations expressed interest in the vetiver grass learnings due to potential value-add community activities, such as essential oil production.

* To disseminate sustainable land management (SLM) best practices, the UNCCD Secretariat is working alongside the World Overview of Conservation Approaches and Technologies (WOCAT) to provide a database where specialists can share their best practice technologies.

** Experts noted that Assisted Natural Regeneration processes require 3 to 4 years for seedlings to reach a stable height, and 10 years for shade cover, with others noting that it takes 12 to 15 years for soil formations to come back.

What are the key areas of opportunity for future initiatives to sustain and further the adoption of sustainable and climate-resilient land development, management and reclamation?



Enabling Environment

Finding 25: Sustainable land management in Guyana will depend on establishing a robust enabling environment that integrates policy clarity, institutional cohesion, modern geospatial tools, strong human capacity, and accountable governance. Together, these elements form the foundation for a sustainable land management and governance system capable of supporting Guyana’s development ambitions while safeguarding its environmental and social future.

Future Opportunity	
National Land Policy	Building on the advances of the SLDM project, an ideal future system would be guided by a coherent national land policy that clarifies mandates across agencies and anchors long-term decisions in principles of transparency, equity, efficiency, and environmental stewardship. Such a policy framework would support integrated national and regional/local land-use planning, enabling Guyana to balance competing pressures from agriculture, mining, forestry, housing, and conservation while responding to climate risks and rapid economic change.
Digital Land Administration Ecosystem	Central to this enabling environment is a modern digital land administration ecosystem. The continued development and eventual operationalization of the Next Generation Land Management System, combined with the strengthened CORS network, updated geodetic framework, and emerging National Spatial Data Infrastructure, would allow for accurate, interoperable, and accessible land information. When these systems are fully aligned, both technically and institutionally, they will improve tenure security, streamline land services, and support evidence-based decision-making across the government.
Institutional Resilience	Institutional resilience is equally essential. Agencies must have stable budgets, clear operational mandates, and defined responsibilities for maintaining critical infrastructure such as servers, CORS stations, and national basemaps. Governance mechanisms that encourage data sharing, coordination, and accountability—particularly across GLSC, GFC, GGMC, CH&PA, and regional administrations—will help ensure coherent land-use decisions and reduce fragmentation.
Skilled Human Resources	Human capacity remains a decisive factor in sustaining these gains. The training programs delivered under SLDM demonstrate the transformative potential of targeted skill development, but long-term progress will require strategic workforce planning, clear professional pathways, stronger knowledge retention systems, and collaboration among institutions responsible for surveying, geospatial sciences, and land administration with all the associated budget and financial planning to support these capacities. Guyana’s expanding economy presents opportunities for local professionals to take on more sophisticated roles, but only if skill gaps are addressed and retention is prioritized.
Accountable Governance	Finally, an ideal enabling environment emphasizes transparency, public trust, and participation. Reliable and accessible land information, fair and efficient administrative procedures, and opportunities for communities and civil society to engage in land-related decisions will reinforce the legitimacy and sustainability of the system as a whole.

Institutional and Human Capacities

Finding 26 : The project delivered a broad range of activities to increase institutional and human capacities. Building on these accomplishments, future efforts should focus on creating the institutional conditions necessary for modern, efficient, and interoperable land administration. This includes continuing to invest in human capital development; deepening collaboration across agencies involved in land and resource governance; and formalizing equipment and infrastructure management systems.

Future Opportunity	
Institutional Knowledge	Human capital gains are among the most important project outcomes. However, survey findings from the project's sustainability study emphasized several ongoing needs: stronger systems for capturing and retaining institutional knowledge, more practical components in training programs, clearer links between training and career progression, and opportunities for professional networking to sustain skill development. Knowledge obtained during the project remains vulnerable to staff turnover, particularly among the development team working on the NextGen system, where the retention of specialized personnel is crucial.
Core Expertise Strategy	Looking ahead, GLSC would benefit from developing a core expertise strategy that defines priority competencies, identifies pathways to build and refresh these capabilities, and strengthens mechanisms for knowledge retention. Beyond GLSC itself, Guyana's broader surveying and geospatial sector would be well served by a collaborative strategy involving GLSC, the University of Guyana, MARAD, GFC, GPMC, and others. Such an approach could help Guyanese professionals take full advantage of emerging economic opportunities while establishing a more sustainable foundation for national geospatial practice.
Equipment and Infrastructure Management	The procurement of surveying equipment, CORS infrastructure, servers, and specialist IT resources has expanded GLSC's technical capabilities and enabled new forms of service delivery, including through the expanded physical and technical capacity of regional GLSC offices. Completing and operationalizing the NextGen system will be key to improving workflow efficiencies. However, the sustainability of this expanded set of equipment and capability is not yet assured. Responsibilities for managing, maintaining, and replacing equipment are fragmented among different divisions, and only some categories—such as land surveying equipment—currently benefit from an established maintenance and replacement budget. General equipment lacks a lifecycle management strategy, and little clarity was provided regarding maintenance planning for CORS infrastructure or server environments. Strengthening institutional systems for resource management, budgeting, and accountability will be essential to ensure that the benefits of these investments endure, at both central and regional levels.

Sustainable Land Management Interventions

Finding 27: Building on the progress made under Outcome 3, there are future opportunities to support the effective scaling up of the sustainable land management and reclamation interventions by: addressing underlying land governance issues; moving towards more comprehensive land degradation mapping; continuing and expanding monitoring and knowledge-sharing efforts; providing support for value-chain production; and exploring complementary initiatives aimed at preventing land degradation.

Future Opportunity	
Underlying Land Governance Issues	For the pilot sustainable land management and reclamation initiatives to be effectively scaled up it will be important for the Government of Guyana to address underlying land governance issues relating to land tenure security and land use conflicts as well as providing the necessary policy guidance and frameworks to inform regional-level land use planning.
Land Degradation Mapping	The project made significant contributions to increasing knowledge of land degradation processes and building capacity to create land cover maps. These are important tools to inform land use planning and decision making. To inform land use decisions on a larger scale, including expanding agricultural cultivation, a next step for GLSC would be to move towards more comprehensive land degradation mapping by further integrating on-the-ground analysis with satellite-based imagery.
Monitoring and Knowledge Sharing	The pilot interventions are generating valuable learnings as they are adapted to local contexts and soil conditions. It will be important for partner agencies, such as NAREI and GGMC, to continue to capture and disseminate these insights to inform scaling up efforts. The project's good practices, including developing production manuals, technical field notes and creating WhatsApp producer groups provide models for replication. Additionally, given their early stage of implementation, it will be important for partner agencies to continue to monitor and assess of the effectiveness of these interventions, using agreed upon core indicators.
Value Chain Production	The dragon fruit pilot producers expressed significant interest in expanding their cultivation and moving towards value-chain production. As identified in the project's terminal report, a second-phase intervention including support for post-harvest management and market linkages, as well as the development of value-added products will be important for assessing the potential of this high-value crop. FAO could contribute valuable technical and comparative expertise, as well as monitoring support, to a second phase of this initiative.
Land Degradation Prevention	Although not the main focus of the SLM interventions, some experts suggested that future opportunities could involve complementing land restoration and reclamation initiatives targeting degraded lands, with initiatives aimed at preventing land degradation in areas, such as the coastal regions. This could also help to relieve development pressures on the hinterlands.

Towards a Sustainable Land Management Ecosystem

Finding 28: The project accomplishments provide a strong foundation to build a sustainable land management ecosystem. Achieving a truly integrated ecosystem will require deeper institutional reforms, enhanced data systems, and a unified national land governance vision.

The lessons of the SLDM project suggest that a truly sustainable land management ecosystem in Guyana calls for a governance architecture capable of integrating the full spectrum of land-related sectors into a single, coherent, and forward-looking framework, backed by a clear political mandate. Guyana's rapid economic transition, climate vulnerability, and diverse socio-environmental landscape call for "sustainable land management ecosystem" that is technically robust, strategically aligned, socially inclusive, and politically supported.

The cornerstone of this ecosystem would be a **comprehensive national land policy** or integrated set of policy positions. Currently, land governance responsibilities are distributed among multiple agencies, each operating with distinct mandates and data systems. A unified policy framework is essential to reduce fragmentation, resolve mandate overlaps, and establish consistent decision-making.

Effective land management also requires an **integrated, evidence-based land-use planning system**. National and regional land-use plans need to be grounded in up-to-date spatial data, reflect environmental constraints, guide infrastructure and settlement growth, and anticipate pressures from mining, logging, and agricultural expansion. Plans must be applied consistently, supported by legal authority, and serve as the spatial expression of national policy. In Amerindian areas, planning should be participatory, culturally appropriate, and aligned with the rights and aspirations of Indigenous communities. In rapidly urbanizing zones, coordinated planning is necessary to ensure that housing, drainage, transportation, and resilience measures are harmonized and do not conflict with national development priorities. Complex environmental spillovers such as water quality and soil degradation call for integrated, upstream policy and planning.

A **modern geospatial infrastructure** is crucial for enabling this integration. The strengthened CORS network, updated geodetic framework, LiDAR-derived national basemaps, and the emerging National Spatial Data Infrastructure offer a strong technical foundation. A fully operational Next Generation Land Management System can provide a digital backbone for land allocation, tenure management, lease administration, and cross-sector coordination. Similarly, shared geospatial layers for forests, mining concessions, protected areas, Amerindian titled lands, urban plans, and cadastral parcels could be updated regularly and linked through a unified spatial platform.

Human and institutional capacity will determine the sustainability and effectiveness of these systems. Agencies require professional staff trained in geospatial science, land administration, environmental monitoring, and modern planning techniques. Knowledge retention mechanisms, cross-agency training, and institutional partnerships, particularly with the University of Guyana and the Government Technical Institute, should be expanded to meet the demands of this ecosystem. Sustained investment in technical capacity is essential not only within GLSC but across GFC, GGMC, CH&PA, and regional administrations.

Finally, sustainable land management must be rooted in **transparency, accountability, and inclusive governance**. Clear administrative procedures, public access to land information, mechanisms for dispute resolution, and participatory planning processes—especially involving Amerindian communities—are essential for building trust and ensuring that development benefits are shared equitably. The SLDM project has helped prepare the way for this ecosystem, but more work is needed to make it a reality.

Conclusions

Conclusion 1: The SLDM project made substantial and credible contributions to strengthening Guyana's land governance knowledge base, technical infrastructure, and institutional capacity. Collectively, these outputs represent a significant modernization effort and have the potential to significantly improve land administration, spatial planning, and evidence-based decision-making across multiple sectors.

Conclusion 2: The transformative potential of these investments has not yet been fully realized. Progress towards establishing an enabling environment including a coherent national land policy, an integrated land use planning framework, and a fully operational National Spatial Data Infrastructure (NSDI) was limited by structural barriers including the absence of sustained political endorsement, unresolved institutional mandates, and limited enabling conditions for cross-agency coordination.

Conclusion 3: Sustainable land management and reclamation pilot interventions generated valuable learnings and promising early observations. Broader uptake is dependent upon resolving land governance issues at a regional level, providing more comprehensive and integrated land degradation assessments to inform land use decisions, providing support for value chain development, and ensuring continued technical accompaniment and monitoring.

Conclusion 4: Shifting political and institutional priorities over the life of the project created discontinuities around project objectives and complicated the sequencing of technical and institutional reforms. Project revisions were a practical response to an evolving political and institutional context, providing opportunities to strengthen GLSC's institutional capacities, clarify roles and responsibilities and accelerate project implementation. However, they also involved trade-offs that narrowed the project's strategic focus, leaving key gaps in addressing long-standing land policy and land use planning challenges.

Conclusion 5: Lessons are emerging on the risks of designing projects around idealized policy conditions, the need for adaptive approaches that allow for recalibration when political will shifts, and the critical role of organizations such as FAO in maintaining ambition, advocating for coherence, and helping government counterparts navigate incremental pathways toward long-term reform.

Conclusion 6: The effective implementation partnership between GLSC and FAO, along with donor flexibility, helped to mitigate the effects of significant implementation delays, navigate shifting project priorities, and deliver technically complex outputs. Progress was made in engaging stakeholders and strengthening inter-agency coordination during the final years of the project.

Conclusion 7: At the institutional level, GLSC emerges as both a central driver of reform and a constrained actor operating within a fragmented governance environment. While the Commission demonstrated technical leadership, particularly in geospatial modernization and digital land administration, structural challenges relating to human resource retention, revenue sustainability, and inter-agency coordination continue to pose risks to consolidating project gains.

Conclusion 8: The evaluation underscores that many of the reforms initiated under the SLDM project are systemic across the whole-of-government and require political leadership, legislative alignment, and coordinated institutional change that goes beyond the mandate of any single agency. Looking forward, with the right strategies in place, spanning land policies and integrated land use planning, digital systems, organizational processes, infrastructure, and professional development, Guyana can consolidate the progress achieved under the SLDM project and continue to build towards a more integrated, responsive, and sustainable land management ecosystem.

Recommendations for Future Initiatives (1 of 2)

The evaluation recommendations aim to inform future sustainable land development and management initiatives. They take into account key learnings and accomplishments of the SLDM project, identified gaps in Guyana's sustainable land management ecosystem, as well as consideration of the follow up actions identified in the project terminal report, including the proposed formulation of a second SLDM project phase.

Government of Guyana

In order to further develop a sustainable land management ecosystem, the Government of Guyana should consider:

- 1a. Launching the development of a **comprehensive national land policy** that harmonizes legislation, clarifies institutional mandates, and articulates long-term objectives across sectors. A unified policy framework is essential to reduce fragmentation, resolve mandate overlaps, and establish a consistent basis for decision-making. The policy should integrate sustainable land management principles, recognize Amerindian land rights as guaranteed under national law and international commitments, and set out how competing land uses will be planned, negotiated and monitored.
- 1b. Providing political endorsement and approval for the implementation of the emerging **National Spatial Data Infrastructure** to allow for accurate, interoperable and accessible land information. This should include the approval of an overall governance framework including and the provision of sustained resourcing.

Guyana Lands and Survey Commission

The evaluation findings largely validate the proposed project follow up actions identified in the Project Terminal Report (FAO, 2025). These include supporting the retention of GLSC staff, developing a core expertise strategy, and strengthening knowledge management; supporting the maintenance of key geospatial infrastructure; formalizing the ownership of the CORS infrastructure; modernizing the National Mapping Strategy and developing a basemap revision strategy; and reinforcing drone capability. Additionally, the evaluation proposes that GLSC consider:

- 2a. Formalizing renewed requests for **sustained and adequate direct government budget support**, based on an updated and approved GLSC Strategic and Business Plan. Immediate requests should identify the resources needed to maintain and further develop key outputs produced under the SLDM project. In addition to support for the follow up actions identified, requests should include resources needed to fully operationalize the Next Generation Lease Management System, with particular emphasis on coordination with other relevant land agencies, especially with regard to data sharing, interoperability, and attention to areas where lease-related information flows intersect.
- 2b. Seeking policy approval, as part of the development of a comprehensive national land policy, to lead renewed **integrated national and regional land-use planning** with the aim of enabling Guyana to balance competing pressures from agriculture, mining, forestry, housing and conservation while responding to climate risks and rapid economic change. Land-use decisions could also be better informed by moving towards a more comprehensive land degradation mapping approach, by combining on-the-ground analysis with satellite-based imagery.

Recommendations for Future Initiatives (2 of 2)

Food and Agriculture Organization (Guyana Country Office)

In order to further support the development of a sustainable land management ecosystem in Guyana, FAO should consider:

- 3a. Continuing to **build partnerships, and leverage synergies across complementary projects**, using the initiatives identified in the project terminal report as a starting point. This should include seeking entry points to continue providing technical expertise for the implementation and scale-up of the sustainable land management and restoration pilots, with particular emphasis on: value-chain development; and monitoring and assessment, using agreed upon core indicators in line with Land Degradation Neutrality, REDD+, and SDG targets, and consistent with Guyana's Low Carbon Development Strategy 2030.
- 3b. Continuing to **advocate for the development of a comprehensive national land policy**, as a necessary and foundational element of a sustainable land management ecosystem.
- 3c. Exploring the feasibility of complementary initiatives focusing on **land degradation prevention**, building on the research and analysis completed in the SLDM project.

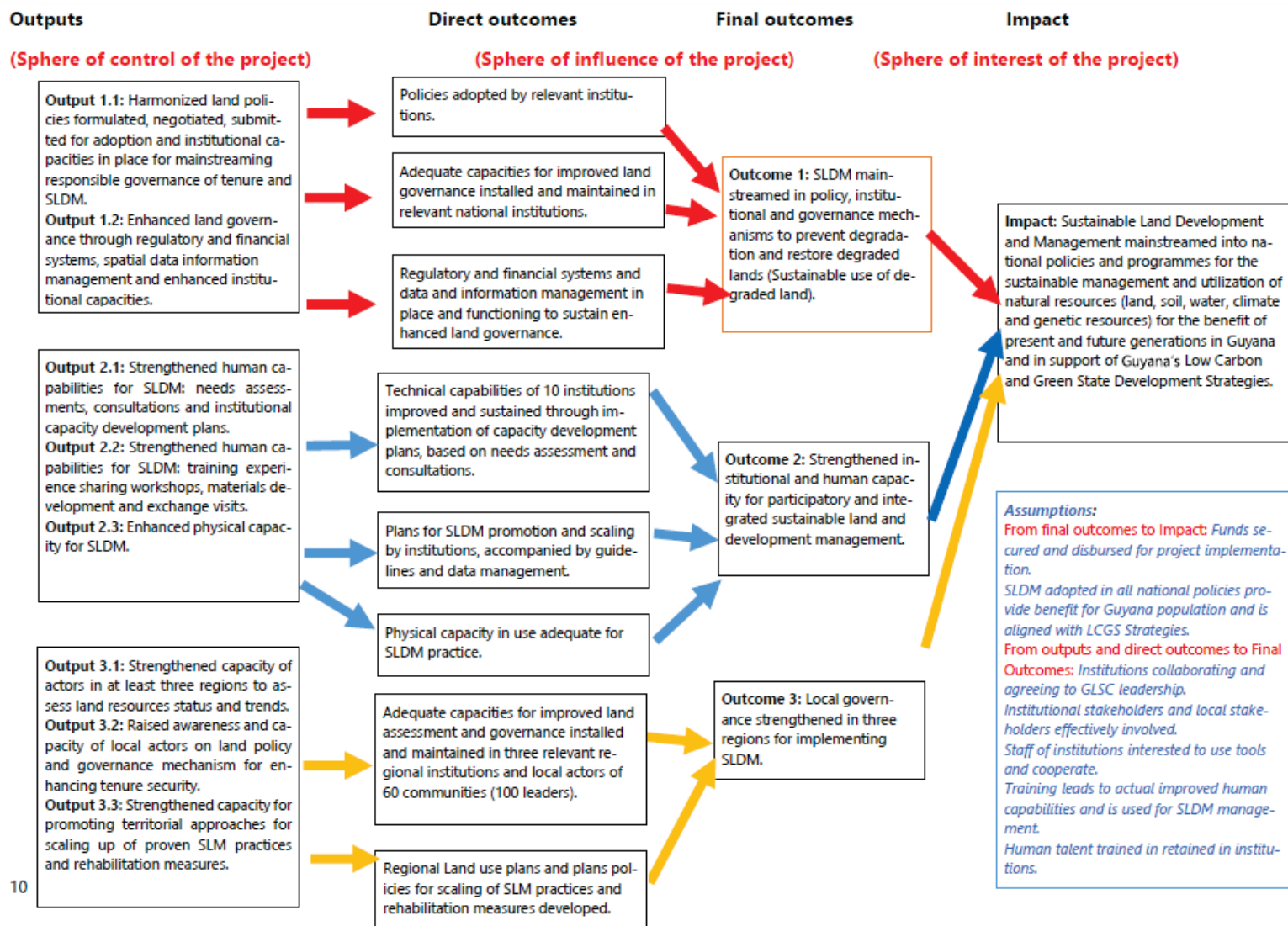
Appendices

- Theory of Change
- Evaluation Matrix

Appendix 1: Reconstructed Project Theory of Change

The project theory of change, as reconstructed during the mid-term evaluation, informed the design and conduct of the final evaluation. While the three impact pathways remain the same, the final evaluation will take into considered changes in key outputs, indicators and targets, as reflected in the project's updated logical framework matrix, including:

- revision of outputs, indicators and targets relating to change of "harmonized land policy and regulatory framework in place" to "preparatory work completed for harmonized land policy and regulatory framework";
- removal of outputs, indicators and targets relating to land tenure;
- modification of indicators and targets relating to territorial land use planning, assessment and monitoring.



Appendix 2: Evaluation Matrix (1 of 3)

Questions / Sub-questions	Indicators	Method and data source
1. What were the key project design and implementation learnings?		
1.1 What were the main project design and implementation challenges that hindered the realization of outcomes?	• Perceptions of key stakeholders on the main limitations/challenges of the project design for establishing an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation • Identification of most significant internal and external implementation factors that have hindered the project's contribution to: ◦ mainstreaming SLM in policy, institutional and governance mechanisms ◦ strengthening institutional and human capacity for participatory and integrated SLM management and development ◦ strengthening local governance for implementing sustainable land management • Perceptions of key stakeholders on the effectiveness (key challenges) of: ◦ governance and coordination mechanisms to support efficient and effective project implementation ◦ stakeholder engagement and communication strategies/plans ◦ monitoring and evaluations systems and databases • Identification of adaptive management measures taken in response to challenges	• Document Review • Key Stakeholder Interviews • Focus Groups • Site visits/observations
1.2. What are the main project design and implementation factors that contributed to the realization of expected outcomes and key areas of success?	• Perceptions of key stakeholders on the main strengths of the project design for establishing an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation • Identification of most significant internal and external implementation factors that have contributed to the realization of expected outcomes and key areas of success in: ◦ mainstreaming SLM in policy, institutional and governance mechanisms ◦ strengthening institutional and human capacity for participatory and integrated SLM management and development ◦ strengthening local governance for implementing sustainable land management • Perceptions of key stakeholders on the effectiveness (key strengths) of: ◦ governance and coordination mechanisms to support efficient and effective project implementation ◦ stakeholder engagement and communication strategies/plans ◦ monitoring and evaluations systems and databases • Identification of good practices and innovations in project design and implementation	• Document Review • Key Stakeholder Interviews • Focus Groups • Site visits/observations

Appendix 2: Evaluation Matrix (2 of 3)

Questions / Sub-questions	Indicators	Method and data source
2. To what extent and how did the project contribute to the achievement of expected outcomes?		
2.1 Outcome 1: Sustainable land development mainstreamed in policy, institutional and governance mechanisms to prevent degradation and restore degraded lands.	• Perceptions (by stakeholder/institution type) on quality and usefulness of key outputs produced: ◦ National Land Use Policy Paper ◦ GLSC Strategic and Business Plan ◦ National Spatial Data Infrastructure (NSDI) Action Plan • Evidence of the degree to which and how project outputs are mainstreamed in policy, institutional and governance mechanisms to prevent land degradation and restore degraded lands, including: ◦ developing a National Land Use Policy ◦ improving GLSC's financial sustainability and governance ◦ promoting data sharing, establishing data standards and quality, avoiding duplication of efforts, and optimizing resources • Perceptions of the effectiveness of inter-sectoral committee and multi-stakeholder events in raising awareness of SLDM policy and governance • Evidence of the degree to which, and how, institutions and key stakeholders are effectively involved and collaborating (<i>key risk/assumption</i>) • Identification of key areas of success • Identification of unanticipated results, positive or negative	• Document Review • Key Stakeholder Interviews
2.2 Outcome 2: Strengthened institutional and human capacity for participatory and integrated sustainable land development and management.	• Perceptions (by stakeholder/institution type) on quality and sufficiency of key outputs produced: ◦ GLSC's capacity development plan for mainstreaming SLDM into national plans and policies. ◦ Training, workshops, materials development and exchange visits ◦ National spatial data infrastructure (equipment, IT, geo-spatial information systems) • Evidence of the degree to which and how strengthened institutional capacities, updated tools, guidelines and information systems are supporting sustainable land administration, governance, management and restoration • Perceptions of the continued capacity of GLSC to design, implement, and maintain spatial data infrastructure and land information systems • Perceptions on the effectiveness of events, materials and multi-sectoral analyses/platforms in raising awareness on interactions between land degradation, land administration/governance and sustainable land management • Identification of key areas of success • Identification of unanticipated results, positive or negative	• Document Review • Key Stakeholder Interviews • Focus Groups

Appendix 2: Evaluation Matrix (3 of 3)

Questions / Sub-questions	Indicators	Method and data source
2. To what extent and how did the project contribute to the achievement of expected outcomes?		
2.3 Outcome 3: Strengthened local governance in three regions for implementing sustainable land management.	• Perceptions (by stakeholder/institution type) on quality and usefulness of key outputs produced: ◦ SLM and restoration training and capacity building (local actors, extension officers, land users) ◦ SLM and restoration pilots • Evidence and examples of how project activities and outputs have contributed to and/or are expected to contribute to: ◦ improved capacities of regional institutions in land governance, land management and restoration ◦ decentralised services in targeted regions for sustainable land management and climate resilience ◦ increased awareness/sensitization of communities and local leaders in SLM practices ◦ monitoring systems for scaling SLM • Perceptions of local actors, extensions officers, land users on: ◦ opportunities and barriers for implementing and/or scaling up SLM and reclamation practices ◦ extent to which and how pilot SLM and reclamation activities are contributing/ are expected to contribute to SLM and climate resilience ◦ potential for selected SLM and reclamation activities to improve livelihoods, resilience and climate mitigation at a territorial level • Identification of key emerging areas of success (most significant change) • Identification of unanticipated results, positive or negative	• Document Review • Key Stakeholder Interviews
3. What are the key areas of opportunity for future initiatives to sustain and further the adoption of sustainable and climate-resilient land development, management and reclamation for the benefit of present and future generations?		
3.1 What are the key areas of opportunity for future initiatives to sustain and further the adoption of sustainable and climate-resilient land development, management and reclamation?	• Identification of key gaps in project design and implementation for establishing an enabling environment for promoting sustainable and climate-resilient land development, management and reclamation (including original outcome/output areas removed – e.g., land tenure, land policy) • Perceptions of key stakeholders on the main strengths/challenges to sustaining and scaling project activities after project closure • Identification of key complementary areas of opportunity to GLSC and FAO to further the adoption of sustainable and climate-resilient land development, management and reclamation	• Document Review • Key Stakeholder Interviews



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