

Validated Terminal Review of the UNEP/GEF Project

“Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala”

(GEF ID 9633) SMA ID 33485

2016 – 2025



UNEP ECOSYSTEMS DIVISION

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The review consultant hopes that the findings, conclusions, and recommendations will contribute to the successful closure of the project, and if possible, to the formulation of a next phase and the continuous improvement of similar projects in other countries and regions.

BRIEF EXTERNAL CONSULTANT BIOGRAPHY

Maria de Lourdes Torres is a molecular biologist, professor, and researcher at the Universidad San Francisco de Quito, Ecuador. Beside her academic activities and research projects—mainly related to the conservation of relevant species of Ecuadorian biodiversity—she has over 20 years of experience in biosafety and genetic resources issues. As an advisor and consultant, she has developed policies and draft laws and regulations in the field of biosafety, genetic resources, and food sovereignty. She has advised in the development of national biosafety frameworks and has evaluated and implemented projects and activities in these fields. Torres has been the official delegate for Ecuador on several occasions in the discussions of various topics within the Cartagena Protocol, Convention on Biological Diversity. For several years she has worked as regional advisor for Latin America within BCH capacity-building projects. She also has expertise in the field of access to genetic resources and their regulations.

ABOUT THE REVIEW

Joint Review: No

Report Language(s): English.

Review Type: Terminal Review

Brief Description:

This report is a Terminal Review of a UNEP/GEF project: “Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala”, which lasted from 2016 to 2025. The project’s objective was to complete the implementation of the Cartagena Protocol through an innovative approach that promotes a strong link between biosafety and biodiversity. The review sought to assess project performance (in terms of relevance, effectiveness, and efficiency), and to determine the outcomes and impacts (actual and potential) derived from the project, including its sustainability. The review has two main objectives: i) provide evidence of results to meet accountability requirements, and (ii) promote operational improvement, learning, and knowledge sharing through results and lessons learned among UNEP, CONAP, and CATIE. Data collection relied on in-depth interviews (virtual and in person), document review, and a country visit. Triangulated data were used to assess performance against a reconstructed Theory of Change. With an overall rating of 4.05 on a six-point scale, the project was assessed as moderately satisfactory. The main findings include: (i) the strengthening of two laboratories for GMO detection; (ii) a draft instrument required for ratifying the Nagoya–Kuala Lumpur Supplementary Protocol; (iii) an ethnobotanical study supporting the integration of socio-economic considerations into GMO-related decision-making; and (iv) the establishment of two protected areas in the Huista region for the conservation of wild maize. Collectively, these findings represent key institutional and technical achievements that strengthen Guatemala’s biosafety capacity and support the conservation of native genetic resources. A key lesson learned is the importance of sustained political will to advance the implementation of the national biosafety system. Recommendations include the following: (1) for CONAP to reconvene the Project Steering Committee to agree on a strategy for sustaining inter-institutional coordination; (2) for CONAP, together with ICTA and LNS, to identify options to maintain and utilize the laboratory capacities; (3) for CONAP to continue engaging with participating municipalities to support ongoing maize conservation efforts; and (4) for UNEP to further strengthen project design criteria by ensuring that proposed outcomes are realistic in relation to available political commitment.

Source(s) of Funding by Country: Guatemala

Source(s) of Funding by Institution Type:

Foundation/NGO	No
Private Sector	No
UN Body	Yes
Multilateral Fund	Yes
Environment Fund	Yes

Key words: Biosafety, Genetically Modified Organisms (GMOs), Socio-economic Considerations, Nagoya - Kuala Lumpur Protocol, Native Biodiversity, Maize

Primary data collection period: October – December 2025

Field mission dates: 17 – 21 November 2025.

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LIST OF ACRONYMS

BS	Biosafety
CBD	Convention on Biological Diversity
CPB	Cartagena Protocol on Biosafety
CATIE	Tropical Agricultural Research and Higher Education Center
CIMMYT	International Maize and Wheat Improvement Center
CONAP	National Council of Protected Areas
COVID-19	Coronavirus Disease 2019
EA	Executing Agency
ESS	Environmental and Social Safeguards
GEF	Global Environment Facility
GMOs	Genetically Modified Organisms
IA	Implementing Agency
IS	Intermediate State
ICTA	Institute for Agricultural Science and Technology
LNS	National Health Laboratory
L&R	Liability and Redress
MAGA	Ministry of Agriculture and Livestock and Food
MARN	Ministry of Environment and Natural Resources
MoUs	Memoranda of Understanding
MINECO	Ministry of Economy
MSPAS	Ministry of Public Health and Social Assistance
MTR	Mid-Term Review
NKLP	Nagoya - Kuala Lumpur Protocol
NCAs	National Competent Authorities
NPC	National Project Coordinator
PCA	Project Cooperation Agreement
PER	Periodic Expenditure Report
PIR	Project Implementation Report
PPR	Periodic Progress Reports
ProDoc	Project Document

PSC	Project Steering Committee
SENACYT	National Secretariat for Science and Technology
TOC	Theory of Change
TOR	Terms of Reference
TR	Terminal Review
UN	United Nations
UNEP	United Nations Environment Programme

PROJECT IDENTIFICATION TABLE

Table 1. Project Identification Table

GEF Project ID/SMA ID ¹ :	9633 / 33485		
Type of GEF Project:	Child: N	Global Coordinating Project:	Nature Action Environmental Governance
	If yes, provide GEF Programme ² ID:	Medium-Size Project or Full-Size Project:	MSP
UNEP Management (Division/Branch/Unit):	Ecosystems Division/Biodiversity and Land Branch/GEF Biodiversity and Land Degradation Unit	Executing Agency: (<i>indicate if internally executed</i>):	Tropical Agricultural Research and Higher Education Center (CATIE)
Sources of Funding (Co-finance):	Country ³ (ies): Guatemala	<i>Institution⁴ Name/Type:</i> - Ministry of Agriculture and Livestock and Food (MAGA) – Gov - Ministry of Environment and Natural Resources (MARN) – Gov - Ministry of Public Health and Social Assistance (MSPAS) – Gov - National Council of Protected Areas (CONAP) – Gov - National Secretariat of Science and Technology (SENACYT) – Gov - Institute for Agricultural Science and Technology (ICTA) - Gov - Agronomy School, San Carlos University (FAUSAC) – Academy - San Carlos University, Huehuetenango – Academy - Del Valle University (UVG) - Academy	
Relevant SDG(s):	SDG 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture		
MTS (at approval):	2014-2017 Medium Term Strategy		
	POW Direct Outcome:		MTS 2025 Outcome:

¹ SMA refers to the ID provided by the Integrated Planning, Management and Reporting Solution (IPMR) system, which was introduced by UNEP in July 2023. Previously, it was referred to as a PIMS ID number.

² GEF Programme refers to 'Parent' project.

³ Where applicable, list countries who have provided project funds and/or co-finance.

⁴ Indicate where funding institutions are any/all of the following: Foundation/NGO; Private Sector; UN Body; Multilateral Fund; Environment Fund.

POW Direct Outcome(s) number/reference⁵ (applicable for projects approved from 2022): OR POW Output(s) number/reference⁵ Bookmark not defined. (applicable for projects approved pre-2022)	Indicators: Nature: (i) Number of national or subnational entities that, with UNEP support, adopt integrated approaches to address environmental and social issues and/or tools for valuing, monitoring and sustainably managing biodiversity. Governance: (ii) Number of international legal agreements or instruments advanced or developed with UNEP support to address emerging or internationally agreed environmental goals. Direct outcomes: 2.5 – Legal and institutional frameworks for biodiversity and ecosystem services are strengthened at national and global levels. 2.6 – Biodiversity and ecosystem values are integrated into decision-making. 2.7 – Use of biodiversity and ecosystem services is more sustainable. 2.8 – Access to and benefits from biodiversity and ecosystem services are more equitably shared.	MTS 2025 Outcome(s) number/reference⁵ Bookmark not defined. (applicable for projects approved from 2022): OR POW Expected Accomplishment(s) number/reference⁵ Bookmark not defined. (applicable for projects approved pre-2022):	MTS 2025 Outcome: 2A: An economically and socially sustainable pathway for halting and reversing the loss of biodiversity and ecosystem integrity is established.
	POW Output:		POW Expected Accomplishment:
Sub-programme:	Nature Action	Programme Coordination Project (if relevant):	Conservation
UNEP approval date:	16/10/2019	GEF approval date:	08/12/2016

⁵ For these items do not include full text; only enter the number or reference.

GEF Operational Programme/Cycle # (e.g. GEF-7):	GEF-6		GEF Strategic Priority (e.g. BD4):	BD-2
Focal Area(s):	Biodiversity			
Expected start date: ⁶	08/12/2016		Actual start date: ⁷	11/02/2020
Planned completion date: ^{Error! Bookmark not defined.}	30/09/2025		Actual operational completion date:	30/09/2025
Planned project budget at approval:	GEF grant allocation: 1,369,863			
	Expected co-financing:			
	Cash: 24,000			
	In-kind: 2,676,100			
	Total planned budget: 4,069,963			
Actual expenditures reported (cash only):	GEF grant expenditures reported as of 30/09/2025: 1,314,909			
	Actual co-financing 30/09/2025: (cash) 15,991 (in-kind) 2,675,228			
	Total actual expenditures reported as of 30/09/2025: 4,006,128			
No. of formal project revisions:	N/A		Date of last approved project revision:	N/A
No. of Steering Committee meetings:	15		Date of Last Steering Committee meeting:	15th July 2025
Mid-term Review/ Evaluation ⁸ (required or not required):	UNEP requirement:	N	Mid-term Review/ Evaluation actual date:	N/A
	GEF requirement:	N		
Terminal Review (planned date):	30/03/2026		Terminal Review actual date:	N/A
Coverage - Country(ies):	Guatemala		Coverage - Region(s):	Latin America and the Caribbean
Dates of previous project phases:	N/A		Status of future project phases:	N/A

⁶ Expected/planned dates are listed in the Project Document (ProDoc).

⁷ Actual start date is the date of the last signature on the PCA or ICA.

⁸ UNEP projects of four or more years duration require an MTR unless there is an exceptional circumstance. See the *Evaluation in the Project Cycle* section in the [Evaluation Office's operational manual](#). Donor requirements may vary and should be considered in conjunction with UNEP's requirements.

EXECUTIVE SUMMARY

Project background

1. This document presents the Terminal Review (TR) of the UN Environment Programme (UNEP)/Global Environment Facility (GEF) project “Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala.” The review was conducted between October and December 2025 by the consultant, Maria de Lourdes Torres. The project was approved in 2016, and implementation formally began with the first disbursement in June 2020. Project activities started from this date, although progress was initially slow due to the impacts of the COVID-19 pandemic. The project officially closed in September 2025. UNEP served as the Implementing Agency (IA), while CONAP, with the support of CATIE, acted as the Executing Agency. The total project budget at closure was USD 3,884,604.69, including USD 1,193,385.69 in GEF financing and USD 2,691,219 in co-financing, primarily from government institutions in Guatemala.
2. The objective of the project was to complete the process of implementation of the Cartagena Protocol through an innovative approach that promotes a strong link between biosafety and biodiversity. In this regard, the project supported Guatemala in advancing the implementation of the Cartagena Protocol through technical and research achievements that strengthen the country’s capacity to manage biosafety issues related to GMOs while contributing to the conservation of its native biodiversity. The project implemented its activities through four components: (1) Strengthening of institutional capacity for GMO surveillance, monitoring, and detection.; (2) Strengthening of administrative and technical biosafety system on the NCAs in line with article 2.1 of the CPB; (3) Developing capacities on liability and redress (Article 27) and Socioeconomic considerations (article 26); and (4) Conservation of native biodiversity in support of biosafety related activities. The project directly contributed to strengthening the national biosafety system and supporting the conservation of Guatemala’s native biodiversity.

This Review

3. In line with the UNEP Evaluation Policy and the UNEP Programme and the Guidelines for GEF Agencies on Conducting Evaluations, this TR assessed the project’s performance in terms of relevance, effectiveness, and efficiency, and examined the outcomes achieved and their likely sustainability. The review applied the standard UNEP-EOU review criteria and the six-point rating scale. The purpose of the review is twofold: (i) to provide evidence of results for accountability to UNEP, GEF, and national counterparts; and (ii) to support learning and adaptive improvement among UNEP, CONAP and CATIE, particularly regarding future efforts to strengthen the implementation of the Cartagena Protocol in Guatemala. The review also identifies lessons learned and forward-looking recommendations, aimed at supporting national implementation of the biosafety framework and informing knowledge sharing with other countries working to strengthen biosafety and conserve native biodiversity.
4. Data collection for this TR included semi-structured interviews, document review, and an in-country mission to Guatemala. Interviews were conducted with key institutions involved in project implementation and with stakeholders engaged across the different project components. Some interviews were carried out in person and others virtually, before, during, and after the mission period. The review triangulated evidence from interviews, project reports, legal and policy documents, and other project records to validate findings and assess progress toward results. Data analysis was structured around the review criteria and informed by the project’s reconstructed Theory of Change, supporting the assessment of causal pathways, enabling conditions, and the

sustainability of outcomes. Coordination with the National Project Coordinator and UNEP facilitated access to relevant information and supported a transparent and well-documented review process.

Key findings and performance ratings

5. The project demonstrated strong performance in strengthening Guatemala's technical and scientific foundations for biosafety, particularly through the upgrading of two national laboratories for GMO detection, the generation of baseline scientific data on native maize diversity, two protected areas for maize conservation and the production of key knowledge products such as the national maize book and the ethnobotanical study. These achievements reflect effective coordination among technical institutions and contributed to increased institutional understanding of biosafety principles and biodiversity conservation. However, progress in establishing the regulatory and institutional framework for a fully operational national biosafety system remained limited due to weak political support, frequent changes in authorities, and the absence of sustained high-level commitment. As a result, expected advances related to regulatory consolidation, monitoring systems, digital procedures, and no real progress was made toward ratifying the supplementary international protocol. Strengthening political engagement and institutional anchoring would be essential for translating technical gains into a durable national biosafety system.
6. The Terminal Review identified the following set of findings reflecting the project's achievements, implementation experience, and areas that may require continued attention to support the long-term strengthening of Guatemala's biosafety framework alongside the conservation of its native biodiversity. These findings provide insight into the project's relevance, effectiveness, efficiency, sustainability, stakeholder engagement, gender considerations, safeguards, and institutional performance.
 - The project was fully aligned with UNEP's and GEF's strategic priorities and contributed primarily through strengthening national technical capacity for GMO detection and biosafety implementation, thereby supporting Guatemala's obligations under the Cartagena Protocol on Biosafety.
 - The project complemented previous UNEP-GEF initiatives and related programmes on biosafety and biodiversity conservation and avoided duplication, while benefitting from technical exchange with international research institutions in support of Guatemala's national biosafety objectives, including work on maize genetic resources.
 - The project delivered key technical and knowledge-based outputs, including strengthened GMO detection laboratories, targeted training activities, and scientific and ethnobotanical studies on maize diversity, contributing to improved capacities and stronger links between biosafety and biodiversity conservation.
 - The project faced significant constraints that limited progress on institutional and policy-related outputs, as weak political support and insufficient inter-institutional coordination hindered advances in regulatory consolidation, monitoring systems, digital permitting, and steps toward NKLP ratification.
 - The project made positive contributions to biodiversity conservation—particularly through strengthened maize conservation efforts, improved scientific baselines, and strong local engagement—yet the prospects for long-term national impact remain moderate. Without stable political support, sustainable financing, and an operational biosafety governance framework, these gains face limits in translating into a fully functional and durable biosafety system.
 - Financial management complied with UNEP policies and procedures and demonstrated adequate fiduciary control throughout implementation, with no evidence of misuse of funds, ineligible expenditures, or non-compliance identified in external audits.

- Budget execution was delayed in the early years by administrative constraints, the COVID-19 pandemic, and lengthy international procurement processes for laboratory equipment, but improved significantly from 2022 onward.
- The project experienced an extended implementation period but succeeded in delivering relevant technical, scientific, and conservation-related outputs through adaptive management and flexible sequencing of activities, particularly during the pandemic and periods of limited political support.
- Project efficiency was affected by prolonged administrative processes, slow budget execution in the early years, and logistical challenges related to equipment procurement and sample shipment; however, thanks to good project coordination, operational momentum was achieved and most of the planned activities were completed.
- The project maintained a functional monitoring system that supported adaptive management in the face of COVID-19, procurement delays, and limited political support; however, monitoring remained output-focused and did not generate evidence of outcome-level change or the operational use of the national biosafety system.
- Project reporting was timely and consistent, strongly supported by the National Project Coordinator's ability to ensure institutional continuity; however, the absence of systematic monitoring of gender and social inclusion limited the project's capacity to demonstrate equity outcomes beyond qualitative evidence of broad participation and community outreach.
- The project achieved stronger results in institutional sustainability than in socio-political or financial sustainability, particularly through the continued operational readiness and commitment of ICTA and LNS to use the equipment and technical capacities developed under the project for biosafety-related activities.
- Socio-political sustainability remained weak at the national level due to limited and inconsistent political support for advancing biosafety policy reform; however, strong community-level engagement in maize conservation—particularly through municipal collaboration—indicated meaningful social ownership of biodiversity-related outcomes.
- Financial sustainability remains uncertain, as no long-term funding mechanisms were secured to maintain laboratory operations, sustain trained personnel, or continue maize conservation and monitoring activities, placing the durability of project gains at risk without follow-up investment.
- Project management and UNEP supervision were generally effective in maintaining implementation despite political changes, delayed start-up, pandemic-related disruptions, and procurement constraints, with the National Project Coordinator playing a key role in sustaining coordination and delivery of technical outputs.
- Stakeholder participation was strongest among technical and operational actors and was reinforced by international cooperation for capacity-building and knowledge transfer. In contrast, limited engagement from regulatory and enforcement authorities constrained progress on outcomes requiring coordinated national action and system-level integration.
- Although the project did not apply a formal gender or inclusion strategy, participation was generally balanced between women and men, with strong female presence in laboratories and active involvement of rural and indigenous communities in maize-related activities. Environmental and social safeguards were adequately addressed, and no ESS issues were triggered during implementation.
- Country ownership was uneven: technical institutions demonstrated strong commitment, particularly in laboratory strengthening and maize conservation—while policy-level ownership remained limited due to shifting political priorities. At the same time, communication and outreach efforts in maize-producing municipalities significantly

enhanced public awareness of biosafety and genetic resource conservation, fostering broader local engagement.

Table 2. Summary of project ratings

Criterion	Rating
Strategic Relevance	MS
Quality of Project Design	MS
Nature of External Context	MU
Effectiveness	MU
Financial Management	MS
Efficiency	MS
Monitoring and Reporting	MS
Sustainability	MU
Factors Affecting Performance	MS
Overall Project Performance Rating	MS

Conclusions summary

7. Overall, the project was performed at a Moderately Satisfactory level. Its strongest areas of performance were technical capacity development, scientific knowledge generation, and biodiversity-linked actions focused on maize conservation. The project delivered concrete outputs, including the strengthening of two national laboratories for GMO detection, the generation of baseline information on maize genetic diversity, and the production of key knowledge products such as the national maize book, an ethnobotanical study, and a maize conservation strategy adopted by national authorities. These achievements contributed to reinforcing the interface between biosafety and biodiversity conservation in Guatemala.
8. The project achieved tangible biodiversity outcomes through its support to maize conservation in the Huista region, where two protected areas now contribute to safeguarding wild maize populations. Progress in technical areas was enabled by strong institutional collaboration, sustained technical leadership, and international scientific cooperation, which facilitated technology transfer, laboratory training, and access to specialized expertise. Adaptive management was a defining feature of implementation, allowing the project to continue during the COVID-19 pandemic, procurement delays, and reduced political backing by adjusting work plans and implementation modalities without compromising core technical deliverables. In parallel, capacity-building efforts, including diploma courses, professional training, community outreach, and school-level activities—expanded awareness of biosafety and biodiversity beyond formal institutions.
9. Comparative weaknesses were observed in policy uptake and institutional consolidation. Progress toward operationalizing the national biosafety system—including monitoring and surveillance functions, regulatory coordination, digital processing of GMO requests, and formal advancement of the Nagoya–Kuala Lumpur Protocol—remained limited due to weak political ownership and the absence of enabling regulatory decisions. Project sustainability is assessed as moderately unlikely: technical and conservation gains are relatively robust, while institutional and financial sustainability depend on future public funding and governance commitments. Human rights and gender considerations were reflected in practice through balanced participation and strong female representation in laboratories, alongside meaningful engagement of rural and indigenous communities; however, the absence of a formal inclusion strategy limited systematic monitoring of equity outcomes. Overall, the project leaves Guatemala better prepared in technical and scientific terms, but longer-term impact will depend on renewed political commitment and post-project investment.

10. In relation to the strategic questions for the Terminal Review set out in the Terms of Reference, the review finds that (i) technical institutional engagement was solid, although sustained political ownership at senior levels remained limited; (ii) adaptive management was a clear strength, enabling adjustments to work plans, budgets, and implementation modalities in response to operational constraints and the COVID-19 pandemic; (iii) while the establishment of a large-scale maize genetic reserve was not achieved, the project made a substantive contribution through site-based conservation actions and the generation of robust genetic and nutritional baseline data on cultivated and wild maize; (iv) laboratory capacity for GMO detection was successfully established despite procurement challenges, though long-term sustainability remains uncertain; and (v) although financial execution was slow in the initial years, adaptive reallocations supported improved execution and effective use of resources toward project completion

Lessons Learned

11. Lesson 1. Sustained political commitment is indispensable for achieving regulatory and policy-related outcomes in biosafety projects, regardless of the level of technical progress achieved.
12. Lesson 2. Investments in laboratories, scientific data generation, and technical capacity deliver durable value even when institutional and regulatory objectives cannot be fully achieved.
13. Lesson 3. Technical coordination platforms, such as inter-institutional committees, are critical for maintaining coherence, continuity, and coordination across institutions.
14. Lesson 4. Strong individual leadership and institutional commitment play a decisive role in delivering outputs when formal governance structures are weak or unstable.
15. Lesson 5. Gender balance and community engagement can emerge organically in project implementation, but without structured monitoring frameworks their long-term impact cannot be demonstrated or sustained.
16. Lesson 6. Engagement must reach political decision-makers, not only technical counterparts.
17. Lesson 7. Capacity-building activities and communication products significantly extend project influence beyond formal outputs by strengthening public awareness and institutional knowledge on biosafety and conservation.

Recommendations

18. Recommendation 1. It is recommended that CONAP convene the Project Steering Committee to define a joint inter-institutional strategy to sustain cooperation, coordination, and knowledge exchange achieved under the project, and to identify practical pathways for continuing activities related to biosafety and maize conservation beyond project closure.
19. Recommendation 2. It is recommended that CONAP, in coordination with ICTA and the National Health Laboratory (LNS), convene a strategic planning meeting to identify concrete options to sustain and operationalize the technical capacities and infrastructure established in the two laboratories, including mechanisms to continue training activities, maintain equipment, and promote the practical use of detection services.
20. Recommendation 3. It is recommended that CONAP maintain regular engagement with the municipalities involved in maize conservation activities through follow-up visits and coordination meetings, with the objective of strengthening local conservation actions, sharing lessons learned from the project, and jointly identifying practical options to continue advancing the conservation and sustainable use of cultivated and wild maize.
21. Recommendation 4. It is recommended that UNEP continue strengthening its project design criteria for biosafety and genetic resource initiatives, giving particular attention to the feasibility of outputs and outcomes that depend on political decision-making processes.

Where appropriate, UNEP may consider encouraging countries to demonstrate clear institutional commitment at the design stage, or alternatively, supporting project designs that reduce reliance on high-level policy actions where enabling conditions are not sufficiently mature.

Validation

The report has been subject to an independent validation exercise performed by UNEP's Evaluation Office. The performance ratings for the UNEP project: "Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala (GEF ID 9633)", set out in the Conclusions and Recommendations section, have been adjusted slightly as a result. The overall project performance is validated at the '**Moderately Unsatisfactory**' level. The Evaluation Office has found the overall quality of the report to be 'Satisfactory' (see Annex XI).

I. THE PROJECT

A. Context

Intervention context

22. Guatemala is a megadiverse country and a center of origin and diversity for key crops such as maize, beans, and cucurbits, making it a globally important biodiversity hotspot that requires protection and sustainable use. While modern biotechnology products, including GMOs, offer potential benefits for agriculture, bioremediation, and climate change mitigation, they also raise concerns about possible impacts on biodiversity. Their use therefore requires regulation in line with the Cartagena Protocol on Biosafety. Although Guatemala has made significant progress in establishing a national biosafety system, its complexity requires further actions to ensure effective implementation that maximizes benefits while minimizing risks.
23. As a center of origin of cultivated plants—particularly maize—Guatemala would benefit from a robust biosafety system that enables informed risk assessment and decision-making on GMO use. Previous UNEP-GEF projects significantly strengthened national biosafety capacities; however, important gaps remain, particularly in GMO monitoring, surveillance, and detection at the local level. In addition, reinforcing the link between biosafety and biodiversity conservation is essential to build political support and improve understanding of biosafety's relevance, by situating it within the broader biodiversity agenda and illustrating it through concrete, country-specific examples.
24. In this context, the project "Strengthening and Expansion of Capacities in Biosafety that Lead to the Full Implementation of the Cartagena Protocol on Biosafety in Guatemala" aimed to address risks to native biodiversity associated with the misuse or illegal use of GMOs. The project focused on maize—both for its global relevance and its cultural importance in Guatemala—as a pilot crop to demonstrate applied biosafety measures that link GMO regulation with biodiversity conservation. Given that maize is one of the most widely commercialized GMOs worldwide and a species of high cultural value nationally, the project sought to ensure the safe use of GMOs while protecting local varieties. Through this approach, the project aimed to advance implementation of the Cartagena Protocol by strengthening the practical and conceptual link between biosafety and biodiversity conservation, with potential for replication to other crops.

Institutional context

25. The project was approved by UNEP in September 2016 and by GEF in December 2016 for a 48-month period. However, it was not implemented between 2016 and 2019 due to administrative difficulties related mainly to fund management. The PCA was signed by UNEP in October 2019 and by CATIE in February 2020, allowing implementation to begin with the first disbursement in 2020. The project concluded in September 2025. Implementation was further affected by the COVID-19 pandemic, which required adjustments to planned activities, including postponement of fieldwork and the use of virtual modalities.
26. The project was aligned with the GEF-6 Biodiversity Strategy, particularly Strategic Objective 2, Program 5, and with the GEF Strategy for Financing Biosafety, addressing key biosafety capacity-building priorities. It contributed to Aichi Targets 4, 7, and 13 by supporting implementation of the National Biosafety Policy and System, strengthening capacity to assess biotechnology applications, and promoting the conservation of genetic diversity. The project also aligned with UNEP's Environmental Governance and Nature Action sub-programmes, supporting stronger institutional frameworks and science-based decision-making for biodiversity conservation.

27. UNEP's Ecosystems Division / GEF Biodiversity and Land Degradation Unit / Biodiversity and Land Branch is the GEF Agency (or Implementing Agency, IA) responsible for coordination and overall project supervision and guidance, and CONAP, with the support of CATIE, acts as the project executing agency. CATIE managed project funds received from UNEP and handled payments and contracts, enabling CONAP—as the executing agency—to implement the work plan, supervise consultants, ensure quality of deliverables, and lead project reporting. The project had a total secured budget of USD 3,884,604.69, including USD 1,193,385.69 from the GEF Trust Fund and USD 2,691,219 in co-financing, as reported in the Final Financial Report (10/2025). An internal mid-term review was conducted in November 2023.

B. Results Framework

28. The Biosafety Project in Guatemala was designed to support implementation of the Cartagena Protocol by linking biosafety with biodiversity conservation. Its results framework focused on strengthening national capacity for GMO handling, monitoring, and oversight, while conserving native genetic resources. Key outcomes included enhanced institutional capacity for GMO surveillance and detection, reinforcement of the national biosafety system within competent authorities, and generation of technical evidence—such as ethnobotanical and maize diversity studies—to inform biosafety and conservation decision-making.
29. To deliver the results framework, the project integrated technical, legal, and institutional actions. It strengthened two national laboratories for GMO detection, supported draft legal instruments related to the Nagoya–Kuala Lumpur Protocol, and reinforced coordination among national biosafety authorities. Complementary studies on ethnobotany and maize genetic diversity addressed socioeconomic considerations and strengthened the national knowledge base, with management arrangements ensuring coherence across components toward improved GMO handling and monitoring for biodiversity conservation.

Table 3. Summary of the project's latest approved results framework

	Results Statement
Project objective	To complete the process of implementation of the Cartagena Protocol through an innovative approach that promotes a strong link between biosafety and biodiversity.
Impact	Enhanced biodiversity conservation and sustainable use of genetic resources in Guatemala through the full implementation of the Cartagena Protocol on Biosafety, ensuring the safe handling, transport, and use of living modified organisms (LMO)s.
Intermediate state	1. National competent authorities coordinate an operational biosafety system with clear procedures for GMO detection, monitoring, and risk assessment, enabling timely and science-based decision-making. 2. Socioeconomic considerations and liability and redress mechanisms are integrated into biosafety decisions, promoting transparent and inclusive governance. 3. Scientific and baseline data on maize genetic diversity are generated and applied to guide biosafety measures that support biodiversity conservation and the sustainable use of genetic resources.
Component 1	Strengthening of institutional capacity for GMO surveillance, monitoring, and detection
Project outcome	Outcome 1.1. National laboratories are strengthened to provide GMO detection services and support post-approval monitoring activities. Outcome 1.2: Agreements for collaborative networking established between national and international labs. Outcome 1.3: Country able to implement biosafety monitoring and surveillance measures.

	Results Statement
Outputs	1.1.1. Assessment of existing laboratory capacity and trained human resources for GMO detection. 1.1.2. Two laboratories are equipped. 1.1.3. Harmonized toolkits, guidelines, protocols, and Standard Operating Procedures (SOPs) for GMO detection developed and/or adapted to the Guatemalan reality. 1.1.4. Training programme on GMO detection established (e.g. workshops and manuals). 1.2.1 Inter-Laboratory cooperation MoUs developed and signed (to facilitate interaction and promote a cost-benefit approach between national and regional laboratories). 1.3.1. Operational guidelines and clearly defined institutional roles and responsibilities for a monitoring and surveillance system developed (based on progress achieved under previous projects). 1.3.2. Field detection strategy, including screening procedures, developed 1.3.3. Administrative and technical guidelines designed for each institution involved in the National Customs System. 1.3.4 Workshops (4) for custom officers on monitoring and surveillance.
Component 2	Strengthening of administrative and technical biosafety system of the National Competent Authorities (NCAs), in line with article 2.1 of the CPB
Project outcomes	Outcome 2.1. System in place for handling requests related to GMOs
Outputs	2.1.1. Sectorial regulations and their respective implementation tools for biosafety regulation, developed during the previous Implementation Project, tested, and submitted for approval. 2.1.2. Digital system established to manage GMO applications and connect all competent authorities through a single-window platform. 2.1.3. Hands on training for the NCA's personnel (2 mock exercises on how to process dossiers using the new digital system).
Component 3	Developing capacities on liability and redress (Article 27) and socioeconomic considerations (Article 26).
Project outcomes	Outcome 3.1. Guatemala moved towards ratification of the Nagoya - Kuala Lumpur Protocol. Outcome 3.2: Guatemala considers socio economic considerations in GMO decision-making.
Outputs	3.1.1. Draft NKLP ratification document for ratification by the relevant authority. 3.1.2. Proposal on how to include and manage liability and redress (L&R) issues in the current biosafety administrative system. 3.2.1 Study of the existing national and regional approaches related to the use of socioeconomic considerations in decision making. 3.2.2. Analysis of the technical and legal implications of the implementation of Article 26 of the CPB.
Component 4	Conservation of native biodiversity in support of biosafety related activities.
Project outcomes	Outcome 4.1: Protection of native genetic resources of agricultural importance (e.g. maize) is increased through the application of biosafety measures. Outcome 4.2: There is a clear link between biodiversity protection and biosafety actions.
Outputs	4.1.1. Baseline data on maize (morphological, genetic, socioeconomic, and distribution of wild maize) strengthened through support of ongoing research and data collection activities. 4.1.2. Normative framework, defining GMO's free zones, is drafted. 4.2.1. A maize genetic reserve is established in Huehuetenango region based on systematization of information from 4.1.1 and land use regulations.

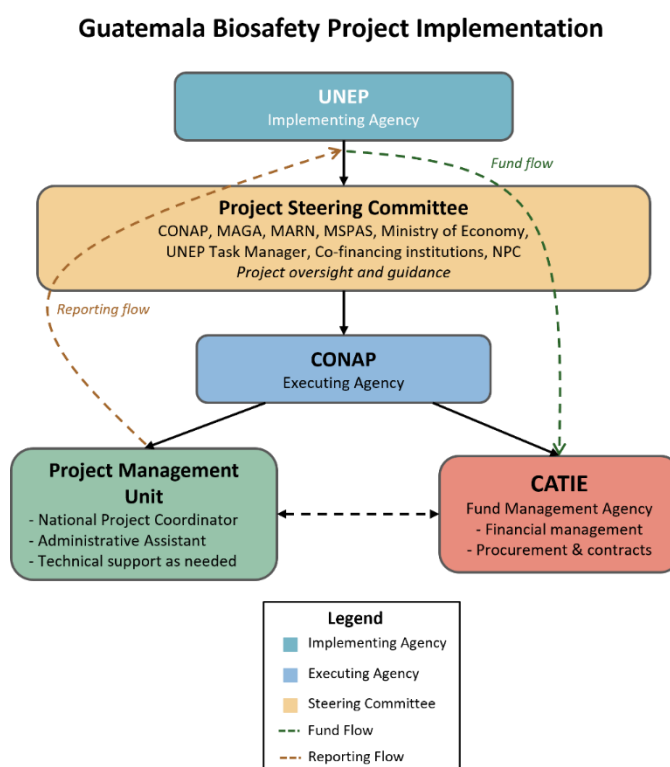
C. Project Implementation Structure and Partners

30. UNEP, through its Ecosystems Division / GEF Biodiversity and Land Degradation Unit / Biodiversity and Land Branch, served as the Implementing Agency (IA) for the project on

behalf of the Global Environment Facility (GEF) Secretariat. UNEP was responsible for overall project supervision, ensuring compliance with GEF and UNEP policies, fiduciary standards, and reporting requirements. It provided ongoing oversight, served as liaison with the GEF Secretariat, facilitated fund disbursement and budget approvals, and supported monitoring, audits, the mid-term review, and the terminal review. UNEP also offered technical guidance, participated in the Project Steering Committee, maintained close collaboration through its Task Manager, and certified the project's operational completion.

31. The National Council of Protected Areas (CONAP), supported by the Tropical Agricultural Research and Higher Education Center (CATIE), served as the Executing Agency on behalf of the Government of Guatemala. CONAP led day-to-day implementation, technical oversight, quality assurance, and project reporting, while CATIE acted as the fund management institution, receiving funds from UNEP and managing payments and contracting. The National Project Coordinator, based at CONAP, coordinated with UNEP and CATIE and served as Secretariat of the Project Steering Committee (PSC).
32. The PSC, known in Guatemala as the Technical Committee, was the main coordination and oversight body. It included representatives from the Ministry of Agriculture, Livestock and Food (MAGA), the Ministry of Environment and Natural Resources (MARN), the Ministry of Public Health and Social Assistance (MSPAS), the Ministry of Economy (MINECO), the National Council of Protected Areas (CONAP), the National Secretariat for Science and Technology (SENACYT), the University of San Carlos of Guatemala (USAC), the Guatemalan Institute of Agricultural Science and Technology (ICTA), the Tropical Agricultural Research and Higher Education Center (CATIE), and the UNEP Task Manager. The Universidad del Valle de Guatemala (UVG) participated in the initial phase but later withdrew.
33. The National Project Coordinator (NPC) was responsible for the overall coordination and technical supervision of project implementation, including operational planning and day-to-day project activities, as well as the management of consultants and technical follow-up. The NPC technically reported to UNEP, CATIE and CONAP.
34. Additional technical support was provided by national and international consultants throughout project implementation, particularly in the areas of GMO detection, laboratory protocols, and institutional strengthening. The project benefited from the contribution of experts from the National Autonomous University of Mexico (UNAM), the International Maize and Wheat Improvement Center (CIMMYT), and biosafety specialists from Argentina. CIMMYT played a key role in the genetic and nutritional characterization of cultivated and wild maize varieties.
35. For a graphic overview of the project implementation structure and partners, see Figure 1.

Figure 1. Organigram of the project with key project stakeholders



D. Stakeholders

36. The ProDoc identified a wide range of stakeholders across government, academia, research centers, the private sector, and international organizations. During the inception phase of the Terminal Review, the consultant worked mainly with the National Project Coordinator to understand expected stakeholder roles, and subsequent interviews and the in-country mission confirmed which stakeholders were actively involved and central to project implementation and results.
37. The Terminal Review assesses stakeholder participation through document review and interviews conducted during and after the field mission, focusing on identifying actively engaged stakeholders and evaluating the relevance of their contributions to project outcomes. The stakeholders involved in the project in Guatemala are presented below, organized by sector.

Government Institutions: National Council of Protected Areas (CONAP), Ministry of Agriculture, Livestock and Food (MAGA), Ministry of Environment and Natural Resources (MARN), Ministry of Public Health and Social Assistance (MSPAS), National Secretariat for Science and Technology (SENACYT), Ministry of Economy (MINECO), Ministry of Education (MINEDUC), Municipal governments.

International and Intergovernmental Organizations: United Nations Environment Programme (UNEP), Tropical Agricultural Research and Higher Education Center (CATIE)

Academic and Research Institutions: Agronomy School, University of San Carlos of Guatemala, Universidad del Valle de Guatemala, Institute of Agricultural Science and Technology (ICTA), National Health Laboratory (LNS)

Community-based Organizations / Civil Society: Local communities in the department of Huehuetenango

Private Sector / External Consultants: External technical consultants supporting project implementation, External research institutions

38. The project design prioritized broad stakeholder participation, building on institutional involvement from previous UNEP–GEF biosafety initiatives to address staff turnover and institutional memory. National Competent Authorities led implementation, with ICTA and the National Health Laboratory (LNS) contributing technical and research inputs, while education, outreach, and a biosafety diploma supported capacity-building, coordination, and awareness.
39. Some stakeholders identified in the ProDoc were not actively involved during implementation. Universidad del Valle discontinued its participation despite initial expectations related to its laboratory capacity, and engagement from the Agronomy School at the University of San Carlos was limited due to lack of interest. In addition, although local communities were identified as key stakeholders, their participation could not be secured, as several groups opposed to GMOs chose not to engage despite repeated invitations.
40. Section 4 of the ProDoc addresses gender equality and the inclusion of under-represented groups, emphasizing equitable participation across project activities. Gender considerations were integrated into project design and implementation, including Component 4, which promoted the involvement of men, women, and local communities in trainings, meetings, decision-making processes, and in situ conservation efforts. Gender balance was also considered in the selection of project personnel, consultants, and beneficiaries to support inclusive participation across components.
41. Although the project predates the United Nations Disability Inclusion Strategy, its relevance for future initiatives is acknowledged. Future programming should integrate accessibility and inclusion in participation, communication, and implementation to better address the needs of people with disabilities and strengthen equity and effectiveness.

E. Changes in Design During Implementation

42. There were changes in project design during implementation due to a delayed start. Although approved in 2016, activities in Guatemala began only in June 2020 after institutional and administrative delays related to formalizing agreements among CONAP, CATIE, and UNEP. Once these arrangements were completed and funds disbursed, implementation proceeded more consistently.
43. Through implementation, the project adhered to the ProDoc results framework but required adjustments to financial planning. A total of 11 budget revisions were approved through periodic reviews, and UNEP authorized three no-cost extensions (December 2022, May 2024, and May 2025) to address COVID-19 disruptions and delays related to procurement and equipment importation. Despite these challenges, adaptive management, effective coordination, and continued stakeholder engagement allowed implementation to progress.
44. It is worth noting that total co-financing mobilized under the Guatemala biosafety project amounted to USD 2,691,219, largely provided as in-kind contributions by CONAP. Additional contributions were made by ICTA, SENACYT, and MSPAS, reflecting national commitment to the project's implementation beyond the direct GEF grant.
45. Lastly, the Internal Mid-Term Review of 27 November 2023 identified persistent challenges, including limited political commitment from National Competent Authorities—raising the risk level from Medium to High—low budget execution in the first two years, and technical delays related to phytosanitary requirements and laboratory equipment procurement. Based on these constraints, the review recommended extending the project to complete pending activities and achieve the expected results.

F. Project Financing

46. The total project cost was US\$ 4,006,128, comprising US\$ 1,314,909 (31%) from the GEF Trust Fund and co-financing contributions. Total co-financing mobilized under the Guatemala biosafety project was USD 2,691,219 (69%). The 69% obtained through co-financing was distributed as 0.6% in cash contributions and 99.4 in in-kind contributions⁹.

Table 4. Co-financing table (GEF projects only)

GEF Expenditures

UNEP Budget Line	Description	Actual Expenditure 2020	Actual Expenditure 2021	Actual Expenditure 2022	Actual Expenditure 2023	Actual Expenditure 2024	Actual Expenditure 2025	Totals
1199	Project Personnel	20,000.00	48,000.00	44,000.00	46,400.00	-	-	158,400.00
1299	Consultants	4,575.00	61,162.70	102,641.57	72,400.75	138,729.94	133,867.71	513,377.67
1699	Travel on official business	-	8,169.99	3,134.94	9,848.55	15,032.69	4,857.04	41,043.21
2399	Sub-Contracts	-	-	-	-	-	-	-
3299	Group training	-	-	21,818.55	16,735.96	9,031.51	33,194.75	80,780.77
3399	Meetings/Conferences	-	1,934.72	4,848.89	4,842.53	7,342.32	13,112.31	32,080.77
4199	Expendable equipment	-	6,803.30	5,610.50	50,986.88	84,772.00	7,665.30	155,837.98
4299	Non-expendable equipment	1,837.02	-11.05	1,899.49	113,947.87	-	44,172.57	161,845.90
4399	Premises	-	-	-	-	-	-	-
5199	Operation and maintenance of equipment	-	11.05	-	66.97	-	-	78.02
5299	Reporting costs	1,487.18	1,502.59	6,202.97	16,520.59	11,637.85	40,932.08	78,283.26
5399	Sundry	2,519.87	9,583.35	15,251.76	24,938.89	19,990.25	20,897.30	93,181.42
5599	M&E	-	-	-	-	-	-	-
GRAND TOTAL		30,419.07	137,156.65	205,408.67	356,688.99	286,536.56	298,699.06	1,314,909.00

⁹ Information taken from the Project Final Report

Co-Financing

Name of Co-financier	Actual Grant at MTR (USD) - Inception to September 2025	Actual In-kind at MTR (USD) Inception to September 2025	Total Co-financing (USD)
National Council of Protected Areas (CONAP)	15,991.00	2,675,228.00	2,691,219.00
			-
Totals	15,991.00	2,675,228.00	2,691,219.00

Co-financing (Type/Source)	UNEP own Financing (US\$1,000)		Government (US\$1,000)		Other* (US\$1,000)		Total (US\$1,000)		Total Disbursed (US\$1,000)
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	
- Grants	1,369.9	1,314.9	24.0	15.99			1,393.9	1,330.89	1,330.89
- Loans									
- Credits									
- Equity investments									
- In-kind support			2,676.1	2,675.2			2,676.1	2,675.2	2,675.2
- Other (*)									
-									
Totals	1,369.9	1,314.9	2,710.1	2,691.19				4,006.09	4,006.09

* This refers to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector, and beneficiaries.

II. REVIEW METHODS

A. UNEP's Review Approach

47. In line with UNEP Evaluation Policy and the UNEP Programme and Project Management Manual, the review was undertaken at operational completion of the project to assess performance (in terms of relevance, effectiveness, and efficiency) and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The review has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned.
48. The main target audiences for the review findings are the UNEP Task Manager, the UN Environment Programme Evaluation Office, CONAP as the Executing Agency, CATIE as the fund management institution, the National Project Coordinator, the members of the Project Steering Committee, and other key project stakeholders.
49. In line with the UNEP Evaluation Policy and the UNEP Programme Manual, the review has been carried out using a set of 9 commonly applied review criteria which include: (1) Strategic Relevance, (2) Quality of Project Design, (3) Nature of External Context, (4) Effectiveness (incl. availability of outputs, achievement of outcomes, and likelihood of impact), (5) Financial Management, (6) Efficiency, (7) Monitoring and Reporting, (8) Sustainability, and (9) Factors Affecting Project Performance and Cross-Cutting Issues (see Annex II: Review Framework for more details on each review criterion).
50. Most review criteria are rated on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); and Highly Unsatisfactory (HU). Sustainability and Likelihood of Impact are rated from Highly Likely (HL) down to Highly Unlikely (HU), and Nature of External Context is rated from Highly Favorable (HF) to Highly Unfavorable (HU). The ratings against each criterion are weighed to derive the Overall Project Performance Rating. The greatest weight is placed on the achievement of outcomes, followed by dimensions of sustainability.
51. The UNEP Evaluation Office has developed detailed descriptions of the main elements required to be demonstrated at each level (i.e., Highly Satisfactory to Highly Unsatisfactory) for each review criterion. The reviewer has considered all the evidence gathered during the review in relation to this matrix to generate review criteria performance ratings.
52. In addition to the nine review criteria outlined above, the review addresses several strategic questions that were formulated in the Terms of Reference. These questions were posed by the UNEP Evaluation Office in conjunction with members of the Project Team.
53. For projects funded by the GEF, findings from the review are to be uploaded in the GEF Portal. To support this process, review findings related to five topics of interest to the GEF are summarized in Annex IX. The intended action/results on the five topics were described in the GEF CEO Endorsement and Approval documents. The five topics are: i) performance against GEF's Core Indicator Targets, ii) engagement of stakeholders, iii) gender-responsive measures and gender result areas, iv) implementation of management measures taken against the Safeguards Plan, and v) challenges and outcomes regarding the project's completed Knowledge Management Approach.
54. The review adopted a participatory approach, engaging project team members, partners, and beneficiaries at several stages. A central component was the analysis and reconstruction of the project's Theory of Change, which was developed through consultations during the inception phase to clarify intended pathways of change and underlying assumptions and drivers. The reconstructed Theory of Change was discussed with respondents during data collection, refined as needed, and is presented in the final Review Report, where it served as a guiding framework throughout the review.

B. Data Collection

Primary data sources

55. Primary data for this TR was collected through a combination of semi-structured interviews, stakeholder consultations, and direct engagement during the country mission to Guatemala, which took place from November 17 to November 21, 2025. Interviews throughout the TR were conducted with representatives of the Executing Agency, the Implementing Agency, as well as with other key project stakeholders (See Annex III and Table 6).
56. During the mission, interviews were conducted with government officials, project beneficiaries, and other stakeholders to gather perspectives on implementation, challenges, and opportunities. These were complemented by virtual interviews before and after the visit. Interviews were guided by the TOR criteria, with questions clustered around key issues, and the review sought to reflect the range of views expressed by all respondents.
57. The country mission focused on interviews with National Competent Authorities (NCAs), laboratory staff, and municipal representatives involved in maize field activities, in the context of the Terminal Review of the biosafety project. These interviews were essential to assess project progress and performance and to validate findings from the documentary review.
58. Discussions with local partners were essential for gathering evidence on project implementation. The excellent coordination of the mission agenda by the National Project Coordinator (NPC), along with the openness and positive engagement of all interviewees, facilitated effective information exchange and contributed significantly to the successful collection of relevant data and materials required for the preparation of this Terminal Review report.
59. After document review and stakeholder interviews, information was organized by Terminal Review criteria and questions. Findings were then triangulated across desk review, interviews with national stakeholders, the National Project Coordinator, and the UNEP Task Manager, and cross-checked against project indicators and reports. Consistent evidence was used to support findings, while discrepancies were validated through corroboration or additional triangulation.

Table 5. Review respondents and field visits

Stakeholders - Individuals			A. Total number involved (M/F)	B. Planned number to contact (M/F)	Sample size (% B/A) ¹⁰
Project Team	Project Team (with management responsibilities e.g., Project Management Unit)	Implementing agency	0/2	0/2	100
		Executing agency(ies)	3/1	3/1	100
Beneficiaries	Direct Beneficiaries: (e.g., duty bearers, gatekeepers, training participants, etc.)		Over 120*	2/3	5
	Indirect Beneficiaries: (e.g., household members, civil society representatives, group members, etc.)		Over 100**	1/1	2

¹⁰ Percentage of people involved in the project that the review plans to contact.

Stakeholders - Entities		A. Total number involved	B. Planned number to contact	Sample size (% B/A) ¹¹
Partners	Project implementing/ executing partners (receiving project funds)	7/6	7/6	100
	Project collaborating/ contributing partners ¹² (not receiving project funds)	3/1	3/1	100
Possible Field Visits	Region / country / locality ¹³	A. Total number sites	B. Planned number sites to visit	Sample Size (%B/A) ¹⁴
	Latin America and the Caribbean	1	1	100

* To estimate the number of direct beneficiaries, an approximation was made based on participation in workshops, two diploma courses, and training activities, using the records available in Anubis, UNEP's document management platform.

** Indirect beneficiaries were estimated based on participation in project outreach and communication activities, including those conducted in two municipalities of the Huista region. During the country mission, meetings were held with two individuals involved in these activities.

Strategies for inclusivity

60. For this Terminal Review, the consultant worked closely with the National Project Coordinator to ensure broad and inclusive stakeholder engagement. Through systematic coordination, the NPC facilitated access to all planned respondents, enabling interviews with 100% of the individuals identified among National Competent Authorities and key project partners. This approach ensured representation of institutional, technical, and operational perspectives from government authorities, research institutions, and implementing partners. Gender inclusivity was also considered in the selection of interviewees, with efforts made to include both women and men across technical, managerial, and field-based roles. In addition, perspectives from the local level were incorporated, particularly from two municipalities in the Huista region where outreach activities engaged rural and potentially disadvantaged groups through education and awareness initiatives. The inclusion of stakeholders from different institutional roles, genders, technical backgrounds, and territorial levels allowed divergent views to be captured and contributed to a balanced and inclusive representation of stakeholder experiences.

Secondary data sources

61. The review relied extensively on secondary data through a comprehensive document review. Key sources included project documents and reports available on the UN Environment ANUBIS platform—such as the ProDoc and its annexes, project extensions, budgets and revisions, progress and financial reports, Project Implementation Reviews (PIRs), final reports, and the internal Mid-Term Review—as well as additional materials collected during the field mission in Guatemala. A complete list of documents reviewed is provided in Annex IV. Together, these sources supported verification of reported results, assessment of project consistency, and identification of gaps requiring further analysis.

¹¹ Percentage of entities involved in the project that the review plans to contact.

¹² Contributing partners may provide resources as either cash or in-kind inputs (e.g., staff time, office space, etc.).

¹³ In case of a global project, the unit of analysis is 'region'. In case of a regional or multi-country project, the unit of analysis is 'country'. In case of a single country project, the unit of analysis is 'locality', which could refer to a city, town, village, etc.

¹⁴ Percentage of total number project sites in each region, country or locality that the review plans to visit.

62. The secondary data analysis followed UNEP Evaluation Office guidelines and applied the Review Framework across nine review criteria. Evidence from project documents, monitoring data, and closure reports was triangulated and validated through the country mission to Guatemala, strengthening the robustness and reliability of the review's findings.

C. Data Analysis

63. The Terminal Review used a mixed-methods approach, combining qualitative and quantitative tools to ensure rigorous, evidence-based analysis. Methods included systematic content analysis of interviews and documents to identify key themes and assess alignment with project objectives, complemented by outcome mapping to examine behavioral and institutional changes beyond immediate outputs.
64. In addition, trend harvesting was used to identify unexpected results and emerging patterns, particularly through direct consultations with stakeholders during the country mission. Contribution analysis complemented these methods by examining the extent to which observed changes could be plausibly attributed to project interventions, while acknowledging the role of external drivers and contextual factors. These approaches strengthened the evidence base and supported an integrated assessment of effectiveness, relevance, and sustainability.

D. Limitations and Mitigation Strategies

65. This Terminal Review faced few limitations. The extended implementation timeline (2016 – 2025) posed some challenges for reconstructing the project's full trajectory. However, all relevant institutions were available for consultation, allowing sufficient information to assess performance and outcomes. In this regard, the continuous involvement and strong commitment of the National Project Coordinator were essential in ensuring continuity and supporting the reconstruction of the project's development.
66. One limitation of the Terminal Review relates to the rotation of UNEP Task Managers during the project's life, which may have affected continuity across phases. Nevertheless, the consultant received strong support from the current Task Manager, whose clear communication and cooperation ensured a smooth and efficient review process. In addition, consultation with two former Task Manager provided perspectives from earlier stages of implementation.
67. Finally, in the case of Guatemala, the leadership of the National Project Coordinator was instrumental in steering project implementation through regular coordination meetings with the institutions represented in the Technical Committee. This sustained coordination ensured institutional alignment and supported the achievement of the project's outcomes.

E. Ethical Considerations

68. Throughout this review process and in the compilation of the Final Review Report, efforts have been made to represent the views of all interviewees. Data was collected with respect for ethics and human rights issues. All other information was gathered after receiving prior informed consent. All discussions remained anonymous, and all information was collected according to the UN 'Standards of Conduct'.

III. THEORY OF CHANGE AT REVIEW

69. Project execution in Guatemala followed the structure set out in the UNEP/GEF Project Document. While the ProDoc did not include an explicit Theory of Change, the Results Framework provided a sufficient basis to reconstruct one, outlining the project components, outcomes, outputs, indicators, and assumptions. Based on these elements and the project's overall objective, the intended impact is reflected in the reconstructed Theory of Change presented below
70. No significant changes were made to the Results Framework (see Table 6); only minor wording refinements were introduced to clarify outcomes and outputs without affecting the project's intended results. In line with the Terminal Review Terms of Reference, a Theory of Change was used to illustrate the logical links between activities, outputs, outcomes, and longer-term results. During the review, long-term outcomes were refined and intermediate states were added to strengthen the analytical value of the TOC, while retaining its original structure and without altering the project design.
71. The project was structured around four main components: (1) strengthening national capacities for GMO surveillance, monitoring, and detection through improved laboratory infrastructure, technical training, and standardized protocols; (2) enhancing the administrative and technical functioning of the national biosafety system through the operationalization of sectoral guidelines and the development of a digital platform for processing GMO applications; (3) building capacity on liability and redress and socioeconomic considerations through technical analyses and support for the draft instrument to ratify the Nagoya–Kuala Lumpur Supplementary Protocol; and (4) integrating biodiversity conservation into biosafety decision-making by generating baseline data on maize genetic diversity and supporting the establishment of GMO-free zones, including a pilot maize genetic reserve in Huehuetenango.

Table 6. Justification for reformulation of results statements

Formulation in original Project Document	Formulation for Reconstructed TOC at Review Inception (RTOC)	Justification for Reformulation and/or consultant's explanatory notes on the interpretation of the result
Project Objective		
To complete the process of implementation of the Cartagena Protocol through an innovative approach that promotes a strong link between biosafety and biodiversity		
Long-term outcome		
Missing	A strengthened legal, institutional, and technical framework for biosafety that safeguards Guatemala's rich biodiversity while enabling the responsible use of modern biotechnology Conservation and protection of areas harboring wild maize genetic diversity, recognizing its critical importance as the ancestor of cultivated maize and as a crop of exceptional cultural and ecological significance. Biosafety decision-making processes systematically integrate socioeconomic	The ProDoc did not define long-term outcomes; however, the TOC included in the TOR identified a set of long-term results, which are presented in this table. These results have been adopted for the TR, as they accurately reflect the long-term outcomes the project aimed to achieve. The wording of these outcomes has been slightly refined from the original version. Likewise, the intermediate states were not specified in the ProDoc. The three intermediate states developed during the inception phase of the TR, and shown below, were reconstructed

Formulation in original Project Document	Formulation for Reconstructed TOC at Review Inception (RTOC)	Justification for Reformulation and/or consultant's explanatory notes on the interpretation of the result
	considerations, liability and redress mechanisms. Scientific and social knowledge effectively generated, shared, and applied to support biosafety decision-making, using maize as a model for evidence-based policy and risk management.	based on the project's strategic objective, the identified long-term outcomes, and the four project components.
Intermediate states (changes beyond the project outcomes that are required to contribute to impacts)		
Missing	National competent authorities coordinate an operational biosafety system with clear procedures for GMO detection, monitoring, and risk assessment, enabling timely and science-based decision-making. Socioeconomic considerations and liability and redress mechanisms are integrated into biosafety decisions, promoting transparent and inclusive governance. Scientific and baseline data on maize genetic diversity are generated and applied to guide biosafety measures that support biodiversity conservation and the sustainable use of genetic resources.	
Component 1: Strengthening of institutional capacity for GMO surveillance, monitoring, and detection.		
OUTCOMES		
Outcome 1.1. National laboratories strengthened to provide GMO detection support and related post approval monitoring activities	1.1. National laboratories strengthened to provide GMO detection services and support post-approval monitoring activities.	Minor changes were made to the wording of this outcome to clarify its meaning.
Outcome 1.2: Agreements for collaborative networking established between national and international labs		
Outcome 1.3: Country able to implement biosafety monitoring and surveillance measures.		
OUTPUTS		
1.1.1. Diagnosis of the installed capacity and of trained human resources in detection of GMOs. 1.1.2. Two laboratories are equipped. 1.1.3. Harmonized Toolkits /Guidelines /Protocols/ Standard Operating Procedures (SOPs) on GMO detection developed and/or adapted to suit Guatemala's reality 1.1.4 Training programme on GMO detection established (e.g. workshops and manuals).	1.1.1. Assessment of existing laboratory capacity and trained human resources for GMO detection. 1.1.3. Harmonized toolkits, guidelines, protocols, and Standard Operating Procedures (SOPs) for GMO detection developed and/or adapted to the Guatemalan reality.	The wording was improved to make the outputs 1.1.1. and 1.1.3. more comprehensible.
1.2.1 Inter-Laboratory cooperation MoUs developed and signed (to facilitate interaction and promote a cost-benefit		

Formulation in original Project Document	Formulation for Reconstructed TOC at Review Inception (RTOC)	Justification for Reformulation and/or consultant's explanatory notes on the interpretation of the result
approach between national and regional laboratories).		
1.3.1 Operative guidelines and clear roles and responsibilities for a monitoring and surveillance system developed (using as a base the early developments done during the implementation projects). 1.3.2 Strategy for field detection (screening procedure) developed 1.3.3 Administrative and technical guides designed for each institution involved in the National Custom System 1.3.4 Workshops (4) for custom officers on monitoring and surveillance	1.3.1. Operational guidelines and clearly defined institutional roles and responsibilities for a monitoring and surveillance system developed (based on progress achieved under previous projects). 1.3.2. Field detection strategy, including screening procedures, developed. 1.3.3. Administrative and technical guidelines designed for each institution involved in the National Customs System.	Outputs 1.3.1. , 1.3.2. , and 1.3.3. have been slightly edited for their better understanding.
Component 2: Strengthening of administrative and technical biosafety system of the National Competent Authorities (NCAs), in line with article 2.1 of the CPB.		
OUTCOMES		
Outcome 2.1. System in place for handling requests for GMOs (including digital system connecting all competent authorities)	2.1. System in place for handling requests related to GMOs.	Minor changes were made to make the outcome more readable.
OUTPUTS		
2.1.1. Sectorial regulations and their respective implementation tools for biosafety regulation, developed during the previous Implementation Project, tested, and submitted for approval. 2.1.2. Digital system for managing GMO applications in place and connecting all competent authorities as a single window for processing applications. 2.1.3. Hands on training for the NCA's personnel (2 mock exercises on how to process dossiers using the new digital system).	2.1.2. Digital system established to manage GMO applications and connect all competent authorities through a single-window platform.	The wording was improved to make the output 2.1.2. more comprehensible.
Component 3: Developing capacities on liability and redress (Article 27) and socioeconomic considerations (Article 26).		
OUTCOMES		
Outcome 3.1. Guatemala moved towards ratification of the Nagoya - Kuala Lumpur Protocol		

Formulation in original Project Document	Formulation for Reconstructed TOC at Review Inception (RTOC)	Justification for Reformulation and/or consultant's explanatory notes on the interpretation of the result
Outcome 3.2: Guatemala takes into account socio economic considerations in GMO decision-making.		
OUTPUTS		
3.1.1. Draft NKLP ratification document for ratification by the relevant authority 3.1.2. Proposal on how to include and manage liability and redress (L&R) issues in the current biosafety administrative system.		
3.2.1 Study of the existing national and regional approaches related to the use of socioeconomic considerations in decision making. 3.2.2. Analysis of the technical and legal implications of the implementation of Article 26 of the CPB.		
Component 4: Conservation of native biodiversity in support of biosafety related activities.		
OUTCOMES		
Outcome 4.1: Protection of native genetic resources of agricultural importance (e.g. maize) is increased through the application of biosafety measures.		
Outcome 4.2: There is a clear link between biodiversity protection and biosafety actions.		
OUTPUTS		
4.1.1. Maize baseline data (morphologic, genetic, socioeconomic and distribution of wild maize) is strengthened through support of ongoing research initiatives and data gathering activities 4.1.2. Normative framework, defining GMO's free zones, is drafted.	4.1.1. Baseline data on maize (morphological, genetic, socioeconomic, and distribution of wild maize) strengthened through support of ongoing research and data collection activities.	The wording was improved to make the output 4.1.1. more comprehensible
4.2.1. A maize genetic reserve is established in Huehuetenango region based on systematization of information from 4.1.1 and land use regulations.		

72. The project did not include explicit commitments related to human rights, people with disabilities, or gender equality, nor were these aspects integrated into the Results Framework. Consequently, the Terminal Review cannot provide an assessment on this topic, as they were not systematically addressed in either the project's design or its implementation. While Component 4 is closely linked to inclusion of marginalized groups and inherently entails commitments to society and environmental protection, these considerations were not made explicit in the project's formal design. For this reason, Table 7 is retained as a reference. In addition, an assumption was incorporated into the reconstructed Theory of Change to ensure consistency with United Nations principles on human rights, equality, and inclusion in the absence of explicit commitments in the ProDoc.

Table 7. Justification for reformulation / expansion of drivers and assumptions

Formulation in original project document(s) – <i>insert source/date</i>	Formulation for reconstructed TOC at inception (RTOC)	Justification for reformulation
DRIVERS		
1. Human rights and gender equality ¹⁵		
Was not considered at project design (pre-dates UNEP Gender Policy)	The TR cannot include this topic or reformulate it when the project design and execution did not consistently consider these topics.	Does not apply
ASSUMPTIONS		
1. Human rights and gender equality ¹⁶		
Was not considered at project design (pre-dates UNEP Gender Policy)	Relevant government agencies and local partners will ensure equal access for women, persons with disabilities and marginalized groups to participate in project consultations and capacity-building activities.	It is clearly established that, for the TR, the United Nations principles on the protection or promotion of human rights and equality should be included in the TOC as an assumption if there is no explicit commitment made within the ProDoc regarding these topics.

73. As noted earlier, the reconstructed Theory of Change was structured around the four components defined in the ProDoc, as these reflect the project's original causal pathways and formed the basis for the Terminal Review. This approach, initially applied in the Inception Report, was further refined for the Terminal Report based on additional information and analysis of the project's outputs, outcomes, and impacts.

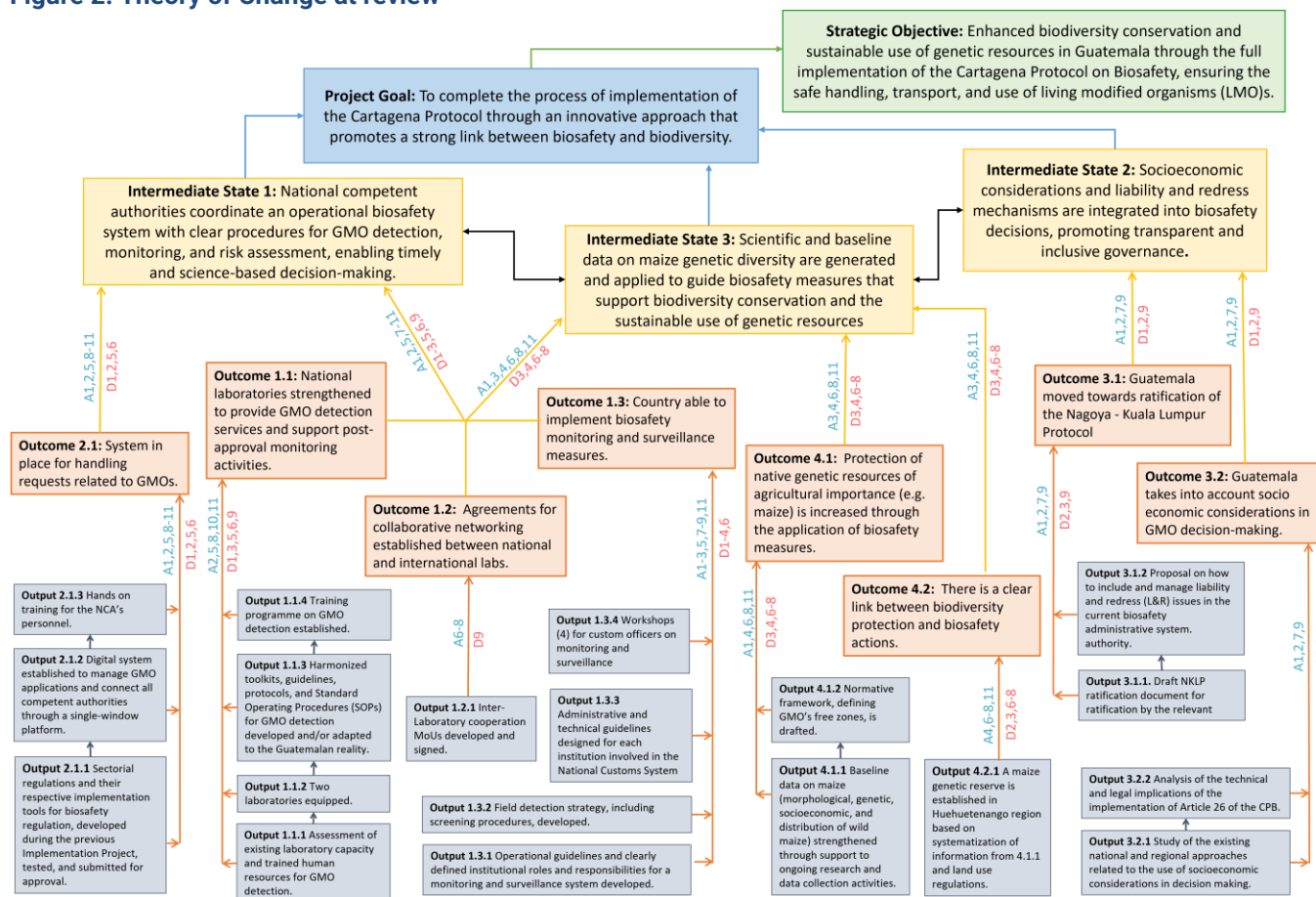
74. The causal pathways of the project are:

¹⁵ If the project design document contains commitments on human rights and gender equality that are not reflected in the results framework, the commitment must appear as Driver.

¹⁶ If the project design document and the framework are silent on human rights and gender equality, the following assumption must be included in the TOC: 'The project works toward the UN principles on human rights and gender equality'.

- Causal Pathway 1. Strengthening of institutional capacity for GMO surveillance, monitoring, and detection.
 - Causal Pathway 2. Strengthening of administrative and technical biosafety system on the NCAs in line with article 2.1 of the CPB.
 - Causal Pathway 3. Developing capacities on liability and redress (Article 27), and socioeconomic considerations (Article 26).
 - Causal Pathway 4. Conservation of native biodiversity in support of biosafety related activities.
75. Figure 2 presents the reconstructed Theory of Change (TOC), illustrating the four causal pathways underpinning the project's outputs and outcomes, as well as the key drivers and assumptions informing implementation. As part of this process, result pathways were reviewed, assumptions refined, and the results hierarchy from outputs to impact completed. The assumptions in the Results Framework were adjusted to reflect the conditions required to achieve the project's objective, including the addition of an assumption on inclusive participation to align with United Nations principles on human rights and equality. The drivers included in the reconstructed TOC were proposed by the reviewer, based on the project context, as they were not specified in the ProDoc.
76. The reconstructed Theory of Change identifies three intermediate states that represent key milestones toward achieving the project's goal and strategic objective, based on the long-term outcomes outlined in the TOR. These include the establishment of an operational biosafety system coordinated by the National Competent Authorities and supported by strengthened laboratory capacity and inter-institutional coordination; the integration of liability, redress, and socioeconomic considerations into biosafety decision-making through increased institutional capacity and stakeholder engagement; and the generation and application of scientific baseline data on maize genetic diversity to support evidence-based decision-making and link biosafety objectives with biodiversity conservation.
77. This exercise of the TOC reconstruction helped clarify the pathways to results, refined the assumptions, and improved the hierarchy from outputs to impact. The adjusted assumptions now better reflect the conditions necessary to achieve the results and the overall project objective, while the drivers proposed by the reviewer highlight the contextual factors that can support and leverage change along the pathways.

Figure 2. Theory of Change at review



Assumptions

- A1. Sustained political will and stability support project implementation.
- A2. Effective coordination among national competent authorities is maintained.
- A3. Public acceptance of a balanced approach to biosafety
- A4. Community support for the establishment and management of genetic reserves.
- A5. Adequate retention of trained personnel to implement project activities.
- A6. Complementarity and synergy with other biodiversity conservation initiatives.
- A7. Ongoing commitment to the principles of the Cartagena Protocol.
- A8. Adequate and sustained financial resources are available
- A9. Legal and regulatory frameworks remain consistent and supportive of biosafety implementation.
- A10. Access to reliable scientific and technical data informs decision-making.
- A11. Relevant government agencies and local partners will promote equitable participation of women, persons with disabilities and marginalized groups in project implementation and capacity-building activities.

Drivers

- D1. Strong institutional capacity for effective biosafety management.
- D2. Clear and consistent biosafety policies and regulations.
- D3. Coordinated engagement of government, research, and local stakeholders.
- D4. Public and community awareness and acceptance of balanced biosafety approaches.
- D5. Evidence-based decision-making using reliable scientific data.
- D6. Sustainable financial and human resources for project implementation.
- D7. Integration of biosafety with biodiversity conservation and national priorities.
- D8. Conservation and sustainable management of maize and other native crops as vital genetic resources.
- D9. Strengthened regional cooperation to enhance biosafety governance and knowledge sharing.

III. REVIEW FINDINGS

78. The findings presented in this section provide a summative analysis of all gathered and triangulated information relevant to the parameters of the review criteria. Review findings are objective and evidence-based and directly relate to the review questions under each criterion (see Annex II Review Framework).

A. Strategic Relevance

Alignment to UNEP's UNEP Medium Term Strategy¹⁷ (MTS), Programme of Work (POW) and Strategic Priorities

Table 8. Alignment to the UNEP Medium Term Strategy (MTS), Programme of Work (POW), and Strategic Priorities

UNEP strategic document	Alignment with UNEP's mandate and thematic priorities	Level of alignment <i>full, partial, or not at all</i>
MTS (2014 - 2017)¹⁸	The project aligns with UNEP's Medium-Term Strategy in force at the time of approval through its focus on strengthening technical capacities in GMO detection and monitoring and supporting institutional coordination for biosafety implementation linked to biodiversity conservation.	Full
POW (2014–2015 / 2016–2017)¹⁹	The project aligns with UNEP's Programme of Work by supporting technical capacity development, institutional coordination, and national action related to biodiversity conservation and biosafety management.	Full
Bali Strategic Plan for Technology Support and Capacity Building²⁰	Although the Bali Strategic Plan is not explicitly referenced in the ProDoc, the project supported its objectives in practice through laboratory strengthening, technical training, and capacity-building for GMO detection.	Partial
South-South Cooperation²¹	The project benefited from technical cooperation with CATIE, CIMMYT, UNAM, and Argentine biosafety experts, supporting knowledge transfer in GMO detection and maize genetics, although South–South cooperation was not explicitly framed as a strategic objective in the project design.	Partial

Alignment to Donor/GEF/Partners Strategic Priorities

Table 9. Alignment to Donor/GEF/Partner Strategic Priorities

Donor or partner strategic document	Alignment with donor or partner strategic priorities	Level of alignment
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¹⁷ UNEP's Medium-Term Strategy (MTS) is a document that guides UNEP's program planning over a four-year period. It identifies UNEP's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes, known as Expected Accomplishments (EAs), of the Sub-programmes. <https://www.unenvironment.org/about-un-environment/evaluation-office/our-evaluation-approach/un-environment-documents>.

¹⁸ Refer to the MTS under which the project was approved.

¹⁹ Refer to the POW under which the project was approved.

²⁰ If applicable.

²¹ If applicable.

		<i>full, partial, or not at all</i>
GEF (GEF-6 Biodiversity Strategy, Strategic Objective 2 – Program 5)	The project aligns with the GEF-6 Biodiversity Strategy, particularly Strategic Objective 2 and Program 5, which focuses on strengthening national biosafety frameworks and linking biosafety with biodiversity through technical capacity development and institutional coordination.	Full
UNEP	The project aligns with UNEP's mandate to support implementation of multilateral environmental agreements, particularly the Cartagena Protocol on Biosafety, and to strengthen national capacities related to biodiversity conservation and environmental governance.	Full
Government of Guatemala	The project aligns national priorities related to biodiversity conservation and biosafety, particularly through protecting maize genetic resources and strengthening the national biosafety system.	Full

Relevance to Global, Regional, Sub-regional and National Priorities

Table 10. Relevance to Global, Regional, Sub-regional and National Environmental Priorities

Strategic document or agreement	Alignment with global, regional, sub-regional, national environmental priorities	Level of Alignment <i>Full, partial, or not at all</i>
Convention on Biological Diversity (CBD) and Cartagena Protocol on Biosafety	The project is aligned with the objectives of the CBD and directly supports implementation of the Cartagena Protocol on Biosafety by strengthening national technical capacities, institutional coordination, and decision-making processes related to GMOs in the context of biodiversity protection.	Full
Aichi Biodiversity Targets (Targets 4, 7, and 13)	The project contributes to Aichi Targets 4, 7, and 13 by strengthening maize genetic diversity conservation and generating baseline data to inform biosafety and sustainable agriculture decisions.	Full
Regional biosafety frameworks / Latin American and Mesoamerican cooperation	While the project was not formally embedded in a regional institutional framework, it benefitted from technical inputs from international academic and research institutions, including CIMMYT and UNAM, particularly in relation to maize genetic analysis and laboratory protocols.	Partial
National Biodiversity Strategy and Action Plan (NBSAP) – Guatemala	The project aligns with national priorities for biodiversity conservation and sustainable use by strengthening biosafety capacities, supporting protection of native maize diversity, and promoting coordination among national authorities	Full

Complementarity with Existing Interventions/Coherence

Table 11. Complementarity with existing interventions/coherence

Other initiatives by UNEP or other organizations	Complementarity <i>(including collaboration, coordination, and overlap or duplication)</i>	Level of Alignment <i>Full, partial, or not at all</i>

UNEP-GEF Development of National Biosafety Framework	This previous UNEP-GEF project established the initial biosafety baseline. This project was built on it by focusing on practical implementation, especially laboratory strengthening and links with biodiversity conservation.	Full
UNEP-GEF project to strengthen Cartagena Protocol implementation in Guatemala	Complementary, as the earlier project focused on developing legal drafts, administrative tools and institutional designs, while the present project sought to operationalize capacities through equipment, training, and institutional coordination. No duplication identified	Full
Biosafety Clearinghouse (BCH) Project	The project is complementary by strengthening national use of BCH through training of government staff and improvement of reporting and information exchange capacities related to biosafety.	Full
LifeWeb Initiative (Germany)–	Complementary and synergistic: LifeWeb strengthens the protected areas system (SIGAP), while this project supports maize conservation through baseline data and targeted actions.	Partial
Norwegian Development Fund – Participatory Plant Breeding Programme	Complementary in scope, this programme focuses on conservation and use of maize germplasm in rural communities in Huehuetenango, which aligns with the biodiversity conservation objectives of the project. No operational overlap identified.	Partial

79. The project made a strong strategic contribution to UNEP's planned results by aligning with the Medium-Term Strategy and Programme of Work, particularly under biodiversity, environmental governance, and the Nature Action Sub-programme. Its main contribution was strengthening national biosafety capacities through laboratory upgrading, technology transfer, and training in GMO detection and monitoring, supporting implementation of the Cartagena Protocol and improved biodiversity-related decision-making. In parallel, the project aligned with GEF-6 Biodiversity priorities by reinforcing biosafety as a mechanism for biodiversity conservation, including through activities on maize genetic diversity.
80. At the national and regional levels, the project supported Guatemala's biosafety and biodiversity priorities by strengthening technical capacities within National Competent Authorities and generating baseline information to inform decisions related to maize genetic resources. It demonstrated coherence with national and international initiatives, including previous UNEP-GEF biosafety projects, the Biosafety Clearing-House, and complementary conservation and research efforts. Although not embedded in a formal regional framework, the project contributed to regional knowledge-sharing and technical exchange, positioning it as a relevant and complementary intervention within Guatemala's broader biosafety and biodiversity landscape.
81. At the national and regional levels, the project supported Guatemala's biosafety and biodiversity priorities by strengthening technical capacities within National Competent Authorities and generating baseline information to inform decisions related to maize genetic resources. It demonstrated coherence with national and international initiatives, including previous UNEP-GEF biosafety projects, the global Biosafety Clearing-House, and complementary conservation initiatives such as LifeWeb, as well as research and technical linkages with institutions such as CIMMYT and UNAM. Although not embedded in a formal regional framework, the project contributed to regional knowledge-sharing and technical exchange, positioning it as a relevant and complementary intervention within Guatemala's broader biosafety and biodiversity landscape.

Finding 1: The project was fully aligned with UNEP's and GEF's strategic priorities and contributed primarily through strengthening national technical capacity for

GMO detection and biosafety implementation, thereby supporting Guatemala's obligations under the Cartagena Protocol on Biosafety.

Finding 2: The project complemented previous UNEP-GEF initiatives and related programmes on biosafety and biodiversity conservation and avoided duplication, while benefitting from technical exchange with international research institutions in support of Guatemala's national biosafety objectives, including work on maize genetic resources.

Rating for Strategic Relevance: Moderately satisfactory

Rating for Alignment to UNEP MTS, POW, and Strategic Priorities: "Moderately Satisfactory"

Rating for Alignment to Donor/GEF/Partner Strategic Priorities: "Satisfactory"

Rating for Relevance to Global, Regional, Sub-regional and National Priorities: "Moderately Satisfactory"

Rating for Complementarity with Existing Interventions/Coherence: "Satisfactory"

B. Quality of Project Design

Table 12. Summary of quality of project design assessment ratings

	SECTION	RATING (1-6)	Summary Assessment
A	Project Preparation	5	The ProDoc presents a clear problem analysis and identifies relevant stakeholders appropriately. Although it does not include a Theory of Change, it outlines a structured Results Framework that guides project logic. Gender and inclusion aspects are acknowledged in Section 4, particularly through Component 4, which emphasizes the role of men, women, and local communities in biosafety and biodiversity conservation. Overall, project preparation is technically sound, with a well-defined context and stakeholder landscape, despite the absence of a TOC.
B	Risk Identification and Safeguards	4	The ProDoc identifies key risks, including political changes, staff turnover in competent authorities, sensitivities around biosafety, limited institutional support, and community concerns related to a potential GM maize-free zone in Huehuetenango. It also includes social and environmental safeguards focused on protecting native genetic resources, particularly maize, and supporting in situ conservation with local authorities. While specific measures to reduce the project's environmental footprint are not detailed, potential impacts are limited given the project's focus on regulatory and technical capacity building, with no anticipated direct environmental or socio-economic harm.
C	Governance and Supervision Arrangements	6	The ProDoc does include comprehensive and clear project governance and supervision model and features. A comprehensive Project Steering Committee was established to oversee project implementation. The roles and responsibilities are clearly defined within the UNEP.
D	Partnerships	4	The ProDoc lists project partners, including national authorities and key stakeholders, and generally describes their roles during implementation. However, some partnerships are defined in broad terms—such as references to local communities or policymakers, making it difficult to clearly understand their specific roles in the project.
E	Strategic Relevance	4	The ProDoc establishes strategic relevance through alignment with the GEF-6 Biodiversity Strategy (Strategic Objective 2, Program 5) and contributions to Aichi Targets 4, 7, and 13 by strengthening biosafety

			capacities and conserving genetic diversity. It is consistent with UNEP's Environmental Governance sub-programme and, while the Bali Strategic Plan and South-South Cooperation are not explicitly referenced, the project design builds on lessons from previous UNEP-GEF biosafety initiatives.
F	Logical Framework and Causality	2	The project lacked an explicit Theory of Change, with causal pathways and key drivers only partially articulated through the Results Framework. While major stakeholder roles are identified, inclusion of marginal or vulnerable groups is limited. Although outcomes are generally realistic, some depend on political will, and while indicators, baselines, and targets are included, they do not consistently meet SMART criteria, limiting their value for performance assessment.
G	Financial Planning	5	The ProDoc presents a budget that is broadly aligned with project components and annual planning and includes information on co-financing, distinguishing between cash and in-kind contributions. However, limited detail on financial management, budget execution, and co-financing limits assess overall financial planning robustness and efficiency.
H	Efficiency	5	The project design emphasizes efficiency by building on previous UNEP-GEF interventions, existing partnerships, and available data, while seeking synergies with ongoing initiatives. It incorporates sequencing of activities and the development of a digital GMO application system to improve coordination, streamline procedures, and enhance cost-effectiveness.
I	Monitoring	5	The project monitoring plan allocates a budget for monitoring activities, including funds for mid-term and terminal reviews, and establishes reporting and review processes and procedures, with technical and financial project reporting requirements. The timing of these monitoring and evaluation activities is specified.
J	Sustainability / Replication and Catalytic Effects	3	The ProDoc addresses sustainability across socio-political, institutional, financial, and environmental dimensions, emphasizing stakeholder participation and national ownership. While technical, environmental, and social sustainability appear feasible, the absence of an explicit exit strategy and reliance on sustained political commitment pose risks to long-term institutional and financial sustainability.
K	Learning, Communication and Outreach	4	The ProDoc includes a knowledge management and communication approach aimed at promoting information sharing among partners and stakeholders, including interaction with other biosafety initiatives in the LAC region. It also foresees development of a communication strategy, a website, and educational and training materials. While the design is adequate, the effectiveness of learning and outreach depends on how these mechanisms are implemented in practice.
	Total (Weighted) Score:	4.05	(Full analysis in the Inception Report, available from the Project/Task Manager)

82. The project design was built around four well-defined and coherent components aligned with the overall objective of strengthening Guatemala's national biosafety framework. It established clear governance and supervision arrangements, defined institutional roles and responsibilities, and adopted results-based financial planning supported by an appropriate monitoring and reporting framework. In addition, the design incorporated knowledge management elements, including partner communication, regional exchange, and the development of communication and training materials.
83. The project design demonstrated satisfactory efficiency by building on previous UNEP-GEF biosafety projects and existing institutional arrangements, while reinforcing coherence with

national policies and biodiversity initiatives. Key risks were identified at the design stage, and social and environmental safeguards were integrated, particularly regarding the protection of maize as a strategic genetic resource. The design anticipated positive environmental and social effects and no significant negative impacts, as it focused on strengthening regulatory and technical capacities rather than promoting specific technologies.

84. The main design weakness was the absence of an explicit Theory of Change, which limited the articulation of causal pathways, assumptions, and intermediate changes. While stakeholders were identified, engagement modalities for certain actors—particularly legislators and political decision-makers—were not clearly defined, and sustainability and replication strategies were only partially developed. In addition, delays between project approval and implementation reduced the timeframe for consolidating institutional and political outcomes, which were also influenced by factors beyond the project’s control.

Rating for Project Design: Moderately Satisfactory

C. Nature of the External Context

85. The project’s implementation in Guatemala was significantly affected by a combination of administrative, institutional, and external challenges that delayed its start and constrained its timely execution. Although the project was approved in 2016, implementation did not effectively begin until mid-2020 due to prolonged administrative procedures required to formalize institutional agreements among CONAP, CATIE, and UNEP, which were necessary for the financial and operational arrangements of the project. These delays resulted in a prolonged start-up phase and postponed the initiation of technical and field activities. In addition, political support for biosafety-related issues remained uneven throughout the project cycle, limiting the momentum for institutional and regulatory consolidation and affecting the pace of implementation.
86. Shortly after the project became operational, the COVID-19 pandemic imposed additional constraints on implementation, particularly affecting field-based activities that had to be postponed or rescheduled. While many training, coordination, and consultation activities were successfully adapted to virtual modalities, fieldwork and on-site processes experienced unavoidable delays. Procurement and importation processes were also disrupted, which affected implementation timelines. Despite these constraints, the project demonstrated flexibility and continuity by adjusting its operational approach and introducing remote working mechanisms. Overall, while the pandemic altered the pace and sequencing of activities, the project remained active and continued progressing under challenging circumstances.

Rating for Nature of the external context: Moderately Unfavorable

D. Effectiveness

Availability of Outputs

Table 13. Availability of outputs

	Narrative Assessment	Sources of Information/Evidence
Output 1.1.1: Diagnosis of the installed capacity and of trained human resources in detection of GMOs Performance against Indicator(s) and Target(s) The ProDoc did not define output-level indicators or targets for this activity. Performance was therefore assessed through completion of the diagnostic and its use to inform laboratory selection under Component 1. Other information, not related to the indicators, demonstrates Output delivery: Despite a lower-than-expected response rate, the diagnostic identified key capacity gaps and was effectively used to prioritize laboratories and guide equipment procurement and training based on documented institutional needs.	This output focused on identifying the existing national capacities for GMO detection across relevant laboratories in Guatemala. Questionnaires were distributed to approximately six to seven laboratories to collect information on their technical infrastructure, equipment, human resources, and training needs. Despite partial responses, data from three to four institutions provided sufficient baseline information to identify capacity gaps and select laboratories for project support. The diagnostic served as a screening tool to guide subsequent laboratory equipment and training investments under Component 1. Level of delivery: <i>partially delivered</i>	- Project progress reports (PIRs) - Interviews with the National Project Coordinator - Interviews with project technical staff - Field visit discussions with laboratory representatives - Triangulation through comparison between questionnaires, interviews, and observations during the country mission
Output 1.1.2. Two laboratories are equipped. Performance against Indicator(s) and Target(s) No output-level indicators were defined; progress was assessed based on evidence that two laboratories were selected and equipped in line with the project design. Additional information unrelated to the indicators but relevant to Output delivery: Procuring and installing equipment in both laboratories ensured baseline technical capabilities for GMO detection, enabling further training and ongoing operations.	The project equipped two national laboratories—ICTA and the National Health Laboratory (LNS)—to strengthen Guatemala’s technical capacity for GMO detection. This output focused on upgrading infrastructure and providing core equipment to enable molecular analysis and screening of genetically modified organisms. The equipment delivered contributes directly to improving national capacity for biosafety implementation and supports the operationalization of monitoring and surveillance activities under the national biosafety system. Level of delivery: <i>fully delivered</i>	- Final Project Report - Project reports and PIRs - Interviews with the NPC, CONAP and CATIE - Interviews with laboratory staff - Field visits and direct observation at ICTA and LNS - Triangulation through comparison between document review, interviews, and direct observations during the country mission

Output 1.1.3. Harmonized toolkits, guidelines, protocols, and Standard Operating Procedures (SOPs) for GMO detection developed and/or adapted to the Guatemalan reality. Performance against Indicator(s) and Target(s) Progress was assessed based on protocol adaptation and technical exchange with Mexican experts, as no output-level indicators were defined. Other information, not related to the indicators, demonstrates Output delivery: The national SOPs toolkit was not fully achieved, as efforts focused on laboratory-level adaptation.	This output focused on adapting existing GMO detection procedures from Mexico to the Guatemalan context, with technical support from the National Autonomous University of Mexico (UNAM). Instead of developing a full national toolkit, the project leveraged Mexico's experience in GMO detection and worked on tailoring selected protocols and laboratory procedures to the technical conditions of ICTA and the National Health Laboratory (LNS). This approach supported partial harmonization and initial GMO detection in both institutions. Level of delivery: partially delivered	- Final Project Report and PIRs - Review of available protocols and guidance materials - Interviews with project team members and laboratory personnel - Field visits to ICTA and LNS - Triangulation through comparison between document review, interviews, and direct observations during the country mission
Output 1.1.4. Training programme on GMO detection established (e.g. workshops and manuals). Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined in the ProDoc. Progress under this output is therefore assessed based on the number of workshops delivered and the use of adapted training materials. Other information, not related to the indicators, demonstrates Output delivery: Project documentation and interviews confirm that Mexican experts delivered training and transferred technical knowledge to national laboratory staff, strengthening immediate capacity and supporting laboratory readiness for GMO detection.	This output aimed at establishing a training programme on GMO detection. In practice, the project did not implement a structured training programme as originally envisaged. Instead, capacity building was delivered through technical GMO detection workshops led by Mexican experts, providing hands-on training to laboratory staff from ICTA and LNS. Regarding training materials, the project did not develop original manuals, but existing manuals and materials from Mexico were adopted and, in some cases, adapted for local use. Collectively, these activities strengthened technical capacities. Level of delivery: partially delivered	- Project reports and PIRs- - Review of training materials and adapted manuals - Interviews with NPC; CONAP and CATIE - Interviews with project team members and participants from different institutions - Field visits to ICTA and LNS - These sources were cross-checked to ensure consistency between reported activities, documentation, and mission observations.
Output 1.2.1 Inter-Laboratory cooperation MoUs developed and signed (to facilitate interaction and promote a cost-benefit approach between national and regional laboratories). Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined in the ProDoc. Performance was assessed based on the absence of formal cooperation agreements. Other information, not related to the indicators, demonstrates Output delivery: The project explored regional	This output sought to formalize cooperation between Guatemalan laboratories and regional reference laboratories to support expertise exchange and cost-effective GMO detection. While initial technical contacts with laboratories in Mexico and other Latin American institutions were established, no MoUs were formally developed or signed during the project period. The main limiting factor was that, at the time when this output was expected to be implemented, Guatemala did not yet have fully operational national laboratories capable of functioning as counterparts in institutional cooperation agreements.	- Final report - Project reports and PIRs - Interviews with NPC and project team - Project documents review. - Sources were cross-checked to confirm non-delivery of formal agreements.

cooperation, but formal MoUs were not established due to limited national laboratory capacity.	Level of delivery: not delivered	
Output 1.3.1 Operative guidelines and clear roles and responsibilities for a monitoring and surveillance system developed (using as a base the early developments done during the implementation projects) Performance against Indicator(s) and Target(s) Performance was assessed based on the absence of operative guidelines and a formal monitoring system. Other information, not related to the indicators, demonstrates Output delivery: Preparatory discussions were held, but without a formal mandate and sustained engagement—especially from Customs—the output remained at a conceptual stage.	This output sought to establish an integrated national GMO monitoring and surveillance system through operative guidelines and clearly defined institutional roles among key authorities. While initial discussions and institutional engagement took place, the output was not achieved due to the absence of a legal or regulatory instrument to formally establish the system. As a result, roles and responsibilities could not be institutionalized, coordination remained informal, and engagement by Customs authorities declined over time, limiting the operationalization of a multi-institutional system. Level of delivery: not delivered	- Review of project reports and PIRs - Interviews with NPC - Information gathered during the country mission - Cross-verification of institutional positions and project documentation to confirm the absence of an operational monitoring system
Output 1.3.2. Field detection strategy, including screening procedures, developed. Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined. Performance was assessed based on the absence of a formally adopted field detection strategy. Other information, not related to the indicators, demonstrates Output delivery: The pilot exercise identified field capacities, constraints, and coordination gaps requiring further technical development.	This output aimed at developing a field national detection and monitoring strategy for GMOs, including screening procedures to support surveillance activities. However, a national strategy and formal screening framework were not developed. Instead, the project implemented a pilot field exercise to explore monitoring needs, assess feasibility, and identify existing capacities and operational gaps. While the pilot generated useful insights, it did not produce a consolidated national strategy. Level of delivery: partially delivered	- Project progress reports (PIRs) - Interviews with the National Project Coordinator - Notes and observations collected during the country visit - Verification showed no written strategy or formal protocol. - Source verification showed a pilot exercise, but no field detection strategy.
Output 1.3.3. Administrative and technical guidelines designed for each institution involved in the National Customs System Performance against Indicator(s) and Target(s) Performance was assessed based on the absence of approved institutional guidelines Other information, not related to the indicators, that demonstrates Output delivery: The proposal clarified the intended system architecture but, lacking formal adoption, remained conceptual and non-operational.	This output is aimed at developing institution-specific administrative and technical guidelines for entities involved in the National Customs System. No formal guidelines were produced. Instead, a general proposal was prepared outlining institutional roles and expected functions. While it provided a conceptual framework, it did not progress into approved operational guidance or institution-specific procedures, and the output therefore fell short of the level of formalization originally envisaged. Level of delivery: partially delivered	- Project Final Report - Project reports and PIRs - Interviews with NPC, CONAP, CATIE - Information gathered during the country mission - Triangulation confirmed that only a general proposal was produced and no institution-specific guidelines were finalized.

Output 1.3.4. Workshops (4) for custom officers on monitoring and surveillance Performance against Indicator(s) and Target(s) Only two of four planned workshops were held, and they did not reach customs officials, so the capacity-building objective was not achieved. Other information, not related to the indicators, demonstrates Output delivery: The workshops did not engage customs authorities, limiting coordination and surveillance impact.	This output is aimed at delivering four workshops targeted at customs officers to strengthen monitoring and surveillance capacities at borders and points of entry. In practice, four customs-focused workshops were not conducted. Instead, two workshops on monitoring activities were held at ICTA; however, these were not attended by customs officers. Despite initial outreach, customs authorities did not engage in the training activities, which prevented implementation of the output as originally designed. Level of delivery: partially delivered	- Project Final Report - Project reports and PIRs - Interviews with project staff - Confirmation from laboratory personnel at ICTA regarding workshop delivery - Information collected during the country mission - Triangulation confirmed that workshops were being held, but not for the intended target group.
Output 2.1.1. Sectorial regulations and their respective implementation tools for biosafety regulation, developed during the previous Implementation Project, tested, and submitted for approval. Performance against Indicator(s) and Target(s) Performance was assessed against the submission of sectorial regulations, which were not carried out. As a ministerial regulation was approved outside the project and political support was limited, the output was not achieved. Other information, not related to the indicators, that demonstrates Output delivery: The approval of Ministerial Agreement No. 271-2019 indicates that parts of the regulatory agenda advanced through national processes independent of the project, without project-led testing or submission of sectorial regulations.	This output aimed to test, refine, and submit for approval the sectorial biosafety regulations and implementation tools developed under a previous UNEP-GEF project. However, during the lifetime of the project, the regulatory context changed significantly with the approval of Ministerial Agreement No. 271-2019 by the Ministry of Agriculture, Livestock and Food (MAGA), which established the Technical Procedures Manual for confined use, experimental release, pre-commercial and commercial use of genetically modified seed. As a result, the original regulatory pathway was no longer applicable, and limited political and institutional support prevented advancing this output through alternative mechanisms. Level of delivery: not delivered	- Review of project reports and PIRs - Analysis of Ministerial Agreement No. 271-2019 - Interviews with NPC, CONAP, CATIE and other stakeholders - Document review - Triangulation confirmed that no sectorial regulations were tested or submitted.
Output 2.1.2. Digital system established to manage GMO applications and connect all competent authorities through a single-window platform. Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined; performance was assessed against the establishment of a national digital system, which was not achieved. Other information, not related to the indicators, that demonstrates Output delivery: Strengthening the BCH and	This output aimed to design and implement a digital “single window” platform to manage GMO applications and connect all NCAs through an integrated system. However, the digital system was not developed due to limited institutional interest in adopting a shared digital platform for biosafety procedures. In practice, project efforts were redirected toward strengthening Guatemala’s presence in the Biosafety Clearinghouse (BCH) and improving the national biosafety webpage. These actions focused on improving access to biosafety-related information; but did	- Project reports and PIRs - Review of the BCH records and national biosafety website - Interviews with NPC and NCAs. - Information gathered during the country mission - Cross-checking confirmed that the digital system was not established and that efforts shifted to information tools.

national biosafety webpage improved information sharing but did not replace the administrative functions envisaged, reflecting a shift toward communication rather than system-level coordination.	not fulfil the original objective of creating an operational digital application management system. Level of delivery: not delivered	
Output 2.1.3. Hands-on training for the NCA's personnel (2 mock exercises on how to process dossiers using the new digital system). Performance against Indicator(s) and Target(s) Performance was assessed against the planned mock exercises, which were not conducted due to the absence of a digital system. Other information, not related to the indicators, demonstrates Output delivery: This output shows that training depended on system development; without the digital platform, no training or alternatives were implemented.	This output was dependent on the establishment of a digital application management system. Since the system was not developed, it was not possible to conduct the planned hands-on training or mock exercises for National Competent Authorities (NCAs). As a result, no practical training on dossier processing using a digital platform took place. Level of delivery: not delivered	- Project Final Report - Project reports and PIRs - Interviews with project staff and NCAs. - Review of planned activities and workplans - Information gathered during the country mission - Comparison across sources confirmed that no mock exercises or training took place.
Output 3.1.1. Draft NKLP ratification document for ratification by the relevant authority Performance against Indicator(s) and Target(s) A draft ratification document was prepared, but the process was not initiated due to limited political support. Other information, not related to the indicators, that demonstrates Output delivery: Awareness-raising activities were conducted, but no political momentum emerged to advance ratification, as constraints were political rather than technical.	This output aimed to support Guatemala in advancing ratification of the Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress (NKLP) through the preparation of a draft ratification document and targeted awareness-raising among decision-makers. A draft ratification document was prepared; however, the process did not advance to formal submission or approval Level of delivery: partially delivered	– Final Project Report and PIRs – Interviews with project manager and stakeholders - Draft NKLP ratification document - Workshop report - Interviews with NPC and national stakeholders - Triangulation through review of documentation, interviews, and field mission observations
Output 3.1.2. Proposal on how to include and manage liability and redress (L&R) issues in the current biosafety administrative system. Performance against Indicator(s) and Target(s) Performance was assessed based on the existence of a draft proposal on liability and redress within the national biosafety framework. Other information, not related to the indicators, that demonstrates Output delivery: The proposal serves as a	This output aimed to develop a technical proposal on how liability and redress (L&R) could be addressed within Guatemala's biosafety framework. A draft proposal was prepared, analyzing the current national biosafety system and identifying how L&R considerations could be integrated into existing administrative and institutional structures. The document focuses on Guatemala's legal and institutional context and describes possible institutional arrangements and procedural steps required to operationalize L&R	- L&R proposal document - Project reports and PIRs - TORs and consultant deliverables - Document review - Interviews with NPC - Triangulation through comparison of documentation, interviews, and observations during the country mission

reference for future policy discussions, although no follow-up political process has been initiated.	Level of delivery: fully delivered	
Output 3.2.1 Study of the existing national and regional approaches related to the use of socioeconomic considerations in decision making. Performance against Indicator(s) and Target(s) The ProDoc does not include output-level indicators or targets. Performance was assessed based on delivery of ethnobotanical study, which generated baseline socioeconomic information, although it did not result in formal integration into regulatory or decision-making processes. Other information, not related to the indicators, that demonstrates Output delivery: The ethnobotanical study established a baseline linking biosafety with livelihoods and traditional maize use, providing a knowledge base to inform future consideration of socioeconomic criteria under Article 26 of the Cartagena Protocol, although it was not translated into formal procedures.	This output was implemented through the preparation of an ethnobotanical study focused on maize and its cultural, social, and economic importance in Guatemala, particularly in areas of high genetic diversity and traditional use. Rather than conducting a general review of national and regional approaches in abstract terms, the study examined how potential introduction of GM maize could affect livelihoods, food security, cultural practices, and traditional knowledge associated with maize. The study documented local perceptions, uses, and values linked to maize, generating evidence on the socioeconomic dimensions that may be affected by biosafety decisions. As such, the output contributed empirical information to support the consideration of socioeconomic factors when national competent authorities (NCAs) assess applications related to GMOs. Level of delivery: partially delivered	– Final Project Report and PIRs – Model study deliverable – Project reports related to the study - Ethnobotanical study report on maize and socioeconomic considerations - Project technical reports - Interviews with PNC and implementing partners - Triangulation through comparison of documentary evidence, interviews, and findings discussed during the country mission.
Output 3.2.2. Analysis of the technical and legal implications of the implementation of Article 26 of the CPB. Performance against Indicator(s) and Target(s) Performance was assessed based on delivery of analytical content on Article 26, which was incorporated into the ethnobotanical study but did not result in formal legal or operational instruments. Other information, not related to the indicators, that demonstrates Output delivery: The analysis raised awareness of socioeconomic considerations under the Cartagena Protocol and generated reference material for future policy discussions, although no formal regulatory outcomes were produced.	This output was addressed through the ethnobotanical study conducted under the project, which analyzed the implications of applying Article 26 of the Cartagena Protocol on Biosafety in the Guatemalan context, with a focus on maize. The study examined how socioeconomic considerations could be factored into biosafety decision-making, particularly in relation to cultural practices, traditional knowledge, and local dependence on maize. Rather than producing a standalone legal analysis, the output was embedded within a broader socio-cultural and institutional assessment, providing contextualized information to inform future regulatory discussions. Level of delivery: partially delivered	- Project technical reports and final study document - Interviews with NPC and national counterparts - Review of supporting materials produced under Component 3 - Triangulation through comparison of documentary evidence and interviews conducted during the Terminal Review mission
Output 4.1.1. Baseline data on maize (morphological, genetic, socioeconomic, and distribution of wild maize)	This output was achieved through the generation and consolidation of baseline information on wild and cultivated maize in Guatemala. The project generated new data on	- Project publications and technical reports - National strategy document

strengthened through support of ongoing research and data collection activities Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined. Performance was assessed based on delivery of substantive outputs, including the national book and maize conservation strategy, demonstrating tangible relevant results. Other information, not related to the indicators, that demonstrates Output delivery: The information generated is being used by CONAP and partners as baseline input for conservation planning and as technical reference for future biosafety and genetic diversity discussions in Guatemala.	maize diversity, genetics, socioeconomic relevance, and distribution of wild relatives. These activities strengthened the national knowledge base and supported biosafety and biodiversity conservation. This output resulted in the publication of a book on wild and cultivated maize diversity and the development and implementation of a National Strategy for the Conservation and Sustainable Use of Wild Maize, led by CONAP and its partners. Together, these products provide critical baseline data and support evidence-based decision-making on biosafety, conservation, and the sustainable use of genetic resources. Level of delivery: fully delivered	- Interviews with NPC, CONAP and project partners - Review of official project documentation - Triangulation through cross-checking documentary evidence and stakeholder interviews during the Terminal Review mission.
Output 4.1.2. Normative framework, defining GMO's free zones, is drafted Performance against Indicator(s) and Target(s) No draft framework on GMO-free zones was produced, as the activity was discontinued and replaced by alternative maize conservation actions. Other information, not related to the indicators, that demonstrates Output delivery: Although this output was not implemented, efforts were redirected toward maize conservation through non-regulatory actions.	This output envisioned the drafting of a regulatory framework to define GMO-free zones in Guatemala. During project implementation, this activity was formally withdrawn from the scope of work. Instead, the project redirected its efforts toward strengthening conservation actions and the sustainable use of cultivated and wild maize, responding to contextual, political, and institutional constraints affecting the feasibility of developing a formal regulatory instrument on GMO-free zones Level of delivery: not delivered	- Project reports and PIRs - Interviews with the National Project Coordinator and CONAP - Review of technical outputs related to maize conservation and biodiversity - Triangulation through comparison of project documentation, stakeholder interviews, and field visit observations
Output 4.2.1 A maize genetic reserve is established in Huehuetenango region based on systematization of information from 4.1.1 and land use regulations. Performance against Indicator(s) and Target(s) No output-level indicators or targets were defined in the ProDoc. Performance is therefore assessed based on delivered activities and documented outputs. While the formal creation of a genetic reserve did not occur, complementary conservation actions were implemented. Other information, not related to the indicators, that demonstrates Output delivery:	The output envisaged a formal maize genetic reserve in Huehuetenango, which was not legally established; however, alternative conservation mechanisms advanced biodiversity protection. Two existing protected areas in the Huista region currently contribute to the in situ conservation of wild maize populations, and cultivated and wild maize collections were strengthened and secured through ex situ conservation at ICTA's gene bank. In addition, the project engaged with at least three municipalities in western and eastern Guatemala, contributing to increased awareness at the local level regarding the importance of maize conservation as a strategic genetic resource. Although the formal reserve was	-Project Final Report - Project reports and PIRs - Published book on maize genetic diversity and conservation - National Strategy for the Conservation and Sustainable Use of Wild Maize (CONAP) - Interviews with NPC, ICTA and CONAP personnel - Field observations during country mission

Engagement with three municipalities supported local awareness of maize conservation, while the approval of a national maize conservation strategy and strengthened capacity at ICTA provided an institutional basis for future genetic reserve initiatives.	not established, the actions taken provided a solid technical and institutional basis for future maize conservation and land-use planning. Level of delivery: partially delivered	- Triangulation through project documentation, key informant interviews, and direct validation during the mission
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87. Overall, the project achieved its strongest and most tangible results under Component 1 (Strengthening technical capacity for GMO detection) and Component 4 (Linking biosafety with biodiversity conservation). Two national laboratories (ICTA and LNS) were equipped and operationalized for GMO detection, and technical procedures were adapted from Mexico with support from UNAM. Although the project did not establish a formal national training programme, multiple hands-on workshops strengthened technical capacity across institutions. In parallel, substantial progress was made on maize conservation, including the publication of a national reference book, the strengthening of ex situ conservation through ICTA's gene bank, and the adoption and implementation of a national strategy for the conservation and sustainable use of wild maize led by CONAP and partners. While a formal maize genetic reserve in Huehuetenango was not established, the presence of protected areas in the Huista region and engagement with local municipalities contributed to in situ conservation and increased awareness at the local level.
88. By contrast, results under Component 2 (Administrative biosafety system and institutional coordination) and parts of Component 1 related to institutional articulation were more limited. The envisioned national digital system for GMO application management was not developed due to a lack of institutional uptake by National Competent Authorities, and therefore the associated training activities could not be implemented. Inter-laboratory agreements were also not formalized, as national laboratories were not yet sufficiently consolidated to serve as formal counterparts for institutional cooperation. Similarly, outputs related to the operationalization of a national monitoring and surveillance system—including field detection strategies, institutional guidelines, and customs engagement—were not achieved as originally planned. While pilot activities and conceptual proposals were developed, the absence of enabling legal instruments and limited engagement from Customs authorities prevented the establishment of an integrated national system.
89. Under Component 3 (Liability and redress and socioeconomic considerations), technical outputs were delivered, but translation into policy action remained limited. A draft ratification document for the Nagoya–Kuala Lumpur Supplementary Protocol was prepared, a national workshop was conducted, and the issue was introduced at the legislative level, but the ratification process did not advance due to limited political will. A proposal on how to integrate liability and redress into Guatemala's biosafety system was completed, along with an ethnobotanical study of maize that generated baseline socioeconomic information relevant to biosafety decision-making and included analysis of Article 26 of the Cartagena Protocol. While these products strengthened the national evidence base and institutional understanding, they did not result in formal regulatory or procedural adoption. Overall, the project generated strong technical and knowledge-based outputs, but institutional uptake and regulatory consolidation were uneven across components, largely reflecting constraints in political support and inter-institutional engagement rather than technical capacity.

Achievement of Project Outcomes

90. The achievement of project outcomes was assessed against those defined in the original project design and reflected in the reconstructed Theory of Change. These outcomes were intended to be accomplished within the project's implementation period and available resources. Their attainment is closely linked to the four main components established under the project framework.

Table 14. Achievement of project outcomes

Outcome 1.1.	National laboratories strengthened to provide GMO detection support and related post approval monitoring activities
Performance Indicator(s) and Target(s):	The project partially achieved the indicators defined for this outcome. Two national laboratories (ICTA and LNS) were equipped for GMO detection and staff were trained through technical workshops. However, training focused mainly on these two laboratories, the target of five laboratories was not met, and formal certification and accreditation processes were not completed. As a result, detection capacity improved, but certification and national coverage targets were only partially achieved.
Sources of Information /Evidence:	- Project Final Report/Project technical reports and PIRs/Equipment inventories and training records/Interviews with ICTA and LNS personnel/Country mission visits and laboratory observation Triangulation: Findings were confirmed through document review, interviews, and validation with project and other stakeholders.
Narrative Assessment:	The project strengthened the technical capacity of two national laboratories (ICTA and LNS) through equipment provision and targeted training in GMO detection, resulting in clear improvements over the pre-project baseline and enhanced operational readiness. However, the outcome fell short of its original ambition: no laboratory accreditation or certification was initiated, the target of strengthening five laboratories was not achieved, and detection activities carried out during training were not formalized as outcome-level tests under the ProDoc framework. Overall, the project delivered a solid technical foundation for national GMO detection, but full institutionalization and system-level strengthening remain pending.
Level of Achievement:	Partially achieved

Outcome 1.2.	Agreements for collaborative networking established between national and international labs
Performance Indicator(s) and Target(s):	The outcome indicator was the number of signed collaboration agreements, with a target of two. This target was not achieved: although dialogue and informal exchanges with regional and Mexican laboratories took place, no MoUs or formal agreements were signed during the project period.
Sources of Information /Evidence:	- Project reports / PIRs/Interviews with project team/Field visit /Observations Triangulation: Findings were confirmed through document review, cross-checking interviews and validation with NPC.
Narrative Assessment:	This outcome was not achieved. While the project initiated informal technical exchanges with international laboratories, particularly in Mexico and the region, the lack of fully operational and certified national laboratories prevented the establishment of formal cooperation agreements, which were considered premature by international partners.
Level of Achievement:	Not achieved

Outcome 1.3.	Country able to implement biosafety monitoring and surveillance measures.
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Performance Indicator(s) and Target(s):	This outcome included three indicators: (i) approval and implementation of GMO monitoring plans; (ii) rollout of monitoring and surveillance procedures; and (iii) implementation of biosafety measures within the National Customs System. Although technical detection capacity and training were strengthened, no monitoring plans or surveillance procedures were approved, and no biosafety measures were implemented at customs checkpoints. Consequently, none of the end targets were achieved.
Sources of Information /Evidence:	- Final Project Report/Project reports and PIRs/Document review/Interviews with National Project Coordinator/Interviews with CONAP, ICTA and LNS/Field visits and direct observation during the country mission Triangulation through comparison of documentary evidence, interviews and field observations.
Narrative Assessment:	The project contributed at the technical level by strengthening laboratory capacity and training personnel, but the outcome depended on institutional arrangements, political support, and regulatory decisions that did not materialize. Although a pilot field exercise explored monitoring needs, no national strategy or standard procedures were adopted. The absence of a legal mandate, limited engagement by Customs, and lack of inter-institutional coordination prevented the transition from technical readiness to an operational monitoring system. As a result, the project contributed inputs and enabling conditions but did not achieve systemic change.
Level of Achievement:	Not achieved

Outcome 2.1.	System in place for handling of requests for GMOs (including digital system connecting all competent authorities).
Performance Indicator(s) and Target(s):	The outcome indicator was the processing of at least two GMO applications through a digital system. This target was not achieved, as no integrated platform was developed and no applications were processed; BCH-related tools remained informational and did not function as an operational application system.
Sources of Information /Evidence:	- Project reports / PIRs/Document review/Interviews with NPC and CONAP/Country visit/Observations Cross-analysis of the sources and consistency between them enabled a more robust and reliable assessment of the performance of this outcome.
Narrative Assessment:	This outcome was not achieved. The single-window digital system for processing GMO applications was not developed due to limited institutional commitment and lack of agreement among NCAs. Efforts were redirected to strengthening the BCH and the national biosafety website, but these remained informational tools and did not replace an operational system. Consequently, no GMO applications were processed.
Level of Achievement:	Not achieved

Outcome 3.1.	Guatemala moved towards ratification of the Nagoya - Kuala Lumpur Protocol
Performance Indicator(s) and Target(s):	The outcome indicator was the placement of the Nagoya–Kuala Lumpur Protocol ratification on the national agenda. While this was not achieved, the project prepared and disseminated a draft ratification document and promoted awareness through technical discussions and a national workshop, without resulting in formal agenda placement.
Sources of Information /Evidence:	- Final Project Report/Draft Nagoya–Kuala Lumpur Protocol ratification document prepared under the project/Workshop agenda, materials, and participant lists related to NKLP dissemination/Project progress reports /Interviews with NPC. Triangulation through review of documentation and interviews conducted during the Terminal Review
Narrative Assessment:	The project contributed at the technical and awareness level to Nagoya–Kuala Lumpur Protocol ratification through a draft legal document and targeted outreach. However, limited political commitment and legislative priority prevented progression to formal policy action, resulting in preparedness without institutional uptake.

Level of Achievement:	Partially achieved
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Outcome 3.2.	Guatemala takes into account socio economic considerations in GMO decision-making.
Performance Indicator(s) and Target(s):	The outcome indicators were the incorporation of socio-economic considerations into decision-making and the inclusion of indigenous, local community, and gender dimensions. While an ethnobotanical study generated relevant data, no formal tools, procedures, or decisions incorporated these considerations during the project period, and the absence of GMO applications prevented assessment of their practical uptake.
Sources of Information /Evidence:	- Final Project Report/Ethnobotanical study report on maize and socio-economic considerations/Project reports and deliverables/Interviews with CONAP, NPC, and CATIE/Review of training and dissemination materials related to the study. Information was triangulated through the review and cross-verification of documents, project reports, and interviews to ensure consistency and reliability of the findings.
Narrative Assessment:	The project generated socio-economic baseline information on maize, including cultural, livelihood, gender, and community dimensions relevant to biosafety. However, the absence of GMO applications and the lack of institutional adoption of new procedures meant that this information was not applied in decision-making, resulting in strengthened preparedness but no change in regulatory practice.
Level of Achievement:	Partially achieved

Outcome 4.1.	Protection of native genetic resources of agricultural importance (e.g. maize) is increased through the application of biosafety measures.
Performance Indicator(s) and Target(s):	The outcome indicators included improved knowledge of maize genetic diversity, community consultation, dissemination of results to National Competent Authorities, and approval of a GMO-free zones framework. Knowledge generation and dissemination targets were achieved through the maize book and national conservation strategy, while the indicator related to GMO-free zones was not achieved due to lack of political support, leading to a reorientation toward biodiversity conservation.
Sources of Information /Evidence:	- Book on maize genetic diversity and conservation in Guatemala/National strategy on conservation and sustainable use of maize/Project reports/Project Final Report/Interviews with NPC, ICTA, municipal representatives/Review of materials from community outreach activities. Triangulation was achieved by cross-checking these sources.
Narrative Assessment:	The project strengthened the conservation basis for maize in Guatemala by improving knowledge of maize diversity, engaging local communities, and shifting from unviable GMO-free zoning toward a conservation-based approach, resulting in meaningful biodiversity outcomes.
Level of Achievement:	Partially achieved

Outcome 4.2.	There is a clear link between biodiversity protection and biosafety actions.
Performance Indicator(s) and Target(s):	The indicator was the establishment of one GMO-free zone through an approved genetic reserve, which was not achieved as no formal zoning or regulatory instrument was adopted. However, the conservation objective was partially met through alternative actions, including protected areas in the Huista region and the development of a national maize book and conservation strategy, strengthening the basis for biosafety decision-making.
Sources of Information /Evidence:	- Book on maize/National Strategy for the Conservation and Sustainable Use of Maize/Documentation on protected areas in the Huista region/Project reports/Interviews

	with CONAP, ICTA, municipal authorities, and NPC/Review of outreach materials and municipal coordination records Triangulation was achieved by cross-checking these sources.
Narrative Assessment:	Although GMO-free zones were not established, the project operationalized the biosafety–biodiversity link through conservation actions, including the maize book, the national conservation strategy, protected areas in the Huista region, municipal engagement, and collaboration with ICTA. Together, these measures translated the biosafety–biodiversity relationship into concrete conservation outcomes.
Level of Achievement:	Partially achieved

91. Overall, the project made strong technical contributions to biosafety and biodiversity conservation by strengthening laboratory capacities, knowledge generation, and conservation planning related to maize genetic resources. National laboratories were equipped (ICTA and LNS) and personnel trained, establishing a functional technical base for GMO detection, although certification and routine operations remain pending. In parallel, the project strengthened the biodiversity knowledge base through the publication of a national book on maize, the adoption of a national conservation strategy, and in situ conservation efforts in the Huista region, reinforcing the link between biosafety and biodiversity protection.
92. In contrast, outcomes requiring institutional decisions and political commitment were only partially achieved, as key initiatives remained at technical or design stages due to regulatory gaps and limited institutional engagement. This highlights that, despite strengthened technical capacities, broader policy uptake was constrained by factors beyond the project's control.
93. The project generated valuable outputs on socioeconomic considerations, notably through an ethnobotanical study on maize, but their practical application could not be tested due to the absence of GMO applications. As a result, the project strengthened institutional readiness and knowledge rather than regulatory practice. Overall, it left a dual legacy of a solid technical and knowledge foundation alongside incomplete institutional reforms, with future progress dependent on political commitment to operationalize the systems and tools developed.
94. Beyond individual outcomes, the project made a significant contribution to strengthening national awareness and technical capacities in biosafety through extensive capacity-building and outreach activities. These efforts increased knowledge and understanding of biosafety and biodiversity conservation among technical staff, students, communities, and institutional counterparts, representing one of the project's most tangible and lasting contributions to human capacity development and societal awareness.

Likelihood of Impact

95. This section assesses the likelihood that project outcomes will contribute to the intended long-term impact of mainstreaming biodiversity conservation into national development. It examines the extent to which key drivers and assumptions were in place, the achievement of outputs, outcomes, and intermediate states, and the political, institutional, technical, financial, and stakeholder conditions required to sustain and scale project results, highlighting both the solid foundations established and areas requiring further consolidation.

Table 15. Likelihood of impact

Factors influencing likelihood of impact	Assessment	Justification

Drivers to support transition from Outputs to the Project Outcomes	Partially in place	The project achieved important technical and scientific gains (D1, D5) and strengthened the integration of biosafety and biodiversity conservation, particularly through maize conservation actions (D7, D8). Public awareness and stakeholder engagement increased (D3, D4), although without consolidation into permanent coordination mechanisms. However, institutional arrangements and regulatory frameworks remain incomplete (D2), regional collaboration progressed only informally (D9), and long-term financial and human-resource sustainability is uncertain (D6). As a result, while technical and conservation outcomes were achieved, full system-wide operationalization remains pending.
Assumptions for the change process from Outputs to Project Outcomes	Partially hold	Several assumptions were only partially held. Political will and institutional commitment (A1, A7) remained weak, and coordination among authorities (A2) did not consolidate into an operational system. While public awareness and community engagement improved (A3, A4), staff turnover and lack of long-term financing (A5, A8) limited continuity. Synergies and access to scientific information increased (A6, A10), but the absence of an enabling legal framework and limited institutional ownership and inclusion mainstreaming (A9, A11) constrained the transition from outputs to sustained outcomes.
Proportion of Project Outcomes fully or partially achieved	Some	The project achieved tangible technical and knowledge-based outcomes, including strengthened laboratory capacity, key studies and tools, and reinforced links between biosafety and biodiversity through maize conservation actions. However, systemic outcomes—such as national monitoring and digital systems, formal cooperation agreements, GMO-free zones, and ratification of the Nagoya–Kuala Lumpur Protocol—were not achieved. Overall, technical progress advanced, while institutional and regulatory outcomes remained unfulfilled.
Drivers to support transition from Project Outcomes to Intermediate States	Partially in place	Key drivers are only partially in place. Institutional and technical capacities (D1, D5) and baseline knowledge on maize diversity (D8) were strengthened, supporting progress toward IS1 and IS3, alongside improved integration of biosafety and biodiversity conservation (D7). However, fragmented policies and limited political support (D2), weak inter-institutional coordination, uneven public awareness (D3, D4), uncertain financial and human-resource sustainability (D6), and the absence of formal regional cooperation frameworks (D9) continue to constrain consolidation of an operational biosafety system.
Assumptions for the change process from the Project Outcomes to Intermediate States (IS)	Partially hold	Several assumptions were only partially held. Political will and commitment (A1, A7) remained limited, constraining progress toward an operational biosafety system and the integration of liability and redress (IS1, IS2). Coordination among National Competent Authorities (A2) improved in technical areas but remained weak for system-wide functions. Public awareness and community engagement (A3, A4) strengthened, supporting progress toward IS3. Staff retention and alignment with other initiatives (A5, A6) were partial, while long-term financial sustainability was not secured (A8). Although scientific data were generated (A10), the regulatory environment did not evolve sufficiently (A9), and gender and inclusion were only partially institutionalized (A11). Overall, progress toward IS3 was stronger than toward IS1 and IS2.
Proportion of Intermediate States achieved	Some	Of the three intermediate states, only IS 3 was substantially achieved through scientific outputs on maize diversity, the national conservation strategy, and linkages with conservation actions led by CONAP and partners. IS1 was partially achieved, as laboratory capacity improved

		but system-wide coordination, monitoring, customs involvement, and digital processing were not established. IS2 also progressed only partially, with studies and draft proposals prepared but no formal adoption or operational use by project closure.
Drivers to support transition from Intermediate States to Impact	Partially in place	Several drivers translating the intermediate states into the intended impact were only partially in place. Technical and scientific capacity (D1, D5) and integration of biosafety with biodiversity conservation (D7, D8) were strengthened through equipped laboratories, maize research, conservation actions, and protected areas in the Huista region. Public awareness and stakeholder engagement (D4) improved, particularly around maize conservation. However, institutional coordination and regulatory enforcement remain weak (D2, D3), long-term financial sustainability and political commitment are uncertain (D6), and regional cooperation was not institutionalized (D9). As a result, the project strengthened enabling conditions but did not fully establish the governance framework needed for systemic impact.
Assumptions for the change process from Intermediate States to Impact	Partially hold	The assumptions needed to translate the intermediate states into long-term biodiversity impact were only partially fulfilled. While scientific evidence and baseline data were available (A10) and some technical coordination occurred (A2), political will and regulatory consolidation remained weak (A1, A7, A9). Community engagement improved locally (A4), but was not institutionalized nationally, and public acceptance varied across sectors (A3). Staff turnover and uncertain long-term financing (A5, A8), together with limited mainstreaming of gender and inclusion (A11), constrained the transformation of intermediate achievements into sustained national impact.

96. The project laid an important foundation for long-term biodiversity impact by strengthening technical capacities and generating scientific knowledge to support biosafety decision-making. Key achievements include improved laboratory infrastructure and training, baseline data on maize genetic diversity, and the publication of the national maize book and conservation strategy, complemented by the establishment of protected areas in the Huista region that reinforces the link between biosafety and biodiversity conservation.
97. However, the likelihood of sustained impact was constrained by the partial consolidation of the institutional and regulatory conditions required for a fully operational biosafety system. While technical capacities and scientific evidence were strengthened, key governance elements—such as regulatory frameworks, coordination mechanisms, monitoring systems, and administrative tools—were not fully institutionalized, limiting the translation of technical advances into system-level change.
98. Overall, the project’s prospects for long-term impact are assessed as moderate. Conservation outcomes related to maize were more tangible than those linked to governance and regulatory reform; however, limited political commitment, regulatory consolidation, and long-term financing constrain sustainability, indicating the need for continued institutional support to translate technical advances into sustained national impact.

Finding 3: The project delivered several important technical and knowledge-based outputs, including the strengthening of two national laboratories for GMO detection, multiple training activities, and robust scientific and ethnobotanical studies on maize diversity and socioeconomic considerations. These contributions enabled partial achievement of key outcomes related to laboratory capacity, knowledge generation, and the integration of biosafety with biodiversity conservation efforts.

Finding 4: The project faced significant constraints that hindered the delivery of institutional and policy-related outputs. Limited political will, lack of regulatory

consolidation, low engagement from certain competent authorities, and insufficient inter-institutional coordination prevented progress on essential elements such as monitoring and surveillance systems, a digital permitting platform, inter-laboratory agreements, and steps toward ratification of the NKLP. As a result, outcomes requiring systemic or regulatory action remained unmet.

Finding 5: The project contributed positively to biodiversity conservation, especially through strengthened maize conservation efforts, enhanced scientific baselines, and local engagement—yet the overall likelihood of achieving long-term national impact remains moderate. While technical and conservation-focused drivers improved, the absence of stable political support, sustainable financing, and an operational biosafety governance framework limits the potential for these achievements to translate into a fully functional and durable biosafety system aligned with the Cartagena Protocol.

Rating for Effectiveness: Moderately Unsatisfactory

Rating for Availability of Outputs: "Moderately Unsatisfactory"

Rating for Achievement of Project Outcomes: "Moderately Satisfactory"

Rating for Achievement of Likelihood of Impact): "Moderately Likely"

E. Financial Management

Adherence to UNEP's Financial Policies and Procedures

99. The project's financial management complied with UNEP policies and procedures throughout implementation. Although approved in 2016, the first fund disbursement took place in June 2020 following the completion of administrative agreements between CONAP, CATIE, and UNEP in January 2020. Once operational, financial execution followed UNEP procedures for disbursement, procurement, and reporting, with joint oversight by UNEP and the Executing Agency, and no cases of non-compliance were identified in the Terminal Review.
100. The project underwent annual external audits from 2020 onward in line with UNEP requirements. No cases of financial mismanagement or non-compliance were identified, although recommendations were made to further strengthen financial practices, including improving the timeliness of bank reconciliations, as noted in the 2023 audit. Overall, the audits confirm sound fiduciary oversight and compliance with UNEP's accountability and transparency standards.
101. The project's financial management arrangements were established through the Project Cooperation Agreement (PCA) signed in February 2020 between UNEP and CATIE, which defined the financial and administrative procedures for project implementation. Compliance with the PCA and UNEP's financial regulations was evidenced through Periodic Expenditure Reports (PERs), budget revisions, audit reports, and supporting financial documentation reviewed during the Terminal Review, indicating consistent adherence to agreed financial control mechanisms.

Completeness of Financial Information

102. Project financial information was complete, regularly updated, and compliant with UNEP reporting requirements, with expenditures clearly traceable against approved budgets. A total of eleven budget revisions were processed during implementation, reflecting adjustments to align financial planning with implementation progress and operational needs.

103. Budget execution in 2020 and 2021 was lower than planned due to the delayed start of implementation in 2020 and disruptions caused by the COVID-19 pandemic, as well as slower procurement processes for specialized laboratory equipment. From 2022 onward, financial execution improved significantly, reflecting the normalization of operations and the completion of pending procurements.
104. A review of Periodic Expenditure Reports (PERs), including reporting periods 4, 8, 12, 16, 20, and 22, shows the evolution of budget utilization across expenditure categories. While some funds—such as those allocated to training and meetings—were not fully spent in specific periods, the final financial statement indicates that overall budget execution remained broadly consistent with approved allocations. All revisions were formally documented and approved in line with UNEP procedures, reflecting transparency and sound financial oversight.
105. The reported actual project costs are consistent with the total approved budget and with the figures confirmed in the annual audits. No significant discrepancies were found between reported expenditures, disbursed funds, and audited accounts. The completeness and accuracy of the project’s financial information supported effective monitoring, decision-making, and closure processes, and provided confidence in the integrity of the financial management system applied.

Table 16. Financial management

Financial management components:	Rating	Evidence/ Comments
1. Adherence to UNEP’s/GEF’s policies and procedures:	MS	The project consistently complied with UNEP’s financial and administrative requirements. Disbursements and procurement were conducted according to standard procedures. Roles and responsibilities were clearly defined in the PCA, and audits confirmed compliance with no irregularities. Although some activities experienced late start-up, this did not affect financial oversight. Overall adherence is rated as satisfactory.
Any evidence that indicates shortcomings in the project’s adherence ²² to UNEP or donor policies, procedures, or rules?	No	No issues of non-compliance or irregularities were identified. Annual audits confirmed that financial and administrative procedures were followed.
Was first disbursement carried out within 9 months of UNEP’s project approval date?	No	The first disbursement was made in June 2020, reflecting a delay of nearly four years from the project’s initial approval.
Were the procurement policies of UNEP and the donor(s) followed? <i>(where applicable)</i>	Yes	Procurement and contracting procedures were carried out in alignment with UNEP’s requirements and were properly documented.
2. Completeness of project financial information²³:		
Provision of key documents to the reviewer (based on the responses to A-H below)	S	The project’s financial documentation was complete and traceable, allowing verification of expenditures against approved budgets. Eleven budget revisions were formally approved, reflecting adaptive financial management. Co-financing was reported in line with original commitments. The quality of financial records supports a satisfactory rating.

²² If the review raises concerns over adherence with policies or standard procedures, a recommendation maybe given to cover the topic in an upcoming audit, or similar financial oversight exercise.

²³ See also document ‘Criterion Rating Description’ for reference.

A.	Co-financing and Project Cost's tables at design (by budget lines)	Yes	The ProDoc included detailed tables of co-financing and costs broke down mainly by activities to be carried out within the four components of the project.
B.	Revisions to the budget	Yes	Eleven budget revisions were processed, all formally documented.
C.	All relevant project legal agreements (e.g., SSFA, PCA, ICA)	Yes	The PCA signed between UNEP and CATIE in February 2020 was available and clearly outlined financial and administrative obligations.
D.	Proof of fund transfers	Yes	Disbursement records were complete and traceable through financial reports and audit documentation.
E.	Proof of co-financing (cash and in-kind)	Yes	The project mobilized approximately USD 2.7 million in co-financing, primarily contributed by CONAP, with additional contributions from ICTA, MSPAS, SENACYT, and one municipality. Co-financing is clearly documented, distinguishing between cash and in-kind contributions, with a high proportion provided in kind.
F.	A summary report on the project's expenditures during the life of the project (by budget lines, project components, and/or annual level)	Yes	Consolidated expenditure reports were provided with detailed breakdowns by budget line and implementation period, which enabled complete verification of financial execution. The PERs also specified the budget's components and the items included within each. For example, under the Training Component, the reports outlined "group trainings" and "meetings/conference". In sum, the level of financial details was comprehensive and transparent.
G.	Copies of any complete audits and management responses (<i>where applicable</i>)	Yes	Annual external audit reports confirmed no cases of financial mismanagement; however, some corrective management actions were recommended, including improving the timeliness and efficiency of bank reconciliations, as noted in the 2023 audit.
H.	Procure documents ²⁴ , including the approved requisition document and Source Selection Plan (<i>where applicable</i>)	Yes	Some equipment procurements under the project exceeded the USD 10,000 threshold and required importation from international suppliers due to the absence of local vendors. According to the CATIE procurement officer, all purchases were conducted with the necessary approvals and in full compliance with UNEP procurement guidelines, including the required Source Selection Plan.
I.	Any other financial information that was required for this project (list):	N/A	No additional financial documentation was required beyond what was provided.
Overall rating		MS	Considering compliance with UNEP financial procedures, the quality and traceability of available financial documentation, the improvement in budget execution after an initial implementation period with delays, the results of external audits, and the mobilization of co-financing, the project's financial management is rated as Moderately Satisfactory. Financial controls were consistently applied, and no evidence of mismanagement or non-compliance was identified.

*All documents supporting financial management are available in Anubis.

Finding 6: Financial management complied with UNEP policies and procedures and demonstrated adequate fiduciary control throughout implementation, with no evidence of misuse of funds, ineligible expenditures, or non-compliance identified in external audits.

²⁴ Relevant for procurement action over USD 10,000 in value.

Finding 7: Budget execution was affected during the initial years by administrative delays and the COVID-19 pandemic and was further constrained by the procurement of laboratory equipment, which required international sourcing and involved lengthy importation and customs procedures that delayed implementation; however, budget execution improved significantly from 2022 onward.

Rating for Financial Management: Moderately Satisfactory

Rating for Adherence to UNEP's Financial Policies and Procedures: "Moderately Satisfactory"

Rating for Completeness of Financial Information: "Satisfactory"

F. Efficiency

106. Efficiency management evolved over time as the project adapted to initial administrative delays and subsequent external constraints. Rather than following a linear work plan, implementation prioritized the sequencing and synchronization of activities, allowing progress within available resources and through adjustments to timelines and implementation modalities in response to changing political and operational conditions.
107. The project was approved in 2016 with a planned duration of 48 months, but implementation began in 2020 following the finalization of agreements between UNEP and the executing agency, CATIE. Initial progress and budget execution were limited, largely due to the COVID-19 pandemic, while substantive implementation accelerated from 2022 onward as planned outputs and outcomes were delivered.
108. The project experienced also technical delays, including phytosanitary requirements that postponed the shipment of maize samples to CIMMYT in Mexico and procurement constraints related to specialized equipment. As a result, three no-cost extensions were approved—first until July 2024 (requested in November 2023), then until May 2025, and finally until September 2025, when technical implementation concluded—accompanied by corresponding budget adjustments. These extensions did not require additional funding and allowed the project to complete most planned activities within the approved budget.

Type of project extension (cost/no-cost)	Duration (months)	Reason for no-cost extension
No-cost	12 months	Due to technical delays, including phytosanitary requirements, which delayed the shipment of maize samples to CIMMYT in Mexico by more than a year, and difficulties in purchasing equipment due to its unavailability in domestic markets
No-cost	9 months	To be able to complete project activities and outputs for the reasons mentioned for the first no-cost extension.
No-cost	4 months	To be able to complete project activities and outputs for the reasons mentioned for the first no-cost extension.

109. During the extended implementation period, the project applied adaptive management and flexible coordination to sustain progress amid COVID-19 disruptions, administrative constraints, and a challenging institutional and political context, including through the rescheduling of activities and the use of virtual and decentralized modalities.
110. Despite limited political support for some institutional reforms, the project delivered substantive technical outputs, including strengthened national laboratories for GMO

detection, a national maize conservation strategy, an ethnobotanical study on maize, and extensive training and educational materials.

111. The project built on and complemented previous UNEP–GEF biosafety and biodiversity initiatives in Guatemala, reinforcing synergies between biosafety, maize conservation, and agricultural biodiversity. Implementation had no significant environmental footprint, as activities were primarily national in scope, relied largely on virtual coordination and land-based transport, and involved only limited essential international travel, with no infrastructure development or adverse environmental impacts identified.
112. While regulatory consolidation progressed more slowly, the project demonstrated resilience by prioritizing technically feasible actions and expanding capacity-building and awareness activities, maintaining momentum and relevance throughout implementation.

Finding 8: The project experienced an extended implementation period but succeeded in delivering relevant technical, scientific, and conservation-related outputs through adaptive management and flexible sequencing of activities, particularly during the pandemic and periods of limited political support.

Finding 9: Project efficiency was affected by prolonged administrative processes, slow budget execution in the early years, and logistical challenges related to equipment procurement and sample shipment; however, thanks to good project coordination, operational momentum was achieved and most of the planned activities were completed.

Rating for Efficiency: Moderately Satisfactory

G. Monitoring and Reporting

Monitoring Project Implementation:

113. The project's monitoring system supported regular tracking of activities and progress through periodic reports, expenditure reviews, and coordination between the Executing Agency and UNEP. This enabled timely oversight and responses to delays and contextual constraints—including limited political support, procurement and shipment challenges, and COVID-19 disruptions—while ensuring continuity toward intended outcomes. Documentation was complete and appropriately archived to support management and review processes.
114. Monitoring information was used to support adaptive management, guiding adjustments to implementation modalities and sequencing in response to changing conditions, including the COVID-19 pandemic and periods of limited institutional support. While some field-based and technical activities were postponed, monitoring feedback helped maintain continuity and plan effectively for the completion of deliverables once constraints were addressed.
115. While monitoring effectively tracked activities and outputs, it did not capture outcome-level indicators on the operational functioning of the national biosafety system. As key institutional mechanisms were not fully established, monitoring focused on technical inputs and baseline information rather than evidence of practical system use or decision-making in real-world conditions.
116. The project did not systematically monitor the participation of women, indigenous peoples, or other vulnerable groups through predefined indicators or disaggregated data. While inclusive engagement was evident in practice—particularly through ethnobotanical studies and maize conservation fieldwork with rural and indigenous communities—the absence of formal inclusion metrics limits assessment of how equity objectives were promoted. Nevertheless, monitoring resources were effectively used to support reporting, coordination, and oversight of activities and outputs.

Project Reporting

117. Project reporting complied with UNEP requirements through the submission of Project Implementation Reports (PIRs), Periodic Progress Reports (PPRs), Periodic Expenditure Reports (PERs), and final completion documentation. These reports provided clear and consistent information on progress, challenges, and implementation adjustments, supporting effective oversight by UNEP and the Executing Agency.
118. Reporting processes benefited from the active role of the NPC, who effectively consolidated technical and administrative information and maintained strong coordination with participating institutions. This role was instrumental in ensuring continuity, timely reporting, and the delivery of key outputs, as observed during the country mission.
119. Project reports indicate generally balanced participation of women and men, although gender was not addressed as a strategic dimension in design or monitoring. Women were well represented in technical and laboratory roles, while male participation was higher in some public-sector training activities, reflecting institutional patterns. The project's main inclusion-related contribution lay in its broad reach through diploma courses, technical workshops, municipal outreach, school-based education activities, and engagement with local maize production and conservation sectors.

Finding 10: The project established a functional monitoring system that effectively tracked implementation progress and supported adaptive management in response to challenging external conditions, including the COVID-19 pandemic, procurement delays, and limited political support; however, monitoring remained largely focused on activities and outputs and did not systematically capture evidence of outcome-level change or the practical functioning of the national biosafety system in operational settings.

Finding 11: Project reporting was timely, consistent, and substantively strengthened by the active role of the National Project Coordinator, whose coordination capacity ensured continuity across institutions; however, the absence of systematic monitoring of gender and social inclusion limited the project's ability to demonstrate equity outcomes beyond qualitative evidence of broad participation and community-level outreach.

Rating for Monitoring and Reporting: **Moderately Satisfactory**

Rating for Monitoring of Project Implementation: "Moderately Satisfactory"

Rating for Project Reporting "Satisfactory"

H. Sustainability

Socio-political Sustainability

120. Socio-political sustainability at the national level remains limited due to weak and inconsistent political commitment to consolidate Guatemala's biosafety framework. Throughout the project, limited support for advancing key regulatory and institutional reforms hindered the translation of strengthened technical capacities and knowledge products into binding policies, formal inter-institutional arrangements, and durable governance structures. As a result, institutionalization beyond the project's lifespan remains constrained, and sustained impact will depend on renewed political leadership and continued investment.
121. In contrast, social sustainability was more evident at the local level, particularly around maize conservation and community engagement. Through collaboration with municipalities, educators, and farming communities, especially in the Huista region—the project increased

awareness of native and wild maize via participatory field activities, training, outreach, and educational materials, reinforced by ethnobotanical research and local conservation actions. While these achievements do not replace national policy reform, they represent a socially grounded legacy that strengthens local stewardship of genetic resources and provides a foundation for future conservation-oriented biosafety actions.

Financial Sustainability

122. Financial sustainability remains a significant challenge, as no dedicated mechanism was established to ensure the long-term operation of laboratories strengthened by the project. While technical capacities were built, the continuation of key functions—such as equipment maintenance, reagents, staff specialization, and quality assurance—will depend on future national budget allocations and institutional commitments that were not secured during implementation, posing a risk to the durability of these capacities.
123. Similarly, financial sustainability for maize conservation initiatives remains uncertain, as no long-term funding framework was established to support continued field activities, monitoring, or community-based conservation actions. While protected areas, partnerships, and local engagement provide some institutional anchoring, the durability of conservation outcomes will depend on future government, donor, or international funding, leaving achievements vulnerable to shifting budget priorities and institutional changes.

Institutional Sustainability

124. Institutional sustainability prospects are stronger than financial and regulatory sustainability, particularly regarding laboratory capacities. Both ICTA and LNS demonstrated institutional commitment to continue GMO detection and biosafety-related activities using the equipment and skills developed, with ICTA already transferring knowledge to other institutions and LNS expressing intent to integrate biosafety within its existing mandate, suggesting that technical competencies are likely to be retained in the medium term.
125. However, sustained institutional functionality will depend on the formalization and operationalization of coordination among competent authorities. While CONAP, together with MAGA and MSPAS, plays a central role in the biosafety institutional ecosystem, the absence of a fully operational national biosafety system and weak formal coordination mechanisms constrain institutional sustainability, leaving long-term continuity dependent on future policy decisions and institutional reforms.

Finding 12: The project achieved stronger results in institutional sustainability than in socio-political or financial sustainability, particularly through the continued operational readiness and commitment of ICTA and LNS to use the equipment and technical capacities developed under the project for biosafety-related activities.

Finding 13: Socio-political sustainability was weak at the national level due to the absence of sustained political support for biosafety policy reform and system consolidation; however, community-level support for maize conservation, especially in the Huista region and through engagement with municipalities, demonstrates meaningful social ownership of biodiversity-related outcomes.

Finding 14: Financial sustainability remains uncertain, as no long-term funding mechanisms were secured to maintain laboratory operations, sustained trained personnel, or continue maize conservation and monitoring activities, placing the durability of project gains at risk without follow-up investment.

Rating for Likelihood of Sustainability: Moderately Unlikely

Rating for Socio-political Sustainability: "Moderately Unlikely".

Rating for Financial Sustainability: “Moderately Unlikely.”

Rating for Institutional Sustainability: “Moderately Likely”.

I. Factors Affecting Performance and Cross-Cutting Issues

Quality of Project Management and Supervision

126. Project management was generally effective in coordinating implementation and maintaining progress, particularly after substantive implementation began in 2022. The National Project Coordinator played a central role in sustaining momentum during periods of limited political support, institutional changes, and operational disruptions, ensuring continuity through regular communication with participating institutions and coordination of both biosafety and maize conservation activities. UNEP provided consistent supervision and timely technical and procedural guidance throughout implementation. Although four Task Managers were assigned over the project’s life, communication between the Task Managers and the NPC remained effective, minimizing disruption and supporting alignment with project objectives and compliance with UNEP’s administrative and financial requirements.
127. Project management faced challenges that affected the pace and continuity of implementation, including a prolonged start-up period, limited political commitment to policy-level outcomes, procurement constraints, and phytosanitary requirements for sending maize samples to CIMMYT. Institutional changes also required adaptive management, such as the withdrawal of Universidad del Valle as a laboratory partner and the subsequent incorporation of the LNS, which ultimately strengthened the laboratory component but required adjustments to the implementation plan. Project management and supervision were sufficient to deliver a substantial share of planned technical and capacity-building outputs, although limited political support remained a key constraint for advancing institutional and regulatory objectives of the national biosafety framework.

Stakeholders’ Participation and Cooperation

128. Stakeholder participation was strongest among technical and institutional actors directly involved in implementation. The Project Steering Committee—comprising MAGA, MARN, CONAP, SENACYT, MINECO, MSPAS, Universidad de San Carlos (Faculty of Agronomy), ICTA, CATIE, and UNEP—played an active role in providing technical guidance and supporting inter-institutional coordination. Key technical partners, notably ICTA and the Laboratorio Nacional de Salud (LNS), demonstrated sustained engagement in laboratory strengthening and GMO detection, while the Faculty of Agronomy of Universidad de San Carlos contributed to maize-related studies at the local level.
129. International technical cooperation supported implementation through contributions from UNAM, which assisted in adapting detection protocols, and CIMMYT, which supported the genetic and nutritional characterization of maize. Additional training support from Argentina contributed to biosafety capacity-building, while at the local level municipal authorities—particularly in the Huista region—actively supported maize conservation and outreach activities, strengthening community engagement and awareness.
130. In contrast, participation from some stakeholders remained limited. Customs authorities did not become actively engaged in monitoring and surveillance activities, and Universidad del Valle withdrew as a laboratory partner during implementation, requiring the incorporation of the LNS. While this shift ultimately strengthened the laboratory component, it affected early implementation timelines and continuity of engagement. Overall, collaboration was strongest where institutional incentives aligned with project objectives—particularly among technical and conservation actors—and weaker in areas requiring high-level political commitment or inter-agency enforcement functions.

Responsiveness to Human Rights and Gender Equality

131. The project did not adopt a dedicated human rights or gender strategy, nor specific indicators to monitor inclusion; however, activities were implemented in line with basic human rights principles, including non-discrimination and participation. Participation was generally balanced between women and men, with strong representation of women in laboratory and technical teams, while higher male participation in some public-sector training activities reflected institutional staffing patterns rather than project-level selection.
132. The project demonstrated a rights-based orientation through its engagement with rural and indigenous communities in the context of maize conservation. Ethnobotanical research and field activities involved direct interaction with local populations, contributing to the recognition of traditional knowledge, cultivation practices, and cultural values associated with maize. Although participation by gender, ethnicity, or vulnerability status was not monitored through disaggregated indicators, implementation promoted inclusion through territory-based engagement and capacity-building activities at the municipal level. Despite the absence of an explicit gender or human rights framework, project implementation was broadly aligned with human rights principles by fostering community participation, equitable access to learning opportunities, and respect for local knowledge systems (milpa system).

Environmental and Social Safeguards

133. The Safeguards Assessment (Annex VI) indicates that environmental and social risks were low and appropriately managed throughout project design and implementation. Relevant safeguard standards addressed biodiversity and natural resource management, cultural heritage, indigenous peoples, involuntary resettlement, and labor and working conditions, with mitigation measures integrated into operational planning and engagement protocols in line with UNEP requirements and proportional to the project's low-risk profile.
134. No environmental or social safeguard issues were triggered during implementation, and ESS risks were adequately monitored through routine oversight and reporting. Project activities did not result in adverse impacts or grievances, and inclusion was addressed through community-based engagement and outreach despite the absence of disaggregated indicators. Overall, safeguards were consistently respected, and implementation remained within the project's low-risk profile.

Country Ownership and Drivenness

135. Government ownership was uneven throughout implementation. CONAP demonstrated sustained commitment to coordination, reporting, and technical delivery, particularly in maize conservation—while broader political support for advancing the national biosafety agenda remained limited. Although NCAs participated through the Project Steering Committee, this did not translate into effective ownership of regulatory outcomes. In contrast, technical institutions such as ICTA and the Laboratorio Nacional de Salud (LNS) showed strong institutional ownership of laboratory strengthening activities. At the policy level, ownership was constrained by government changes, shifting priorities, and the absence of a sustained political mandate to operationalize the national biosafety system.
136. Despite these constraints, the project benefited from solid ownership at the technical and local levels, sustaining progress in scientific, conservation, and capacity-building outputs. Municipal authorities, academic partners, local communities, and national research institutions showed strong engagement and commitment to continuing biosafety and maize conservation activities beyond the project's duration, partially compensating for limited high-level political support and enabling advances in a challenging policy environment.

Communication and Public Awareness

137. Communication and public awareness were effectively addressed through a wide range of outreach and educational activities. Knowledge products, including the national book on maize diversity and educational materials, together with workshops, technical training, public outreach, and school-based sessions at national and local levels, reached public officials, technical staff, students, and local communities, strengthening awareness of biosafety, biodiversity conservation, and the cultural importance of maize.
138. At the local level, outreach activities—particularly in the Huista region—were effective in strengthening awareness of maize conservation among farming communities and municipal authorities, promoting dialogue on sustainable management practices. Collectively, these communication efforts contributed to knowledge transfer and awareness-building across sectors and strengthened the enabling environment for biosafety implementation, functioning as a cross-cutting area that significantly supported overall project results.

Finding 15: Project management and UNEP supervision were generally effective in sustaining implementation under challenging conditions marked by political changes, delayed project start-up, COVID-19 disruptions, and procurement constraints. The leadership of the National Project Coordinator was critical in maintaining coordination across institutions, adjusting implementation modalities, and ensuring delivery of technical outputs despite limited political support.

Finding 16: Stakeholder participation was strongest among technical and operational actors directly involved in implementation and benefited from international cooperation that supported capacity-building and knowledge transfer. However, engagement from actors responsible for policy enforcement and regulatory functions was more limited, which constrained progress toward outcomes requiring coordinated national action and system-level integration.

Finding 17: While the project did not apply a formal gender or inclusion strategy, participation of women and men was generally balanced, with strong female representation in technical laboratories and meaningful engagement of rural and indigenous communities through maize-related activities. Environmental and social safeguards were adequately addressed; no ESS issues were triggered during implementation, and all activities complied with national and UNEP safeguard requirements.

Finding 18: Country ownership was uneven: strong commitment was observed at the technical and operational level, particularly in activities related to laboratory strengthening and maize conservation, while ownership at the policy and regulatory level remained weak due to shifting political priorities. At the same time, communication and outreach efforts, especially in maize-producing municipalities—significantly strengthened public awareness of biosafety and genetic resource conservation and increased local engagement beyond formal institutional settings.

Rating Factors Affecting Performance and Cross-Cutting Issues: **Moderately Satisfactory**

Rating for Quality of Project Management and Supervision: "Satisfactory."
Rating for Stakeholders Participation and Cooperation: "Moderately Satisfactory".
Rating for Responsiveness to Human Rights and Gender Equality: "Moderately Satisfactory."
Rating for Environmental and Social Safeguards: "Moderately Unsatisfactory".
Rating for Country Ownership and Drivenness: "Moderately Unsatisfactory".
Rating for Communication and Public Awareness: "Moderately Satisfactory".

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

139. Overall, the project performed at a **moderately satisfactory** level. The strongest performance areas were technical capacity development, scientific knowledge generation, and biodiversity-linked actions for maize conservation, while comparative weaknesses were apparent in policy uptake, institutional consolidation, and regulatory operationalization of the biosafety system.
140. The project's main achievements were the strengthening of national laboratory capacity for GMO detection, the generation of baseline information on maize diversity, and the production of substantive knowledge products including the national maize book, ethnobotanical study, and a conservation strategy formally adopted by national authorities.
141. Concrete biodiversity outcomes were achieved through maize conservation actions, including support to conservation planning and recognition of conservation priorities that contributed to the strengthening of protection mainly in the Huista region, where two protected areas safeguard wild maize populations and reinforce biodiversity outcomes linked to the project.
142. These achievements were largely driven by sustained technical leadership, institutional collaboration, and international scientific cooperation, which enabled technology transfer, methodological strengthening, laboratory training, and access to external expertise despite administrative and political constraints.
143. Adaptive management was a defining feature of implementation, allowing the project to progress during the COVID-19 pandemic, periods of limited government support, procurement delays, and logistical challenges related to equipment imports and sample shipments. Implementation modalities were adjusted pragmatically without compromising core technical outputs.
144. Progress toward policy-level outcomes remained limited, including the operationalization of GMO monitoring and surveillance systems, inter-institutional coordination mechanisms, and digital processing of GMO requests, primarily due to weak political ownership and the absence of enabling regulatory decisions.
145. Advances toward ratification of the Nagoya–Kuala Lumpur Protocol were limited to technical groundwork, a draft ratification document, and awareness-raising, with no formal decision taken during implementation, reflecting structural dependence on political will beyond the project's control.
146. Socioeconomic considerations were addressed substantively through the ethnobotanical maize study but were not institutionally integrated into national decision-making frameworks due to the absence of formal dossiers or applications requiring operational use of the tools developed.
147. Project sustainability is assessed as moderately likely. Sustainability is strongest in technical and conservation domains—where skills, equipment, and knowledge remain in use—but weaker at institutional and financial levels, where continued operation of laboratories and system-level functions depends on future public funding and governance commitments.
148. The project made a meaningful contribution to human capacity development, through two biosafety diploma programs, technical training, workshops, community outreach, and educational activities in schools and municipalities, strengthening awareness of biosafety and biodiversity beyond formal institutions.

149. Human rights and gender considerations were reflected in practice through balanced participation and inclusive outreach, but the absence of formal frameworks and disaggregated indicators limited systematic equity monitoring.
150. No unintended negative environmental or social impacts were observed during project implementation. Project activities—focused primarily on capacity-building, technical strengthening, research, and outreach—were implemented in a manner consistent with environmental protection and social responsibility, and no adverse effects on communities, ecosystems, or institutional processes were identified as a result of the intervention.
151. Overall, the project contributes to Guatemala’s long-term biosafety and biodiversity agenda by strengthening the scientific and institutional foundations necessary for future system-level development, even though full operational impact will require sustained political commitment and post-project investment.

Responses to Key Strategic Questions

152. In response to Strategic Question One, the project fostered strong technical engagement through a Project Steering Committee and institutional focal points, with support from CATIE and CONAP. However, political engagement remained limited and did not translate into sustained institutional commitment or policy-level decisions, partly due to frequent changes in government leadership.
153. Regarding Strategic Question Two, the project demonstrated adaptive management by revising work plans, budgets, and sequencing in response to COVID-19 disruptions and other constraints, enabling recovery in later stages and delivery of key technical results.
154. Regarding Strategic Question Three on native maize conservation, the project did not establish a large-scale maize reserve due to political and regulatory constraints, and therefore shifted toward feasible, site-based conservation actions for wild maize populations in western and eastern Guatemala. Although this did not result in a national reserve, it supported habitat protection and local awareness. In parallel, the project made a significant scientific contribution through the genetic and nutritional characterization of cultivated and wild maize with CIMMYT, generating robust baseline data to inform future conservation, research, and biosafety-related decision-making.
155. Regarding Strategic Question Four on laboratory capacity development, equipment procurement posed significant operational challenges, as most specialized GMO detection equipment had to be imported, resulting in delays and additional administrative requirements. Despite these constraints, the ICTA and LNS laboratories were successfully equipped and are now technically capable of conducting GMO detection. However, the long-term sustainability of these capacities remains uncertain, as dedicated institutional budgets and operational demand for testing services have not yet been secured.
156. Regarding Strategic Question Five on budget execution and financial efficiency, the project recorded low expenditure during its initial years due to COVID-19 disruptions and delays in procurement and sample shipment. In response, resources were flexibly reallocated toward feasible technical and educational activities, with all revisions approved by CATIE and the UNEP Task Manager. From 2022 onward, budget execution improved substantially, and by project completion most allocated funds had been effectively utilized.
157. The table below provides a summary of the ratings and findings discussed in Chapter IV. Overall, the project demonstrates a rating of Moderately Satisfactory.

UNEP Evaluation Office Validation of Performance Ratings:

The UNEP Evaluation Office formally quality assesses (see Annex XI) management led Terminal Review reports and validates the performance ratings therein by ensuring that the performance judgments made are consistent with evidence presented in the Review report and in-line with the performance standards set out for independent evaluations.

The Evaluation Office assesses a Terminal Review report in the same way as it assesses the initial draft of a Terminal Evaluation report. It applies the following assumptions in its validation process:

- That what is being assessed is the contents of the report and the extent to which it makes a consistent and justifiable case for the performance ratings it records.
- That the consultant has, within the report, presented all the evidence that was made available to them.
- That the Review has been based on a robust Theory of Change, reconstructed where necessary, which reflects UNEP's definitions at all levels of results.
- That the project team and key stakeholders have already reviewed a draft version of the report and provided substantive comments and made factual corrections to the Review Consultant, who has responded to them. The Evaluation Office assumes, therefore, that it has received the Final (revised) version of the report.

In this instance the Evaluation Office assesses the quality of the Report at the 'Satisfactory' level and validates the overall project performance rating at the '**Moderately Unsatisfactory**' level.

Table 17. Summary of project findings and ratings²⁵

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
Strategic Relevance		MS	The rating is revised. The correct weighted aggregation of the four sub-categories gives a 'Satisfactory' level.	S
1. Alignment to UNEP MTS, POW and strategic priorities	The project showed alignment with UNEP's MTS and Programmes of Work by strengthening national capacities in biosafety, GMO detection, and biodiversity-related governance, and by supporting science-based management of genetic resources. Alignment with the Bali Strategic Plan and South–South cooperation was present but indirect, mainly through laboratory strengthening, technical training, and regional scientific collaboration rather than through explicit strategic design.	MS	The rating is validated.	MS
2. Alignment to Donor/Partner strategic priorities	The project aligned with the GEF-6 Biodiversity Strategy (Strategic Objective 2, Program 5) by strengthening national biosafety capacity and linking biosafety with biodiversity conservation, particularly for native maize. It also aligned with UNEP's mandate to support the Cartagena Protocol on Biosafety and strengthen national biodiversity governance, as well as with Government of Guatemala priorities on biodiversity conservation, genetic resource management, and biosafety capacity development.	S	The rating is validated.	S
3. Relevance to global, regional, sub-regional and national environmental priorities	The project aligned with the CBD, the Cartagena Protocol on Biosafety, and Guatemala's National Biodiversity Strategy and Action Plan by strengthening biosafety capacity, conserving genetic resources, and supporting science-based decision-making, contributing to relevant Aichi Targets. Regional alignment was partial, as collaboration with international and regional research institutions remained largely technical in nature.	MS	The rating is validated.	MS

²⁵ Most criteria will be rated on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); and Highly Unsatisfactory (HU). Sustainability and Likelihood of Impact are rated, also on a six-point scale, from Highly Likely (HL) down to Highly Unlikely (HU), and Nature of External Context is rated from Highly Favorable (HF) to Highly Unfavorable (HU).

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
4. Complementarity with relevant existing interventions/coherence	The project built on previous UNEP-GEF biosafety initiatives by shifting the focus from legal framework development to operational implementation through laboratory strengthening and technical capacity-building. It was well aligned with the BCH Project and ongoing conservation initiatives related to maize genetic resources, demonstrating strong complementarity and no evidence of duplication.	S	The rating is validated.	S
Quality of Project Design	The project design was strong in its technical and institutional structure, with clearly defined components aligned to strengthening Guatemala's biosafety framework, sound governance arrangements, results-based financial planning, and provisions for monitoring and knowledge management. It built effectively on earlier UNEP-GEF biosafety projects and aligned with national and regional initiatives. However, the absence of a formal Theory of Change, limited specification of stakeholder engagement at the political level, and underdeveloped sustainability strategies weakened the design's ability to support long-term regulatory and institutional outcomes.	MS	The rating is validated.	MS
Nature of External Context	The external context strongly affected implementation, with lengthy administrative delays, limited political support for biosafety, and disruptions caused by the COVID-19 pandemic. Although the project adapted through flexible planning and remote coordination, these combined constraints slowed progress and limited the achievement of policy-level outcomes within the project timeframe.	MU	The rating is validated.	MU
Effectiveness		MU	The rating is validated. However, the EOU notes that the consultant's initial aggregation was incorrect. The Review Consultant's scores for Outputs (MU), Outcomes (MS) and Impact (ML) would have resulted in a 'Moderately Satisfactory' rating for Effectiveness. The EOU rating is therefore, an adjustment.	MU
1. Availability of outputs	Most technical and knowledge outputs were delivered, including equipped GMO-detection laboratories, training activities, and key conservation products such as the national maize book, the ethnobotanical study, and the wild-maize conservation strategy, with strengthened in situ conservation in the Huista region. In contrast, several institutional and system-level outputs—such as the digital GMO application system, inter-laboratory agreements, and national monitoring tools—were not achieved due to limited institutional uptake and regulatory constraints.	MU	The rating is validated.	MU

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
2. Achievement of project outcomes	The project achieved its strongest results in areas under direct technical control, including laboratory capacity for GMO detection, training activities, and advances in maize conservation planning and awareness, with positive in situ impacts in the Huista region. In contrast, outcomes requiring institutional adoption and regulatory decisions—such as the digital permitting system, formal coordination mechanisms, and national monitoring arrangements—were not achieved. Overall, technical and conservation outcomes were largely achieved, while system-level governance outcomes were only partially or not achieved.	MS	The rating is adjusted EOU notes that, out of the 8 outcome sub components, only 5 were partially achieved and 3 were not achieved. The 3 that were not achieved (1.2, 1.3 and 2.1) are critical for the Intermediate States to be realised.	MU
3. Likelihood of impact	The project built a solid technical and knowledge base supporting sustainability, notably through strengthened laboratory capacity, improved maize diversity baselines, and conservation actions in the Huista region. However, weak institutional consolidation, missing regulatory instruments, and limited inter-institutional commitment constrained progress toward a fully operational biosafety system. Consequently, the long-term impact is considered moderate, with higher sustainability potential for technical and conservation results than for system-level reforms.	ML	The rating is adjusted. The conditions for impact are not well established.	MU
Financial Management		MS	The rating is revised. However, the EOU notes that the Review Consultant's initial aggregation is incorrect. The two ratings of MS and S aggregate to a Satisfactory rating using the EOU weighted ratings table.	S

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
1. Adherence to UNEP's financial policies and procedures	The project complied with UNEP's financial policies and procedures throughout implementation. Although start-up was delayed by administrative processes, all disbursements, procurement, and financial reporting followed UNEP controls once implementation began. Annual external audits (2020–2023) confirmed full compliance, with no misuse of funds and only minor recommendations, indicating transparent and sound financial management under the PCA.	MS	The rating is revised. Although the first disbursement was delayed (Para 99), the report notes that 'no cases of non-compliance were identified in the Terminal Review (Para 99)', and 'the audits confirm sound fiduciary oversight and compliance with UNEP's accountability and transparency standards (Para 100)'. Overall, the project consistently complied with UNEP's financial policies and procedures. Table 16 (at the top right-hand column) also notes that 'overall adherence is rated as satisfactory (Page 47)', which is not aligned with the actual rating that is given by the report. Therefore, the rating has been adjusted to 'Satisfactory'.	S
2. Completeness of project financial information	The project's financial information was complete, accurate, and aligned with UNEP reporting requirements. Budget revisions, expenditures, and PERs were well documented and traceable, supporting effective oversight. Although execution slowed in 2020–2021 due to COVID-19 and procurement delays, performance improved from 2022 onward, and final expenditures were consistent with approved budgets and audit results, with no significant discrepancies.	S	The rating is validated.	S

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
Efficiency	Project efficiency improved over time after an initially delayed start due to administrative constraints and COVID-19. While implementation was slow in 2020–2021, it accelerated from 2022 onward through adaptive management and flexible sequencing, allowing delivery of most technical and conservation outputs despite delays and limited political ownership. Although three no-cost extensions were required, the project remained within budget and used resources efficiently by prioritizing achievable results, particularly in laboratory strengthening, capacity-building, and maize conservation.	MS	The rating is revised. The reviewer acknowledges that the project underwent three justified no-cost extensions with over 2 years of delay (Para 107). Following the EOU guidance it does not meet the requirements of the 'Moderately Satisfactory' rating or above for Efficiency and has been adjusted.	MU
Monitoring and Reporting		MS	The rating is revised. The correct aggregation of the two sub-categories gives a 'Satisfactory' rating for Monitoring and Reporting.	S
1. Monitoring of project implementation	The monitoring system effectively tracked activities, outputs, and financial execution through regular reporting and coordination, supporting adaptive management in response to administrative delays and COVID-19. Monitoring data informed adjustments to implementation and activity sequencing. However, the system focused mainly on activities and outputs, with limited tracking of outcome-level performance, system uptake, or disaggregated participation of women and indigenous groups.	MS	The rating is validated.	MS
2. Project reporting	Project reporting complied with UNEP requirements and was delivered through regular technical and financial reports providing clear information on progress, challenges, and implementation adjustments. Strong coordination by the National Project Coordinator ensured consolidation across components and effective communication among institutions. Reports documented broad participation and outreach, including strong female representation in laboratory activities, although gender and social inclusion were not systematically reported through disaggregated indicators.	S	The rating is validated.	S
Sustainability		MU	The rating is revised.	U

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
1. Socio-political sustainability	Socio-political sustainability at the national level remains weak due to limited political commitment to institutionalize the biosafety framework, as technical advances were not translated into binding policies or formal governance mechanisms. In contrast, social sustainability is stronger at the local level, where maize conservation and community engagement—particularly in the Huista region—fostered local ownership, awareness, and a foundation for future conservation-oriented biosafety actions.	MU	The rating is validated.	MU
2. Financial sustainability	Financial sustainability remains weak. While the project invested significantly in laboratory infrastructure, training, and technical capacity, no long-term financing mechanisms were secured. As a result, the continued operation of GMO detection laboratories and maize conservation activities depends on future budget allocations or external funding, leaving these capacities vulnerable after project closure.	MU	The rating is revised. The reviewer acknowledges that the sustainability of project outcomes heavily relies on future financial flows to persist (Para 122 and 123), but no future national budget allocations have been secured (Para 122), and no funding mechanisms have been developed (Para 122). These conditions do not meet the requirements of the 'Moderately Unlikely' rating or above. Therefore, the rating has been adjusted to 'Unlikely'.	U
3. Institutional sustainability	Institutional sustainability is moderate. Technical capacities within ICTA and LNS are likely to continue in the medium term due to institutional commitment, but long-term sustainability is limited by the absence of a fully operational national biosafety system and formal inter-institutional coordination, making continuity dependent on individual institutions rather than an integrated framework.	ML	The rating is validated.	ML
Factors Affecting Performance		MS	The rating is revised.	S
1. Quality of project management and supervision	Project management and supervision were effective overall, with strong leadership from the National Project Coordinator ensuring coordination and delivery of key outputs. UNEP provided consistent supervision and guidance despite Task Manager changes, and management adapted pragmatically to administrative, procurement, and political constraints while delivering results within available resources.	S	The rating is validated.	S

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
1.1 UNEP/Implementing Agency:			The rating needs to be provided, following the UNEP Review Criteria Ratings Description Matrix. The report notes that 'project management was generally effective in coordinating implementation and maintaining progress (Para 126)' and 'communication between the Task Managers and the NPC remained effective, minimizing disruption and supporting alignment with project objectives and compliance with UNEP's administrative and financial requirements (Para 126)'. This meets the requirements of the 'Satisfactory' rating. Therefore, the rating stands at the 'Satisfactory' rating.	S

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
1.2 Partners/Executing Agency:			The rating needs to be provided, following the UNEP Review Criteria Ratings Description Matrix. The report notes that 'the National Project Coordinator (under the Executing Agency) played a central role in sustaining momentum during periods of limited political support, institutional changes, and operational disruptions, ensuring continuity through regular communication with participating institutions and coordination of both biosafety and maize conservation activities (Para 126)'. This generally meets the requirements of the 'Satisfactory' rating. Therefore, the rating stands at the 'Satisfactory' rating.	S
2. Stakeholders' participation and cooperation	Stakeholder participation was strong among technical institutions, laboratories, academic partners, and conservation actors, supported by an active Project Steering Committee and effective international cooperation. Engagement with municipalities and local communities strengthened conservation actions and awareness. However, participation by regulatory and enforcement actors—particularly Customs—was limited, and the withdrawal of one academic partner affected early continuity, resulting in weaker engagement in components requiring high-level political and regulatory coordination.	MS	The rating is validated.	MS

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
3. Responsiveness to human rights and gender equality	The project did not include a formal human rights or gender framework and did not apply gender-disaggregated indicators. However, implementation was broadly consistent with human rights principles, including non-discrimination, participation, and access to information. Participation across activities was generally balanced between women and men, with particularly strong female representation in technical and laboratory roles. Community engagement—especially with rural and indigenous populations in maize conservation activities and the ethnobotanical study—supported inclusion and recognition of traditional knowledge systems. Overall, while human rights and gender considerations were addressed in practice, they were not systematically embedded in project design or monitoring.	MS	The rating is revised. While the initial project design did not fully incorporate human rights and gender dimensions, the actual project implementation was well aligned with human rights and gender equality principles, including women's representation (Para 131). The implementation also fostered engagements with rural and indigenous communities, especially in maize conservation, by adopting the rights-based approaches (Para 132). Therefore, the project is deemed to have considered human rights and gender in its implementation at a moderate level, which meets the requirement of the 'Satisfactory' rating.	S
4. Environmental and social safeguards	The project was assessed as low risk in environmental and social terms and was implemented in line with UNEP's safeguards requirements. Relevant safeguards identified at design stage (SS1.7, SS5.3, SS6.1, SS7.1, and SS8.1) were appropriately screened, and mitigation measures were incorporated into operational planning, particularly in relation to biodiversity conservation, use of traditional knowledge, engagement with indigenous communities, and equitable participation. During implementation, no ESS issues were triggered, no adverse impacts were reported, and activities remained consistent with the project's low-risk profile. Safeguards were adequately monitored through routine reporting and supervision, confirming sound compliance throughout implementation.	MS	The rating is revised. Although the report does not cover analysis of all parameters that are required for the assessment of this sub-criterion, the reviewer's analysis suggests that risks were appropriately managed throughout project design and implementation (Para 133), and safeguarding considerations were well demonstrated. This meets the requirement of the 'Satisfactory' rating. Therefore, the rating has been adjusted to 'Satisfactory'.	S

Criterion	Summary assessment	Rating	Justification for any ratings' changes due to validation (to be completed by the UNEP Evaluation Office – EOU)	EOU Validated Rating
5. Country ownership and drivenness	Country ownership was uneven, with strong commitment at the technical and local levels supporting laboratory strengthening, maize conservation, and capacity-building, but weak ownership at the policy and regulatory level due to shifting political priorities and lack of sustained mandate. As a result, technical and conservation outcomes advanced more than those requiring high-level political decisions and regulatory consolidation.	MU	The rating is validated.	MU
6. Communication and public awareness	Communication and public awareness were a strong cross-cutting contribution to the project. Through diverse outreach tools—books, educational materials, workshops, trainings, and school activities—the project effectively raised awareness of biosafety, genetic resources, and maize conservation among public officials, students, farmers, and local communities. Municipal-level engagement, particularly in maize-producing areas, further strengthened local understanding and supported an enabling environment for biosafety implementation.	MS	The rating is validated.	MS
Overall Project Performance Rating	While a strictly outcome-by-outcome or sustainability-focused assessment could justify a lower rating in some areas, overall performance is rated as <i>Moderately Satisfactory</i> in recognition of the project's ability to deliver substantive and relevant results under difficult conditions, including delayed start-up, the COVID-19 pandemic, and sustained political constraints. Despite limitations in policy uptake and institutional consolidation, the project significantly advanced technical capacity, knowledge generation, and biodiversity-linked actions, laying an important foundation for Guatemala's biosafety and conservation agenda, subject to continued political and institutional support beyond project closure.	MS	The overall project performance rating is adjusted.	MU

B. Lessons Learned

Lesson Learned #1:	Sustained political commitment is indispensable for achieving regulatory and policy-related outcomes in biosafety projects, regardless of the level of technical progress achieved.
Context/comment:	The project clearly demonstrates that sustained political will is a precondition for achieving institutional and regulatory reform outcomes. While technical components of the project advanced through the effort of specialized teams, outputs that required formal government endorsement—such as the strengthening of the national biosafety system, formal monitoring and surveillance mechanisms, or regulatory consolidation—could not be finalized in the absence of high-level political commitment. Continuous changes in authorities and shifting institutional priorities undermined continuity and prevented the formal adoption of key instruments. Future projects in politically sensitive environments must therefore invest early and consistently in structured engagement with senior decision-makers and embed political economy analysis into project design in order to reduce vulnerability to leadership turnover.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 6, 8-9, 44, 86, 90, 93-94, 99, 113, 121, 127-128, 136-137, 143, 145-146; Tables 13, 14 and 15.

Lesson Learned #2:	Investments in laboratories, scientific data generation, and technical capacity deliver durable value even when institutional and regulatory objectives cannot be fully achieved.
Context/comment:	The experience in Guatemala confirms that technical capacity development and scientific work can generate high impact even when institutional reform does not fully materialize. The strengthening of laboratory infrastructure, staff competencies, and the development of analytical tools produced tangible and lasting results that remain valuable regardless of political outcomes. Similarly, scientific products related to maize genetics and conservation contributed to national knowledge systems and biodiversity protection independently of policy advances. The project confirmed that investments in technical capacity, infrastructure, and scientific knowledge can generate lasting national value even when policy and governance objectives are only partially achieved.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 5-7, 28, 56, 110, 156; Tables 13, 14 and 15.

Lesson Learned #3:	Technical coordination platforms, such as inter-institutional committees, are critical for maintaining coherence, continuity, and coordination across institutions.
Context/comment:	The Technical Committee (Project Steering Committee) played a key role as a forum for coordination, continuity, and technical dialogue among institutions. It created a space for dialogue, alignment, and institutional memory across agencies. Maintaining both primary and alternate institutional representatives enabled institutional memory despite frequent staff turnover. This structure facilitated technical validation, coordination, and shared understanding across institutions, even in the absence of formal political backing. This experience confirms that technical coordination platforms are a critical governance mechanism in complex institutional environments and contributed substantially to maintaining operational stability and trust among participating institutions.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 31, 83, 129, 136, 153-154

Lesson Learned #4:	Strong individual leadership and institutional commitment play a decisive role in delivering outputs when formal governance structures are weak or unstable.
Context/comment:	The project illustrates how sustained technical leadership and individual commitment can compensate for structural weaknesses. Despite delayed project start, limited political ownership, and administrative complexity, committed professionals ensured that laboratories were equipped, personnel trained, and scientific outputs delivered. The functional readiness of both laboratories and the advancement of maize conservation work are concrete expressions of resilient leadership. Dedicated technical leadership and institutional commitment emerged as the primary drivers behind the project's most successful outputs.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 32, 37, 57, 59, 64, 92, 119, 127; Tables 7, 13 and 14.

Lesson Learned #5:	Gender balance and community engagement can emerge organically in project implementation, but without structured monitoring frameworks their long-term impact cannot be demonstrated or sustained.
Context/comment:	The project fostered inclusion through implementation practices rather than design frameworks. Women were prominently engaged in laboratory and technical functions, and indigenous and rural communities participated meaningfully in maize conservation activities. However, the absence of disaggregated monitoring indicators and explicit human rights safeguards limited the project's ability to document or institutionalize equity outcomes. While the project demonstrated meaningful participation of women and indigenous communities in practice, the absence of formal gender and human rights frameworks limited the project's ability to deliver measurable equity outcomes.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 6, 9, 39, 74, 117, 120, 132-133, 135; Tables 7, 14 and 15.

Lesson Learned #6:	Engagement must reach political decision-makers, not only technical counterparts
Context/comment:	This project illustrates that engagement limited to technical actors is insufficient when outcomes require high-level political approval. Although technical experts were well engaged, the project could not consistently access decision-makers with political authority. While technicians played a critical role, the absence of a structured strategy to ensure routine access to ministers, vice-ministers, or policy leaders constrained formal adoption of outputs. The project demonstrated that technical engagement alone is insufficient when transformation depends on political authority and regulatory reform.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 6, 8-9, 44, 86, 90, 93-94, 99, 113, 121, 127-128, 136-137, 143, 145-146; Tables 13, 14 and 15.

Lesson Learned #7:	Capacity-building activities and communication products significantly extend project influence beyond formal outputs by strengthening public awareness and institutional knowledge on biosafety and conservation.
Context/comment:	Training programs, educational materials, and outreach activities substantially broadened the project's impact beyond its formal outcomes. Training activities, diploma courses, publications, workshops, and local outreach substantially expanded the project's influence beyond regulatory and institutional outputs. Educational activities at community and school level increased public understanding of biosafety and conservation issues and helped position maize as a strategic genetic resource. These efforts strengthened social ownership and awareness even in the absence of formal biosafety instruments. This

	confirms that outreach and education are not secondary activities but core impact drivers that help embed sustainability beyond the life of a project.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 81, 87-89, 92, 95, 110, 129-130, 136, 149-150, 156-157; Tables 13, 14 and 15.

C. Recommendations

Recommendation #1:	It is recommended that CONAP convene the Project Steering Committee to define a joint inter-institutional strategy to sustain cooperation, coordination, and knowledge exchange achieved under the project, and to identify practical pathways for continuing activities related to biosafety and maize conservation beyond project closure.
Challenge/problem to be addressed by the recommendation:	Following project completion, there is a risk that the inter-institutional collaboration established during implementation will weaken in the absence of a structured mechanism for continued coordination. Without a shared strategy, sustained engagement among institutions may decline, limiting the long-term utilization of capacities, knowledge, and relationships generated by the project.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs 6, 12, 78, 98, 121, 126, 145; Table 15.
Priority Level:	High
Type of Recommendation	Sustainability / Institutional strengthening
Responsibility:	National Council of Protected Areas (CONAP), in coordination with members of the Project Steering Committee
Proposed implementation timeframe:	By May 2026

Recommendation #2:	It is recommended that CONAP, in coordination with ICTA and the National Health Laboratory (LNS), convene a strategic planning meeting to identify concrete options to sustain and operationalize the technical capacities and infrastructure established in the two laboratories, including mechanisms to continue training activities, maintain equipment, and promote the practical use of detection services.
Challenge/problem to be addressed by the recommendation:	Significant investments were made in laboratory equipment and technical training; however, without a sustainability strategy, there is a risk that these capacities will deteriorate over time due to insufficient operational funding, weak institutional integration, or lack of demand for services. The absence of a joint planning space limits the ability of the laboratories to define a shared operational vision and long-term use of installed capacities.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs: 6, 92, 125, 129, 136, 156; Tables 13, 14, 15.
Priority Level:	High
Type of Recommendation	Sustainability / Institutional strengthening
Responsibility:	CONAP in coordination with ICTA and LNS.
Proposed implementation timeframe:	By July 2026

Recommendation #3:	It is recommended that CONAP maintain regular engagement with the municipalities involved in maize conservation activities through follow-up visits and coordination meetings, with the objective of strengthening local conservation actions, sharing lessons learned from the project, and jointly identifying practical options to continue advancing the conservation and sustainable use of cultivated and wild maize.
Challenge/problem to be addressed by the recommendation:	While the project achieved meaningful engagement with local authorities and communities in maize-producing areas, there is a risk that these gains may not be sustained without continued institutional presence and dialogue. The absence of structured follow-up mechanisms could weaken local ownership and momentum for conservation efforts initiated under the project.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs: 6, 56, 88, 99, 122, 130, 133, 139, 149, 155; Tables 13 and 14.
Priority Level:	Medium - High
Type of Recommendation	Sustainability / Stakeholder engagement
Responsibility:	CONAP.
Proposed implementation timeframe:	By September 2026

Recommendation #4:	It is recommended that UNEP continue strengthening its project design criteria for biosafety and genetic resource initiatives, giving particular attention to the feasibility of outputs and outcomes that depend on political decision-making processes. Where appropriate, UNEP may consider encouraging countries to demonstrate clear institutional commitment at the design stage, or alternatively, supporting project designs that reduce reliance on high-level policy actions where enabling conditions are not sufficiently mature.
Challenge/problem to be addressed by the recommendation:	In institutional contexts where political priorities and leadership can shift frequently, project components that require regulatory change or formal political endorsement may face implementation challenges. Ensuring a closer alignment between project scope and the prevailing political and institutional context can help improve feasibility, continuity, and the likelihood of achieving expected outcomes.
Cross-reference(s) to relevant paragraphs	See mainly Review Report paragraphs: 5, 6, 15, 85-86, 90, 99, 107, 110, 113-114, 121, 127-128, 136-137; Table 13 and 14
Priority Level:	High
Type of Recommendation	Strategic / Project design and risk management
Responsibility:	UNEP
Proposed implementation timeframe:	Starting with the next call for proposals related to biosafety and conservation of genetic resources.

ANNEX I. RESPONSE TO STAKEHOLDER COMMENTS

Only include this annex if there were any stakeholder comments that were not (fully) accepted by the consultant. If all comments are accepted, delete this annex.

Response to stakeholder comments received but not (fully) accepted by the reviewers, where appropriate

Page Ref	Stakeholder comment	Reviewer Response

ANNEX II. REVIEW FRAMEWORK

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
Strategic Questions		
1. How effectively did the project navigate the challenges of limited engagement from National Competent Authorities (NCAs), and what strategies worked (or didn't work) to secure political support throughout the project lifecycle? This appears to be a persistent challenge that affected multiple components across all project years.	Semi-structured interviews, document review	National Competent Authorities (CONAP, Ministry of Environment, Ministry of Agriculture, Ministry of Economy); National Project Coordinator; CATIE reports
2. To what extent did the project's adaptive management approach successfully address implementation delays caused by the COVID-19 pandemic and other reasons along the project implementation timeline? How did these adaptations affect the overall achievement of project objectives, particularly regarding the community engagement?	Semi-structured interviews, review of project progress reports, PIRs, analysis of meeting minutes and communication records	National Project Coordinator, CATIE, UNEP Task Manager, members of the Steering Committee, representatives of local communities, project progress and monitoring reports
3. What has been the effectiveness and sustainability of the maize conservation efforts, including the established in-situ conservation areas for wild maize in the Huista region? How have partnerships with institutions like ICTA and CIMMYT contributed to these conservation outcomes?	Semi-structured interviews with local communities and partner institutions, review of technical and progress reports, document analysis on maize diversity	ICTA and CIMMYT representatives, local communities in Huista, Ministry of Agriculture and Ministry of Environment, NPC and CATIE, project reports
4. What are the successes, challenges, and sustainability prospects of the laboratory infrastructure developed for GMO detection? How did the project overcome procurement challenges for equipment and reagents, and to what extent has technical capacity been effectively transferred to national institutions?	Semi-structured interviews with laboratory personnel and project management staff, review of laboratory setup and procurement documentation, analysis of reports and capacity-building records, lab visit (if feasible)	Laboratory staff from ICTA, NPC and CATIE, technical reports, training participants and biosafety technicians (if feasible)
5. Given the consistently low budget execution rates throughout the project (6.1% in year one, 16% by year two), what factors contributed to this financial underperformance, and how did multiple extensions affect project cost-effectiveness?	Review and analysis of financial reports, semi-structured interviews, examination of project extension requests and justification documents, comparative analysis of planned vs. executed budgets	NPC, CATIE, UNEP Task Manager and financial officer, project financial reports, audit reports, and extension documentation
Strategic relevance		
6. To what extent is the project aligned with the UNEP Medium-Term Strategy (MTS), Programme of Work (PoW), and UNEP's strategic priorities at the time of project approval?	Document review	Project Document, UNEP MTS, UNEP PoW, Evaluation Office guidelines.
7. How well does the project align with the strategic priorities of the donor (e.g., GEF) and other relevant partners?	Document review, key informant interviews.	GEF Focal Area Strategies, Donor strategy documents, UNEP project team.

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
8. Is the project relevant to current global, regional, sub-regional, and national environmental priorities, policies, or plans?	Document review, semi-structured interviews.	National environmental policies, NBSAPs, NDCs, Regional frameworks, National focal points.
9. To what extent is the project complementary and coherent with other existing or planned interventions that address similar issues or target the same groups?	Stakeholder mapping, semi-structured interviews, content analysis.	Reports from related initiatives, Partner agencies, Implementing/executing agencies, UNEP staff.
Quality of Project Design		
See section 3 and Annex III of this Inception Report	Document review.	Project progress reports/PIR.
Nature of External Context		
10. Did the (political, environmental, social, institutional) context change during project implementation and how did the project adapt to this?	Semi-structured Interviews.	Project progress reports/PIR, interviews with project team and key stakeholders.
Effectiveness		
Availability of Outputs		
11. How successful was the project in producing the programmed outputs, both in quantity and quality, as well as their usefulness and timeliness?	Semi-structured Interviews, trend harvesting, content analysis.	ProDoc, MTR, Project progress reports /PIR, tangible products, interviews with NPC and organizations that were involved in project implementation.
12. Were National Competent Authorities (NCAs) and key stakeholders appropriately involved in producing the programmed outputs?	Semi-structured Interviews, mapping, content analysis.	ProDoc, MTR Project progress reports /PIR, MTR, terminal reporting, interviews with NCA, key project stakeholders and project beneficiaries.
13. What were the main reasons that led to a satisfactory or unsatisfactory generation of outputs?	Semi-structured interviews, content analysis.	Project progress reports /PIR, MTR, terminal reporting, interviews with key project stakeholders and project beneficiaries.
Achievement of Project Outcomes		
14. To what extent were the project outcomes achieved, namely: Outcome 1.1. National laboratories strengthened to provide GMO detection support and related post approval monitoring activities Outcome 1.2: Agreements for collaborative networking established between national and international labs Outcome 1.3: Country able to implement biosafety monitoring and surveillance measures Outcome 2.1. System in place for handling of requests for GMOs (including digital system connecting all competent authorities) Outcome 3.1. Guatemala moved towards ratification of the Nagoya - Kuala Lumpur Protocol Outcome 3.2: Guatemala considers socio economic consideration in GMO decision-making	Document review, content analysis, semi-structured interviews.	Project progress reports /PIR, interviews MTR, workshop reports, terminal reporting, technical reports, capacity-building documents, interviews with key project stakeholders

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
Outcome 4.1: Protection of native genetic resources of agricultural importance (e.g., maize) is increased through the application of biosafety measures Outcome 4.2: There is a clear link between biodiversity protection and biosafety actions.		
15. To what extent did the project contribute to strengthening Guatemala's national biosafety framework, including laboratory and monitoring capacities, the establishment of effective coordination mechanisms, and the integration of biosafety measures into biodiversity conservation and the protection of native genetic resources?	Semi-structured interviews, review of technical and progress reports, monitoring data, and training records, visit to laboratories (if feasible), triangulation of information from different stakeholder groups.	NPC and CATIE, National Competent Authorities, ICTA, CIMMYT, and research institutions, laboratory personnel and technical staff, local communities involved in maize conservation, project reports, and capacity-building documentation.
16. To what extent can the outcomes obtained (as described in question 14) be directly attributed because of the project's actions?	Content analysis, trend harvesting, stakeholder mapping.	Project progress reports /PIR, interviews MTR, workshop reports, terminal reporting.
Likelihood of impact		
17. To what extent is the project's Theory of Change coherent and realistic in outlining the pathway from outcomes to long-term impact?	Theory-based review, contribution analysis, document review, stakeholder interviews.	Reconstructed Theory of Change, project design documents and logical framework, progress and final reports.
18. Has the project contributed to any catalytic effects, such as scaling up, replication, or policy uptake, that are likely to enhance long-term impact?	Semi-structured interviews with national authorities and policymakers (if feasible), review of policy documents, national strategies, and biosafety regulations, analysis of follow-up initiatives, triangulation of qualitative evidence from stakeholders.	National Competent Authorities, NPC and CATIE, Task Manager, research and academic institutions (ICTA), national biosafety policy and legal documents, project progress reports /PIR.
19. What unintended (positive or negative) effects have emerged from the project, and what is their potential influence on the likelihood of long-term impact?	Stakeholder interviews, visit to Guatemala, content analysis.	Project progress reports /PIR, interviews MTR, workshop reports, terminal reporting.
20. To what extent is the project likely to contribute to long-lasting environmental and human well-being outcomes, such as the Sustainable Development Goals, UNEP's Expected Accomplishments and partner priorities?	Outcome mapping, semi-structured interviews, document review, content analysis.	Project results and monitoring report, UNEP Programme of Work and SDG targets, information of donors and partners, final reporting, interviews with UNEP staff and implementing partners.
Financial Management		
21. To what extent did the project adhere to UNEP's financial policies, procedures, and standards throughout its implementation?	Document review, semi-structured interviews.	Project progress and financial reports, internal audit reports, interviews with finance and project management staff.
22. How complete, accurate, and timely was the project's financial information, including expenditure reporting at output level and communication between finance and project management staff?	Financial data verification, process mapping, semi-structured interviews.	Budget vs. expenditure reports, output-level financial breakdowns, progress and financial reports.
23. Did financial management issues, such as gaps in documentation or tracking of in-kind contributions, affect the	Document review, semi-structured interviews.	Project progress and completion reports, stakeholder

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
timeliness of the project or the quality of its results?		interviews, reports of in-kind contributions.
Efficiency		
24. To what extent did the project deliver maximum results with the resources available, in terms of cost-effectiveness and timeliness?	Document review, comparative analysis of planned vs. actual costs and timelines, semi-structured interviews.	Work plans, budgets, financial reports, progress reports, interviews with project team and partners.
25. Were there events /activities that could have been sequenced differently for better results delivery (coherency of project workplan)?	Document review, analysis of measures adopted, semi-structured interviews.	Project progress reports/PIR, work plans, terminal reporting, interviews with project team.
26. What obstacles did the project face that led to the need to extend its original duration? Did the delay in implementation affect project Outcomes? Could these delays have been avoided?	Review of requests and approvals, analysis of causes, semi-structured interviews.	Project progress reports/PIR, extension requests and approvals, MTR, terminal reporting, interviews with project coordinator, executing agency.
27. Was adaptive management applied adequately? Was any cost- or time saving measure put in place in attempting to bring the project as far as possible in achieving its results within its budget and time?	Document review, contribution analysis.	Project progress reports/PIR, MTR, interviews with project coordinator, executing agency.
28. To what extent did the project build on existing institutions, agreements, data sources, synergies, and complementarities to enhance efficiency?	Mapping of partnerships, semi-structured interviews with key stakeholders involved in current and previous biosafety projects, comparative analysis of institutional arrangements, document review of national biosafety policies, agreements, coordination mechanism.	NPC and CATIE, representatives of institutions that participated in previous biosafety projects (e.g., Ministry of Environment, Ministry of Agriculture, ICTA, universities) National biosafety policy documents, project reports.
Monitoring and Reporting		
Monitoring of project implementation		
29. To what extent was the project M&E plan viable, outcome-based and included SMART indicators?	Document review, outcome mapping, semi-structured interviews.	ProDoc, MTR, interviews with project coordinator, periodic reports, terminal reporting.
30. Was the M&E system operational and did it facilitate timely tracking of results and progress towards project objectives during the project implementation period? Were the results used to improve project performance and adapt to changing needs? How did the project perform against the initially stated objectives?	Document review, outcome mapping, content analysis, semi-structured interviews.	Project progress reports/PIR, interviews with key stakeholders, response to MTR suggestions.
31. How did project team monitor the participation of disaggregated groups (gendered, marginalized, or vulnerable groups, including those living with disabilities) in project activities?	Document review, semi-structured interviews.	Periodic reports, terminal reporting, interviews with project coordinator, key stakeholders, beneficiaries.
Project reporting		
32. How timely and consistent has project reporting been in meeting UNEP and donor requirements?	Document review, timeline analysis, comparison with agreed reporting schedules.	Project progress reports/PIR, donor-specific reporting records.

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
33. Were PIR reports, half-yearly Progress & Financial Reports complete and accurate?	Document review, content analysis.	Progress reports/PIR.
34. How well has the reporting system captured relevant results and progress for different stakeholder groups, including disaggregated data?	Content analysis of reports, comparison with monitoring framework, semi-structured interviews.	Project progress reports/PIR, interviews with NPC and CATIE.
Sustainability		
Socio-political sustainability		
35. Are there social or political factors that may positively or negatively influence the sustenance of project outcomes and progress towards impacts?	Document review, content analysis, semi-structured interviews.	Project progress reports/PIR, interviews with project team, national competent authorities, key stakeholders.
36. How likely is it that the project executing institution, the government institutions that were part of the project, or other stakeholders will undertake individual efforts to continue to work on strengthening the National Biosafety Framework in Guatemala?	Semi-structured interviews with key institutional representatives, document review of policies, strategic plans, previous project reports, analysis of institutional capacity and resources, review of formal commitments or inter-institutional agreements.	Institutional work plans (if available). Government institutions (Ministry of Agriculture, Ministry of Health, CONAP) strategic plans and policy documents. Universities, research centers, and relevant NGOs involved in biosafety. Lessons learned from previous biosafety projects (GEF/UNEP-GEF). Inter-institutional meeting records and agreements.
Financial sustainability		
37. To what extent does the continuation of project outcomes and eventual impact depend on financial resources? What is the likelihood that sufficient financial resources will be available to continue strengthening the National Biosafety Framework in Guatemala—especially with regard to the safe handling, transport, and use of GMOs—to achieve full implementation of the Cartagena Protocol?	Financial analysis, semi-structured interviews with NCAs on budget planning and funding priorities, review of national and sectoral budgets related to biosafety (if available); analysis of funding commitments from government, donors, and international partners; document review of financial sustainability plans (if available).	Institutional budgets (if available), EA financial reports and project co-financing tables, donor and development partner commitments, project proposals or sustainability plans (if available).
Institutional Sustainability		
38. How likely is it that the policy, strategy, law, capacity, or institutional collaborations enhanced by the project will be sustained over time to continue to support efforts to strengthen the National Biosafety Framework in Guatemala, especially regarding the safe handling, transport, and use of GMOs?	Document review, semi-structured interviews with NCAs, project staff, and institutional partners, review of legal and policy documents to assess permanence and integration into national systems, analysis of institutional capacity, assessment of formal agreements, or inter-institutional networks.	NCAs policy and legal documents, EA reports, inter-institutional agreements, MOUs, and collaboration records, meeting minutes and official correspondence, institutional plans (if available), interviews with key NCAs.
39. What is the likelihood that executing partners, government institutions, and other stakeholders will continue with the institutional capacity building efforts aimed at strengthening the National Biosafety Framework in Guatemala?	Document review, contribution analysis, semi-structured interviews, review of capacity building plans, training programs, and institutional strategies (if available), assessment of resources (human, technical, financial) allocated for ongoing capacity	Institutional plans, policies, budgets, or agreements (if available), interviews with government institutions (Ministry of Agriculture, Ministry of Health, CONAP), strategic plans, records of training sessions, workshops, follow-up plans.

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
	building.	
Factors affecting project performance and cross cutting issues		
Quality of project management and supervision		
40. How effectively has UNEP (or the Implementing Agency) provided leadership and guidance to achieve planned outcomes?	Document review, analysis of project progress against milestones, interviews.	Project progress reports/PIR, meeting minutes, interviews with UNEP staff and partners.
41. How well have project management structures and partner relationships (e.g., Steering Groups) been maintained and utilized?	Document review, Steering Committee members interviews, analysis of meeting records (if available).	Project progress reports/PIR, Steering Group minutes, partnership agreements.
42. How effectively has the project adapted to changes in external and strategic contexts, including risk management and problem-solving?	Document review, interviews with key stakeholders, timeline mapping of adaptations.	Adaptive management documentation, project revision records, interviews with UNEP and partner staff.
43. How clear and effective has communication and collaboration been between UNEP, the project team, and key stakeholders?	Survey of stakeholders, interviews, content analysis.	Meeting records, project updates, project progress reports/PIR
Stakeholder participation and cooperation		
44. To what extent did the project achieve effective stakeholder participation and/or collaboration?	Document review, stakeholder mapping, semi-structured interviews.	ProDoc, progress reports/PIR, interviews with key stakeholders, communication strategy and records of strategic communication activities.
45. To what extent were stakeholders involved in: (a) project design? (b) the sharing of lessons learnt from the project? and (c) the sharing of expertise and technical knowledge, or the pooling of resources?	Document review, stakeholder mapping, semi-structured interviews.	ProDoc, workshop reports, terminal reporting, interviews with key stakeholders.
Responsiveness to human rights and gender equity		
46. To what extent were gender issues and the inclusion of minority groups considered in the project's activities and results?	Document review, content analysis, minority groups mapping.	Periodic reports, MTR, workshop reports, terminal reporting.
Environmental and social safeguards		
47. To what extent did the project comply with UNEP's environmental and social safeguard requirements, including regular risk review, monitoring, and implementation of mitigation measures?	Document review, key informant interviews, compliance checklist analysis.	Environmental and social safeguard reports, risk assessment records, monitoring reports, project progress reports, interviews with project team.
48. How effectively did the project management minimize UNEP's environmental footprint during implementation?	Document review, interviews with project staff, analysis of operational practices.	Sustainability guidelines (if available), procurement and travel records, interviews with project coordinator and CATIE.
Country ownership and drivenness		

REVIEW QUESTIONS	METHODS	SOURCES OF INFORMATION
49. To what extent did government and public sector agencies demonstrate ownership and commitment to advancing the project from outputs to outcomes and towards intermediate states?	Document review, competent authorities' interviews, stakeholder mapping and analysis.	Government reports, meeting minutes, project progress reports, stakeholder engagement records, interviews with CNAs, government officials and project team.
50. How effectively did the project ensure inclusive ownership, engaging relevant institutions, sectors, and community representatives, including gendered and marginalized groups?	Document review, semi-structured interviews, trend harvesting.	ProDoc, stakeholder engagement records, meeting minutes, interviews with representatives from multiple sectors and communities (as much as possible).
Communication and public awareness		
51. How successful was the project in knowledge management and in creating public awareness (learning exchange between/among project stakeholders and beneficiaries)? What were the main challenges and successes related to knowledge management and public awareness?	Semi-structured interviews with project staff, stakeholders, and beneficiaries. Review of knowledge management outputs (reports, guidelines, databases, communication materials). Analysis of awareness campaigns, training sessions, and outreach events. Review of communication strategies.	Periodic reports, terminal reporting, communication materials, knowledge products (manuals, guidelines, publications). Records of workshops, training sessions, and awareness events, interviews with key stakeholders and beneficiaries, social media, press releases, or public outreach documentation (if available).

ANNEX III. STAKEHOLDERS CONSULTED DURING THE REVIEW

Organization	Position	Role in the project	Gender
UNEP	Task Manager	IA	F
UNEP	Former Task Manager	IA	F
UNEP	Former Task Manager	IA	M
UNEP	Senior Programme Assistant	IA	F
CONAP	National Project Coordinator	EA	M
CONAP	Director de la Dirección de Valoración y Conservación de la Diversidad Biológica	EA	M
CATIE	Representative	EA	M
CATIE	Accountant	EA	F
ICTA	Central Station Manager	Lab implementation	F
ICTA	Coordinator - Responsible for the Germplasm Bank	Lab implementation – Member Steering Committee	F
ICTA	Biotechnology Lab	Lab implementation	F
ICTA	Laboratory technician	Training on GMO detection	F
ICTA	Laboratory technician	Training on GMO detection	M
LNS	Director	Lab implementation	M
LNS	Head of the Food Department	Lab implementation	F
LNS	Head of the Food Microbiology Section	Lab implementation	F
LNS	Food Analyst	Lab implementation. Member Steering Committee	F
MAGA	Plant Health Department	Member Steering Committee	M
MAGA	Food Safety Department	Member Steering Committee	M
MAGA	Director of Plant and Animal Genetics	Project Stakeholder	M
MAGA	Seeds Department	Involved in capacity-building activities	M
MARN	Public officer	Member Steering Committee	M
MARN	Public officer	Member Steering Committee	M
MARN	Director of Environmental Management	Support for MARN's active engagement	M
MARN	Technical Support	Involved in capacity-building activities	M
Municipality of San Miguel de Chaparrón	Teacher	Involved in educational activities	F
Municipality of San Miguel de Chaparrón	Forestry technician	Involved in maize conservation activities	M
Departamento de Educación Huehuetenango	Teacher	Involved in educational activities	F
Centro Universitario del Sur Oriente – Universidad San Carlos	University Professor - Researcher	Involved in maize conservation activities	M
SENACYT	Public officer	Member Steering Committee	M
MINECO	Foreign Trade - Department of Treaties, Agreements, and Sustainable Development	Member Steering Committee	F

ANNEX IV. KEY DOCUMENTS CONSULTED

Project planning and reporting documents

Approved Project Document

PCA Guatemala BS_Spanish FV (countersigned)

PCA Guatemala BS_English FV (countersigned)

Workplans (2021, 2023)

Revised workplans (2022 – 2024, 2024 – 2025)

Budget Revisions (1 – 11, mainly 11)

Project extension request letter

Letter of Agreement CATIE-CONAP (signed)

PPR period 1 – 23 (More in-depth review PPR 2022 – 2025)

PER 1 – 23 (More in-depth review PPR 2022 – 2025)

9633-PIR-UNEP-2025-Guatemala Biosafety

Procurement plan and TORs for project personnel (originally approved)

Fund Transfer Request Form (CATIE)

Funds Transfer Remittance Advice (1st cash adv)

1st Cash Advance (signed)

Inventory 2024

Audit Reports (2020 – 2024)

Final Cofinance Report (signed)

Final project output - Main Document

Amendment No.1, 2, 3 Guatemala

Project outputs – Overall

Minutes of the Twelfth Meeting of the Steering Committee

Minutes of the Thirteenth Meeting of the Steering Committee

Minutes of other Meetings of the Steering Committee

Publicación técnica Maíz silvestre de Guatemala

Libro Maíces de Guatemala

ESTRATEGIA DE MAIZ SILVESTRE DE GUATEMALA

Project outputs Component 1: Strengthening of institutional capacity for GMO surveillance, monitoring, and detection

Informe final consultoría Rolando Lemus

Informe final consultoría Juan Quiñonez

Informe final consultoría Edgar Martínez

Informes consultoría Alba Zuniga

Curso capacitación cuantificación OGMs

Propuesta de OVMs en aduanas y campo

Hojas informativas BIOTECNOLOGIA

Project outputs Component 2: Strengthening of administrative and technical biosafety system of the National Competent Authorities (NCAs), in line with article 2.1 of the CPB

Taller para actualización Política Nacional de Bioseguridad

Visita a la Secretaria de Agricultura, Ganadería y Pesca

Resultados de la implementación de las políticas

Informe de reunión ANCs

Informe Final Melisa Ojeda CIISB

Desarrollo SNIBGT Hector Hernandez: several reports

Taller de experiencias Argentina 2025

Taller Líneas de Política Nacional de Bioseguridad 2025

Project outputs Component 3: Developing capacities on liability and redress (Article 27) and socioeconomic considerations (Article 26)

Reunión con grupo parlamentario para ratificación del protocolo Nagoya

Memoria reunión con grupo asesor protocolo Nagoya Kuala Lumpur

Informe final Rafael Cetina

Informe desarrollo de actividades relativas a consideraciones socioeconómicas

Informe final Proyecto etnobotánica maíz Vicente Martinez

Estudio etnobotánico del maíz en Huehuetenango

Informe final-Roberto Carlos Argueta

Merlyn informe final

ESTUDIO ETNOBOTÁNICO DEL MAÍZ EN 3 COMUNIDADES DEL DEPARTAMENTO DE JALAPA

Project outputs Component 4: Conservation of native biodiversity in support of biosafety related activities

Declaratoria maíz silvestre

Informe Final Zea luxurians Sergio E Menéndez Medina

CELEBRACION DIA NACIONAL DEL MAIZ 2025 - Agenda y listado de participantes

Plants--People--Planet-Goettsch-et-al

Acta Santa Ana Huista

Acta San Manuel Chaparrón

Conservación in situ wild relatives Mexico

Informe final marcadores agro-morfológicos

Informe_comision_dia maiz ampliado

Publicación técnica Tewah y salpor majoco

Maíces de Guatemala, REGENERACION Y CARACTERIZACION MORFOLOGICA. ZONA TROPICAL. FEB. 2021

Maíces de Guatemala documentación de colección y caracterización morfológica

Previous reviews/evaluations

Informe revision interna Guatemala MID term

Reference documents

Terms of Reference for the Terminal Review

Evaluation of the UNEP Subprogramme on Ecosystem Management, May 2015

GEF Guidelines on Core Indicators and Sub-Indicators, June 2018, Updated March 2019

UNEP Medium Term Strategy 2014 -2017

UNEP Medium Term Strategy 2018 - 2021

Medium Term Strategy 2022 – 2025. The United Nations Environment Programme strategy for tackling climate change, biodiversity, and nature loss, and pollution and waste from 2022 – 2025.

United Nations. (2019). *United Nations Disability Inclusion Strategy*.

United Nations Environment Programme. (2022). *For people and planet: The United Nations Environment Programme strategy for 2022–2025 to tackle climate change, loss of nature and pollution*.

UNEP environmental, social and sustainability framework (ESSF), 2020

AUTORIZACIÓN LIBERACION EXPERIMENTAL DE SEMILLA GENETICAMENTE MODIFICADOS PARA USO AGRICOLA

Acuerdo Ministerial OGMs Guatemala

Acuerdo taxativo Ministerio Ambiente 2019.

ANNEX V. REVIEW ITINERARY

The mission to Guatemala, took place between November 17 and 21, 2025.

Weeks prior to the visit, the mission was coordinated mainly with César Azurdia, National Project Coordinator, Anna Fanzeres, UNEP Task Manager, and Gloritzel Frangakis Cano, UNEP Senior Programme Assistant, in order to establish an efficient itinerary of visits and to be able to interview as many people related to the project as possible.

The interviews conducted during the mission to Guatemala focused on key stakeholders from the National Competent Authorities who also served on the project's Technical Committee (Steering Committee). These stakeholders played a central role in project implementation and oversight and therefore had a comprehensive understanding of the project's objectives, activities, and results. The interviews enabled in-depth discussion of both strategic and operational aspects of the project, including achievements, challenges, and sustainability considerations.

In addition to these interviews, the consultant visited the two national laboratories strengthened under the project for GMO detection—the Instituto de Ciencia y Tecnología Agrícolas (ICTA) and the Laboratorio Nacional de Salud (LNS). During these visits, the consultant met with laboratory managers and technical staff, reviewed the equipment installed and capacities developed under the project, and discussed their current and anticipated role within the field of biosafety in Guatemala.

The consultant also held separate meetings with the project focal point at CONAP and with the representative of CATIE. These discussions focused on institutional coordination arrangements, implementation roles, and each institution's contribution to the achievement of the project's objectives.

Engagements with municipal-level actors and an academic researcher from the Universidad de San Carlos de Guatemala provided additional perspectives on the local-level implementation of project activities and on the linkages between biosafety, agricultural practices, and conservation priorities.

Extensive working sessions were held with the National Project Coordinator (NPC), during which the project's outcomes and outputs were reviewed in detail. These sessions included analysis of the project's contributions to strengthening national biosafety capacities, the sustainability of results achieved, and the scope, implementation, and implications of project-supported activities related to the conservation of native maize genetic diversity. Through these discussions, the consultant was able to assess both the technical and institutional dimensions of the project's work on maize conservation.

Overall, the combination of interviews, site visits, and in-depth technical discussions provided a robust and triangulated evidence base for assessing project performance and for preparing this Terminal Review.

During the mission to Guatemala, the consultant primarily visited the following institutions: the National Council of Protected Areas (CONAP), the Tropical Agricultural Research and Higher Education Center (CATIE), the Ministry of Agriculture, Livestock and Food (MAGA), the Ministry of Environment and Natural Resources (MARN), the Institute of Agricultural Science and Technology (ICTA), the National Health Laboratory (LNS), and the National Secretariat of Science and Technology (SENACYT). In addition, virtual meetings were held—due to the geographic distance of the locations—with representatives from the Municipality of San Miguel de Chaparrón, the Department of Education of Huehuetenango, and the Centro Universitario del Sur Oriente of the University of San Carlos of Guatemala.

ANNEX VI. ENVIRONMENTAL AND SOCIAL SAFEGUARDS ASSESSMENT

ESS PLANNING AT PROJECT DESIGN

List any ESS issues identified at project design (e.g., SS 1.7, SS 2.3, etc.)²⁶	SS1.7 – Biodiversity, Ecosystems and Sustainable Natural Resource Management: Collection and utilization of genetic resources? This ESS was considered within the context of Biodiversity Conservation, as the project focused on native and cultivated maize genetic diversity, field data collection, and the generation of baseline information to support conservation, biosafety, and sustainable use of genetic resources SS5.3 – Cultural Heritage: Utilization of Cultural Heritage for commercial or other purposes (e.g., use of objects, practices, traditional knowledge, tourism)? This ESS was considered within the context of the documentation of traditional knowledge associated with maize, through ethnobotanical study and community-level engagement, recognizing maize as a resource of cultural and social value. SS6.1 – Indigenous Peoples: Activities involving Indigenous Peoples or communities with distinct cultural identity or attachment to natural resources? This ESS was considered within the context of community engagement in indigenous and rural areas, particularly in Huehuetenango, where local knowledge and practices related to maize conservation were documented through participatory fieldwork and consultations SS7.1 – Involuntary Resettlement: Potential land acquisition, access restriction, or resettlement? This ESS was screened at design stage due to early consideration of GMO-free zones and genetic reserves; however, no resettlement, land acquisition, or access restrictions were implemented during project execution. SS8.1 – Labor and working conditions: Unequal working opportunities and conditions for women and men? This ESS was considered within the context of Gender Equality and capacity building, as the project involved laboratory personnel, public-sector staff, and community participants, with attention to inclusive participation in training activities and outreach processes
For any ESS issues identified at project design, were <u>mitigation strategies</u> developed (Y/N)? (If yes, briefly describe)	Yes. Mitigation measures were embedded in project implementation rather than formulated as a standalone plan. For biodiversity (SS1.7), mitigation consisted of strengthening scientific baseline data and supporting maize conservation through research and collaboration with conservation initiatives. For cultural heritage (SS5.3) and indigenous knowledge, mitigation was addressed through the ethnobotanical study and community fieldwork. For labor and gender considerations (SS8.1), mitigation relied on inclusive participation in training activities and institutional engagement. While no formal ESS management plan was developed, mitigation actions were implemented through project activities.
Were any <u>gaps</u> in ESS issues identified at the review inception phase (Y/N)? (If yes, briefly describe)	Yes. Some gaps were identified at inception, mainly related to the absence of a formal ESS monitoring framework. While environmental and social considerations were implicitly addressed through project activities, no dedicated ESS management plan or monitoring indicators were established. In addition, participation of women, indigenous peoples, and local communities was not tracked through disaggregated indicators, limiting the ability to assess social inclusion

²⁶ Select from the list of Environmental and Social Safeguards Risks in Table 1 of the template (tool 14, Safeguards Assessment Template).

	systematically. However, no unmanaged environmental or social risks were identified during project implementation.
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ESS MONITORING AT PROJECT IMPLEMENTATION

Is there evidence that the potential emergence of ESS issues was actively <u>monitored</u> during project implementation (Y/N)? ²⁷ (If yes, briefly describe)	Yes. ESS issues were monitored through regular supervision and reporting processes, particularly in relation to biodiversity impacts and community-based activities, but no standalone ESS monitoring framework or indicators were applied.
Is there a justification for the absence of ESS monitoring (Y/N)? (If yes, briefly describe ²⁸)	N/A. ESS risks were considered low and were addressed through standard project monitoring and supervision mechanisms.

MANAGEMENT RESPONSIVENESS DURING PROJECT IMPLEMENTATION

Identify the ESS issues/events <u>triggered</u> ²⁹ by the project. ³⁰	No additional ESS issues or adverse events were triggered during implementation beyond those identified at design. Field activities on maize sampling, laboratory work and community engagement were carried out within the existing safeguards and did not generate new ESS risks.
Describe <u>consequences</u> of ESS issues/events during project implementation.	No ESS issues or adverse events were triggered during implementation; therefore, no environmental or social consequences were recorded. Field, laboratory and community activities were conducted as planned without negative impacts or safeguard incidents.
Describe the management response and identify supporting documentation. ^{31, 32}	N/A. As no ESS issues or safeguard incidents were triggered, no specific management response was required. Routine oversight was maintained through periodic project reports (PIRs and PPRs), Steering Committee minutes, mission reports, and audit reports, which confirm compliance with UNEP procedures and the absence of safeguard incidents.
Were negative ESS effects offset by management response (Y/N)? (If yes, briefly describe)	N/A. No negative ESS effects were identified during implementation; therefore, no offsetting measures were required. Routine project oversight ensured continued compliance with UNEP safeguards.

²⁷ **Low risk:** Negative impacts minimal or negligible: no further study or impact management required.

Moderate risk: Potential negative impacts, but limited in scale, not unprecedented or irreversible and generally limited to programme/project area; impacts amenable to management using standard mitigation measures; limited environmental or social analysis may be required to develop an Environmental and Social Management Plan (ESMP). Straightforward application of good practice may be sufficient without additional study.

High risk: Potential for significant negative impacts (e.g. irreversible, unprecedented, cumulative, significant stakeholder concerns); Environmental and Social Impact Assessment (ESIA) (or Strategic Environmental and Social Assessment (SESA)) including a full impact assessment may be required, followed by an effective comprehensive safeguard management plan.

²⁸ For instance, during COVID, access to the field may have been restricted

²⁹ 'Triggered' refers to environmental or social issues/events that are caused or exacerbated—directly or indirectly—as a result of the project's activities, interventions, or presence.

³⁰ Select from the list of Environmental and Social Safeguards Risks in Table 1 of the template (tool 14, Safeguards Assessment Template).

³¹ For most low-moderate risk projects, good practice approach may be sufficient. Project should demonstrate safeguard management approach in the project activities, budget, risks management, stakeholder engagement or/and monitoring segments of the project document to avoid or minimize the identified potential risks without preparing a separate safeguard management plan.

³² E.g., GEF Project Implementation Report (PIR), Progress Report, Minutes, etc.

ANNEX VII. COMMUNICATION AND OUTREACH TOOLS

The following Spanish-language presentation is provided as a communication tool for CONAP and CATIE to disseminate the main findings, lessons learned, and recommendations of the Biosafety Project in Guatemala.



1



2

Objetivos de la Revisión Terminal

Analizar la pertinencia del proyecto para Guatemala, así como su efectividad, eficiencia y sostenibilidad

Identificar los resultados alcanzados a partir de la información disponible durante esta Revisión Terminal (documentos, entrevistas, entre otros)

Destacar las lecciones aprendidas del proyecto y analizar los desafíos pendientes, con el fin de contribuir al fortalecimiento del marco nacional de bioseguridad en Guatemala

Formular recomendaciones para ser consideradas en actividades posteriores y en futuros proyectos

3

Herramientas de recopilación de datos

• Recopilación y análisis de información proveniente de diversas fuentes, con el fin de realizar una revisión integral del proyecto

Principalmente:

Revisión de los documentos del proyecto disponibles para la consultora.

Entrevistas virtuales y entrevistas presenciales durante la visita a Guatemala, como elementos centrales de la revisión y herramientas clave para la recopilación de datos, especialmente de carácter cualitativo.

4

Herramientas de recopilación de datos: Documentos

A continuación se presentan algunos ejemplos de los documentos analizados para la elaboración del Informe de Revisión Terminal:

- Prodoc Biosafety Guatemala Country
- Periodic Progress Report
- Periodic Expenditure Report
- Co-financing reports
- Workplan
- Declaratoria maíz silvestre
- Estudio etnobotánico del maíz en Huehuetenango
- Informe final consultoría Rolando Lemus
- Informe final consultoría Juan Quilóniz
- Informe final consultoría Edgar Martínez
- Taller para actualización Política Nacional de Bioseguridad
- Informe desarrollo de actividades relativas a consideraciones socioeconómicas

Los documentos pertinentes para la Revisión Terminal disponibles en la Plataforma Anubis (UN), incluidos en las secciones de Documentos Iniciales, Documentos Técnicos, Otros Documentos, Documentos Terminales y Documentos Periódicos, fueron revisados y analizados de acuerdo con las necesidades específicas de la Revisión

5

Herramientas de recopilación de datos: Entrevistas

Las entrevistas se realizaron principalmente con representantes de las siguientes instituciones:

Instituciones gubernamentales clave

- En su calidad de Autoridades Nacionales Competentes en bioseguridad y miembros del Comité Técnico del proyecto (Steering Committee)
- Consejo Nacional de Áreas Protegidas (CONAP)
- Ministerio de Agricultura, Ganadería y Alimentación (MAGA)
- Ministerio de Ambiente y Recursos Naturales (MARN)
- Ministerio de Salud Pública y Asistencia Social (MSPAS)
- Ministerio de Economías (MINECO)
- Secretaría Nacional de Ciencia y Tecnología (SENACYT)

Instituciones técnicas y de investigación

- En particular:
 - Instituto de Ciencia y Tecnología Agrícolas (ICTA)
 - Laboratorio Nacional de Salud (LNS)
- Responsables del fortalecimiento de capacidades para la detección de organismos genéticamente modificados (OGM)

6

Herramientas de recopilación de datos: Entrevistas

Las entrevistas se realizaron principalmente con representantes de las siguientes instituciones:

Actores del nivel local

- Municipalidades vinculadas a actividades de divulgación
- Participación comunitaria
- Acciones relacionadas con la conservación del maíz nativo

Equipo de gestión del proyecto

- Task Managers del PNUMA-GEF
- Asistente Principal del Programa del PNUMA
- Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)
 - como entidad de apoyo a la gestión financiera
- Coordinador Nacional del Proyecto

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Principales consideraciones para la Revisión Terminal



Pertinencia: contexto político y social y relevancia de la bioseguridad para Guatemala.



Eficiencia: gestión de la ejecución del proyecto: contratación, planificación y desembolsos.



Eficacia: conocimiento del proyecto y de la bioseguridad en general; importancia del tema para Guatemala en la planificación de actividades dentro de las instituciones y en las actividades de fortalecimiento de capacidades.



Sostenibilidad: en términos de sostenibilidad socio política, financiera e institucional en relación a las actividades de bioseguridad en Guatemala.

8

Componentes del proyecto

Component 1	Component 2	Component 3	Component 4
Fortalecimiento de la capacidad institucional para la vigilancia, el monitoreo y la detección de organismos genéticamente modificados (OGM)	Fortalecimiento del sistema administrativo y técnico de bioseguridad de las Autoridades Nacionales Competentes (ANC), en consonancia con el Artículo 2.1 del Protocolo de Cartagena sobre Seguridad de la Biotecnología	Desarrollo de capacidades en materia de responsabilidad y compensación (Artículo 27) y de consideraciones socioeconómicas (Artículo 26)	Conservación de la biodiversidad nativa en apoyo a las actividades relacionadas con la bioseguridad.

9

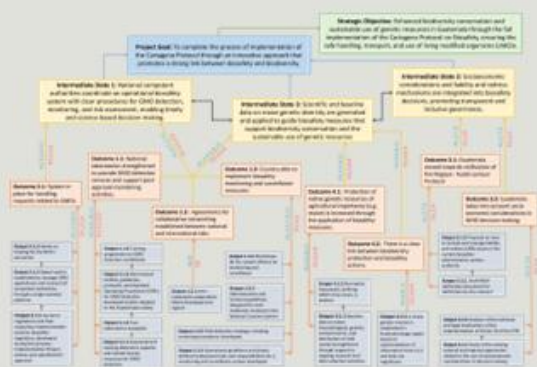
Resumen de las calificaciones alcanzadas sobre la Calidad del Diseño del Proyecto

SECCIÓN	CALIFICACIÓN (1-6)	PESO	TOTAL (Calificación x peso /100)
A Preparación del Proyecto	5	1.0	0.5
B Identificación de Riesgos y Salvaguardas	4	0.8	0.32
C Arreglos de Gobernanza y Supervisión	6	1.0	0.6
D Alianzas	4	1.0	0.4
E Pertinencia Estratégica	4	0.4	0.16
F Marco Lógico y Causalidad	2	1.5	0.3
G Planificación Financiera	5	0.8	0.4
H Eficiencia	5	0.4	0.2
I Monitoreo	5	0.8	0.4
J Sostenibilidad / Replicación y Efectos Catalíticos	3	1.5	0.45
K Aprendizaje, Comunicación y Divulgación	4	0.8	0.32
		TOTAL SCORE	4.05

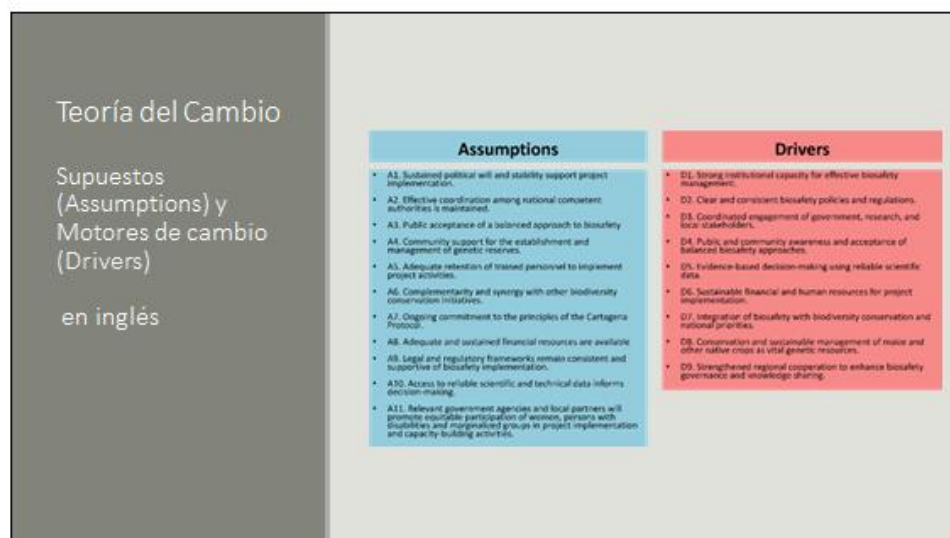
1 (Muy insatisfactorio)	< 1.83
2 (Insatisfactorio)	≥ 1.83 < 2.66
3 (Moderadamente insatisfactorio)	≥ 2.66 < 3.5
4 (Moderadamente satisfactorio)	≥ 3.5 < 4.33
5 (Satisfactorio)	≥ 4.33 < 5.16
6 (Muy satisfactorio)	≥ 5.16

10

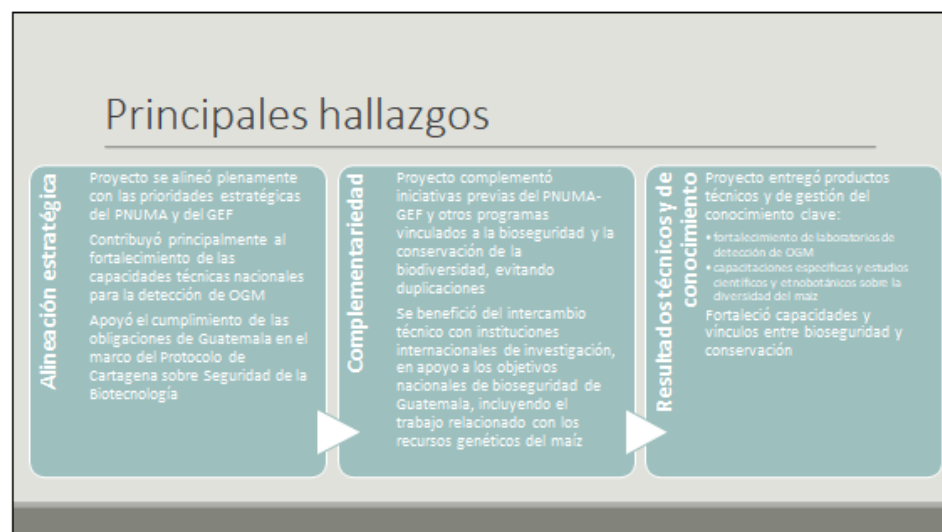
Teoría del Cambio en inglés



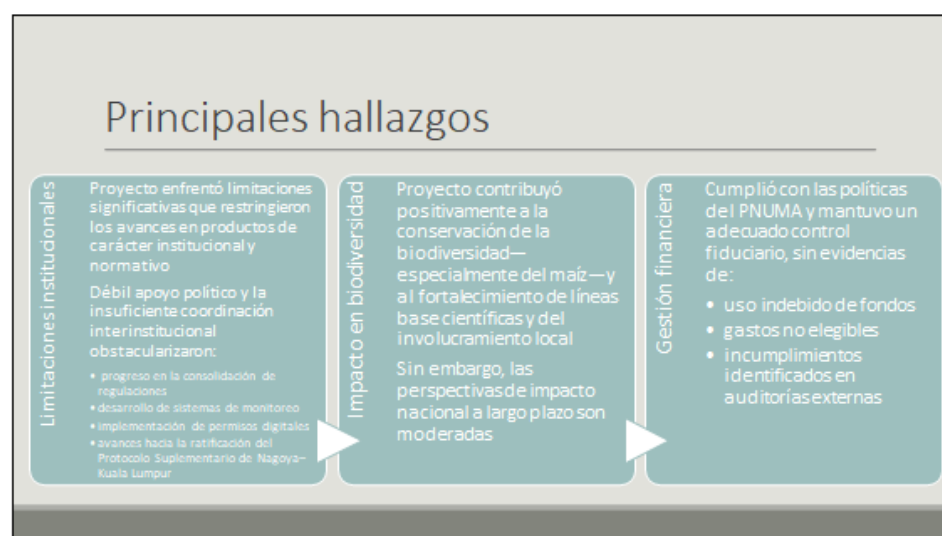
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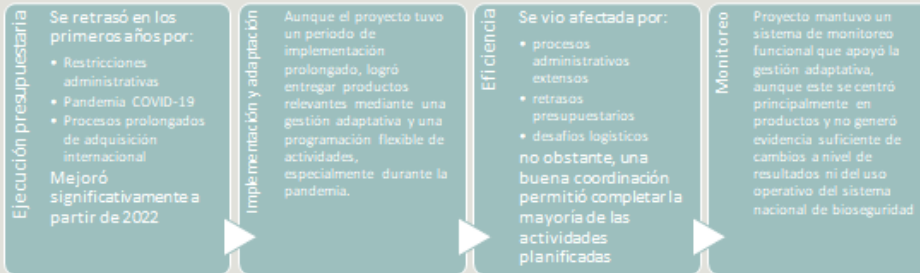


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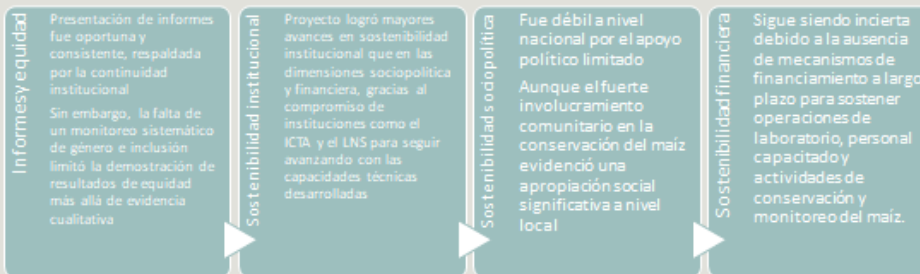
14

Principales hallazgos



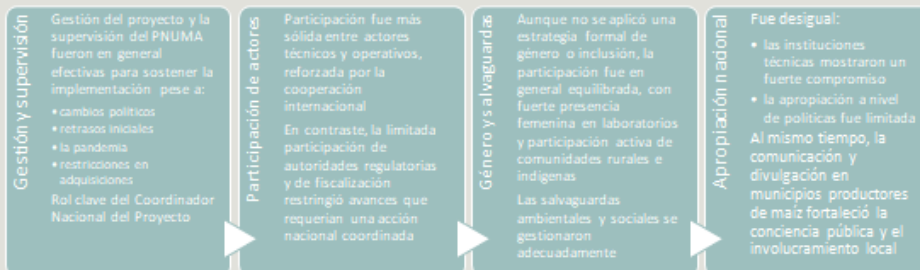
15

Principales hallazgos



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Principales hallazgos



17



Desempeño general: El proyecto tuvo un desempeño *Moderadamente Satisfactorio*, con mayores fortalezas en el desarrollo de capacidades técnicas, la generación de conocimiento científico y las acciones de conservación de la biodiversidad vinculadas al maíz.



Resultados técnicos clave: El proyecto entregó productos concretos, incluyendo el fortalecimiento de dos laboratorios nacionales para la detección de OGM, la generación de líneas base sobre la diversidad genética del maíz y la producción de productos de conocimiento clave, como el libro nacional del maíz, un estudio etnobotánico y una estrategia de conservación del maíz adoptada por autoridades nacionales.



Vínculo bioseguridad-biodiversidad: Los logros obtenidos en el proyecto contribuyeron a fortalecer la articulación entre bioseguridad y conservación de la biodiversidad en Guatemala.



Resultados en biodiversidad: El proyecto logró resultados tangibles en conservación a través del apoyo a la conservación del maíz en la región Huista, donde dos áreas protegidas contribuyen actualmente a la protección de poblaciones de maíz silvestre.

Conclusiones principales

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Colaboración y gestión adaptativa: Los avances técnicos se sustentaron en una sólida colaboración institucional, liderazgo técnico continuo y cooperación científica internacional. La gestión adaptativa permitió mantener la implementación durante la pandemia de COVID 19, retrasos en adquisiciones y períodos de apoyo político reducido, sin comprometer los principales entregables técnicos.



Fortalecimiento de capacidades y sensibilización: Las actividades de fortalecimiento de capacidades—including diplomados, capacitaciones profesionales, trabajo comunitario y actividades escolares—ampliaron la sensibilización sobre bioseguridad y biodiversidad.



Debilidades institucionales y normativas: Las principales debilidades se observaron en la apropiación de políticas públicas y la consolidación institucional. Los avances hacia la operacionalización del sistema nacional de bioseguridad, la coordinación regulatoria, el procesamiento digital de solicitudes de OGM y el avance formal del Protocolo de Nagoya-Kuala Lumpur fueron limitados por un débil respaldo político.

Conclusiones principales

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Sostenibilidad: Si bien los logros técnicos y de conservación son relativamente sólidos, la sostenibilidad institucional y financiera dependerá de compromisos futuros de financiamiento público y gobernanza.



Género y derechos humanos: Las consideraciones de género y derechos humanos se reflejaron en la práctica mediante una participación equilibrada y una fuerte representación femenina en los laboratorios, así como un involucramiento significativo de comunidades rurales e indígenas; no obstante, la ausencia de una estrategia formal de inclusión limitó el monitoreo sistemático de resultados de equidad.



Conclusión general: En conjunto, el proyecto deja a Guatemala mejor preparada en términos técnicos y científicos, aunque su impacto a largo plazo dependerá de un renovado compromiso político y de acciones de seguimiento posteriores al cierre del proyecto.

Conclusiones principales

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Lecciones aprendidas

El compromiso político sostenido es indispensable para lograr resultados legales y de política pública en proyectos de bioseguridad, independientemente del nivel de avance técnico que se alcance.

Las inversiones en laboratorios, generación de datos científicos y fortalecimiento de capacidades técnicas generan un valor duradero, incluso cuando los objetivos institucionales y regulatorios no se alcanzaron plenamente.

Los entes de coordinación técnica, como los comités interinstitucionales, son fundamentales para mantener la coherencia, la continuidad y la coordinación entre instituciones.

El liderazgo individual continuo y el compromiso institucional desempeñan un papel decisivo en la entrega de productos cuando las estructuras formales de gobernanza son débiles o inestables.

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Lecciones aprendidas

El balance de género y la participación comunitaria pueden surgir de manera orgánica durante la implementación del proyecto; sin embargo, sin marcos de monitoreo estructurados, su impacto a largo plazo no puede demostrarse.

La participación debe incluir a los tomadores de decisiones políticas, y no limitarse únicamente a los actores técnicos.

Las actividades de fortalecimiento de capacidades y los productos de comunicación amplían significativamente el impacto del proyecto más allá de los productos formales, ya que fortalecen la sensibilización pública y el conocimiento institucional sobre bioseguridad y conservación.

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Recomendaciones principales



Se recomienda que CONAP convoque al Comité Técnico del Proyecto con el fin de definir una estrategia interinstitucional conjunta que permita sostener la cooperación, la coordinación y el intercambio de conocimientos logrados durante el proyecto, así como identificar vías para dar continuidad a las actividades de bioseguridad y conservación del maíz una vez que el proyecto ha finalizado.



Se recomienda que CONAP, en coordinación con el ICTA y el LNS, convoque una reunión de planificación estratégica para identificar opciones concretas que permitan sostener y poner en operación las capacidades técnicas y la infraestructura establecidas en ambos laboratorios, incluyendo mecanismos para continuar con las actividades de capacitación, el mantenimiento de equipos y el uso práctico de los servicios de detección.

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Recomendaciones principales



Se recomienda que CONAP mantenga una articulación regular con las municipalidades involucradas en las actividades de conservación del maíz, mediante visitas de seguimiento y reuniones de coordinación, con el objetivo de fortalecer las acciones locales de conservación, compartir las lecciones aprendidas del proyecto e identificar conjuntamente opciones prácticas para continuar avanzando en la conservación y el uso sostenible del maíz cultivado y silvestre.



Se recomienda que el PNUMA continúe fortaleciendo los criterios de diseño de proyectos en iniciativas de bioseguridad y recursos genéticos, prestando especial atención a la viabilidad de los productos y resultados que dependen de procesos de decisión política. Cuando corresponda, el PNUMA podría promover compromisos institucionales claros desde la etapa de diseño o apoyar proyectos menos dependientes de decisiones políticas de alto nivel cuando las condiciones habilitantes aún no estén consolidadas.

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Muchas
gracias
por su
atención!

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ANNEX VIII. BRIEF CV OF THE REVIEWER

Name	Maria de Lourdes Torres
Profession	Molecular Biologist, Professor/Researcher/Consultant
Nationality	Ecuador
Country experience	Americas: Ecuador, Colombia, Peru, Uruguay, Brazil, Venezuela, Paraguay, Chile, Argentina, Panama, El Salvador, Nicaragua, Honduras, México, and Guatemala.
Education	PhD in Plant Molecular Biology

Short biography

María de Lourdes Torres completed her PhD studies in Plant Molecular Biology at the Freie Universität Berlin (Germany). She is a professor at the College of Biological and Environmental Sciences (COCIBA), Universidad San Francisco de Quito (Ecuador). She is Vice-Dean of the COCIBA, Coordinator of the Biotechnology Area and Director of the Plant Biotechnology Lab. She directs and takes part in research projects mainly related to in vitro culture and molecular characterization, using molecular and genomic markers of plant species of interest to Ecuador. She also maintains collaborations with national and international researchers in projects involving genetic analysis of animal species and bacterial consortia. She has experience in policy development on access to genetic resources and biosafety in relation to the use and management of genetically modified organisms and modern biotechnology.

Key specialties and capabilities cover

- Expertise in molecular biology and plant biotechnology.
- Knowledge of bioinformatics and genomic data analysis.
- Familiarity with biodiversity, access and benefit-sharing (ABS) frameworks, and biosafety regulations.
- Experience in project evaluation, knowledge management, and stakeholder engagement in scientific projects.
- Ability to assess scientific methodologies, data quality, and research impact.

Current appointments:

Member of the AHTEG on Risk Assessment. Cartagena Protocol on Biosafety – Convention on Biological Diversity
 Adjunct Professor. Biology Department, University of North Carolina at Chapel Hill (United States)
 Advisory Board Member. Galapagos Science Center (USFQ - UNC)
 Advisory Board Member. World Wildlife Fund (WWF, Ecuador)

Biosafety and Biotechnology

For more than 20 years, Ms. Torres has worked in the field of biosafety at national and regional levels in Latin America and been a consultant for the elaboration of policies on biosafety, regulations on Living Modified Organisms (LMO), genetic resources, and laws on food sovereignty, among others. She was the official delegate of Ecuador to several COP-MOPs of the Cartagena Protocol on Biosafety (CPB) and was also the official delegate of Ecuador during the whole Nagoya - Kuala Lumpur Supplementary

Protocol on Liability and Redress negotiation process. She was a regional advisor for the BCH-CPB training projects, and as such has organized and delivered workshops in most Latin American countries. Ms. Torres has been part of the AHTEG on Synthetic Biology of the Convention on Biological Diversity (CBD) and is currently a member of the AHTEG on Risk Assessment of the CPB. She is an advisor to Ecuador on biosafety and access to genetic resources, mainly to the Ministries of Environment and Agriculture.

Selected assignments and experiences

- Consultant for Terminal Reviews of biosafety-related projects (e.g., in Panama and Guatemala) and for ABS projects (e.g., in The Bahamas).
- Official delegation to CBD meetings under the Cartagena Protocol, and to working groups on synthetic biology, risk assessment, and access and benefit-sharing (ABS).
- Author of over 70 scientific papers on biodiversity, using molecular approaches to study evolutionary and population aspects applied to conservation.

ANNEX IX. GEF PORTAL INPUTS (FOR GEF FUNDED PROJECTS)

The following table contains text to be uploaded to the GEF Portal. **It will be drawn from the Review Report, either as copied or summarized text.** In each case, references should be provided for the paragraphs and pages of the report from which the responses have been copied or summarized.

Table 18. GEF portal inputs

Question: What was the performance at the project's completion against Core Indicator Targets? (For projects approved prior to GEF-7³³, these indicators will be identified retrospectively and comments on performance provided³⁴).
Response: (<i>Review Report Tables 5 and 9</i>). Since the project was developed under GEF-6, no GEF Core Indicator targets were defined at CEO endorsement. For the purposes of this Terminal Review, the reviewer retrospectively assessed the project's performance against relevant GEF Core Indicators, based on the nature and scope of project interventions. The project contributed to Core Indicator 1 (Terrestrial protected areas created or under improved management) through the establishment of two protection zones for wild maize in the Huista region. These zones support the in-situ conservation of wild relatives of maize and agrobiodiversity and are directly linked to national biodiversity and biosafety objectives. This intervention represents a concrete contribution to terrestrial conservation outcomes under Core Indicator 1. Core Indicator 11 (Number of direct beneficiaries disaggregated by gender) is also relevant to the project. Although no quantitative beneficiary targets were established and beneficiaries were not systematically tracked by gender, evidence from project implementation indicates direct engagement with a wide range of stakeholders, including national competent authorities, technical staff from GMO detection laboratories, academic and research institutions, municipal authorities, and local actors involved in maize conservation activities. A clear presence of women was observed among technical and professional staff in the laboratories strengthened by the project, while participation across other project activities reflected a general balance between women and men, albeit with higher male representation in some institutions, such as the MAGA. In addition, outreach activities implemented through municipalities facilitated the participation of Indigenous communities in project-related activities, contributing to inclusive engagement at the local level. Given the absence of systematic gender-disaggregated data, the project's contribution to Core Indicator 11 is assessed qualitatively rather than quantitatively. Other GEF Core Indicators—particularly those related to marine protected areas, land restoration, landscape and marine habitat management, greenhouse gas emissions, shared water ecosystems, fisheries, and chemicals and waste—are not applicable, as the project did not include interventions within these domains. Overall, the project contributes qualitatively to Core Indicators 1 and 11. Performance against these indicators is therefore assessed descriptively, based on the nature of the interventions implemented and the information available at completion.

³³ The GEF is currently operating under the seventh replenishment period of the GEF Trust Fund covering the period July 1, 2018 to June 30, 2022. The GEF Portal Reporting Guide for FY20 Reporting Process indicates that GEF-6 projects that have yet to map existing indicators to GEF-7 Core Indicators need to do so at MTR stage or (if already there) at the time of the TE. (i.e. not GEF projects approved before GEF-6)

³⁴ This is not applicable for Enabling Activities

Question: What were the progress, challenges, and outcomes regarding engagement of stakeholders in the project/program as evolved from the time of the MTR? *(This should be based on the description included in the Stakeholder Engagement Plan or equivalent documentation submitted at CEO Endorsement/Approval)*

Response: [\(Review Report paragraphs 35-38; 59,62, 196, 120, 129-131, 136\)](#)

The project design, as outlined in the ProDoc, identified a broad range of stakeholders, including national competent authorities, research institutions, municipalities, local communities, and international partners, as essential for achieving the project's biosafety objectives. Stakeholder engagement was conceived as a participatory process building on institutional arrangements established under previous UNEP-GEF biosafety initiatives.

Following the Mid-Term Review (MTR), engagement with national competent authorities and technical institutions remained strong, particularly through CONAP as Executing Agency and through institutions represented in the Technical Committee (Steering Committee). Technical stakeholders, including ICTA and the National Health Laboratory (LNS), played a central role in the achievement of technical outcomes, particularly in strengthening national capacities for GMO detection and laboratory-based biosafety functions.

However, the project faced limitations in achieving regulatory outcomes. While several stakeholders participated in technical and coordination processes, none had sufficient political leverage or decision-making authority to drive the adoption or full operationalization of regulatory reforms beyond the technical level. As a result, stakeholder engagement proved effective in delivering technical output but less effective in advancing regulatory and policy-level outcomes.

At the local level, engagement with municipalities supported outreach and awareness-raising activities related to biosafety, biodiversity, and the conservation of native maize. These activities facilitated the inclusion of Indigenous communities in selected project activities. Nevertheless, sustained participation of local communities remained limited, in part due to strong opposition to GMOs and contextual factors beyond the project's control.

Overall, stakeholder engagement after the MTR remained strong at the institutional and technical levels, particularly among national authorities and implementing partners, enabling the project to achieve its core capacity-building and coordination objectives. At the same time, engagement with certain academic institutions and local communities was more limited than planned, reflecting institutional decisions, capacity constraints, and contextual factors beyond the project's control. These dynamics underscore the importance of sustained, adaptive engagement strategies that respond to stakeholder interests, institutional incentives, and technical realities throughout project implementation.

Question: What were the completed gender-responsive measures and, if applicable, actual gender result areas? *(This should be based on the documentation at CEO Endorsement/Approval, including gender-sensitive indicators contained in the project results framework or gender action plan or equivalent)*

Response: [\(Review Report paragraphs 6, 9, 39, 74, 117, 120, 132-133, 135; Table 7\)](#)

At the time of CEO endorsement, the project design explicitly addressed gender equality and the inclusion of under-represented groups, as outlined in Section 4 of the ProDoc. The project recognized that women and men may have different roles, perspectives, and levels of access to benefits related to biodiversity and biosafety, and therefore integrated gender considerations across its design and implementation.

Gender-responsive measures were primarily implemented through Component 4, which promoted equitable participation of women, men, and local communities in project activities. These measures included efforts to ensure balanced participation in trainings, meetings, and awareness-raising activities; consideration of gender balance in the selection of project personnel, consultants, and trainees; and inclusive approaches to stakeholder engagement related to biosafety governance and the management of in situ genetic reserves, including activities linked to maize conservation.

In practice, project documentation and implementation records indicate that gender considerations were applied mainly through process-level measures, aimed at promoting equitable access to capacity-building opportunities and participation in institutional and technical activities. However, the project did not define specific gender-sensitive indicators or quantitative gender targets in its results framework, and gender-disaggregated data were not systematically collected. As a result, gender outcomes are assessed qualitatively rather than quantitatively, and no distinct gender result areas can be reported beyond inclusive participation in project processes.

Although the project was designed prior to the adoption of the United Nations Disability Inclusion Strategy, its implementation provides relevant lessons for future programming. In particular, future initiatives in the biosafety and biodiversity domain could strengthen inclusion by explicitly incorporating accessibility considerations into stakeholder engagement, communication, and monitoring mechanisms, ensuring that the rights and needs of people with disabilities are addressed from the outset.

Question: What was the progress made in the implementation of the management measures against the Safeguards Plan submitted at CEO Approval? The risk classifications reported in the latest PIR report should be verified and the findings of the effectiveness of any measures or lessons learned taken to address identified risks assessed. *(Any supporting documents gathered by the Consultant during this review should be shared with the Task Manager for uploading in the GEF Portal)*

Response: [\(Review Report paragraphs 6, 84, 134-135; Annex VI\)](#)

At CEO Approval, the project was classified as low environmental and social risk, as it focused on regulatory, institutional, and technical capacity strengthening rather than on technology deployment or large-scale field interventions. Social and environmental safeguards were integrated into the project design, particularly in relation to the protection of maize as a strategic genetic resource and the anticipated positive environmental and social effects.

During implementation, safeguards management measures were applied as planned and monitored through routine project oversight and reporting mechanisms. The risk classifications reported in the latest PIR remained valid, and no environmental or social safeguard issues were triggered. Project activities—including field engagement, laboratory strengthening, and outreach at the local level—did not result in adverse impacts, and no grievances or safeguard-related incidents were reported. While disaggregated indicators were not applied, inclusion considerations were addressed through community-based engagement and outreach. Overall, safeguards were effectively implemented, and the project remained within the low-risk profile established at design.

Question: What were the challenges and outcomes regarding the project's completed Knowledge Management Approach, including: Knowledge and Learning Deliverables (e.g., website/platform development); Knowledge Products/Events; Communication Strategy; Lessons Learned and Good Practice; Adaptive Management Actions? *(This should be based on the documentation approved at CEO Endorsement/Approval)*

Response: [\(Review Report paragraphs 6, 83, 129-130, 136, 138-139, 149-150\)](#)

The project's Knowledge Management approach focused on strengthening technical learning and institutional capacities related to biosafety implementation and the conservation of maize genetic resources. Knowledge outputs included technical guidelines, training materials, laboratory protocols, and scientific and outreach products generated through capacity-building activities with national competent authorities and technical institutions, particularly ICTA and LNS. No dedicated project website or centralized knowledge platform was developed; dissemination relied on sustained communication through workshops, trainings, technical meetings, and institutional channels.

Knowledge products and events supported continuous knowledge exchange at the national, regional, and local levels, including outreach activities implemented through municipalities and engagement with local and Indigenous communities in maize conservation areas. While communication efforts were sustained and effective within these contexts, their geographic coverage remained limited, and broader national scaling was constrained.

Key lessons learned indicate that, despite strong technical knowledge generation and dissemination, the absence of stakeholders with sufficient political authority limited the translation of knowledge products into regulatory outcomes. Adaptive management actions were implemented to address institutional transitions, delays in advanced research activities, and pandemic-related disruptions, enabling continued progress in knowledge generation and capacity building.

Question: What are the main findings of the evaluation?

Response: ([Review Report paragraphs 5 - 6](#))

The project demonstrated strong performance in strengthening Guatemala's technical and scientific foundations for biosafety, particularly through the upgrading of two national laboratories for GMO detection, the generation of baseline scientific data on native maize diversity, two protected areas for maize conservation and the production of key knowledge products such as the national maize book and the ethnobotanical study. These achievements reflect effective coordination among technical institutions and contributed to increased institutional understanding of biosafety principles and biodiversity conservation. However, progress in establishing the regulatory and institutional framework for a fully operational national biosafety system remained limited due to weak political support, frequent changes in authorities, and the absence of sustained high-level commitment. As a result, expected advances related to regulatory consolidation, monitoring systems, digital procedures, and no real progress was made toward ratifying the supplementary international protocol. Strengthening political engagement and institutional anchoring would be essential for translating technical gains into a durable national biosafety system.

The Terminal Review identified the following set of findings reflecting the project's achievements, implementation experience, and areas that may require continued attention to support the long-term strengthening of Guatemala's biosafety framework alongside the conservation of its native biodiversity. These findings provide insight into the project's relevance, effectiveness, efficiency, sustainability, stakeholder engagement, gender considerations, safeguards, and institutional performance.

- The project was fully aligned with UNEP's and GEF's strategic priorities and contributed primarily through strengthening national technical capacity for GMO detection and biosafety implementation, thereby supporting Guatemala's obligations under the Cartagena Protocol on Biosafety.
- The project complemented previous UNEP-GEF initiatives and related programmes on biosafety and biodiversity conservation and avoided duplication, while benefitting from technical exchange with international research institutions in support of Guatemala's national biosafety objectives, including work on maize genetic resources.
- The project delivered key technical and knowledge-based outputs, including strengthened GMO detection laboratories, targeted training activities, and scientific and ethnobotanical studies on maize diversity, contributing to improved capacities and stronger links between biosafety and biodiversity conservation.
- The project faced significant constraints that limited progress on institutional and policy-related outputs, as weak political support and insufficient inter-institutional coordination hindered advances in regulatory consolidation, monitoring systems, digital permitting, and steps toward NKLP ratification.
- The project made positive contributions to biodiversity conservation—particularly through strengthened maize conservation efforts, improved scientific baselines, and strong local engagement—yet the prospects for long-term national impact remain moderate. Without stable political support, sustainable financing, and an operational biosafety governance

framework, these gains face limits in translating into a fully functional and durable biosafety system.

- Financial management complied with UNEP policies and procedures and demonstrated adequate fiduciary control throughout implementation, with no evidence of misuse of funds, ineligible expenditures, or non-compliance identified in external audits.
- Budget execution was delayed in the early years by administrative constraints, the COVID-19 pandemic, and lengthy international procurement processes for laboratory equipment, but improved significantly from 2022 onward.
- The project experienced an extended implementation period but succeeded in delivering relevant technical, scientific, and conservation-related outputs through adaptive management and flexible sequencing of activities, particularly during the pandemic and periods of limited political support.
- Project efficiency was affected by prolonged administrative processes, slow budget execution in the early years, and logistical challenges related to equipment procurement and sample shipment; however, thanks to good project coordination, operational momentum was achieved and most of the planned activities were completed.
- The project maintained a functional monitoring system that supported adaptive management in the face of COVID-19, procurement delays, and limited political support; however, monitoring remained output-focused and did not generate evidence of outcome-level change or the operational use of the national biosafety system.
- Project reporting was timely and consistent, strongly supported by the National Project Coordinator's ability to ensure institutional continuity; however, the absence of systematic monitoring of gender and social inclusion limited the project's capacity to demonstrate equity outcomes beyond qualitative evidence of broad participation and community outreach.
- The project achieved stronger results in institutional sustainability than in socio-political or financial sustainability, particularly through the continued operational readiness and commitment of ICTA and LNS to use the equipment and technical capacities developed under the project for biosafety-related activities.
- Socio-political sustainability remained weak at the national level due to limited and inconsistent political support for advancing biosafety policy reform; however, strong community-level engagement in maize conservation—particularly through municipal collaboration—indicated meaningful social ownership of biodiversity-related outcomes.
- Financial sustainability remains uncertain, as no long-term funding mechanisms were secured to maintain laboratory operations, sustain trained personnel, or continue maize conservation and monitoring activities, placing the durability of project gains at risk without follow-up investment.
- Project management and UNEP supervision were generally effective in maintaining implementation despite political changes, delayed start-up, pandemic-related disruptions, and procurement constraints, with the National Project Coordinator playing a key role in sustaining coordination and delivery of technical outputs.
- Stakeholder participation was strongest among technical and operational actors and was reinforced by international cooperation for capacity-building and knowledge transfer. In contrast, limited engagement from regulatory and enforcement authorities constrained progress on outcomes requiring coordinated national action and system-level integration.
- Although the project did not apply a formal gender or inclusion strategy, participation was generally balanced between women and men, with strong female presence in laboratories and active involvement of rural and indigenous communities in maize-related activities. Environmental and social safeguards were adequately addressed, and no ESS issues were triggered during implementation.
- Country ownership was uneven: technical institutions demonstrated strong commitment, particularly in laboratory strengthening and maize conservation—while policy-level ownership remained limited due to shifting political priorities. At the same time, communication and outreach efforts in maize-producing municipalities significantly enhanced public awareness of biosafety and genetic resource conservation, fostering broader local engagement.

ANNEX X: IMPLEMENTATION PLAN OF RECOMMENDATIONS

Project Title and Reference No.: "Strengthening and expansion of capacities in biosafety that lead to a full implementation of the Cartagena Protocol on Biosafety in Guatemala", GEF ID 9633 / SMA ID 33485

Contact Person (TM/PM): Anna Fanzeres, Task Manager - UNEP

RECOMMENDATIONS	PLANS			
	ACCEPTED (YES / NO / PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
Recommendation #1: It is recommended that CONAP convene the Project Steering Committee to define a joint inter-institutional strategy to sustain cooperation, coordination, and knowledge exchange achieved under the project, and to identify practical pathways for continuing activities related to biosafety and maize conservation beyond project closure.	Yes	Pass the recommendation to CONAP. Nevertheless, it cannot be guaranteed that the institution will follow up on it.	TBD by CONAP	CONAP
Recommendation #2: It is recommended that CONAP, in coordination with ICTA and the National Health Laboratory (LNS), convene a strategic planning meeting to identify concrete options to sustain and operationalize the technical capacities and infrastructure established in the two laboratories, including mechanisms to continue training activities, maintain equipment, and promote the practical use of detection services.	Yes	Pass the recommendation to CONAP. Nevertheless, it cannot be guaranteed that the institution will follow up on it.	TBD by CONAP	CONAP
Recommendation #3: It is recommended that CONAP maintain regular engagement with the municipalities involved in maize conservation activities through follow-up visits and coordination meetings, with the objective of strengthening local conservation actions, sharing lessons learned from the project, and jointly identifying practical options to continue advancing the conservation and sustainable use of cultivated and wild maize.	Yes	Pass the recommendation to CONAP. Nevertheless, it cannot be guaranteed that the institution will follow up on it.	TBD by CONAP	CONAP

RECOMMENDATIONS	PLANS			
	ACCEPTED (YES / NO / PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	REPOSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
Recommendation #4: It is recommended that UNEP continue strengthening its project design criteria for biosafety and genetic resource initiatives, giving particular attention to the feasibility of outputs and outcomes that depend on political decision-making processes. Where appropriate, UNEP may consider encouraging countries to demonstrate clear institutional commitment at the design stage, or alternatively, supporting project designs that reduce reliance on high-level policy actions where enabling conditions are not sufficiently mature.	Yes	For future design of Biosafety projects these recommendations shall be adopted.	Whenever there is another Biosafety project being elaborated by the Task Manager.	Anna Fanzeres/Task Manager

ANNEX XI. QUALITY ASSESSMENT OF THE REVIEW REPORT

Review Title: Terminal Review of the UNEP/GE Project Strengthening and Expansion of Capacities in Biosafety that Lead to a full Implementation of the Cartagena Protocol on Biosafety in Guatemala

Consultant: Maria de Lourdes Torres

All UNEP Reviews are subject to a quality assessment by the UNEP Evaluation Office. This is an assessment of the quality of the review product (i.e. Main Review Report).

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
Section A: Executive Summary	Assessment	
1. Does the <i>Executive Summary</i> act as a concise, accurate standalone section, especially to inform decision-making? Consider how clearly and concisely the report presents: - a clear summary of the review object - review objectives, scope and methodology - the overall project review rating - a summary of main review findings, including key features of performance (strengths and weaknesses) - summary responses to key strategic review questions - summary of main conclusions, lessons learned and recommendations	<u>Coverage/omissions:</u> All necessary elements are at least briefly covered. <u>Strengths/weaknesses:</u> The Executive Summary serves well as a concise presentation of review findings. Major aspects of the project's performance are generally well presented, which enables readers to understand the gist of the review report. The section covers both achievements and drawbacks in a well-balanced manner in line with the review criteria. Responses to key strategic questions are briefly summarized. Gender and human rights dimensions are described as part of the key findings and conclusion summary, which gives added value to the Executive Summary. The Executive Summary is a little lengthy, exceeding 5 pages. Especially, the key findings part includes 18 bullet points, which could have been further summarized to highlight only the critical findings of the report. Except for this minor shortcoming, the Executive Summary is well-crafted, acting as a standalone overview of the review product.	5
Section B: The Project	Assessment	
2. Does the report clearly describe the <i>key parameters, scale and complexity of the evaluand</i>? Consider how well the report presents: - an overview of the main issue that the project is trying to address - timeline, including dates of project approval, duration and number of phases (where appropriate) - geographic coverage (regions/countries) - total secured budget and project financing, including a table with funding sources - implementing and funding partners - institutional context (i.e. UNEP sub-programme, Division, Branch etc) - implementation structure with diagram - UNEP results frameworks to which it contributes (e.g. PoW Direct Outcome)	<u>Coverage/omissions:</u> Almost all essential information is covered, except for the UNEP results frameworks to which it contributes. <u>Strengths/weaknesses:</u> The '<i>Introduction</i>' section is well presented, with a clear description of most of the required information. It serves as a good introduction to the report and successfully situates the evaluand in the institutional context. Especially, institutional contexts (except for the UNEP corporate framework) and project implementation structures are well elaborated with details. The stakeholders are also generally well described, but the roles of the respective key stakeholders could	5

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
- summary of results framework as stated in the ProDoc (or as officially revised) - stakeholder groups organised according to relevant common characteristics - whether the project has been evaluated in the past (e.g. mid-term, by an external agency, etc.) - substantive or significant changes in design during implementation	have been a little more elaborated, potentially with the use of a table. The project underwent 11 budget revisions and 3 no-cost extensions (Para 43), but details of budget revisions and no-cost extensions could have been described with more detail.	
Section C: Review Methods and Theory of Change	Assessment	
3. Does the report present a clear, comprehensive and adequate description of the <i>review methodology</i>? Consider how well it presents the following elements, and their adequacy based on the scope of the review: - statement of the purpose of the review and the key intended audience for the review findings - data collection methods and information sources - justification for methods used (e.g. electronic/face-to-face interviews, qualitative/quantitative analysis) - criteria and sampling strategies used to select stakeholders for consultations, and for sites/countries visited - number and types of respondents (<i>including in a table broken down by gender</i>) - strategies used to increase stakeholder engagement and response rate - methods used to include the voices/experiences of different and potentially excluded groups (e.g. women, marginalised) - data verification methods (e.g. triangulation) - data analysis methods (e.g. scoring, thematic analysis) - review limitations and mitigation measures (e.g. how these were addressed by the reviewer) - consideration for ethics and human rights issues, including how anonymity and confidentiality were protected	<u>Coverage/omissions:</u> The section includes almost all the required information, except for sampling strategies. <u>Strengths/weaknesses:</u> The section is well elaborated with most required information, which enables readers to easily understand an overview of review approaches. The required information is elaborated in a well-balanced manner. Especially, review limitations & mitigation measures and strategies for inclusivity are well elaborated with sound analysis. The gender and human rights dimensions of the review methodologies are well described. While the estimation of the number of direct beneficiaries and indirect beneficiaries is clearly mentioned, sampling strategies are not described. For example, the reviewer estimated the project had over 120 direct beneficiaries but interviewed only 5 people. There is no mention of how the 5 direct beneficiaries were selected for the interviews (as well as why only 5 were selected). The same applies to indirect beneficiaries. A clear description of selection methodologies could have enhanced the clarity of the review methods. In relation to the sampling above, Table 5 is incomplete – the number of stakeholders who responded is not mentioned. And the table seems to be the one that was used in the inception report. Table 5 could have been updated properly.	4.5
4. Does the report describe an assessment and reformulation of the <i>Theory of Change</i>, and present an adequate articulation of the TOC causal pathways that were used to assess project performance (<i>narratively and diagrammatically</i>)? Consider how well the report presents: - whether the project design included a TOC - how the <i>TOC at Review</i>³⁵ was designed (e.g. who was involved, etc)	<u>Coverage/omissions:</u> Most required information is added in this section, except for key actors in the change process. <u>Strengths/weaknesses:</u> Reconstruction of the TOC is generally well done and described properly in the section, incorporating most required information. Reconstruction of results is described in the table.	4.5

³⁵ During the Inception Phase of the review process a *TOC at Review Inception* is created based on the information contained in the approved project documents (these may include either logical framework or a TOC or narrative descriptions), formal revisions and

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
- confirmation/reconstruction of results in accordance with UNEP definitions (including reformulation table, which may have initially been presented in the Inception Report and should appear in the Main Review report.) - articulation of causal pathways - identification of drivers and assumptions - identification of key actors in the change process	Drivers and assumptions are identified. The linkages between assumptions/drivers and respective causal pathways are visualized in the reconstructed TOC diagram. Gender and human rights dimensions of TOC and causal pathways are well analyzed and described, which gives added value to the section. Causal pathways are well visualized in the reconstructed TOC diagram, together with drivers and assumptions, but these are only briefly mentioned in narrative form. A more elaborate narrative explanation of causal pathways, including the linkage between assumptions/drivers and causal pathways (i.e., different levels of results), could have enhanced the clarity of the reconstructed TOC. Key actors in the change process are broadly mentioned across the section. A little more detailed description of actors in the change process would have benefited this section.	
Section D: Evidence and Analysis	Assessment	
5. Is the report based on <i>sufficient and adequate data</i> and <i>clear and credible evidence</i>? Consider how well the report presents: - sufficient evidence that is consistent throughout the report - evidence that is supported by data sources (e.g. quotes, reports, etc) - evidence that is explicitly triangulated, unless noted as having a single source - gaps in data are explained and justified - data sources that are reliable, adequate, sufficient for the scope of the review	<u>Coverage/omissions:</u> Sufficient data and credible evidence are covered in the report. <u>Strengths/weaknesses:</u> Evidence, i.e., interviews and documents, is generally well presented to support findings, although these are not necessarily cited in the main text specifically (the Annex includes lists of interviewees and documents consulted). Triangulation is also occasionally and implicitly done in some parts of the report. Although not all evidence is articulated in narrative form, readers can generally see many findings being backed up by certain evidence rather than the reviewer's predetermined ideas. Data gaps and their related challenges are briefly explained in the 'Review Methods' section. Generally, data sources are reliable to support findings and ratings as credible evidence. For some review criteria (i.e., 'Sustainability' and 'Factors Affecting Performance and Cross-Cutting Issues'), the necessary data are not adequately collected, which makes it difficult to analyze all the parameters that are needed to determine the ratings. A more comprehensive coverage of data that is aligned with UNEP's Criteria Ratings Matrix would have enhanced the quality of the reviewer's analyses and findings.	5

annual reports etc. During the review process this TOC is revised based on changes made during project intervention and becomes the TOC at Review.

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
6. Does the report include <i>rigorous analysis</i> and <i>logical findings</i>? Consider the extent to which the findings are: - supported by clear analysis that is consistent with the evidence presented - logical, clear and coherent - aligned with UNEP's Criteria Ratings Matrix - aligned with the review framework - more than descriptions and provide insights into 'how' and/or 'why' the project performed a certain way - balanced, presenting both successes and weaknesses	<u>Coverage/omissions:</u> The report generally includes rigorous analyses and logical findings for many review criteria. <u>Strengths/weaknesses:</u> In general, findings are supported by clear analysis that is consistent with evidence, which makes the reviewer's argument logical, clear, and coherent. The report is generally well-balanced, demonstrating both the project's successes and weaknesses, from which lessons learned and recommendations are derived. For some review criteria (i.e., '<i>Sustainability</i>' and '<i>Factors Affecting Performance and Cross-Cutting Issues</i>'), the reviewer's analyses do not cover all parameters that are needed to determine the ratings. As a result, the ratings for some criteria are not aligned with the narratives/analyses, and/or the UNEP's Criteria Ratings Matrix. More consistent support for findings and performance ratings could have been ensured in line with UNEP's Criteria Ratings Matrix.	4.5
Section E: Review Findings	Assessment	
7. Does the report present evidence and analysis of project <i>Strategic Relevance</i> with respect to UNEP, partner and geographic policies and strategies at the time of project approval? Consider how well the report addresses: - Alignment to the UNEP Medium Term Strategy (MTS), Programme of Work (POW) and Strategic Priorities - Alignment to Donor/GEF/Partners Strategic Priorities - Relevance to Regional, Sub-regional and National Environmental Priorities - Complementarity with Existing Interventions: complementarity of the project at design (or during inception/mobilisation³⁶), with other interventions addressing the needs of the same target groups.	<u>Coverage/omissions:</u> Assessment of each sub-criterion is generally well covered in the section. <u>Strengths/weaknesses:</u> Alignment with various strategies and priorities are well analyzed and elaborated with proper categorization. The project's alignment to relevant indicators, including the UNEP corporate indicators, GEF Core Indicators, and global indicators (i.e., SDGs), is not mentioned. Coherence analysis, covering both external coherence and internal coherence, is well done. Complementarities and their effects brought from the project to other interventions (and vice versa) are briefly described. Complementarity with the previous UNEP projects could have been done in the '<i>Efficiency</i>' section, not the '<i>Strategic Relevance</i>' section. The overall rating of the '<i>Strategic Relevance</i>' criterion could have been derived with a proper weighted calculation method.	5
Does the report present a summary of the strengths and weaknesses of the <i>Quality of</i>	<u>Coverage/omissions:</u>	NOT RATED

³⁶ A project's inception or mobilization period is understood as the time between project approval and first disbursement. Complementarity during project implementation is considered under Efficiency, see below.

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
Project Design , based on the detailed assessment presented in the Inception Report? ³⁷	The section presents a summary of the project design, covering both strengths and weaknesses, following the UNEP's Review Criteria Ratings Matrix. A description of the strengths and weaknesses is presented with a table of all sub-criteria ratings, in addition to a concise narrative summary. <u>Strengths/weaknesses:</u> Both strengths and weaknesses of the project design are described in both table and narrative form in a well-balanced manner, which serves as a good summary of the quality of the project design. Major aspects of the project design are well articulated with a few concrete examples. There seems to be no change in the rating of any sub-criterion from the inception report, but there should have been clarification in the narrative, if any.	
Does the report recognise and describe, when appropriate, key features of the Nature of the External Context under which the project was implemented that limited the project's performance (e.g. conflict, natural disaster, political upheaval ³⁸), and how they affected performance? ³⁹	<u>Coverage/omissions:</u> The section includes a brief analysis of key external features of the project's implementing contexts with a few details. <u>Strengths/weaknesses:</u> The analysis is well done from multiple perspectives and well described in detail, covering the COVID-19 pandemic, prolonged administrative procedures, and uneven political support. The section elaborates on how these external factors have affected the project's performance. The report refers to 'administrative procedures' and 'political support' but does not elaborate on the details of these external factors. Existence/non-existence of other major, potential external contexts, such as climatic events, security situations, economic conditions, and political instability, could have been mentioned to enhance the clarity of analysis. A little more in-depth analysis of various external contexts with concrete examples could have further enriched the section.	NOT RATED
8. Does the report present a well-reasoned, complete and evidence-based assessment of the Availability of Outputs to the intended beneficiaries? Consider how well the report presents: a convincing, evidence-supported and clear presentation of the outputs made available by the project compared to its	<u>Coverage/omissions:</u> The sub-section provides almost all the required information, except for the indicator-wise results/progress. <u>Strengths/weaknesses:</u> Output analysis is well described with evidence. The project performance at the output level is well	5

³⁷ The Quality of Project Design criterion is not rated in this table because the majority of the analysis is presented in the Inception Report and the Final Terminal Review report only contains a summary.

³⁸ Note that 'political upheaval' does not include regular national election cycles, but unanticipated unrest or prolonged disruption. The potential delays or changes in political support that are often associated with the regular national election cycle should be part of the project's design and addressed through adaptive management of the project team.

³⁹ The Nature of External Context is not rated in this table because it is not consistently applicable across all projects. Some review reports will simply record that there was no unexpected unfavourable external factors, while others may have to describe critical external events.

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
approved plans and budget - assessment of the nature and scale of outputs versus the project indicators and targets - assessment of the timeliness, quality and utility of outputs to intended beneficiaries - identification of positive or negative effects of the project on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	analyzed with sufficient detail. While no Output indicators were formulated during the design stage, the narrative assessment of each Output is well elaborated. The narrative assessment includes not only whether the respective Outputs were achieved or not, but also the reasons for the achievement/non-achievement of Outputs with detailed analyses. While the timelines of outputs are not necessarily well described, the quality and utility of outputs are generally well analyzed. The effects of the project on women and disadvantaged groups are neither extensively nor explicitly elaborated. A proper analysis and insertion of the relevant areas would have given added value to the section. EOU notes that an indicator-wise analysis, especially the assessment of the scale of outputs versus the project indicators and targets, would not be possible because no Output indicators were formulated in the ProDoc.	
9. Does the report present a well-reasoned, complete and evidence-based assessment of the Achievement of Outcomes, as a result of the uptake, adoption and/or implementation of outputs by the intended beneficiaries? This may include behaviour changes at an individual or collective level. Consider how well the report presents: - a convincing and evidence-supported analysis of the uptake of outputs by intended beneficiaries - assessment of the nature, depth and scale of outcomes versus the project indicators and targets - discussion of the contribution, credible association and/or attribution of outcome level changes to the work of the project itself - any constraints to attributing effects to the projects' work - identification of positive or negative effects of the project on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	<u>Coverage/omissions:</u> The section provides most required information with evidence. <u>Strengths/weaknesses:</u> The analyses are generally well done, covering the assessment of the nature, depth, and scale of the project Outcomes versus the project indicators and targets. The uptake of Outputs by intended beneficiaries is also briefly described, while the analysis could have been further expanded. A linkage between Outcomes and a higher level of results is also briefly analyzed. While most required information and analyses are covered, a narrative assessment of each Outcome tends to be brief. A more in-depth analysis could have benefited the section. The indicator-wise analyses are done for each Outcome, but the target and baseline info in the table could have been highlighted more explicitly to enhance the readability. Identification of positive or negative effects of the project on disadvantaged groups could have also been more explicit and extensive. The rating could have been better aligned with the findings.	4.5
10. Does the report present an integrated analysis, guided by the causal pathways represented by the TOC, of all evidence relating to Likelihood of Impact? Consider how well the report presents:	<u>Coverage/omissions:</u> Most important information is covered, but an explanation of the roles played by key actors and an identification of any unintended negative effects are missing. <u>Strengths/weaknesses:</u>	5

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
- an explanation of how causal pathways emerged and the resulting change processes - an explicit discussion of how drivers and assumptions played out - an explanation of roles played by key actors and change agents - identification of any unintended negative effects of the project, especially on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	The likelihood of impact is generally well analyzed with evidence. Causal pathways towards the impact are well examined, together with a detailed assessment of the roles of drivers and assumptions in the causal pathways. In particular, instead of a general analysis of drivers and assumptions, the reviewer extensively analyzes how each of the drivers and assumptions played out, which helps clarify how causal pathways emerged. There is no explicit discussion of the roles played by key actors and change agents; it is broadly mentioned across the section, but could have been more extensive. There is no explicit mention of the unintended negative effects of the project on disadvantaged groups, including women.	
11. Does the report present an integrated analysis of all dimensions evaluated under Financial Management and include a completed 'financial management' table? Consider how well the report addresses the following: <i>adherence</i> to UNEP's financial policies and procedures <i>completeness</i> of financial information, including the actual project costs and actual co-financing used and explanation of any variances between planned and actual expenditures	<u>Coverage/omissions:</u> Most required information is covered in the section. <u>Strengths/weaknesses:</u> 'Completeness of Financial Information' is generally well analyzed with the necessary information. Table 16 covers detailed information on the status of completeness of financial documents. The status of each required document is well elaborated with examples and evidence. Meanwhile, an analysis of 'Adherence to UNEP's Financial Policies and Procedures' could have been further improved, together with a description of all the required parameters of the rating. For example, the sub-section does not address regular analysis of actual expenditure against the budget and workplan. The narratives are not necessarily aligned with the rating of the sub-criterion, for which one sub-rating is adjusted as a result of the EOU's validation exercise. The section would have benefited from a more robust analysis that provides stronger evidence for findings and the ratings.	4.5
12. Does the report present an integrated analysis of all dimensions evaluated under Efficiency? Consider how well the report presents: - cost-effective or time-saving measures put in place to maximise results within the secured budget and agreed project timeframe - implications of any delays and no cost extensions - discussion of making use, during project implementation, of/building on pre-existing institutions, partnerships and complementarities with other initiatives, programmes and projects etc. - the extent to which the management of the project minimised UNEP's environmental footprint.	<u>Coverage/omissions:</u> The section covers some required information that is needed for efficiency analysis, but not all. <u>Strengths/weaknesses:</u> A few aspects of efficiency are analyzed to highlight the project's efforts to increase efficiency. Especially, the project's timeliness and its effects on efficiency are well elaborated, including details of no-cost extensions. The project's measures to minimize environmental footprints are also briefly mentioned. A more elaborate discussion with concrete examples on the project's cost-effective measures, including the use of pre-existing arrangements, could have further enhanced the quality of the Efficiency	4.5

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
	analysis. The current narratives are not in detail – it is only one sentence.	
13. Does the report present a well-reasoned, complete and evidence-based assessment of the project's Monitoring and Reporting? Consider how well the report addresses the following: - the quality of <i>monitoring of project implementation</i> (including use of monitoring data for adaptive management) - the quality of <i>project reporting</i> (e.g. PIMS and donor reports)	<u>Coverage/omissions:</u> Both sub-sections were broadly described in the section, for which the necessary information is somewhat missing. <u>Strengths/weaknesses:</u> The section attempts to look at the project's monitoring and reporting function from various perspectives. The analysis is generally well done in a concise manner. The effect of the COVID-19 pandemic on monitoring is also briefly mentioned. Some key elements, such as indicators, the use of data for adaptive management, and the collection of disaggregated data, are well analyzed and described, while others are not. For example, the report does not refer to a few necessary parameters that are needed for the assessment of the project's monitoring and reporting, including baseline, the monitoring plan, and the work plan. More detailed analyses, backed up by evidence, could have substantiated the findings in a more comprehensive manner. The overall rating of the '<i>Monitoring and Reporting</i>' criterion could have been derived with a proper weighted calculation method.	4.5
14. Does the report present an integrated analysis of all dimensions evaluated under Sustainability (i.e. the endurance of benefits achieved at outcome level)? Consider how well the report addresses the following: - socio-political sustainability - financial sustainability - institutional sustainability	<u>Coverage/omissions:</u> Some required information that is needed for mandatory analysis is included in the section, but not all. <u>Strengths/weaknesses:</u> All three aspects of sustainability are broadly and briefly analyzed, which covers some parameters that are needed to determine the ratings of the respective sub-criteria. However, the analyses are generally not in-depth. For socio-political sustainability, political commitment is generally well described, but other important aspects, such as the ownership of the government and relevant stakeholders, and a mechanism to adapt to changes in the social/political context, could have been further analyzed. Financial sustainability is also broadly analyzed, but could have included a few important details (i.e., what percentage of the required future funding requirements are likely to be secured/ have been secured), which would have enhanced the clarity of the reviewer's analysis. Non-existence of an exit strategy is briefly mentioned, but could have been described more explicitly and extensively. Institutional sustainability is broadly analyzed, especially the institutionalization of project	4

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
	outcomes, but other essential elements, such as the risk to staff retention, could also have been elaborated in more detail. The rating of the 'Financial Sustainability' could have been better aligned with the findings. Overall, more robust analyses in all three dimensions of sustainability could have strengthened the section.	
15. Does the report present a well-evidence analysis of the <i>Factors Affecting Performance</i>, either in this section or in cross-referenced sections? <i>These factors are not always discussed in stand-alone sections and may be integrated in the other performance criteria as appropriate. However, if not addressed substantively in this section, a cross reference must be given to where the topic is addressed, and that entry must be sufficient to justify the performance rating for these factors.</i> Consider how well the report addresses the following cross-cutting issues: • quality of project management and supervision⁴⁰ • stakeholder participation and co-operation • responsiveness to human rights and gender equality • environmental and social safeguards • country ownership and driven-ness • communication and public awareness	<u>Coverage/omissions:</u> All sub-sections are covered in a standalone section, while some required information is missing in a few sub-sections. <u>Strengths/weaknesses:</u> Overall, the analyses and descriptions are concise but generally well done to cover many (but not all) parameters that are required to determine the ratings of the respective sub-criteria. However, it is also noted that the quality of the reviewer's analysis varies by sub-criterion. For example, the '<i>Responsiveness to Human Rights and Gender Equality</i>' sub-section is generally analyzed with insights that provide added value to the report. Meanwhile, a few other sub-sections, such as '<i>Communication and Public Awareness</i>', are only broadly analyzed and do not necessarily cover information/evidence adequately. The section would have benefited from more extensive analyses, which could substantiate the respective ratings of sub-criteria.	4.5
Section F: Conclusions, Lessons Learned and Recommendations	Assessment	
16. Do the <i>Conclusions</i> present a summative assessment of the evaluand as a whole, reflecting on prominent aspects of the project's performance? Consider how well the conclusions: • provide a compelling narrative and integrated assessment of project performance (i.e. achievements and limitations) • add deeper insights and analysis beyond the findings under each individual criterion	<u>Coverage/omissions:</u> The section covers most required information, including a summary of the strengths and weaknesses in the overall performance, responses to key strategic questions, and gender dimensions of the interventions. <u>Strengths/weaknesses:</u> The section serves as a series of summative statements, covering major findings of the project's performance, which enables readers to understand the overview of the performance. It includes both achievements and limitations of the project's performance in a relatively well-balanced manner.	4.5

⁴⁰ In some cases 'project management and supervision' will refer to the supervision and guidance provided by UNEP to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UNEP. This includes providing the answers to the questions on Core Indicator Targets, stakeholder engagement, gender responsiveness, safeguards and knowledge management, required for the GEF portal.

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
- are derived from the synthesized analysis of evidence gathered during the review process - provide clear and succinct response to the key strategic questions - address the human rights and gender dimensions of the intervention explicitly (e.g. how these dimensions were considered, addressed or impacted on) - provide lessons that are rooted in real project experiences, describe the context from which they are derived, and do not duplicate recommendations	Responses to key strategic questions are generally well described, except for Strategic Questions #1 and #2. The human rights and gender dimensions are only briefly mentioned, but could have been further elaborated based on the analysis done in the main part of the review report. Overall, the Conclusion part is generally effective in the sense that the findings are well summarized, but could have included a more compelling storyline that provides deeper insights. Lessons learned are clearly articulated. They are properly derived from review findings. Many of these lessons cover 1) identification of the problem (based on review analysis/findings), 2) the root cause of the problem, and 3) proposed course correction. However, except for Lesson Learned #1, it is a little difficult to see whether and how these lessons could be applied to other projects in similar contexts on the ground. A clearer description of potential benefits and applicability to other projects/similar contexts would have enhanced the utility of lessons learned.	
17. Does the report present <i>Recommendations</i> for specific action to be taken by identified people/position-holders to resolve concrete problems affecting the project or the sustainability of its results? Consider how well the recommendations: - are clearly formulated and logically derived from the findings and/or conclusions - are feasible to implement within the timeframe and resources available (including local capacities) and specific in terms of who would do what and when - include at least one recommendation relating to strengthening the human rights and gender dimensions of UNEP interventions - represent a measurable performance target in order that the Evaluation Office can monitor and assess compliance with the recommendations. NOTES: (i) In cases where the recommendation is addressed to a third party, compliance can only be monitored and assessed where a contractual/legal agreement remains in place. Without such an agreement, the recommendation should be formulated to say that UNEP project staff should pass on the recommendation to the relevant third party in an effective or substantive manner. The effective transmission by UNEP of the recommendation will then be monitored for compliance. (ii) Where a new project phase is already under discussion or in preparation with the same third	<u>Coverage/omissions:</u> The section presents 4 recommendations in a table format, covering most required information. 'Type of Recommendations', where correct information is not inserted, could have been either 'Project Level' or 'Partners', or 'UNEP-wide'. <u>Strengths/weaknesses:</u> Each recommendation entails sufficient detail with some analysis. All are derived from the findings of the review, which makes them realistic. All recommendations are also concrete, measurable, and time-bound. These are expected to be met within one year, following the UNEP evaluation/review recommendation guidelines. 3 out of the 4 recommendations address partners and relate to areas of action over which UNEP has no influence. Even though the project does not envisage the next phase, there may still be room for improvement for UNEP to further expand and/or improve the relevant portfolio, which could have been addressed by recommendations. No recommendation addresses the strengthening of the human rights and gender dimensions.	4.5

Report Quality Criteria	UNEP Evaluation Office Comments	Final Report Rating
party, a recommendation can be made to address the issue in the next phase.		
Section G: Report Structure and Presentation	Assessment	
18. Is the report <i>well-structured and complete</i>? Does it: • follow the Evaluation Office structure and formatting guidelines • include all required sections and annexes, as applicable • not exceed 50 pages in length from the Executive Summary to the end of the Conclusion Does the report present information clearly and appropriately? Is it written: • in clear and accessible language • largely free from grammar, spelling and punctuation errors • in an adequate and professional tone • with the use of visual aids, such as maps, graphs tables and photos	<u>Coverage/omissions:</u> The report contains all necessary sections, mostly following the UNEP guidelines. All required Annexes are included. <u>Strengths/weaknesses:</u> The report is well-structured and formatted. The report follows the reporting structure and formatting guidelines in principle. With the use of clear English, the report is generally easy to follow, enabling all readers to understand what is written across the report. It is a well-written English report without major grammatical errors. The language is adequate, and the tone is also appropriate. Additionally, the tables are generally well used following the pre-fixed template, but visual aids could have been used more effectively, even where there are no pre-fixed templates, to further enhance the readability of the report.	5.5
OVERALL REPORT QUALITY RATING		5

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1. The overall quality of the review report is calculated by taking the mean score of all rated quality criteria.

Rating the Report Quality Criteria

Rating (1-6)	Description
6	Provides all content with high quality.
5	Provides all content with minor weaknesses.
4	Provides most content with minor weaknesses.
3	Provides most content with significant weaknesses.
2	Omits substantive content with significant weaknesses.
1	Omits almost all content with major weaknesses.