

TERMINAL EVALUATION

Project ID:	3636
Project Name:	BS Building Capacity for the Detection and Monitoring of LMOs in Cambodia Biosafety Program
Countr(ies):	Cambodia
Implementing Agency:	UNEP

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I. Overview

A. Description

Project name

BS Building Capacity for the Detection and Monitoring of LMOs in Cambodia Biosafety Program

Country

Cambodia

GEF ID

3636

Implementing Agency

UNEP

Executing Entity

Ministry of Environment

Trust Fund

GET

Project Type

MSP

Objective

Building national human and infrastructure capacities for GMO detection and monitoring in the Cambodia.

B. Key Dates

CEO Endorsement/Approval

3/1/2012

Agency Approval

4/23/2012

Implementation Start

2/4/2012

First Disbursement

4/23/2012

Expected MTR

9/30/2012

MTR Submission

5/7/2026

Actual MTR

4/23/2012

Expected Completion

12/1/2016

Actual Completion

6/30/2017

Actual TE

8/31/2018

TE Submission

5/7/2026

Final Disbursement

9/12/2017

C. Disbursements

Project Financing

752,981.00

Cumulative Disbursement

631,460.04

II. PROGRESS STATUS AND ISSUES

A. Main Terminal Evaluation Findings

The project was Satisfactory in terms of its Global and National Strategic Relevance. Its goal to assist Parties to the Cartagena Protocol on Biosafety (CPB) is in alignment with UN Environment's Medium-Term Strategy 2010-2013. The project builds upon previous biosafety work undertaken in Cambodia since 2004 for the development and implementation of a National Biosafety Framework. The project has a very strong focus on strengthening technology and capacity-building (at the individual level at least) to implement the objectives of the Convention on Biological Diversity in line with UN Environment/ Global Environment Facility /Donor Strategic Priorities and the Bali Strategic Plan. The project aligns with Cambodia's biodiversity policy, but linkages with other interventions are not made clear, and regional and sub-regional environmental priorities are not mentioned.

The Quality of Project Design was Moderately Satisfactory. The Project Document is difficult to follow in places as the sections are not self-contained. The logical thread that connects the baseline with the intervention strategy is not always clear. The technical sections are logically laid out, but information relating to the project's enabling environment is inadequate.

The Nature of the External Context was Satisfactory. The project did not face an unusually challenging operational environment. However, there was a change in the Minister of Environment after the 2013 elections and a reorganisation of the Ministry of Environment, which contributed to implementation delays.

Achievement of Outputs was Moderately Satisfactory. As per the reformulated theory of change, the project planned to deliver one preliminary output and thirteen other outputs in four strategies (Training, Public Participation, Infrastructure, Information). Eight outputs were completed, five partially completed and one not completed. The main successes were in the implementation of training activities, the development of protocols and awareness-raising. Activities relating to information management were only partially completed because no data have been uploaded and the system is no longer online since project closure. Upgrading laboratory facilities was only partially completed because of a lack of living modified organism samples to analyse and the inadequacy of the facility.

Impact was Moderately Unlikely given the status of outputs, outcomes, drivers (significant factors that are expected to contribute to the realisation of impacts that are within the project's sphere of influence) and assumptions (significant factors that are expected to contribute to the realisation of impacts that are largely beyond the project's sphere of influence). Drivers relating to commitment at the level of individuals participating in the project were substantially met, while those relating to commitment at institutional and inter-institutional levels were only partly met. Of the eleven outputs to direct outcomes drivers, eight were partly met, and three were not met. The major reason why some drivers were only partly met was that activities were restricted to those funded by the project. The remainder were not met because of the technical bias in project design, lack of demand for laboratory tests, and Cambodia's fragmented biotechnology and biosafety institutional environment. One of the three direct outcomes to intermediate state drivers was substantially met while two were not met. The fact that there were quality outputs with the potential for high utility illustrates that the project achieved some key outputs. However, the absence of an exit or communication strategy illustrates a lack of strategic focus. Of the eight outputs to direct outcome assumptions, four were partly met, three were not met, and one could

not be assessed. A major reason some assumptions were only partly met was the lack of a shared perspective on the importance or nature of biosafety (e.g., regarding public participation, long-term collaboration on modern biotechnology, and senior government officials as champions). There was also the issue of relevant activities being restricted to those funded by the project, and there was concern that biosafety capacity and knowledge was vested in individuals more than in institutions. Output to direct outcome assumptions that were not met reflected the issue of the absence of living modified organism applications, limited intra and inter-sectoral collaboration, and uncertain national financial commitment.

Financial Management was Unsatisfactory. Regular and effective communication was carried out between financial and project management staff, all necessary documents were sent to UNEP, MOE prefinanced some project activities, and no cases of financial irregularity were reported. An audit identified weaknesses in the internal control system, and the recommendations were agreed upon and implemented by project management. However, data required to make a proper assessment of the project's performance in financial management was not made available by the project.

Project Efficiency was Moderately Unsatisfactory. The project built upon relevant previous activities, mainly funded through UN Environment/Global Environment Facility, since 2004. However, there is a need to coordinate the Biosafety Secretariat beyond project activities and provide the resources to support it as defined in the law. The project produced most planned outputs but did not achieve its project planning / annual planning timelines. Spending was generally within what was allocated. The project was able to run additional workshops on the budgeted funds as the costs were relatively low. There is evidence for some adaptive management such as the increase in training in response to demand, but the reasons were not made explicit as part of a formalised Monitoring and Evaluation process.

Monitoring and Reporting was Marginally Satisfactory. There was no formal monitoring plan, and data were not disaggregated by gender or groups with low representation. This was a challenge as these indicators came in retrospectively and the project was primarily technical in nature, so people with a suitable technical background must be deployed. This is not always easy to balance with inclusivity criteria. Reporting was mainly at activity and output level and did not fully facilitate timely tracking of results and progress towards the project's objectives. Results were not fully used to improve project performance and to adapt to changing needs. There was a failure to capture leveraged co-finance, and all supporting information was not provided.

Sustainability was Marginally Unlikely. Ministry of Environment has been supportive of biosafety, but it is currently undergoing a period of change, and it is not guaranteed that biosafety will continue to be a priority. Other stakeholders, including external funders, are interested in the development of biotechnology in Cambodia and have funded activities, but their commitment to the Cartagena Protocol on Biosafety is not clear. The project placed little emphasis on working with neighbouring countries. No formal estimates of financial requirements for the continuation of project results have been produced. Further outside financial support will be needed in the immediate term. Potential mechanisms for financial sustainability through living modified organism testing fees exist, but no evidence was provided to indicate that the implementation of such a mechanism is being considered.

Overall Factors Affecting Performance were Marginally Unsatisfactory. Regarding Preparation and Readiness, there were no substantive changes made between project approval, the securing of funds and project mobilisation despite weaknesses in project design. In terms of Project Implementation and Management, project reports were accurate and substantially complete, but there was little active supervision by the Project Steering Committee and MOE at the higher management level. Project supervision was perceived to be effective, though there

was further scope for adaptive management. Regarding Stakeholder Participation and Readiness, the organisations that participated in project activities now have better capacities to sustain project results because of the project. However, collaboration with the private sector was very low despite the participation of Chambers of Commerce in project activities. Collaboration with international stakeholders, notably the Austrian Environmental Agency, was critical to project effectiveness. No formal inter-institutional agreements resulted from the project. Despite significant communication-related activity, there was a widespread feeling that biosafety awareness was still near zero among key subsections of the general public, such as consumers and farmers.

B. Stakeholder Engagement

From approval through implementation, the project engaged a wide range of national stakeholders, broadly consistent with the roles envisaged at CEO Endorsement, including the Ministry of Environment (as National Executing Agency), line ministries (MAFF, MOC, MOH), customs and border control authorities, academic institutions, and selected international technical partners. Stakeholder engagement progressed primarily through participation in training workshops, technical consultations, and membership in formal coordination bodies such as the National Steering Committee on Biosafety (NSCB), Scientific Advisory Team (SAT), and Emergency Response Team (ERT). The Terminal Evaluation notes that engagement at the technical and operational level improved over time, particularly for customs officers, laboratory staff, and university scientists, who benefited from repeated interaction through trainings and joint activities and developed increased awareness and individual technical capacity for biosafety implementation.

However, the evaluation also highlights significant challenges that limited effective stakeholder engagement, particularly after the early stages of implementation. Although a mid-term review had been planned, it was not conducted, reducing opportunities for systematic reflection and course correction in stakeholder engagement. Coordination and leadership at the institutional and inter-institutional level weakened over time, with the NSCB meeting infrequently and showing limited involvement in steering the project strategically or leveraging additional resources. Engagement with senior policy-level actors remained limited, and collaboration with key stakeholders such as the private sector, civil society, and farmers' organizations was minimal despite being envisaged in the project design. As a result, stakeholder participation tended to remain activity-driven and project-dependent, rather than embedded within routine institutional processes.

In terms of outcomes, the project achieved moderate success in strengthening stakeholder engagement at the individual and technical level, contributing to improved skills, awareness, and networks among participating staff in government agencies and academic institutions. However, these gains were not fully translated into sustained institutional engagement or collective ownership, particularly in areas requiring cross-sector coordination such as enforcement, data sharing, and long-term operation of the Biosafety Clearing-House. The Terminal Evaluation concludes that future projects should address these limitations by strengthening stakeholder engagement strategies from inception, ensuring regular and empowered coordination mechanisms, expanding engagement beyond government technical staff to include private sector and civil society actors, and embedding stakeholder participation within a formal results-based monitoring and adaptive management framework to support sustainability beyond the project lifecycle.

C. Gender Equality

At the time of CEO Endorsement/Approval, the project did not include a stand-alone gender action plan, nor did it articulate explicit gender result areas within the project results framework. The Terminal Evaluation confirms that the project design and objectives were primarily technical in nature, focusing on biosafety regulation, laboratory capacity, and LMO detection systems. As a result, gender-specific objectives, targets, or gender-sensitive indicators were not clearly defined in the results framework at approval. Gender considerations were therefore not mainstreamed into project design, monitoring indicators, or outcome statements, and no formal gender analysis or baseline was documented.

During implementation, some gender-responsive measures were applied in a limited and informal manner, mainly through efforts to encourage balanced participation of women and men in trainings and workshops where possible. The Terminal Evaluation notes that project management made attempts to achieve a reasonable gender mix among participants; however, participation data were not systematically disaggregated by sex, and there is no evidence that gender-sensitive indicators were tracked or reported. Furthermore, gender considerations were not explicitly integrated into knowledge products, communication materials, monitoring tools, or stakeholder engagement processes, reflecting the project's predominantly technical orientation and the absence of gender requirements at the design stage.

The Terminal Evaluation identifies several lessons learned relevant to gender and inclusivity, despite the absence of explicit gender result areas. It highlights that the lack of disaggregated data and formal monitoring mechanisms limited the project's ability to assess differential participation or benefits across social groups, including women. The evaluation recommends that future biosafety and capacity-building projects integrate gender considerations more systematically from inception, including gender-responsive indicators, disaggregated monitoring, and inclusive stakeholder engagement strategies. This is particularly important for projects that involve training, public communication, and institutional capacity building, where gender-responsive design can strengthen ownership, effectiveness, and sustainability of results.

D. Knowledge Management

At CEO Endorsement, the project adopted a KM approach aimed at generating, documenting, and disseminating technical and regulatory knowledge to support Cambodia's implementation of the Cartagena Protocol on Biosafety. This approach was implemented primarily through the development of technical guidance materials, capacity-building activities, establishment of an information management system, and targeted awareness-raising.

The project successfully produced key knowledge products, including SOPs and manuals for LMO sampling and detection (protein- and nucleic-acid-based methods), which standardized national practices and remain valuable reference materials. Knowledge transfer was further supported through extensive training programmes for laboratory staff, customs and border officials, regulators, and academic institutions, including a training-of-trainers model to encourage internal knowledge replication.

Institutionally, the KM approach included the establishment of an information management system linked to the national Biosafety Clearing-House (n-BCH) to store and share biosafety data and connect Cambodia to global information platforms. In addition, public-facing KM outputs—such as

brochures, videos, and national TV broadcasts—were used to raise biosafety awareness beyond technical stakeholders.

Overall, the KM approach approved at CEO Endorsement was largely completed and effective in strengthening individual-level knowledge and producing high-quality technical outputs. The Terminal Evaluation noted, however, that the long-term institutionalization and sustainability of KM systems (notably the n-BCH and continued knowledge use) were constrained by limited national resourcing and the absence of a formal KM sustainability or exit strategy, providing key lessons for future projects.

III. Core Indicators

IV: Co Financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Anticipated at CEO(\$)	Materialized at MTR(\$)	Materialized at TE(\$)
Recipient Country Government		In-kind		900,000.00		969,640.00
Other	Asean Centre for Biodiversity	In-kind				100,000.00
Total Co-financing				900,000.00	0.00	1,069,640.00

Comments

V: ENVIRONMENTAL AND SOCIAL SAFEGUARDS

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
			Low

Measures to address identified risks and impacts

Based on UNEP's Environmental, Social and Economic Sustainability (ESES) framework and the Terminal Evaluation findings, the project was assessed as low risk in terms of environmental and social impacts, as it focused primarily on institutional capacity building, technical training, and information systems rather than physical infrastructure development or direct environmental interventions. No significant adverse environmental or social risks were identified during design or implementation. Potential risks considered implicitly included the handling of biological materials in laboratory settings, which were addressed through training on internationally recognized LMO detection protocols, SOPs, and safe laboratory practices. Social risks were limited, as project activities largely targeted government officials, technical staff, and academic institutions, with no land acquisition, resettlement, or impacts on vulnerable or marginalized communities. The Terminal Evaluation further notes that while the project did not explicitly integrate human rights or gender analyses into its ESS approach, no negative social impacts were observed, and the main ESS-related challenges related instead to institutional sustainability, limited stakeholder inclusion beyond government actors, and weak long-term resourcing, rather than environmental or social harm

VI. ANNEX

Uploaded Document

Document Category	Prefix	Title
M and E Document	Terminal Evaluation (TE)	3636 TE