United Nations Environment Programme

Terminal Evaluation of the UNEP GEF Project Support for Implementation of the National Biosafety Framework for Mauritius

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Acronyms and Abbreviations

BCH	Biosafety Clearing House
BSP	Bali Strategic Plan
Bt	Bacillus thuringensis
CBD	Convention on Biodiversity
CPB	Cartagena Protocol on Biosafety
EA	Expected accomplishment
FAO	Food and Agriculture Organization
FARC	Food and Agriculture Research Council
GATT	General agreement on tariff and trade
GBIF	Global Biodiversity Information Facility
GEF	Global Environmental Facility
GIS	Geographic Information System
GMO	Genetically Modified Organism
IT	Information Technology
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
LMO	Living Modified Organisms
MAIF	Ministry of Agro-Industry and Fisheries
M&E	Monitoring and evaluation
NBF	National Biosafety Framework
NGO	Non-Governmental Organization
OECD/DAC	Organization for Economic Cooperation and Development / Development Assistance Committee
PIR	Programme Implementation Report
PoW	Programme of Work
PPP	Public Private Partnerships
R&D	Research and Development
ROtI	Review of Outcomes to Impacts
ToC	Theory of Change
ToRs	Terms of Reference
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
US$	United States Dollars
WB	World Bank

Project Identification Table

GEF project ID:	2822	**IMIS number:**	GFL-2328-2716-4952
Focal Area(s):	BD1/BD-SP6	**GEF OP #:**	
GEF Strategic Priority/Objective:	Biodiversity	**GEF approval date:**	March 3, 2006
UNEP approval date:	December 04, 2006	**First Disbursement:**	December 26, 2006
Actual start date:	March 21, 2007	**Planned duration:**	48 months
Intended completion date:	December 12, 2010	**Actual or Expected completion date:**	September 30, 2011
Project Type:	MSP	**GEF Allocation:**	$427,800
PDF GEF cost:		**PDF co-financing*:**	
Expected MSP/FSP Co-financing:	$207,900	**Total Cost:**	$635,700
Mid-term review/eval. (planned date):	April 2009	**Terminal Evaluation (actual date):**	September 2014
Mid-term review/eval. (actual date):	May 2009	**No. of revisions:**	10
Date of last Steering Committee meeting:	September 28 ,2011	**Date of last Revision:**	September 17, 2011
Disbursement as:	$427,800.00 Mauritius	**Date of financial closure:**	Financial closure will be done in IMIS when the Terminal Evaluation is done.
Date of Completion:	September 30, 2011	**Actual expenditures reported as of:**	Reported in full
Total co-financing realized	$208,518	**Actual expenditures entered in IMIS as 30 June 2013:**	Co-finance is not recorded in IMIS
Leveraged financing:			

Project Number: GFL-2328-2716-4952

Geographical Scope: National

Start Date: March 21, 2007

Completion Date: September 2011

Executing Agency: United Nations Environmental Programme, Nairobi, Kenya

National Executing Agency: Food and Agricultural Research Council, Reduit, Mauritius

Executive Summary

A. Introduction

The project "Support for Implementation of the National Biosafety Framework for Mauritius" (GFL-2328-2716-4952) had the goal to enable Mauritius to implement a workable and transparent national biosafety framework that is in line with its international obligations and national development priorities. The UNEP/GEF contribution amounted to US$ 427,800 and the Mauritius government co-financing to US$ 208,518, for a total budget of US$ 635,700.

The project was articulated in four components:
A. A fully functional and responsive regulatory regime in line with Cartagena Protocol on Biosafety and national needs exists
B. A functional national system for handling request, performing risk assessment, decision-making, performing administrative tasks, handling, storing and exchanging information in line with the BCH requirements is in place
C. A functional national system for "follow-up", namely monitoring of environmental effects and inspections is in place
D. Mauritius has a functional national system for public awareness and participation

The national executing agency was the Food and Agriculture Research Council (FARC) of the Ministry of Agro-Industry and Fisheries (MAIF). The project activities targeted the key stakeholders of the National Biosafety Framework (NBF): managers, administrators and technicians of the Ministry of agriculture, the University and other institutions involved in the implementation of the framework, and those that influence the public opinion (decision makers, the press, and the public education sector). The project started on March 21, 2007 and was completed in September 2011.

Strategic relevance. Mauritius is a signatory of the Convention on Biological Diversity (CBD) and the Cartagena Protocol on Biosafety (CPB). The project targeted a critical topic among African environmental priorities: the balance between innovation-driven economic development and the conservation of natural resources and agro-biodiversity. The project is part of the cross-cutting thematic priorities listed in section III of the UNEP Medium-term Strategy 2010–2013 and contributes to the Environmental governance sub-programme, which intends to address agreed environmental priorities, by supporting governments in establishing, implementing and strengthening the necessary processes, institutions, laws, policies and programmes to achieve sustainable development. The project is also relevant to the Ecosystems management sub-programme. The project outputs contributed to enhance the national capacity to develop and enforce laws and to strengthen institutions to achieve internationally agreed environmental objectives and goals in order to comply with the related obligations. It achieved the Global Environmental Benefit of putting in place a sound biosafety framework implementing the Cartagena Protocol on Biosafety to the Convention on Biological Diversity.

Achievement of outputs. UNEP and FARC carried out the activities planned under the 4 components of the project and developed draft regulations and technical guidelines, strengthened professional capacities and increased awareness concerning the National Biosafety Framework. The project built the capacity of technical and administrative staff in dealing with biosafety issues, especially by improving the ability to detect Genetically modified organisms (GMOs),

assess and manage potential risks with environmental releases and assisted the National food laboratory of the MAIF in acquiring laboratory equipment. The awareness raising activities included workshops gathering researchers, technicians, consumers associations and representatives of the farmers. However, invited policy makers, heads of Ministries and the press did not participate.

Effectiveness: Attainment of project objectives. Technical outputs were delivered according to the project document, but their approval (i.e., enactment of the National Biosafety Framework) was quite limited. Thus, the strategy documents and regulations have not been enacted except for the setting up of the national biosafety committee. The acquired skills have not been yet been used to implement the authorization and monitoring procedures and the laboratory has not been used to detect GMOs: in the absence of legally binding regulations, no request of authorization to release / introduce GMO was submitted and no laboratory analysis requested. In short, the project has contributed to build the tools for the running of the NBF without influencing the policy making level. Thus, the project achievements have not yet had any impact on the economic development and biodiversity conservation of Mauritius.

Sustainability and replication. The sustainability of the project outputs should have been ensured by political decisions and the enactment of the relevant laws which, in turn, would allow the private sector to invest in the field of biotechnologies, thereby ensuring the integration of the sector in the economic development of the country. The partial implementation of the NBF results has hampered the development of the sector and therefore no financial resources are available to use and maintain the capacities established by the project. The sustainability of project results is dependent on the commitment of the private sector to experiment and promote biotechnology innovation – such as that developed by the Sugar Research Institute, not yet at field evaluation level due to regulation not in place. Presently, the resources made available to run the NBF – raised internally from the Government budget - are not enough for the deployment of a satisfactory monitoring system and for performing the required laboratory GMO detection analyses.

Efficiency. The project made the best possible use of the highly skilled personnel within the institutions and universities relevant for the implementation of the NBF. Efforts by the project to build on existing capacities enabled it to be cost-effective. The major constraint was the longer than expected time needed for political decisions to be taken and hence the fact that up to now only regulations concerning 6 sections of the GMO act have been prepared and the Agricultural biotechnology policy and strategy are still at the draft level.

Factors and processes affecting the project performance. The Agricultural biotechnology strategy and development programme for Mauritius recognizes that the unclear vision for biotechnology and the limited economic analysis of the sector hamper the decision making process. Therefore consensus on the requirements for environmental and human safety, particularly when GMOs are concerned, has not yet been reached. Such picture clearly points to the insufficient identification of the challenges of the implementation of the NBF, with respect to the way to achieve a consensus on mainstreaming the precautionary principle into economic development. Reliance on previous experiences, limited involvement of key economic stakeholders and a purely technical and administrative delivery strategy resulted in limited

impact at the political level. The Executing agency smoothly implemented the project work plan, whose centralized processes could be easily executed within the frame of its administrative structure. The project did not allocate any specific budget line to implement the Monitoring and Evaluation plan. Thus, no specific resources were devoted to surveying and collecting data for the indicators. Only the Executing agency supplied the UNEP Task manager with reports and information on the activities performed and their immediate outputs.

Complementarity with UNEP strategies and programmes. This project is in line with the commitment made by UNEP to assist developing countries in establishing NBF along the GEF Initial strategy and follows the methodology developed by the UNEP Biosafety Unit. The project contributed to some of the UNEP's Expected Accomplishments and POW for the period 2008-2009, 2010-2011 and 2012-2013 under the Environmental Governance and Ecosystem Management Sub-programmes.

B. Findings and Conclusions

The project design focus on the technical and administrative elements of the NBF implementation, i.e. the putting in place of a coordination mechanism and the development of instruments to regulate the release / introduction of GMO, was limited, not encompassing the tools needed to facilitate political decisions to approve and operationalize the Agricultural Biotechnology Policy and Strategy and a full set of Biosafety regulations.

The project activities were performed and outputs were delivered according to plan. Its implementation mechanism positively exploited the central role played by the FARC in the food and agricultural field. The national Executing agency was less effective in establishing a consensus of the private sector, marginally involved in the coordination mechanism (i.e., the National biosafety committee) and thus lacking an immediate incentive and opportunity to push for the enactment of the Biosafety regulations.

The capacities built in risk assessment / management, inspection, laboratory testing and monitoring of GMO release / introduction were adequate to undertake the NBF operations. The delay in operationalize the NBF has resulted in some loss in the human resources capacitated after the project end.

The operationalization of the NBF was not completed notwithstanding the fact that the GMO law had been enacted (2004), the institutional coordination mechanism had been put in place and technical and administrative instruments have been elaborated. In fact, the Agricultural biotechnology policy and strategy and most regulations had not yet been approved at the time of the terminal evaluation and the procedures have still to be implemented.

The awareness raising component of the project was relatively small. It lacked the resources and amplitude of vision to stimulate a complete understanding of the challenges ahead and of the benefits of the regulatory framework on the release / introduction of GMOs. Awareness raising actions matched the expectations of technicians and the education sector. They did not appeal to

decision makers and the press, as the novelty of these topics was over and no success story or practical cases useful to inform their action were made available.

The technical approach of the project implementation failed to establish a strategy to mobilize resources for implementing the monitoring system and establishing coordination and synergies with other countries in the region. Although two follow up projects on GMO detection for the Southern Africa Region (the SANGL project) and harmonization for the Indian Ocean Island states exist/proposed, Mauritius did not allocate funds for participation. The UNEP was effective in streamlining the project design along the GEF approach by facilitating the implementation of field activities and in providing agile financial procedures for procurement of goods and services.

C. Lessons learnt and recommendations

An R letter distinguishes Recommendations from Lessons learnt.

A policy gap analysis has to be done in order to systematically appraise the current situation, map the interests at stake in biotechnology innovation, help focus the debate and provide background documents concerning the implementation of the NBF and to identify challenges ahead in economic development and natural resources conservation.

Biosafety support projects have to plan for possible changes in political authorities and facilitate consensus on mainstreaming the precautionary principle into economic development at the highest level. While the National biosafety framework has to gather only technical and administrative expertise, a politically sensitive body – the e National Biosafety Committee as per articles 4 – 6 - should create a platform for high level representatives of institutions, the private sector, and the civil society, in order to stimulate debate and facilitate consensus.

R. To use the process of approval of the Agricultural biotechnology policy and strategy to build stakeholders' consensus on mainstreaming the precautionary principle into development at the highest level remains the critical issue for the project results to be sustainable. This activity has to be led by the BS focal point and the Competent Ministry (MAIF).

R. The role of the private sector has to be acknowledged as influential on the policy makers' decisions. The BSC, supported by the BS focal point / BS Office should provide decision makers with inputs for their participation to economic fora and other events where priorities in economic development are debated. Presentations on the NBF have to be developed for such events and disseminated through the participation of political as well as technical level representatives of the institutions concerned (e.g., the ministry of the economy). An incisive awareness raising campaign has to provide recognized references and success stories to show how the NBF work. And a greater emphasis has to be put on the awareness of decision makers.

R. The Biosafety office has to be established and mid-level management staff recruited in order to design a new NBF implementation plan addressing the critical issues of the GMO act that have hampered the approval and enactment of the NBF regulations. The Biosafety Office has to

advise and assist the competent authority in dialoguing with stakeholders, propose the timing and budgeting for implementation and engage in collaborations and exchanges of expertise at the regional level. It should also be in charge of running a new awareness raising campaign targeted at influential representatives of the private sector, the press and the political world. This activity has to be led by the BS focal point.

R. Capacity building for 2 permanent staff in qualitative and quantitative GMO analysis with Polymerase Chain Reaction of the National food technology laboratory and of officers in relevant institutions (custom, agricultural, food inspectors) is needed. This activity has to be designed by the National food technology laboratory and led by the Competent Ministry (MAIF).

R. The GEF biosafety regional approach should be streamlining the accreditation of regional laboratories and the sharing of physical resources / technical expertise / joint procedures, also by the mobilization of local resources. Such approach could be achieved through coordination at the level of the regional economic organizations. UNEP developed the Southern Africa Network of GMO Detection Laboratories Project, but Mauritius did not participate. It is therefore recommended that the national authorities consider participating in future initiatives to ensure that they can take advantage of regional mechanisms of cooperation. The table below presents a summary of the ratings for the project.

Criterion	Rating
A. Strategic relevance	S
B. Achievements of outputs	HS
C. Effectiveness; attainment of project objectives and results	MU
1. Achievement of direct outcomes	MS
2. Likelihood of impact	MU
3. Achievement of project goal and planned objectives	MU
D. Sustainability of project outcomes	MU
1. Financial	MU
2. Socio-political	MU
3. Institutional framework	L
4. Environmental	L
5. Catalytic role and replication	MU
E. Efficiency	HS
F. Factors affecting project performance	MS
1. Preparation and readiness	MS
2. Project implementation and management	S
3. Stakeholders participation and public awareness	MS
4. Country ownership and driven-ness	MS
5. Financial planning and management	HS
6. UNEP supervision and backstopping	HS
7. Monitoring and Evaluation	MS
a. M&E Design	MS
b. M&E Plan Implementation	MS
c. Budgeting and funding for M&E activities	MS

Criterion	Rating
Overall assessment	MS

I. Introduction

1. The project "Support for Implementation of the National Biosafety Framework for Mauritius (GFL-2328-2716-4952)" was developed after Mauritius prepared its "National Biosafety Guidelines for the Safe Development and Introduction of Genetically Modified Organisms" (1999) with the assistance of the UNEP/GEF pilot Biosafety Enabling Activity Project. The project was identified in 2004 and started on March 21, 2007 with a planned duration of 48 months, having been extended by 6 months and completed in September 2011. The UNEP/GEF contribution amounted to US$ 427,800 and the Mauritius government co-financing to US$ 208,518, for a total budget of US$ 635,700.

2. The local executing agency was the Food and Agriculture Research Council (FARC) of the Ministry of Agro-Industry and Fisheries (MAIF). Stakeholders involved in the project activities included:
Institutions: Ministry of Agriculture, Food Technology and Natural Resources, Ministry of Environment, Ministry of Health, Ministry Responsible For International Trade, Customs Department, State law office,

Scientific sector: Agricultural Research & Extension Unit, University of Mauritius (UoM), Mauritius Research Council, Mauritius Sugar Industry Research Institute,

Economic sector: The Mauritius chamber of agriculture, The Mauritius chamber of commerce & industry,

Civil society: Institute for Consumer Protection, Association des consommateurs de l'Ile Maurice.

3. The objectives of this evaluation are:

- to provide evidence of results to meet accountability requirements,

- to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, the GEF and their executing partners.

II. The evaluation

4. The evaluation looks at the outputs, outcomes and mechanism of the intervention to assess the contribution of the project to the implementation of a National Biosafety Framework in Mauritius.

5. Specifically, this study identifies the relations between goal, impact and results by analysing:
a. project plans and reports, identification studies and other recorded information,
b. project monitoring data (progress, achievements and indicators), and by
c. interviewing stakeholders, including field visits to Mauritius and meetings with stakeholders from institutions, economic and civil society organizations.

6. As the indicators listed in the project Logical framework were not systematically collected, the Evaluation matrix includes slightly adapted indicators referring to the Evaluation questions (see Table 1). The interview of project staff and key stakeholders summarized in Annex 3 enabled the collection of information for the assessment of project indicators. The evaluation process included:

7. *Desk phase*. Collection of project documents, preliminary analysis – including the elaboration of the Theory of change and the analysis of the quality of the project design -, elaboration of the evaluation methodology and work tools and planning of the field visits. The Inception report was submitted at the end of July, 2014 to the UNEP Evaluation office.

8. *Field phase*. Annex 2 lists the people contacted by the evaluator in performing the assessment of this project. Annex 3 presents the synthesis of the answers by Interviewees. This feedback allowed, among others, to perform the qualitative cross-check and validate the values of the project indicators. This phase was kicked off by an interview with the UNEP project manager.

9. *Synthesis phase*. The information collected was analyzed along the evaluation criteria set out in the Terms of Reference (ToR) and completed by the elaboration of conclusions, lessons learnt and recommendations. The Financial analysis (see Annex 5) concerned the assessment of the consistency of actual vs. planned expenditures and their correspondence to the project implementation needs (cost – effectiveness analysis).

III. The project

A. Context

10. The Government of Mauritius is promoting a transition from traditional practices, towards a more sophisticated, technology-based approach to agriculture with a focus on attaining a certain degree of self-sufficiency, meeting quality exigencies, developing the local agro-processing industry, promoting entrepreneurship, optimizing export opportunities, conforming to international norms governing food safety and maximizing the potential benefits of

regionalization. In doing so, it is moving towards the development of agricultural biotechnology and a feasibility study has already been completed on the setting up of a Mauritius Agricultural Biotechnology Institute to promote research and application of Biotechnology with a view of giving a technological boost to agriculture in Mauritius. The existing policy ensures that the uptake of biotechnology is fostered within a sound environment and that all dealings with GMOs are efficiently regulated with adequate biosafety precautionary measures.

11. Mauritius is a party to the Cartagena Protocol on Biosafety. It was assisted by the GEF Pilot Biosafety Enabling Activity Project in creating awareness amongst scientists, stakeholders, politicians, NGOs and the public on biosafety with regard to the development and application of biotechnology, in preparing its *National Biosafety Guidelines for the Safe Development and Introduction of Genetically Modified Organisms* (1999) and in drafting the National Biosafety Framework (NBF). The scope of the guidelines included all use, development and release of GMOs. As a consequence, the National Assembly approved the GMO Act on 16/3/2004. This law aims at providing measures to regulate the responsible planning, development, production, use, marketing and application of genetically modified organisms. It also establishes the National Biosafety Committee to advise the Minister of Agriculture on GMO related issues.

12. As the private sector seemed eager to access innovation in the biotechnology field, and application of genetic engineering was expected in both the sugar and non-sugar sector, the present project was elaborated in 2004 to build on the experiences, achievements and lessons learnt from the existing demonstration projects on implementation, in order to implement the NBSF. This project also complements the Biosafety Clearing House (BCH) project aiming at meeting the needs of the country for access and management of information from the BCH.

13. A new plan for Food Security was developed by the Government in the form of a "Food Security Strategic Plan 2008-2015" with the main objective of increasing local food production and decreasing import of food commodities. In this context, the biosafety project aimed at strengthening capacity for the implementation of the Mauritius Biosafety Framework so as to meet its obligations under the Cartagena Protocol on Biosafety. It was considered imperative that the necessary capacity is built in biosafety issues so that appropriate and timely decisions regarding the transboundary movement of GMOs could be taken.

14. No major changes of policy were recorded during project implementation but change in government officers created discontinuity in decision making and slow progress in the discussion and approval of official documents concerning the biotechnology sector.

B. Objectives and components

15. The project purpose was to contribute to the safe use of biotechnology and reduce the potential risks associated to LMO use on biodiversity, human and animal health.

16. The overall *goal* of the project in Mauritius was that a workable and transparent national biosafety framework, in line with its national development priorities and international obligations, would be in place by 2010.

17. The project *objective* was to develop the national biosafety capacities required to establish functional, workable and transparent national biosafety frameworks in accordance with national development priorities and international obligations. Specific project objectives include:

- To assist Mauritius to have a fully functional and responsive regulatory regime in line with the CP, national needs and other international obligations.
- To assist Mauritius to have a functional national system for handling request, including risk assessment, decision-making and administrative processing.
- To assist Mauritius to have a functional national system for "follow-up" activities, especially monitoring of environmental effects and enforcement.
- To assist Mauritius to have a functional national system for public awareness, participation, education, and access to information

18. The project components were:

A. A fully functional and responsive regulatory regime in line with CP and national needs exists
Outputs:

- Regulations needed to make the GMO Law fully operational drafted and submitted to concerned Ministries
- 35 policy makers, lawyers, Senior Government Officers, scientists, National Biosafety Committee members, University of Mauritius staff trained on the implementation of GMO Law and the Cartagena Protocol on Biosafety

B. A functional national system for handling request, performing risk assessment, decision-making, performing administrative tasks, handling, storing and exchanging information in line with the BCH requirements is in place
Outputs:

- Technical guidelines on the handling of requests, transport, labelling of GMOs finalised
- 35 persons from the Ministry of Agriculture, Food Technology and Natural Resources, Ministry of Environment, Ministry of Health and Quality of Life, Ministry of International Trade, State Law Office, Custom Departments, Research Organizations and University staff Workshop trained on procedures for the handling of applications for release of GMOs into the environment
- 10 officers/technical staff trained on risk assessment/risk management (two one-week training courses for 10 officers/technical staff)
- 10 officers/technical staff trained on handling, transport and packaging of GMOs
- Application forms for LMOs permit available on the website
- Operational manuals for regulators on handling requests, namely written procedures on administrative processing, risk assessment and decision making prepared

C. A functional national system for "follow-up", namely monitoring of environmental effects and inspections is in place
Outputs:

- Guidelines/Procedures on monitoring prepared
- 10 officers /inspectors/technical staff trained in LMOs testing and monitoring carried out (two one-week training courses)
- Laboratory facilities adequately equipped for detection of GMOs

D. Mauritius has a functional national system for public awareness and participation
Outputs:

- 50 persons from the general public, media, NGOs, journalists, policy makers, and scientists and NGO representatives trained on "Public awareness and participation in the NBF of Mauritius"
- Outreach material for main users developed and published
- Lessons learnt and best practices documented and shared

C. Target areas/groups

19. The project activities targeted the key stakeholders of the NBF, i.e. managers, administrators and technicians of the Ministry of agriculture and other institutions involved in the implementation of the framework, and those that influence the public opinion (decision makers, the press, and educators).

D. Milestones/key dates in project design and implementation

20. The project was identified by the Government of Mauritius and approved by GEF in March 2006 and by UNEP in December 2006. It started on 21/3/2007, following the first release of UNEP funds. A midterm review was held at the end of 2009. The project was extended and completed on 30/7/2011, i.e. about a semester after the planned end date.

E. Implementation arrangements

21. The Steering Committee, chaired by UNEP, provided guidance and direction to the implementation of the Biosafety project. The FARC of the MAIF acted as the National Executing Agency in charge of the execution, with technical support from the UNEP biosafety unit. The FARC appointed a National Project Coordinator. Arrangements with the local partners were coordinated through the National Coordination Committee and resulted in their involvement in the planned activities such as training, participation to workshops, and support to the strengthening of the reference laboratories. The MAIF secured its leadership position in the biosafety sector by presiding the National Biosafety Committee, in charge of advising the

Minister on technical and administrative issues regarding the biosafety regulations and decisions concerning GMOs release or introduction.

F. Project financing

22. *Actual project costs by activities compared to budget*
The budget of the project is composed by the GEF-UNEP financial contribution plus the Mauritian government in kind contribution. They amount to US$ 427,800 in cash (GEF-UNEP) and US$ 207,900 in kind, which corresponds to 67% and 33% of the total project budget (see Annex 5.1).

23. *Financial management*

The initial budgeted GEF-UNEP contribution (Annex 1 A of the programme document) is structured through budget lines designed along UNEP standards. A detailed breakdown along components and sub-components was not mandatory at the time of the programme inception. Expenditures are mostly represented by staff time and services procurement – capital investment is quite limited due to GEF guidance on incremental cost support. UNEP financial management principles and procedures have been adopted and enforced. Flexibility was adopted through advances disbursed upon request by the National Executing Agency. The initial advance of US$ 64,000 (15% of the GEF-UNEP contribution) was disbursed on 14/12/2006, followed by 10 other instalments until the expenditure of the whole budget in 2011, each disbursement following the acceptance of the previous financial report for the previous period.

24. *Co-financing*

The contributions from the government of Mauritius matched the initial budget plan. According to the Mauritian Director of Audit' report (2011) the NBF has complied with the national accountancy regulations.

25. *Breakdown of final actual costs and co-financing for the different project components*

The final actual costs match the initial budget allocations, although they were spent in a longer than planned period.

G. Project partners

26. The FARC coordinated the work of the following stakeholders in the implementation of the project activities:

- *Institutions*: Ministry of Agriculture, Food Technology and Natural Resources, Ministry of Environment, Ministry of Health, Ministry Responsible For International Trade, Customs Department, State law office,

- *Scientific sector*: Agricultural Research & Extension Unit, University of Mauritius, Mauritius Research Council, Mauritius Sugar Industry Research Institute,

- *Private sector*: The Mauritius chamber of agriculture, The Mauritius chamber of commerce & industry,

- *Civil society*: Institute for Consumer Protection, Association des consommateurs de l'Ile Maurice.

H. Changes in design during implementation

27. The most relevant changes in the project implementation mostly concern external factors, which had an impact on the attainment of the project objectives but did not negatively affect the delivery of technical outputs:
- the partial and delayed approval of the Biosafety regulations limited the opportunities for testing the procedures for authorizing and monitoring the GMO release / introduction,
- the lack of implementation of the Biosafety Clearing House through the parallel project limited the opportunities of information sharing through the global mechanism.

I. Reconstructed Theory of Change of the project

1. Project context

28. A growing scientific knowledge on the structure and function of the living organisms has been fostering investments in biotechnology.

29. According to the project document, Mauritius is endowed with a rich biodiversity and opportunities for economic development. At the same time, according to FARC representatives, it imports 75% of its food supply and it is expected to become a net importer of Living modified organisms –because of an expected increase in GMOs plantations, import of cheap food, bioengineered pharmaceuticals and other chemicals. Mauritius has enacted a number of policies, strategies and programmes that relate to conservation and management of biodiversity. It has adhered to the Cartagena protocol on Biosafety but it lacks resources to implement the national Biosafety framework to regulate and supervise this process.

30. Political, administrative and economic obstacles within the country have been limiting effective enforcement of the Cartagena Protocol on Biosafety. In-country resources and decision-making capacity are weak and the public is generically aware of the potential consequences of the mismanagement of LMOs and the need for the systematic monitoring of their release and introduction. The project identified these two challenges as the critical elements to address in order to facilitate the implementation of a NBF. It also expected that the economic benefits originating from the implementation of the authorization, monitoring and supervision procedures would contribute to the sustainability of the system. However, opportunities for economic development continue to be lost and threats to the local biodiversity are still present due to the scarce resources available for deploying the NBF.

2. Project Theory of Change

31. The reconstructed Theory of Change (ToC), established on the basis of the project Logframe, is used to assess the project performance and sustainability. The project *Immediate Objective* was to put in place a workable and transparent national biosafety framework that is in line with its international obligations and national development priorities. According to the project document (section 2.1.1), *Government and private institutions intend to use biotechnology to solve problems in agriculture, food industry and the environment* and (section 2.6.b), *The Government of Mauritius is promoting a transition from the traditional practices, towards a more sophisticated, technology-based approach to agriculture with focus on attaining a certain degree of self-sufficiency, meeting quality exigencies, developing the local agro-processing industry, promoting entrepreneurship, optimising export opportunities, conforming to international norms governing food safety and maximising on the potential benefits of regionalisation. In doing so, it is pushing towards the development of agricultural biotechnology and a feasibility study has already been completed on the setting up of a Mauritius Agricultural Biotechnology Institute to promote research and application of Biotechnology with a view to giving a technological boost to agriculture in Mauritius.* On the other hand, the safe application of modern biotechnology needs to be guaranteed through a clear and effective national biotechnology policy, functional biosafety system and government commitment.

32. The challenges for Mauritius, as for many other countries in the world, are multiple. Their solution faces the typical hurdles challenging development in an emerging country: lack of clarity in the allocation of resources in key areas such as research and economic governance, pressure to solve emerging social problems such as demographic growth and income diversification, and difficulty to establish public private partnerships to regulate and supervise the challenge of investment in innovation without depleting the local natural resources. Dependence on external knowledge results in a weak position when dealing with enterprises and other economic parties generating or directly accessing the newest biotechnological innovation. This uneven situation is exacerbated in country by (a) the accelerating integration into the global economy, with little concerns for socio-economic constraints – according to FARC representatives investments in innovative production, both in farming and industry, are growing (cfr. the pharmaceutical sector) with little consideration for long term sustainability, and by (b) a push from international trade linking consumers to the newest products available at the global level in the absence of local capacities to check threats to the environment and human health.

33. The novelty of the biotechnological revolution has created concerns about caution in releasing and introducing LMOs in the environment. Consumers' associations are worried by delocalization and trade taking place in developing countries lacking the resources to cope with the potential side effects of innovation on the environment and human health. Concerns are equally directed to the preservation of human health and conservation of biodiversity from human made genetic shift of unknown consequence. The consensus on a safe approach is represented by the Cartagena Protocol on Biosafety (2000) that advocates that biotechnology be developed and used with adequate safety measures, particularly for the environment, by adopting the precautionary principle in decision making. The public opinion has to be confronted with the

development interests on the basis of facts provided by an unbiased, competent party only concerned with the integrity, completeness and reliability of the information on the opportunities and threats of developing and using LMOs.

34. The GEF guidelines for establishing NBFs are consistent with such vision, as they are intended to establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms along the precautionary approach and promote public information and education about biosafety.

35. The impact pathways connecting the project outcomes to its immediate goal tackle the institutional, technical and administrative dimensions of the behavioral change needed to achieve such an objective, as well as that of ensuring the understanding of and consensus on relevant challenge among the specialists and general public. However, the participation of the private sector (biotechnology promoters) to such mechanism was marginal, and hence their contribution has been minimal.

36. The reconstructed Theory of Change (ToC) reveals that the intended change is expected in three key areas: technological change (enhanced exploitation of biodiversity and conservation of natural resources to achieve sustainable development), social and political participation (information and participation promoting the control of innovation) and international cooperation on biosafety (integration and collaboration with other countries to achieve a global approach to biotechnology and biosafety). Critical assumptions of the reconstructed ToC concern the access by Mauritius to knowledge and innovation – i.e., the availability of resources to invest in such field and keep abreast with the development of biotechnology as well as the ability to enforce a legal framework protecting intellectual property rights. A driver that the project intended to address is the ability of the relevant institutions to increase environmental awareness in order to provide guidance and support to political decisions in the environmental and human health field.

37. The execution of the project was expected to mobilize interest and capacity supporting the functioning of the biosafety framework. Private sector interests are clearly related to the economic benefits coming from the sustainable exploitation of biodiversity and the services provided by the Biosafety regulatory framework in ensuring the safe release of LMOs.

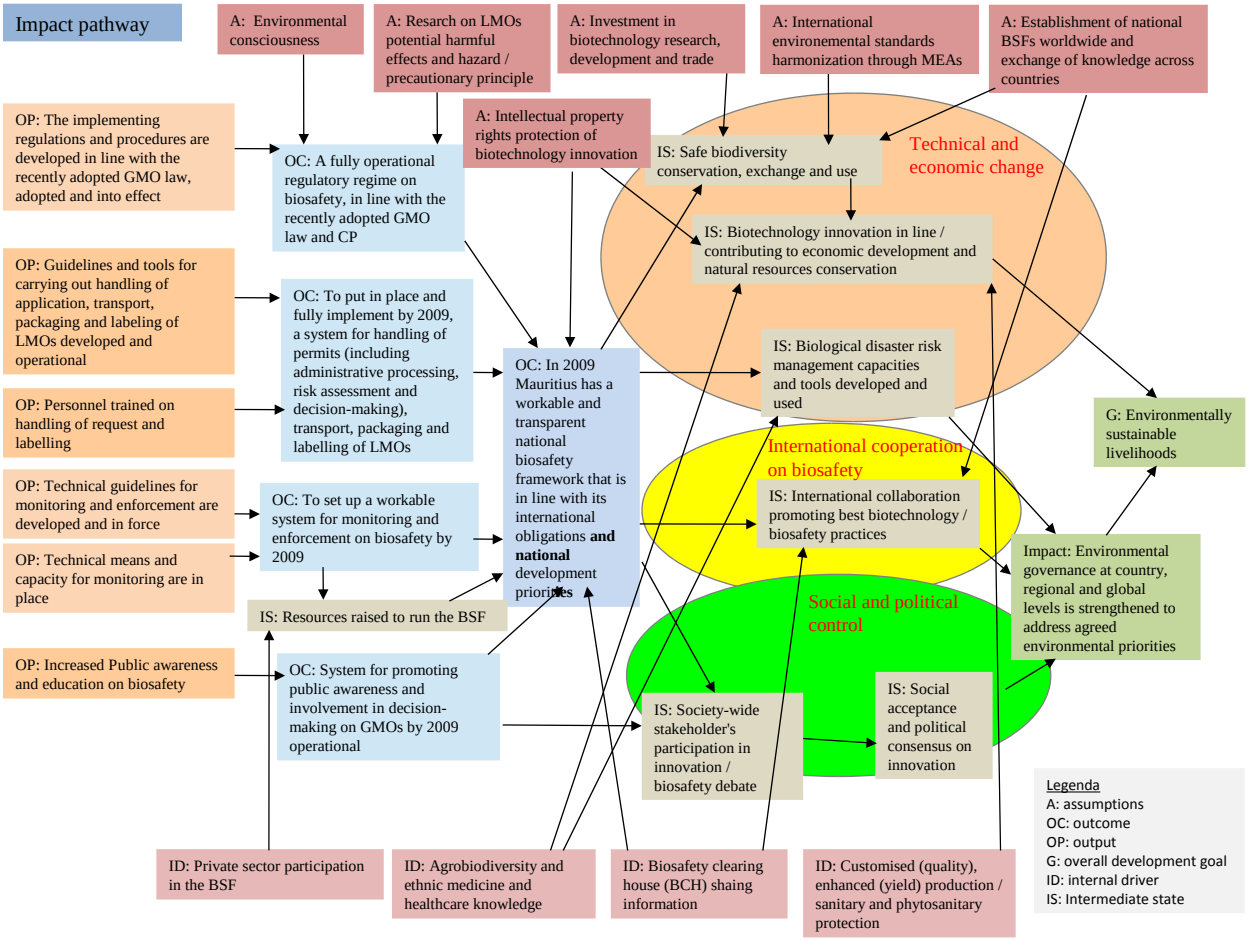
38. The ToC intermediate states leading from outcome to impact are expected to occur after the project completion. They are clustered in three areas: (a) Technical and economic changes leading to sustainable development of biotechnologies (b) A greater integration of Mauritius in the international community in the field of biotechnology and biosafety, in order to foster the exchange of knowledge and limit the potential damages due to transboundary effects of LMOs introduction (c) The building of a consensus on investing in biotechnology development, supported by public awareness of its benefits and by institutional controls on the exploitation of LMO organisms and their safe use and handling.

39. It is important to stress that the development process ongoing in Mauritius is a driver factor which may support investments in biotechnology. Knowledge generated in this field has the

potential to reduce the environmental impact of development, to promote better use of agro-biodiversity and indigenous medicinal knowledge, improve productivity and attract investment to achieve sustainable development. According to the Project document, the Biosafety approach promoted by the project was expected to create confidence in biotechnology development and focus efforts on the achievement of sustainability.

40. The project approach is centered on the development of local knowledge and skills necessary to establish a biosafety mechanism and the integration of Mauritius in the international framework provided by the Cartagena Protocol on Biosafety. Diagram 1 illustrates this conceptual framework, and provides the basis for the systematic assessment of the project based on the Review of Outcomes to Impacts (ROtI) method.

Diagram 1. The project reconstructed Theory of Change



IV. Evaluation findings

41. The following sections assess the project based on the ToR evaluation categories and address the key issues listed in the Terms of Reference. Overall ratings for each criterion are summarized in Table 1.

A. Strategic relevance

42. The *Convention on Biological Diversity* (CBD, 1992) provides a comprehensive framework that addresses all aspects of biodiversity. The *Cartagena Protocol on Biosafety* (CPB, 2000) to the CBD seeks to ensure the development of appropriate procedures to enhance the safety of biotechnology in the context of the CBD's overall goal of *reducing all potential threats to biological diversity, taking also into account the risks to human health*. The CP fosters the establishment of an enabling context for the environmentally sound application of biotechnology, making it possible to derive maximum benefit from its use, while minimizing the risks to the environment and to human health. The CP promotes biosafety by establishing practical rules and procedures for the safe transfer, handling and use of GMOs, with a specific focus on regulating movements of these organisms across borders, from one country to another. It features two separate sets of procedures, one for GMOs that are to be intentionally introduced into the environment, and one for GMOs that are to be used directly as food or feed or for processing.

43. The project's objectives and implementation strategies are hereafter analysed with reference to:

Sub-regional environmental issues and needs

44. The project targeted a critical topic among African environmental priorities: the need to find a balance between innovation-driven economic development and the conservation of natural resources and biodiversity. African countries are experiencing extensive foreign investments in crop plantation involving mechanization, improved seeds and chemical inputs as well as the delocalization of chemical industries and the emergence of a vibrant food and feed production. Actions have been launched at both regional and sub-regional levels to enhance activities in biosafety: The Southern Africa Program on Biotechnology program aims to create awareness and provide training on biotechnology and biosafety issues in the Southern African Development Community countries. The Association to strengthen Agricultural Research in East and Central Africa has initiated a program to develop and harmonize biosafety regulations at the regional level. The East African Regional Programme and Research Network for Biotechnology, Biosafety and Biotechnology Policy Development founded in 1998 has been focusing on capacity building in biotechnology policy development, including at sub-regional level. According to the project document (section 2.5), Southern and Eastern Africa initiated a sub-regional biosafety program in 1991, based in Zimbabwe.

45. In 1999, with the assistance of a UNEP/GEF pilot project, Mauritius elaborated the *National Biosafety Guidelines for the Safe Development and Introduction of Genetically Modified*

Organisms. These Guidelines recommend practices based on the precautionary approach to ensure the safe application of GMOs for different uses. Specifically, the Non-Sugar Sector Strategic Plan *(2003-2007)* advocated the *strengthening of administrative, infrastructural and legislative frameworks to achieve the targeted objective of a 'modern agriculture' whilst ensuring biosafety*. In 2004, a GMO law was approved in order to regulate the sector and establish the National biosafety committee. The project is therefore relevant as it addresses an issue of importance at national level and builds on previous initial efforts to promote the establishment of a biosafety framework. However, it did not support regional integration, which is important to ensure knowledge exchanges, cooperation and efficient use of resources.

UNEP mandate and policies at the time of design and implementation

46. The cross-cutting thematic priorities listed in section III of the UNEP Medium-term Strategy 2010–2013 include strengthening Sub-Programme D on Environmental Governance, to address agreed environmental priorities, by supporting Governments in establishing, implementing and strengthening the necessary processes, institutions, laws, policies and programmes to achieve sustainable development, and Sub-Programme C on Ecosystems Management. Specifically, under the Environmental governance priority, the UNEP's Expected Accomplishments (EAs) include assisting states to increasingly implement their environmental obligations and achieve their environmental priority goals, targets and objectives through strengthened laws and institutions. The Ecosystem management priority EAs include increasing integration of an Ecosystem Management approach [e.g. compliance with the CBD] into development and planning processes.

47. The project is part of a batch of National Biosafety Implementation Projects directly linked to Ecosystem management (UNEP EA-3: creating the enabling environment for the implementation of biodiversity-related Multilateral environmental agreements) and Environmental governance (UNEP EA-4: enhancing the capacity of countries to develop and enforce laws and strengthen institutions to achieve internationally agreed environmental objectives and goals and comply with related obligations). However, the project strategic relevance to UNEP's Programme of work (PoW) and Expected accomplishments is indirect as the PoW and EAs do not include any specific mention of Biosafety. At the same time, the project documents do not establish a link with the relevant PoW outputs and EAs. Even though this was not a UNEP requirement at the time of project design, it further reinforces the fact that biosafety was not integrated in the PoW and EAs.

GEF Biodiversity focal areas, strategic priorities and operational programme(s)

48. This project is strategically relevant to GEF as biosafety is one of the GEF cross cutting thematic issues. The project belongs to the Biodiversity Focal Area and specifically it is relevant to the following area: *(3) Capacity Building for the Implementation of the Cartagena Protocol on Biosafety*, i.e. *Developing systemic and institutional capacity building for biosafety: Provision of support to countries for the development and implementation of National Biosafety Frameworks including the Biosafety Clearing House and enabling activities including the development and training in risk assessment and management of modified living organisms with the participation of relevant government sectors such as agriculture, fisheries, forestry, industry, environment,*

education, manufacturing, trade and health as well as community and private sector stakeholders. It is therefore most relevant to the implementation of GEF Operational Programs 1-4 and 13.

49. The GEF *Initial strategy for assisting countries to prepare for the entry into force of the Cartagena protocol nr Biosafety* (2000) proposes to assist countries to prepare for the entry into force of the Cartagena Protocol on Biosafety through the establishment of national biosafety frameworks, including strengthening capacity for risk assessment and management with a wide degree of stakeholder participation. This project intended to assist the Government of Mauritius in implementing its National Biosafety Framework thus contributing to fulfilling the GEF *Initial strategy*.

50. Projects' objectives were partly realistic. While this project promoted awareness on Biosafety with the general public through civil society organizations, the project did not fully develop relations with the private sector. The evaluator deems that economic vested interests did not realize the utility of the NBF to develop consumers' confidence in GMO products and did not *lobby* for its completion and implementation, preferring to act in a deregulated environment. As a result, institutional commitment to enact the NBF was limited (cfr. the delay and partial approval of the Biosafety regulations) and the strengthening of local capacity could not be followed by their full deployment in enforcing the regulations.

Rating: satisfactory.

B. Achievement of outputs

51. UNEP and FARC performed the activities planned under the 4 components of the project and therefore delivered the required outputs. Draft regulations and technical guidelines were developed, professional capacities created and awareness of biosafety issues increased. Specifically, the project delivered a draft Agricultural Biotechnology Strategy & Policy under Component A, and the draft Regulations, guidelines and administrative processes required under Component B to implement the Cartagena Protocol on Biosafety. Workshops were held for training public officers on implementing the regulations, handling LMO release applications (2 workshops), handling LMO products, and performing risk assessment / risk management. However, approval from the MAIF was given only to the regulations on the sections of the GMO act of 2004 concerning the establishment of the National biosafety committee.

52. The draft Regulations elaborated with the project support are in line with the Cartagena Protocol on Biosafety, as can be seen in the following illustration of the procedures for GMO release: *An application for GMO development should be made on the prescribed application as set out in the first schedule form obtained from the Agro-industry ministry together with an application fee and submitted to the National Biosafety Committee set up as per the bill. The applicant should provide information regarding the nature of request (production, importation …), nature of GMO, and other relevant information related to the activities for which application is being made. The applicant should also submit a risk assessment report of the GMO/GM food*

as per second schedule of the bill. On receipt of the application, the permanent secretary of the ministry shall publish the application in the gazette and in at least two daily newspapers for public information and queries/objection. The minister shall make a statement in the national assembly about the same. The committee will then inform the permanent secretary about the outcome of the application.

53. Under Component C, the project built capacities of technical and administrative staff, a training workshop on testing and monitoring LMOs was held for technicians in charge of the inspection and detection of GMOs and the National food laboratory of the MAIF was assisted in acquiring laboratory equipment to perform sampling and analysis of GMO by using the Polymerase chain reaction equipment.

54. Under Component D, the awareness raising activities included 2 sensitization workshops gathering researchers, technicians, consumers associations and growers' representatives; invited policy makers, heads of Ministries and the press did not participate to such events. Printed information material on the GMO potential threats and regulatory approach to release / introduction was produced and used in public workshops. A survey was done by the University of Mauritius in 2006; GMO issues were mainstreamed in environmental public education by creating teaching materials that were included in the curricula for the secondary school. The key project outputs are listed in Table 1 (see section C).

Rating: highly satisfactory.

C. Effectiveness: Attainment of project objectives and results

55. *Achievement of Direct outcomes as defined in the reconstructed Theory of Change*
Components A and B. The project's outputs contribution to the achievement of the relevant outcome was limited by the fact that the project concentrated on the delivery of technical and administrative issues, without involving the policy making level and the vested economic interests of the private sector in the decision process. The project made attempts to involve high policy making level at two levels: the Chair of the National Biosafety Committee was a member of the National Coordination committee, and the National Project Coordinator was the Director-General of the FARC, who has the political mandate to advise the competent ministries on food and agriculture topics. Technical outputs were delivered as planned (see section on Achievement of Outputs), but their approval (i.e., enactment of the NBF) was partial. Therefore the draft Strategy documents and regulations have not been enacted, with the exception of the Regulations concerning the national biosafety committee. This means that the implementation of the NBF has not yet been fully accomplished.

56. Component C. The capacities built have not been used yet for the authorization and monitoring procedures and the laboratory has not been used to detect GMOs because, in the absence of legally binding regulations, no request of authorization to release / introduce GMOs has been submitted or laboratory analysis requested. The National Biosafety Committee was restructured in June 2014 and some of the trained technical staff changed occupation thereby reducing the available skills built by the project. The risk assessment and monitoring procedures

have been put in place but need to be tested and fully operationalized, and the GMO detection laboratories have not carried out any analyses to comply with the NBF procedures.

57. Component D. The awareness raising campaign was more effective inside the scientific community, but did not contribute to start a dialogue between the public opinion and decision makers that have a major impact on fostering the operationalization of the NBF.

The achievement of direct outcomes is therefore rated as moderately satisfactory.

58. *Likelihood of impact using RoTI approach*
The project has contributed to build the tools for the running of the NBF without influencing the policy makers, who have mostly not participated during the implementation of the activities. The Evaluator deems that High level Ministerial personnel did not seem to have a clear perception of the relations between innovation-based development and regulation / control of LMO, as a result of their limited involvement in project awareness raising activities (according to the representative of the Mauritius Institute of Education in charge of the project awareness raising campaign). The pre-existing GMO act has not been fully operationalized through the enactment of the full set of regulations created with the support of the project.

59. Based on the interviews with FARC representatives, the evaluator deems that the key function of the NBF – ensuring that GMO do not harm the environment and human health – has been considered a threat to some value chains relying on biotechnology innovation – such as poultry production based on feed from countries renown for GMO crops production such as Argentina,. Up to now, the import of animal feed (maize, soybean meal, beans) is unchecked and development of improved sugar and other crops varieties is not dependent on GMO technology. Pharmaceutical, another biotechnology-intensive development sector, is experiencing new investments but its regulation is independent from the NBF supported by the project. Local economic interests – but for the sugar industry - are little concerned with the property of intellectual rights on LMOs. Because most investments in innovation are externally driven, patents are registered abroad first. In the absence of an approved regulatory framework, the Sugarcane Industry Research Institute stopped the development of GMO varieties already initiated – no trials were held yet to evaluate the GM lines produced -.

60. Following the changes in composition of the National Biosafety Committee in 2014, policy makers have showed renewed interest in enacting GMO regulations. The updating of the draft regulations arises from the realization that closing the technological gap, as highlighted in the relevant development strategies, is key for overcoming the crisis of the sugar sector (The Non-Sugar Sector Strategic Plan includes, among its main objectives, *the strengthening of administrative, infrastructural and legislative frameworks to achieve the targeted objective of a 'modern agriculture' whilst ensuring biosafety*). The balance between the benefit of innovation and the precautionary principle are being discussed again and may lead to support for the completion of the NBF implementation. The initial political decision enshrined in the GMO act of 2004 seems to be still valid, although the area of concern is now the utility and effectiveness of the NBF in ensuring the achievement of a GMO-safe more than a GMO-free development.

61. However, up to now, the project achievements have not yet impacted on the economic development and habitat conservation of Mauritius. Several factors which would contribute to create the necessary enabling conditions are absent and therefore the economic development forces discourage decision makers from taking further steps towards the full deployment of the NBF, especially the implementation of the regulations on the release / introduction of GMOs and the allocation of support to biotechnology research on GMOs. Public opinion and policy makers are now aware of the existence of such technology and of the value of the precautionary principle to ensure sustainable development. While noting the points mentioned in the previous paragraph, which may lead to the adoption of a NBF, it is reasonable to conclude that at this stage the likelihood of impact of the project results is moderately unlikely.

Achievement of the formal project goal and planned objectives

62. The project delivered its outputs with a delay of less than 6 months. However, the lack of approval means that the regulatory framework has not been implemented. As a result, no impact can be observed on the economic development and natural resources conservation in Mauritius. Thus the Logframe indicators are positive at the output level but have not recorded an even progress at the specific objectives and overall goal level. For instance, the sustainability of the resources developed by the project depends on their use, e.g. GMO analysis are expected to pay for the maintenance and evolution of laboratory equipment, techniques and skills; monitoring capacities are ineffective and can be lost (technicians and administrators change job) if not used at an adequate scale.

The achievement of the project goal and planned objectives is rated as moderately unlikely.

63. The project's achievements discussed above are synthesized in the Evaluation matrix (Table 1). This presents the Evaluation questions listed in the ToRs, with the value of the relevant indicators and the synthesis assessment of the achievement in the 4 components of the project.

Table 1. Evaluation matrix

Question	*Criteria*	*Indicators*		*Sources*	*Answer to the question*
		Target	*Achievement*		
To what extent was the project able to support Mauritius in establishing a national biosafety framework in accordance with national development priorities and international obligations?	Impact	1. Operational NBF in line with its international and national obligations (GMO Law) by 2009	Agricultural Biotechnology Strategy & Policy elaborated but not yet approved by MAIF	Programme document, PIR, Programme terminal report, Interview of stakeholders	Biotechnology policy and strategy were drafted and the NBF needed to make them effective was technically put in place but not made operational
To what extent was the project able to assist Mauritius to establish and consolidate a fully functional and responsive regulatory regime in line	Effectiveness	2. A regulatory regime in place and in line with CP and international obligations, by	NBF in line with international regulations but only 6 sections of GMO Act 2004 drafted into regulations and vetted by the State law office. Final clearance from MAIF awaited.	Programme terminal report, Interview of stakeholders	Coordination mechanism and instruments put in place but not fully

with the Cartagena Protocol and national needs and priorities?		2009	Regulations elaborated to set up and make operational the Biosafety Office and Operational manuals for Regulators on handling LMOs. Training of technical and administrative staff, especially for detection of GMOs Risk assessment and Management, as per mandates of institutions e.g Health, Environment, Quarantine etc. Interagency ad hoc task forces providing support on capacity issues.		operational
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for handling request, perform risk assessment, testing of GMOs, decision-making and performing administrative tasks?	Effective ness	3. Number of decisions made as result of request	No decision or permit released. Five guidelines produced on Handling of requests for GMO Permits, Transport of GMOs in Mauritius, Packaging of GMOs, Labelling of GMOs, Risk Assessment of GMO's in Mauritius. Format agreed to be linked to the national biosafety website when operational. Operational register to handle LMO applications	Direction of environment, Interviews of stakeholders	No practical implementati of procedures for the GMO release / introduction authorization procedures
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for "follow-up", namely monitoring of environmental effects and enforcement?	Effective ness	4. Technical means for monitoring in use	Laboratory established but not yet used as no monitoring has been performed. GMO training courses on GMO testing facility (Food Technology Laboratory of the MAIF). No inspectors trained in the MAIF. List of consultants prepared and reviewed.	Direction of environment, Interviews of stakeholders	Consultants' roster established; no deployment of the monitoring mechanism, no GMO analysis requested
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for public awareness, education, participation and access to information?	Effective ness	5. Public awareness & participation training delivered to representatives of public, media, NGO's, policy makers & scientists	Two workshops in 2009 & 2011 (awareness, 25 people each), and two in 2010 & 2011 (technical, 35 people each) with representatives from: academia, technicians, consumers associations, growers ; policy makers, heads of Ministries and press were invited but did not participate. Inception workshop used as stakeholder outreach activity. Development of awareness raising material. Survey done by University of Mauritius (CASR) under MRC in 2006; MGO issues mainstreamed in environmental public education (teaching curricula up to secondary school)	Programme document, PIR, Programme terminal report, Interview of stakeholders	Effective awareness of the general public and research community but no involvement of parlamentari ans / press and interest of economic parties was minimal

Rating: moderately unsatisfactory.

D. Sustainability and replication

64. As described in the effectiveness section, the project achievements have been partial. Political support is essential to make the project results sustainable. The renewal of the National biosafety committee in 2014 confirms that Biosafety is deemed important at the institutional level and that politicians are aware of the effort invested and results achieved by the project. Even if limited, the human resources existing in Mauritius are well trained and in touch with sources of innovation. As long as there is no further loss of trained personnel, they can maintain the skills developed during the project and complete the NBF implementation, at least at a pilot level, without major external support. Therefore the sustainability of project results depends on approval and operationalisation of a regulatory framework mainstreaming the precautionary principle into economic development to achieve sustainability.

65. The project outputs should have led to political decisions enabling the implementation of the framework, which, in turn, would have led the private sector to invest in the sector, thus ensuring the safe integration of biotechnology in the economic development of the country. Private companies are interested in the creation of a favorable context for accessing inputs such as biodiversity and having LMOs intellectual property rights protected. They also expect the NBF to prevent controversies on biosafety issues. Additionally, they are interested in the harmonization of the regulatory approach across the region in order to reduce transactional costs, through the facilitation of communication on biosafety and the safe transfer of biological materials from research to market and among countries. Attempts were made to promote this approach, but the limitations of the project design did not allow to push for it in a systematic way. As LMOs regulations also concern duties, levies and fees related to authorization and sanctions, the release / introduction of LMO is also instrumental to raise funds for the running and updating the NBF.

66. The following sections review the plurality of conditions and patterns contributing to the success and replication and up-scaling of the programme results.

67. *Socio-political sustainability*
The awareness raising campaign has touched a wide set of stakeholders, although with some remarkable exceptions. Competent audiences such as researchers, politicians and economic and civil society entities are aware of the challenges of biotechnology innovation and its advantages and disadvantages. They have been exposed to such topics since the pilot project at the end of the 1990'. The economic drive to increase farm productivity vis-a-vis the crisis of the sugar sector is making clear that the NBF has to play a role in the viability of the local production. On the other side, import of food and feed follows the international market and it does not contribute to the debate as it is satisfied with the continuation of the current informal practices. Mauritius is investing in technology, it needs higher production standard and is expecting to feed a growing population, but the sector is seen partial and less substantial to the country progress than other economic sectors such as tourism, education and environment. As Mauritius depends on neighbor countries for food supply, it needs to strengthen its NBF, harmonize and cooperate with

countries such as Madagascar and Mozambique as well as to increase the crops yield through innovation such as biotechnology research.

68. The highly skilled but small group of technicians trained by the project is tempted to change occupation. Their turn over may pose a challenge as skills go lost. The trained laboratory technicians are seconded from other sections of the parent institution and in no case they expect to be fully dedicated to the analyses requested under the authorization / monitoring procedures. All this constraints are due to the lack of approval of the Agricultural Biotechnology Strategy & Policy. Lack of support by socio-economic parties is reflected in delays and the fact that the institutional commitment to Biosafety is still limited to a focal point and the regulations revision work performed by the National biosafety committee.

69. *Financial resources*
By developing a professional and reliable approach to Biosafety management, the project has created the conditions for greater trust by investors, users and other stakeholders in biotechnology innovation, which has the potential to positively impact on economic development and natural resources conservation, assuming the framework is adopted and it becomes operational. It also raised the expectations of achieving shared benefits and public control on foreign and local investments. As LMOs regulations also concern duties, levies and fees related to authorization and sanctions, the NBF has the potential to generate resources for the running and updating of the system. However, no calculation of the financial resources needed has been done in the course of the identification of the project. The slow pace of investments in this sector due to the lack of an operational framework is delaying the benefits in terms of financial sustainability.

70. The continuation of project results is dependent on the commitment not only of public institutions such as the Sugar Research Institute but also on the private sector or experiment and promote biotechnology innovation – which in turns depend on a solid and reliable legal framework being operational. Presently, the resources made available to run the NBF – raised internally to the Government budget - are not enough for the deployment of a satisfactory monitoring system and for performing the required laboratory GMO detection analyses, should the framework become operational.

71. *Institutional framework*
The establishment of the NBF and enactment of the relevant policies and regulations are expected to exploit scientific, technical and administrative capacities present in the public sector. The MAIF, as the BS focal point, coordinates through FARC the Government technical bodies contributing to the running of the NBF. The national BSC advises the MAIF and other Ministries in taking decisions on Biosafety. Coordination at the decision making level was not directly addressed by the project – as it was already proclaimed and outlined in the GMO Act and assigned to the NBC - while the partial approval of the BS regulation curtailed the influence of FARC on the other institutions. The effectiveness of these bodies to make the NBF institutional arrangements effective has to be tested once the NBF becomes operational.

72. *Environmental sustainability*
The project results have the potential to positively impact on environmental governance and ecosystem management. Project activities created capacities and mobilize resources without causing any negative impacts on the environment. In the long term the project results are expected to enhance the compatibility between local development and natural resources conservation, i.e. to make the growth of the Mauritian economy more environmentally sustainable. However, for this to be realized, it is essential that the framework is adopted and operationalized.

73. *Catalytic role and replication*
While investments in the pharmaceutical sector are growing (source: FARC representatives), the agriculture and food industries are waiting for clarity on policies in order to invest in biotechnology (source; Mauritius Sugarcane Industry Research Institute, Ministry of environment). They are dependent on public support and perceive the partial enactment of the regulations as a symptom of lack of political interest. In short, the upscaling of the project achievements faces the following constraints:

(a) The technologies have been developed but lack results from pilot cases that test the interest of stakeholders to invest in them; the lack of approval of the Agricultural Biotechnology Strategy and Policy has stopped the deployment of regulatory, assessment, monitoring and analysis capacities – as well as integration at the regional level;
(b) *incentives* do not exist, for the reason highlighted above, and the limited size of the local farm economy does not provide a basis for privately-led initiatives catalyzing changes in stakeholder behavior;
(c) *institutional changes* are expected but they have to follow the timing of political decisions; a first improvement was made through the renewal of the National biosafety committee, to be followed by the completion of the enactment of the regulations;
(d) there were a few *policy changes* after the approval of the 2004 GMO act, including the imminent elimination of the EU sugar import quota, that push for a greater role of biotechnology in farm production diversification. This change still has to be articulated in formal policies;
(e) follow-on financing (*catalytic financing*) from Governments, the GEF or other donors, may not be available until the NBF will have produced benefits in ensuring development with safety, i.e. a recognized impact on people well-being.

Rating: moderately unlikely.

E. Efficiency

74. The project tapped into a pool of highly skilled personnel from institutions and academia relevant to the implementation of the NBF. Its cost-effectiveness resides in the efforts to build capacities by building upon those already existing in key institutions. The public agricultural institutions cover a broad set of expertise and are connected to the academia. They therefore have the possibility to forge strategic alliances and channel private sector resources while covering all

the major topics related to the NBF. The UNEP Project manager facilitated the training on Risk Assessment, and inspected the site of the GMO laboratory, which led to recommendations and changes. He also carried out a technical peer review of all documents produced with the assistance of the project and provided guidance in procuring international experts from the region (LMO Detection – South Africa, Risk Assessment – Tanzania) as part of South-South Cooperation, a cost effective approach compared to bringing similar expertise from the North,

75. Technicians and administrators participated in the elaboration of regulations and guidelines, making use of regional expertise when needed. GMO detection equipment was provided to a laboratory with adequate capacities to use them and key in the performance of the expected GMO analyses. A roster of consultants was created to keep in touch with available experts for performing risk assessments. Involvement of education institutions provided the basis for developing awareness raising materials for second grade teaching.

76. The project execution was slightly hampered by delay in the performance of administrative procedures. Such difficulty had little impact on the overall delivery of project activities. The major constraint was the longer than expected time needed for political decisions and hence the fact that up to now only regulations concerning 6 sections of the GMO act have been enacted and that the Agricultural Biotechnology Strategy and Policy is still a draft.

77. The National Biosafety Committee (NBC) structural proximity to the Project Coordination Committee (most members were the same) contributed to the effective coordination between the national institutions and the project implementation mechanism. In short, the FARC proved able to implement the project activities and coordinate partners at the technical and administrative level. The lack of an implementation strategy at the political level resulted in limited use of the results achieved, but did not harm the efficiency with which the required outputs were delivered..

Rating: highly satisfactory.

F. Factors and processes affecting the project performance

Preparation and readiness

78. The project was identified as a follow-up to a former project. Its design took for granted the existence of political consensus on its key features. The biosafety coordination mechanism centered on the National Biosafety Committee ensured the representation of stakeholders' interests, although at a predominantly technical level. As a result, the project did not directly impact on the decision making process.

79. The Agricultural Biotechnology Strategy and Policy – included in the project as a result of the adaptive process to ensure uptake and government ownership - and the development plan for Mauritius recognize that an unclear vision for biotechnology development and a limited economic analysis of the benefits hamper the decision making process. This means that consensus about environmental and human safety is still missing.

80. Such picture points clearly to the insufficient identification of the challenges of the implementation of the NBF, with respect to the need to mainstream the precautionary principle into economic development. Exclusion of the pharmaceutical sector from the framework also reduced the urgency of a confrontation on the challenges ahead and the commitment to take decisions. Lacking the support of the policy makers, technicians developed capacities and performed their tasks but were unable to give a long term direction to the NBF.

81. The project design did not take into account the time and efforts needed to ensure political support for the implementation of the framework. Additionally, the project design did not include adequate provisions for the participation of the private sector – although limited, it is central to the national development policies and is expected to increase in the near future, due to the integration of the island economy in the global investment flows. This led to limited participation and engagement, which, in turn, translated into lack of support for the process.

Project implementation and management

82. The project implementation did not encounter difficulties. The national executing agency managed all activities in a centralized way and the GEF contribution was used following UNEP's financial procedures. The local contribution consisted in the in-kind participation of local partners. The Executing agency smoothly coordinated the partners and implemented the project work plan. The contribution of local partners consisted in the execution of tasks assigned by the Executing agency, specifically through the participation in workshops, training and collaboration in drafting technical (the guidelines) and administrative (the regulations) documents.

Stakeholders' participation and public awareness

83. Stakeholder participation and public awareness activities were performed as planned. Information was disseminated smoothly across the academic community, and tools were established to mainstream awareness through the education system. Reception by politicians, high level institutions representatives and the press were less satisfactory. A greater interest could have been achieved through a stronger connection with the debate on development and on establishing and harmonizing sector priorities. The adopted approach was in line with the project stated objective of operationalizing the output of the previous initiatives at the technical and administrative level. This of course did not address the challenge of keeping alive the interest of decision makers and addressing the concerns of the private sector.

Institutional framework

84. The project implementation mechanism was adequate to perform the delivery of the project activities. The National Biosafety Committee advising the Ministry of agriculture includes representatives of the other institutions concerned by the GMO law. The project built on the baseline activities carried out in the Pilot phase of existence of the Committee. Its involvement in the project ensured institutional participation in decision making. The role of the national project coordinator was effective and well harmonized with the NBC thus resulting in active participation of the national partners such as the MAIF and other institutions. The Project Implementation Report 2009 recommendations concentrated on technical issues and were followed in a timely manner. Additionally, he National Executing Agency was able to lead the

implementation of the activities but not to influence high level decision making. A smooth relationship was established with the UNEP BS unit in charge of supervision

85. These considerations point clearly to the limited level of country ownership and driven-ness in the implementation of the NBF. Reliance on previous experiences, limited involvement of key economic stakeholders and a purely technical and administrative delivery strategy resulted in uneven delivery with respect to the political dimension. Balancing economic development interests and acquiring the participation of the private sector can overcome the limited reach of the NBF and its technical nature. National partners did not fully assume responsibility for the project; their support was limited to the execution of its activities, not to the success of the stated development objective: a NBF ensuring the reliable release / introduction of LMOs to foster the economic development of Mauritius. In such context, it is a pity that regional coordination could not be achieved as it has a potential to reduce financial and technical constraints to the implementation of the NBF. Collaboration resulted in the participation of Mauritian technicians to regional events but not in the achievement of consensus on shared initiatives and exchange of information.

Financial planning and management

86. The Mauritian government contribution consisted in in-kind co-financing. The executing agency assigned a part time staff – the BS focal point, assisted by a financial officer - to coordinate project activities. Consultants were regionally hired to perform specific tasks. Such provisions were adequate to execute the project.

87. The budget of the project is composed of the GEF-UNEP financial contribution and the Mauritian government in-kind contribution, amounting respectively to US$ 427,800 in cash and US$ 207,900 in kind, i.e., to 67% and 33% of the total (see Annex 5.2).

88. Project management represents the main budget line (36%), quite equally divided between GEF-UNEP and the Government, followed by Component 3 (Monitoring for environmental effects and inspection) (21%), with ¾ of the budget covered by the GEF-contribution, and Component 2 (Handling application) (14%), with 2/3 of the budget covered by GEF contributions. Components 1 and 4 represent fewer than 10% of the total budget, with a prevalence of GEF contribution for both. Consultancy (8%) and Technical support (11%, exclusively funded by GEF) complete the budget.

89. The project followed the UNEP financial standards for the management of GEF projects. Updated budgets were regularly uploaded in the Anubis database. The procurement process for the acquisition of the GMO detection laboratory equipment followed the national procurement procedures and this resulted in about one year of delay. Co-financing materialized as expected at project approval (see Annex 5.2).

UNEP supervision and backstopping

90. Project supervision was ensured by the participation of UNEP and national coordinators in the steering committee. No major problems were faced in the exchange of information,

according to the representatives of the national Executing agency and the UNEP Task Manager. UNEP backstopping through the Biosafety unit consisted in the supply of technical advice (e.g., in the case of the technical appraisal of laboratory equipment, training in Risk Assessment, technical peer reviews) and monitoring of the execution of the activities. Monitoring was quite sketchy; it did not consider the Logframe indicators but concentrated on the delivery of activities (cfr. the following section). However, overall, the project reporting was structured along UNEP procedures and produced information adequate to highlight the achievements and milestones of the project execution. The Anubis system provided an adequate filing and dissemination mechanism for the project reporting.

Monitoring and evaluation design

91. The project Logframe (Annex 1A to the Project document) and Monitoring and evaluation (M&E) plan (Annex 1B) and key indicators, baseline and method of data collection table (Annex 1C) attached to the project document describe the project M&E system. The M&E approach consisted of periodic reporting of activities (e.g., through the Project Implementation Reviews - PIR) plus the internal Midterm review (PIR 2009) and external Terminal evaluation. The UNEP task manager and Steering committee were in charge of monitoring and reporting the progress of activities. The project did not allocate any specific budget to implement the M&E plan and no budget was allocated to the terminal evaluation. Thus, no specific resources were devoted to surveying and collecting the indicators, only the Executing agency supplied the UNEP Task manager with reports and information on the activities performed and their immediate outputs. At the time of the initiation of the project evaluation, the biosafety unit facilitated the allocation of sufficient funds to allow the terminal evaluation to take place.

Quality of the project logframe and indicators

92. The project Logframe concisely presents the project activities. The 32 indicators, both internal and external, are mostly qualitative and usually lack a numeric target. Indicators are detailed for the individual project activities. The risks and constraints and risks management actions are extensively described, thus providing a detailed guidance to project decision making. As a whole, the exceedingly long list of indicators concentrates on the immediate output of the action and does not provide a synthesis assessment of the project progress toward its overall objective (its external impact). The outcome indicators often overlap with output indicators and also concentrate on immediate results of the project activities. Most indicators were practical and easily collectable. However, due to their extensive amount, their systematic collection would have required the mobilization of specific, targeted resources along a formal timeframe. At the same time, even if collected, they would not have captured the elements conducive to project results, including impact on economic development and natural resources conservation or sustainability. The project baseline data were included in the Annex 1C of the project document, corresponding to the description of baseline indicators.

Monitoring and evaluation activities

93. The arrangements for monitoring the project outputs and outcomes coincide with the reporting process. No resources were available for surveys and specific data collection. No

timeframe or grid for the Logframe information collection is included in the work plan as it expected to correspond with the reporting schedule. No reference to the GEF Tracking tools is recorded in the project documents uploaded in the Anubis database.

94. The arrangements for the Evaluation consist in the execution of the mid-term review and Terminal evaluation. The report is published on the Evaluation office unit website after being shared with the relevant stakeholders. The Evaluation office unit will track the implementation of recommendations at 6 months intervals. The UNEP Biosafety unit performed an internal mid-term review of the project. Please see paragraph 91 for details on budget and planning.

Rating: moderately satisfactory.

G. Complementarity with UNEP strategies and programmes

95. This project is in line with the UNEP commitment to assist developing countries in establishing a NBF along the GEF Initial strategy and follows the methodology developed by the UNEP Biosafety Unit (BSU). It is part of a batch of projects assisting developing countries to develop and implement their NBF, thus contributing to the international alignment of countries on biosafety issues. The implementation of the project activities follows the lessons learnt from previous GEF-UNEP experience and is part of a coordinated effort to implement the provisions of the Cartagena Protocol on Biosafety worldwide. Its implementation is complementary to the GEF funded project Building Capacity for Effective Participation in the Biosafety Clearing-House (BCH) of the Cartagena Protocol on Biosafety supporting countries regarding their obligations to the CP. The project builds on UNEP's established capacities in the area of capacity-building and technology support. For instance, it uses UNEP's training modules to help countries understand their BCH obligations as Parties and to assist them to enter and use information in the BCH. The project is consistent with the environmental governance and ecosystem management thematic priorities. The project contributed to UNEP's Expected Accomplishments and POW 2008-2009, 2010-2011 and 2012-2013 in relation to minimizing environmental threats to human well-being arising from the environmental causes (priority b) and consequences of human made disasters and strengthening environmental governance to address the Biosafety environmental priorities (priority d). However, due to the lack of data collection and the direct output oriented indicators in the logframe, it is not possible to measure the actual contribution to the UNEP Expected Accomplishments

96. The project was in line with the Bali strategic plan and the concept of promoting national participation and ownership – the national executing agency being in charge of all major operational decisions. The implementation of the NBF supported Mauritius in developing its own technology assessment capacities and in building the basis for accessing sources of sustainable financing such as the fees, duties and levies to be paid to comply with the NBF regulations for release / introduction of LMOs.

97. The project created the conditions for South-South cooperation – although it has not directly engaged in such field – and for dialoguing with centers of excellence in the North. Relationships with other southern countries were established thanks to the participation of Mauritians to regional workshops. No concrete measures were taken to institutionalize such South-South cooperation, but there is now an awareness of the advantages of holding joint / mutually recognized field trials of GMO organisms before their release.

98. The project had no specific gender component in the project design.

H. Conclusions. Lessons learnt and recommendations

1. Conclusions

99. The project design targeted the technical and administrative elements of the implementation of the NBF as a follow up to previous actions. Although it was envisaged that guidelines and manuals would support the process, little focus was put at the stage of the project identification on the evolution of the context and growing awareness of the challenges of the release / introduction of Living Modified Organisms (LMO). By the time of project inception, knowledge of the potential benefits and costs had reached stakeholders in the development and conservation sectors. The advantages of a regulated regime were appreciated in an uneven way by different groups of stakeholders. This situation discouraged decision makers from taking a risk by implementing an independent NBF managing biosafety issues on a purely technical basis. The project implementation mechanism positively exploited the leading role of the national Executing agency in the food and agricultural field. The FARC was less effective in bringing on board the private sector, which was little involved in the coordination mechanism, i.e. the National biosafety committee – but could have stimulated policy makers to take decisions favorable to the enactment of the BS regulations.

100. The project awareness raising component was too small not only to stimulate a sound understanding of the topics at stake but also to make the private sector aware of the benefits of a public structure in charge of the release / introduction of GMOs. The commitment of technical and administrative staff to implement the NBF was not matched by interest from the economic sector or a pro-active attitude of the civic society organizations. The former looked for alternative ways to perpetuate existing practices (short cuts to the market of innovation, i.e. import of technology, also if untested and not adapted to the local environment), the latter asked for strict Biosafety compliance without engaging all the sectors of the society in establishing a shared platform. The operationalization of the NBF was not completed, notwithstanding the fact that the GMO law had been enacted (2004). However, the institutional coordination mechanism has been put in place and technical and administrative instruments have been elaborated.

101. The project execution mechanism was appropriate to tackle the technical and administrative challenges of its implementation, but its achievements were hampered by the lack of

interventions strengthening the higher level decision making or at least linking awareness raising to decision making.

102. The Agricultural Biotechnology Policy and Strategy has not yet been approved and hence did not contribute to promote the enactment of the BS regulations and procedures. The success of the current revision of regulations and guidelines is subject to the emerging of a new political consensus leading to a speedy approval and operationalization of the system.

103. The BS regulations and guidelines developed with the assistance of the project are in line with the requirements of the Cartagena Protocol on Biosafety. The renewal of the National BSC and the refinement of such documents are positive steps which may pave the way for their approval. This requires that stakeholders' interests are heard at a level higher than that the technical and administrative bodies in charge of the NBF implementation.

104. The capacities built in risk assessment / management, inspection, laboratory testing and monitoring of GMO release / introduction were adequate to undertake the NBF operations. The delay in operationalize the NBF has resulted in some loss in the human resources after the project end. The retaining and updating of such skills is a critical issue for their continued effectiveness.

105. The running of the NBF is entrusted to the Competent Ministry (MAIF), with support from the NBC and a Biosafety Office managed by the BS focal point. According to the FARC representatives, the Biosafety Office has not yet been created. The present operational capacities are not adequate for running the NBF, especially when it comes to dialoguing with the private sector.

106. Awareness raising activities were effective in addressing the needs of technicians and the education sector. They did not reach the decision makers and the press. The novelty of the GMO topics was over at the time of the project execution and no success story or practical cases useful to stimulate interest were available.

107. The technical approach of the project design did not consider a strategy for the mobilization of resources for the implementation of the monitoring system and to establish coordination and synergies with other countries in the region. Two follow up projects on GMO detection for the Southern Africa Region and harmonization for the Indian Ocean Island states exist but Mauritius did not allocate funds for participating. A more decisive effort to tackle the bottlenecks in decision making was required to achieve these objectives.

108. The UNEP role was effective in streamlining the project design along the GEF approach by facilitating the implementation of activities and in providing agile financial procedures for procurement of goods and services.

2. Overall assessment

109. The overall assessment of the project, summarizing the above mentioned conclusions, is performed by answering the Evaluation questions listed in the Evaluation matrix (see Table 1).

110. To what extent was the project able to support Mauritius in establishing a national biosafety framework in accordance with national development priorities and international obligations?
The Agricultural Biotechnology Policy and Strategy were drafted and the NBF needed to make them effective was technically put in place but not made operational

111. To what extent was the project able to assist Mauritius to establish and consolidate a fully functional and responsive regulatory regime in line with the Cartagena Protocol on Biosafety and national needs and priorities?
The project assisted the executing agency to put in place the coordination mechanism and instruments, but as of the time of writing, they are not yet operational.

112. To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for handling request, perform risk assessment, testing of GMOs, decision-making and performing administrative tasks?
There is no practical implementation of the GMO release / introduction authorization procedures and no decision on such issues has been requested or taken.

113. To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for "follow-up", namely monitoring of environmental effects and enforcement?
The consultants' roster was established but the monitoring mechanism has not been put in place and no GMO analysis requested, due to lack of approval of the relevant regulations implementing the GMO act.

114. To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for public awareness, education, participation and access to information?
The project raised effective awareness of the general public and research community but the involvement of decision makers, press and private sector was minimal.

115. In synthesis: the project achievements were technically up to the expectations. The project design focus on the technical and administrative elements of the NBF implementation, putting in place the coordination and developing the instruments to regulate the release / introduction of GMO was not adequate to ensure the political decisions needed to make it operational.

Table 2. Overall ratings of the project

Criterion	Summary Assessment	Rating
A. Strategic relevance	The project was in line with Mauritius priorities and needs, as well as the UNEP mandate and the GEF priorities. However, Its objective was not completely realistic	S
B. Achievements of outputs	All the planned and 2 add-on activities were performed with a slight delay	HS
C. Effectiveness; attainment of project objectives and results	Although some outcomes were partially achieved, the lack of implementation of the biosafety framework – due to the partial approval of the regulations - is hampering progress towards impact and causing the loss of acquired skills and capacities.	MU
1. Achievement of direct outcomes	The execution of the project activities created the capacities and put in place the coordination mechanism and procedures for the functioning of the NBF, but the lack of operationalization of the system is hampering the achievement of the outcomes.	MS
2. Likelihood of impact	Due to an incomplete need assessment and design, the coordination mechanism, capacities built and instruments put in place have not yet become operational	MU
3. Achievement of project goal and planned objectives	The NBF operationalization is still to be achieved.	MU
D. Sustainability of project outcomes	Project sustainability is challenged by delay in political decisions and the operationalization of the NBF procedures	MU
1. Financial	Due to the lack of approval of most regulations, the project has not yet led to an operational mechanism which allows to recover the costs of the functioning of the NBF	MU
2. Socio-political	Lack of private sector participation to the NBF limits the opportunities for the NBF to balance the development interests with the precautionary principle, and hence ensure the usefulness and reliability of the NBF itself vis-à-vis its stakeholders	MU
3. Institutional framework	Institutional capacities are adequate to manage the NBF although the functioning of the NBF has to ensure their expansion and updating. The non operationalization of the system may led to losses of trained and skilled personnel within key institutions	L
4. Environmental	The project is expected to lead to positive environmental impacts, if the NBF GMO monitoring procedures are operationalized.	L
5. Catalytic role and replication	As the NBF has not been operationalized, there has not been a catalytic effect and replication has been limited.	MU
E. Efficiency	Project resources were efficiently used to perform the planned activities and complemented available local resources; delay in procuring laboratory equipment was limited and did not affect the outcome of the project.	HS
F. Factors affecting project performance	The project delivered all the required outputs with only a short delay due to constraints in the political context. However, the project design took for granted that the participation and support of policy makers would be forthcoming. The focus on technical delivery of outputs led to a situation in which the project results were delivered but not used. The importance of participation of the private sector was also neglected	MS

Criterion	Summary Assessment	Rating
1. Preparation and readiness	Institutions were ready to participate to the project implementation, although due to the project design – not considering the hurdles to taking decisions concerning the GMOs -, their commitment was limited to the technical and administrative level.	MS
2. Project implementation and management	The execution mechanism performed well and was adequate to perform the planned activities	S
3. Stakeholders participation and public awareness	Researchers, technicians and civil society representatives actively participated to the project activities, while the political level / press did sideline it, thus reducing the pressure on decision makers to operationalize the NBF	MS
4. Country ownership and driven-ness	Inclusion of economic development stakeholders and high level decision decision makers was limited, thus limiting the opportunity for the project to involve them in the operationalization of the NBF and in the decision making process on GMO release / introduction	MS
5. Financial planning and management	The project financial management was in line with the project requirements, as confirmed by the annual national audits	HS
6. UNEP supervision and backstopping	UNEP Biosafety unit provided valid and targeted supervision and backstopping of the project activities, effectively solving bottlenecks	HS
7. Monitoring and Evaluation	The M&E system design provides a set of immediate output indicators that do not provide a synthesis assessment of the project toward its overall objective	MS
a. M&E Design	The sketchy M&E system design provides an extensive list of immediate output indicators that don't provide a synthesis assessment of the project toward its overall objective.	MS
b. M&E Plan Implementation	It was limited to the reporting of the project activities execution with little concern for the collection of indicators	MS
c. Budgeting and funding for M&E activities	As no specific budget was assigned for collecting the indicators - along the structure of the GEF 3 projects - UNEP Task Manager and the Steering committee were in charge of reporting with inputs supplied by the national coordinator. No specific budget was allocated to the terminal evaluation.	MS
Overall assessment	The project achievements were technically up to the expectations but putting in place the coordination and developing of the instruments to regulate the release / introduction of GMO was not enough to ensure the political decisions needed to make it operational.	MS

3. Lessons learnt and recommendations

116. Lessons learnt and recommendations correspond to the conclusions highlighted in the previous section. The project was completed over 2 years before this evaluation and there is no planned follow up project This section therefore highlights lessons emerging from this assessment and only identifies a few recommendations for the consideration of the national partners in Mauritius. An *R* letter distinguishes recommendations from lessons learnt.

117. The Mauritius biotechnology strategy stresses the importance of biosafety in the perspective of the renewal and modernization of the agricultural sector and diversification of the sources of

income. The awareness on the benefits and costs of LMOs and role of the regulatory framework are mediated by the interests at stake for each stakeholders / development sector. In order to ensure the commitment of decision makers to operationalize the NBF, representatives of the economic sectors have to be aware of the fact that the regulations enable the competent authority to take decisions on GMO release / introduction on a purely technical basis, through consultation with the National biosafety committee. At the same time, the role of the private sector has to be acknowledged as influential on the policy makers' decisions.
R. The BSC, supported by the BS focal point / BS Office should to provide decision makers with inputs for their participation to economic fora and other events where priorities in economic development are debated. Information materials on the NBF have to be elaborated for such events and disseminated through the participation of political as well as technical level representatives of the institutions concerned (e.g., the Ministry of the economy). Using the process of approval of the Agricultural Biotechnology Strategy to build stakeholders' consensus on mainstreaming the precautionary principle into development at the highest level remains the critical issue for the project results to achieve sustainability. This activity has to be led by the BS focal point and the Competent Ministry (MAIF).

118. Awareness on GMOs has grown in the last 15 years. A generic approach to disseminate information on topics such as those covered by the project is appropriate to match the expectations of the general public but not of decision makers (politicians) and other stakeholders (e.g. the press).
An incisive awareness raising campaign should provide recognized references and success stories to show how the NBF work. Existing expertise in the medical field and operators from other NBF frameworks can be considered as partners in the design and delivery of the awareness raising campaign. And a greater emphasis has to be put on the awareness of decision makers. Targeted events for the dissemination and discussion of the key policy and strategy documents concerning the potential of biotechnology and its use based on the precautionary principle have to be organized and integrated in the NBF awareness raising campaign in order to appeal to key stakeholders (policy makers, the press).

119. The GEF approach to the establishment of the NBF was based on the assumption that political decisions had already been taken and are not subject to further discussion. This can be a deceiving approach as awareness of GMO-related advantages and disadvantages grows in uneven ways across different groups of stakeholders.
Biosafety support projects have to plan for possible changes in political authorities. While the National biosafety framework has to gather only technical and administrative expertise, a politically sensitive body – or a specific function of the NBC - *should be established to provide a platform for high level representatives of institutions, the private sector, and the civil society, in order to stimulate debate and facilitate consensus in a structured and effective way.*

120. Decisions concerning the NBF regulations and its operationalisation are expected to accelerate after the renewal of the national Biosafety Committee (2014). Capacities to streamline such high level decision making are still weak due to uncertainty on benefits and costs of the NBF and the lack of commitment of resources to operationalize the NBF.

R. The Biosafety office has to be established and mid-level management staff recruited in order to design a new NBF implementation plan addressing the critical issues of the GMO act that have hampered the approval and enactment of the NBF regulations. The Biosafety office has to advise and assist the competent authority in dialoguing with stakeholders, propose the timing and budgeting for implementation and engage in collaborations and exchanges of expertise at the regional level. It should also be in charge of running a new awareness raising campaign targeted at influential representatives of the private sector, the press and the political world. This activity has to be led by the BS focal point.

121. Since the project identification, the Mauritian government elaborated several policy, strategy and planning documents concerning economic development. They propose an answer to the specific innovation needs and expectations of the stakeholders of the agri-food, industrial, pharmaceutical and health, education, trade, environment and tourism sectors.
A policy gap analysis has to be performed in order to systematically appraise the current situation, map the interests at stake in biotechnology innovation, help focus the debate and provide background documents concerning the implementation of the NBF and to identify challenges ahead in economic development and natural resources conservation.

122. As the project did not operationalize the NBF, the capacities built may be lost. Some project trained staff has already moved to new positions. Additionally, key issues such as professional updating and the need for resources to access to international repositories of gene data were not properly considered in the project identification: knowledge and skills built through the project are at stake.
R. Capacity building for 2 permanent staff in qualitative and quantitative GMO analysis with the Polymerase Chain Reaction equipment of the National food technology laboratory and of officers in relevant institutions (custom, agricultural, food inspectors) is needed. This activity has to be designed by the National food technology laboratory and led by the Competent Ministry (MAIF).

123. The BS office is expected to take charge of the issues concerning agri-food and industrial production. Pharmaceuticals are under a different authority and regulations.
A joint approach – through an information sharing and coordination mechanism - could be considered in dealing with GMOs, in order to exploit knowledge and success stories in deploying the NBF across sectors. The BS office should be mandated to deal with its counterpart institution in the pharmaceutical sector.

124. The NBF has been established in several countries of the region. It is possible to build on their experience in order to improve the effectiveness of the awareness raising actions.
Activities like study tours to or exchanges with Kenya, South Africa and other neighbor countries could be included in future projects in order to learn more about alternative approaches and study possible communication mechanisms and success stories to inform a renewed awareness raising campaign..

125. A regional approach was missing as the project document did not elaborate a comprehensive strategy to integrate national the NBF in broader contexts, a key issue for their viability in small countries such as Mauritius.
R. The GEF biosafety regional approach should be streamlining the accreditation of regional laboratories and the sharing of physical resources / technical expertise / joint procedures, also by the mobilization of local resources. Such approach could to be achieved through coordination at the level of the regional economic organizations. UNEP developed the Southern Africa Network of GMO Detection Laboratories Project, but Mauritius did not participate. It is therefore recommended that the national authorities consider participating in future initiatives to ensure that they can take advantage of regional mechanisms of cooperation.

126. The UNEP understanding of local dynamics and actors has been instrumental in catalyzing the commitment of technicians and administrators to implement the project. This positive momentum led to the delivery of project outputs, but the BS focal point was not able to mobilize external resources, typically those of other authorities and the private sector. Also the participation of decision makers was moderate and did not contribute to the operationalization of the adopted BS regulations.
In order to achieve the participation of higher level stakeholders – typically policy makers – the implementation of the NBF has to be integrated in national and regional economic governance related initiatives (buildup of local authorities' skills, integration of regional market). Linkages with other projects in such areas should be explored and exploited in order to create the conditions for and multiply the project impact on decision making.

Annexes

1. Evaluation TORs

TERMS OF REFERENCE
Terminal Evaluation of the UNEP/GEF projects
"Support for Implementation of the National Biosafety Framework for Tanzania"
"Support for the Implementation of the National Biosafety Framework for Mauritius"
"Support for Implementation of the National Biosafety Framework for Tunisia"
PROJECT BACKGROUND AND OVERVIEW
Project General Information

Table 1. Project summary

GEF project ID:	3012 2822 2648	IMIS number:	GFL/2328-2716-4951 GFL-2328-2716-4952 GFL-2328-2716-4953
Focal Area(s):	BD1/BD-SP6	GEF OP #:	
GEF Strategic Priority/Objective:	Biodiversity	GEF approval date:	March 9, 2006 March 3, 2006 February 8, 2006
UNEP approval date:	October 13, 2006 December 04, 2006 January 22, 2007	First Disbursement:	April 11, 2007 December 26, 2006 February 8, 2006
Actual start date:	May 01, 2007 March 21, 2007 June 11, 2007	Planned duration:	48 months
Intended completion date:	October 12, 2010 December 12, 2010 December 2010	Actual or Expected completion date:	December 31, 2012 September 2011 July,21 2014
Project Type:	MSP	GEF Allocation:	$777,300 $427,800 $848,900
PDF GEF cost:		PDF co-financing*:	
Expected MSP/FSP Co-financing:	$614,300 $207,900 $919.260	Total Cost:	$1,391,600 $635,700 $1,768,160
Mid-term review/eval. (planned date):	May – June 2009 April 2009 June – July 2009	Terminal Evaluation (actual date):	June 2014
Mid-term review/eval. (actual date):	June 2009 May 2009 October 2009	No. of revisions:	12 10 12
Date of last Steering Committee meeting:	September 2013 September 28th ,2011 N/A	Date of last Revision:	23/11/2013 17/09/2011 01/01/2014
Disbursement as:	$777,300.00 Tanzania) $427,800.00 Mauritius $697,590.26 Tunisia)	Date of financial closure:	Financial closure will be done in IMIS when the Terminal Evaluation is done.
Date of Completion:	12/12/2013 30/09/2011 N/A	Actual expenditures reported as of:	Tanzania and Mauritius reported in full. Tunisia reported USD 714,661 by March 2014
Total co-financing realized	$673,753 (Tanzania) $208,518 (Mauritius) $746,645 (Tunisia as at 31/03/2014)	Actual expenditures entered in IMIS as 30 June 2013:	Co-finance is not recorded in IMIS

Leveraged financing:
Project rationale
Tanzania: The United Republic of Tanzania is one of the 41 countries that implemented their National Biosafety Framework as part of the UNEP-GEF project for the implementation of NBFs. The main outcomes of the implementation phase included, among others, the setting up of the National Biosafety Framework, while biosafety issues were enshrined in the Environmental Management Act 2004, Biosafety Regulations and Guidelines were developed, public awareness, education and information dissemination mechanisms and monitoring mechanisms were established. This project intended to help the United Republic of Tanzania to strengthen the existing institutional and technical structures and infrastructure needed to meet the obligations of the Protocol and have a fully operational National Biosafety Framework. This project aimed to contribute to:

The development and implementation of Biosafety Regulations;
The implementation of the United Republic of Tanzania's legislative framework on the safe use of biotechnology through decrees, orders, guidelines and manuals;
The preparation of specific technical guidelines;
The strengthening of appropriate institutional structures for risk assessment, risk management, detection of LMOs and decision making;

The development and implementation of policies for biotechnology and biosafety;
The training of regulators, decision makers, scientists, and administrative and technical staff on legal and technical matters relates to LMO application;
The reinforcement of the existing infrastructures (laboratories) to strengthen monitoring and detection of LMOs';
The setting up of a mechanism for monitoring and enforcement;
The strengthening of communication and information exchange relating to biosafety both at the national level as well as through the global BCH; and
Putting in place systems for strengthening public awareness, education and participation in decision making on LMOs.

Mauritius: The preparation of a regulatory regime for biotechnology in Mauritius started in 1997. In 1999, with the assistance of UNEP/GEF pilot project, Mauritius prepared its "National Biosafety Guidelines for the Safe Development and Introduction of Genetically Modified Organisms". The guidelines outlined the administrative and institutional procedures necessary for the safe application of genetic modification. The guidelines recommend practices based on the precautionary approach to ensure the safe application of GMOs for different uses (contained conditions, field trials, import, exports, transport, etc) so as to protect the country from any adverse effect to human and animal health or the environment. The scope of the guidelines included all use, development and release of GMOs. Following this, the then Ministry of Agriculture, Food, Technology and Natural Resources approved the Non-Sugar Sector Strategic Plan. This was a five-year plan for the years 2003- 2007 aimed at promoting the transition from traditional practices to a technology-based approach to agriculture.

A new plan for Food Security was initiated by the Government as a "Food Security Strategic Plan 2008-2015", with a dedicated Food Security Fund of Rs 1 billion over the project period with the main objective of increasing local food production of foodstuffs and to decrease import of food commodities. The approach includes the optimization of local food production through diverse government incentives, regional partnerships, promotion of public-private partnership, export of surplus and sensitising the public to healthy eating. In this context, the biosafety project aimed at strengthening capacity for the implementation of the Mauritius Biosafety Framework so as to meet its obligations under the Cartagena Protocol on biosafety. It was considered imperative that the necessary capacity is built in biosafety issues so that appropriate and timely decisions regarding the transboundary movement of Genetically Modified Organisms (GMOs) could be taken.

Tunisia: Tunisia was one of the 18 countries that participated in the pilot UNEP/GEF Project on the Development of the National Biosafety Framework (Project GF/1200-89-86 MEAT/GEF/UNEP). The draft National Biosafety Regulatory Framework was the main output of the pilot phase. Since the completion of the project, Tunisia made further progress by fine-tuning its National Biosafety Framework (NBF). More importantly, Tunisia ratified the Cartagena Protocol on Biosafety on January 22, 2003. As a Party to the Protocol, Tunisia needed to strengthen its existing institutional and technical structures and expertise to meet its obligations of the Protocol and have a fully operational NBF. The biosafety implementation project was intended to provide the necessary financial and technical assistance for Tunisia to:

Transform its National Biosafety Framework to a legally binding national biosafety regulatory regime through the enactment of Laws, and drafting of implementing regulations, decrees, orders;
Prepare specific training guides and manuals;
Train decision makers, scientists, administrative and technical staff on legal, scientific and technical matters;
Enhance existing institutional facilities and infrastructure to undertake GMO detection and monitoring activities;
Set up a mechanism for monitoring and enforcement;
Strengthen channels of communication and information dissemination nationally, as well as through the Biosafety Clearing House (BCH);
Promote public awareness and participation.

3. Project objectives and components
4. The overall goal of the project in Tanzania was to establish a functional and transparent national biosafety framework in accordance with national development priorities and international obligations by 2009. In Mauritius, the overall goal of the project was that a workable and transparent national biosafety framework, in line with its national development priorities and international obligations would be in place by 2010. The overall goal of this project for Tunisia was that the country would have a workable, responsive and transparent NBF by 2010, in line with its national development priorities, the Cartagena Protocol and other international obligations.

5. The project objective was to develop the national biosafety capacities required to establish functional, workable and transparent national biosafety frameworks in accordance with national development priorities and international obligations. Table 2 provides an overview of specific objectives by country.

Table 2 – Specific objectives by country

Country	Specific objectives
Tanzania	To assist The United Republic of Tanzania to establish and consolidate a fully functional and responsive regulatory regime in line with Cartagena Protocol and national needs and priorities. To assist The United Republic of Tanzania to establish and consolidate a functional national system for handling request, perform risk assessment, testing of GMOs, decision-making, perform administrative tasks. To assist The United Republic of Tanzania to establish and consolidate a functional national system for "follow-up", namely monitoring of environmental effects and enforcement. To assist The United Republic of Tanzania to establish and consolidate a functional national system for public awareness, education, participation and access to information.
Mauritius	To assist Mauritius to have a fully functional and responsive regulatory regime in line with the CP, national needs and other international obligations. To assist Mauritius to have a functional national system for handling request, including risk assessment, decision-making and administrative processing. To assist Mauritius to have a functional national system for "follow-up" activities, especially monitoring of environmental effects and enforcement. To assist Mauritius to have a functional national system for public awareness, participation, education, and access to information.

Tunisia	To integrate biosafety into a national development strategy To establish and consolidate a fully functional and responsive regulatory regime in line with the CP, national needs and other international obligations. To enhance the existing administrative system on biosafety to be competent and efficient in handling requests for applications, including systems for risk assessments, decision-making and administrative processing. To strengthen the present national system for public awareness, participation, education and access to information on biosafety

6. The project purpose was to contribute to the safe use of biotechnology and reduce the potential risk associated to LMO use on biodiversity, human and animal health.

7. The structure of this project comprised four components in Tanzania and Mauritius and five in Tunisia. Table 3 summarizes the components per country and lists the outputs the projects intended to achieve.

Table 3 – Projects components/outcomes and outputs by country

Country	Components/outcomes and outputs
Tanzania	A. Establish and make fully operational the regulatory regime on biosafety in Tanzania by 2009 Biosafety Regulations reviewed and finalized Four 2-day sensitisation workshops on regulatory regime for GMOs (CAs, NGOs, Private sector, civil society) conducted The NBF and Biosafety Regulations translated into *swahili* language Two, 3-days workshops for the Biosafety units of the Competent Authorities for sharing experience and information for effective enforcement of the regulatory regime carried out Operational manual for GMO inspectorates prepared Four, 3-day training workshops for Competent Authorities and Inspectorates on inspection procedures (2 workshops) and related legal issues (2 workshops) carried out Cessation or revocation order for non-compliance established GMO inspection facilities (field tool kits) B. Operational procedures to handle requests for permits, including systems for administrative processing, risk assessment and decision making, are in place by 2009 National Biosafety Guidelines and training manuals on risk assessment and risk management developed. Two 3-day training workshops for 30 participants each from Competent Authorities and other biosafety regulatory personnel on risk assessment and risk management conducted Laboratory equipped with necessary facilities for risk assessment and risk management (it is already under component C) (see Annex 8) Two 5-day training workshops held for 30 participants each (NBC members, NBFP, private sector) on handling of requests conducted A 2-day workshop held for identification of socio-economic priorities for decision making conducted An internal manual on procedures for handling requests of GMOs in Tanzania prepared Specific biosafety units within the seven Competent Authorities (see Section A2 for the list of CAs) for handling GMO issues strengthened Two, 3-days training workshops on GMO administrative issues (responsible personnel within CAs, NGOs, Private sector) conducted A networking mechanism for cooperation and information exchange among CAs, NGOs, private sector etc. developed C. An operational system for monitoring of environmental effects and enforcement on biosafety is in place by 2009 Three 2-days training workshops for 15 Inspectors from each CAs, 40 Custom officers and 20 Judiciary officials (dispute settlement, handling of court cases and enforcement) conducted One of the potential laboratories into a centre of excellence for R&D on biosafety upgraded Equipment for detection of GMOs (see Activity A1 (c)) purchased GMO testing protocol developed Two, 5-days training workshops for 8 laboratory technicians from each CAs for GMO detection conducted On-the-job training provided to officials from different authorities with real case studies to make sure that the system for handling requests is functioning Guidelines for monitoring (in cooperation with sector ministries) environmental effects developed Guidelines and rules for emergency cases (including remediation) and TORs for responsible persons developed Training for emergency operations for all principal actors (including high ranking officials – see risk management) provided An updated inventory of emergency equipment and replacement/procurement of any additional requirements maintained Emergency response procedures for NBFP and Competent Authorities established D. A functional national system for promoting public awareness and involvement in biosafety decision-making is in place by 2009 Government agency/responsible institutions for managing public awareness and education campaigns relating to Biosafety identified Surveys for public opinion carried out Public debates to create awareness organized Public education and involvement plan prepared Outreach material (e.g. leaflets, Newsletter, Biosafety website) developed and disseminated Three 2-day awareness raising workshops for parliamentarians, media, NGOs and other stakeholders conducted Public debates (biannual) and meetings (biannual), including educational competitions (annually) or events (annually) organized Entry points for public participation in decision-making on GMOs identified and institutionalized Institution/agency specializing in developing and delivering public service campaign identified National website for dissemination of biosafety information established and updated regularly
Mauritius	A. A fully functional and responsive regulatory regime in line with CP and national needs exists

	Implementing regulations needed to make the GMO Law fully operational drafted and submitted to concerned Ministries 35 policy makers, lawyers, Senior Government Officers, scientists, National Biosafety Committee members, University of Mauritius staff trained on the implementation of GMO Law and the Cartagena Protocol B. A functional national system for handling request, performing risk assessment, decision-making, performing administrative tasks, handling, storing and exchanging information in line with the BCH requirements is in place Technical guidelines on the handling of requests, transport, labelling of GMOs are finalised 35 persons from the Ministry of Agriculture, Food Technology and Natural Resources, Ministry of Environment, Ministry of Health and Quality of Life, Ministry of International Trade, State Law Office, Custom Departments, Research Organizations and University staff Workshop trained on procedures for the handling of applications for release of GMOs into the environment 10 officers/technical staff trained on risk assessment/risk management (two one-week training courses for 10 officers/technical staff) 10 officers/technical staff trained on handling, transport and packaging of GMOs Application forms for LMOs permit available on the website Operational manuals for regulators on handling requests, namely written procedures on administrative processing, risk assessment and decision making prepared C. A functional national system for "follow-up", namely monitoring of environmental effects and inspections is in place Guidelines/Procedures on monitoring prepared 10 officers /inspectors/technical staff trained in LMOs testing and monitoring carried out (two one-week training courses) Laboratory facilities adequately equipped for detection of GMOs D. Mauritius has a functional national system for public awareness and participation 50 persons from the general public, media, NGOs, journalists, policy makers, and scientists and NGO representatives trained on "Public awareness and participation in the NBF of Mauritius" Outreach material for main users developed and published Lessons learnt and best practices documented and shared
Tunisia	A. Biosafety is integrated into the national biotechnology strategy of Tunisia Two preparatory workshops to consult main stakeholders, collect views and identify salient points to develop a biotech/biosafety strategy are carried out Biotech/biosafety strategy drafted A workshop on the drafted strategy is carried out The strategy is agreed upon and submitted for approval B. A fully operational and responsive regulatory regime in line with existing national laws and other international obligations is in place Two workshops for decision-makers to create awareness and to accelerate approval of the two draft Laws in Parliament are carried out Review and final adoption of the biosafety regulatory regime Identification of priority actions needed to implement the regulatory regime is carried out Workshops for decision makers on identified priority actions Training guides on the National Biosafety Regulatory Regime are prepared Two training courses for legal and administrative staff on the interpretation and operation of the new National Biosafety Regime are carried out C. An efficient national system for handling requests and decision-making is in place Methodologies for RA/RM of LMOs are drafted and finalized Statutory forms for applications or requests, including a review of the utility of these forms by selected experts carried out Statutory forms are finalized and in use Two workshops on risk assessment and risk management for members of the Commission for Biosafety and other administrative personnel carried out Training guides on handling applications prepared and in use D. An effective national system for follow-up activities, namely monitoring, inspections and enforcement is in place Methodologies for monitoring of environmental effects developed, finalized and in use Enforcement actions required for handling, transport, use, transit and release of LMOs developed, finalized and in use Existing laboratories for LMO detection are equipped and certified Two sets of training guides for monitoring and enforcement respectively are developed, finalized and in use Two intensive courses for technicians to enable them to carry out laboratory inspections carried out Two 4-day training workshops for inspectors and custom officials on LMOs identification carried out An overseas study tour for inspectors and officers to counterpart agencies experienced in monitoring, inspection an enforcement activities carried out E. An active national system for public awareness and participation is in place Plans for public participation, awareness, education on biosafety and safe use of biotechnologies developed, finalized and implemented Education materials on biosafety prepared Public awareness raised via mass media Homepage on biosafety created Standards for producing and validating data related to LMOs to be entered in the national biosafety homepage developed A training guide on public information and participation produced A series of special workshops designed for different target audience such as government officials, journalists, scientists, NGO representatives and members of the public conducted A series of training workshops for stakeholders, including the public, on public participation in the implementation of the Tunisian NBF carried out Lessons learned and best practices identified, shared and disseminated

Source: project documents

4. Executing Arrangements

8. The *Implementing Agency* for the three projects was the United Nations Environment Programme (UNEP). In this capacity, UNEP had overall responsibility for the implementation of the projects, project oversight, technical support and co-ordination with other GEF projects.
9. The Division of Environment (DoE) in Tanzania, the Food and Agricultural Research Council in Mauritius and the Division of Environment and Quality of Life in Tunisia were appointed National Executing Agencies. All three agencies are also the National Focal Points (NFP) to the Cartagena Protocol on Biosafety. The NEAs were responsible for the management of the project, ensuring that the objectives and activities would be realised. The NEA was also responsible to establish a National Coordinating Committee (NCC), appoint a full time National Project Coordinator (NPC) and to provide the necessary scientific, technical, financial and administrative support to the work of the NCC, working in close co-operation with relevant government agencies, the scientific community and the public and private sectors.
10. The National Project Coordinator was to be responsible for the overall co-ordination, management and supervision of all aspects of the National Project. He/she had to report to the National Co-ordinating Committee and UNEP, and liaise closely with the chair and members of the National Coordinating Committee and National Executing Agency in order to coordinate the work plan for the National Project. He/she was responsible for all substantive, managerial and financial reports from the National Project. He/she had to provide overall supervision for any staff in the NBF Team as well as guiding and supervising all other staff appointed for the execution of the various National Project components.
11. The National Co-ordinating Committee (NCC) was established by the National Executing Agency (NEA) to advise and guide the implementation of the National Biosafety Framework. This committee should have included representations of all government agencies with mandates relevant to the Cartagena Protocol on Biosafety and representations from the private and public sectors. This Committee was intended to be multi-disciplinary and multi-sectoral in fields relevant to the Cartagena Protocol on Biosafety.

Project Cost and Financing

12. The three projects fall in the Middle-size Project (MSP) category. They were expected to mobilize $614,300 (Tanzania), $207,900 (Mauritius) and $919.260 (Tunisia) in co-financing, mostly from government sources. The estimated projects costs at design stage and associated funding sources are presented in Table 4, 5 and 6.

Table 4. Estimated project cost in Tanzania

Component	GEF (US $)	Government in-kind (US $)	Total (US $)
Regulatory regime	110,000	76,000	186,000
Handling requests	102,500	87,500	190,000
Systems for follow op (Monitoring and evaluation)	252,000	303,000	555,000
Public education, awareness and participation	84,000	75,000	159,000
Project management and coordination	158,800	72,800	231,600
Technical support	70,000	0	70,000
TOTAL	777,300	614,300	1,391,600

Table 5. Estimated project cost in Mauritius

Component	GEF (US $)	Government (US $)	Total (UD $)
Regulatory regime	18,000	12,000	30,000
Handling applications	63,000	27,100	90,100
Monitoring for environmental effects and Inspection	95,000	37,000	132,000
Public awareness and participation	27,000	9,500	36,500
Project coordination and management	124,800	102,300	227,100
Consultancy (regulations, operational manuals guidelines, etc)	30,000	20,000	50,000
Technical support	70,000		70,000
TOTAL	427,800	207,900	635,700

Table 6. Estimated project cost in Tunisia

Component	GEF (US $)	Government (US $)	Total (UD $)
Biosafety strategy	34,300	15,000	49,300
Regulatory regime	59,600	30,000	89,600

Handling applications	71,600	22,000	93,600
Monitoring and Inspection	352,100	565,500	917,600
Public participation and information	76,500	71,000	147,500
Project coordination	96,800	200,760	297,560
Technical support	70,000		70,000
Other project support	88,000	15,000	103,000
TOTAL	848,900	919,260	1,768,160

Implementation Issues

13. The Mid Term Reviews (MTRs) were originally scheduled for April in Mauritius, and June 2009 in Tunisia and Tanzania. In all three cases, internal reviews were carried out by the UNEP Task Manager. The review for Tunisia took place in October 2009 and it concluded that the project should have been put on a higher priority by Tunisia and that it was important to make an effort to deliver the intended results based on the set time targets. Delays and under-utilisation of funds were identified and a revised work plans developed accordingly. In Mauritius, the review was carried out in May 2009 and it noted that the achievement of the project outputs was possible, except for the adoption of a GMO Act, which was being delayed. Several recommendations were issued to try to achieve the adoption of the act within the original time frame of 2010. In Tanzania, the review was carried out in June 2009 and it proposed a revised work plan. It also mentioned that the network of centres of excellence was going to be extremely dependent on the commitment of Government and the designated institutions to provide technical support to regulatory decisions, which seemed to emerge as a crucial point for the long term sustainability of the project outcomes.

14. All the projects suffered delays ranging from one year in Mauritius to almost four in Tunisia. In some cases, this seems to have been partially due to causes of force majeure, including, for example, major flooding in Tanzania, which delayed the procurement process through UNDP by approximately nine months. In Tunisia, the Arab Spring seems to have played a role in the delay of the project delivery. In any case, it seems relevant for the evaluations to carefully consider the full range of reasons and whether any actions could have been taken by UNEP and the national partners to avoid protracted delays. This is especially relevant for Tunisia as the project suffered significant delays.

15. In Tanzania, several outputs were not delivered and a number of reasons are mentioned throughout the PIR reports and final reports, which seem to justify this outcome. These include budgetary constraints, non-alignment with national priorities and the fact that certain issues were in fact already covered by the existing legislation and by a parallel national project, the Environment Management Law Support program, and by other bilateral biosafety projects, including the USAID funded Program for Biosafety Systems. Tunisia and Mauritius seems to have been able to deliver most of the required outputs. However, it was noted in the last available PIR report that the regulatory framework had still not been adopted in Tunisia, probably due to a lack of political will. Equally, at the time of the final report, Mauritius did not seem to have established a Biosafety Office. The evaluations should therefore pay careful attention not only to the delivery of outputs, but also to the likelihood of long term sustainability and institutional change. It should also look at whether the project design correctly identified the needs and priority for action.

TERMS OF REFERENCE FOR THE EVALUATIONS

Objective and Scope of the Evaluation

16. In line with the UNEP Evaluation Policy, the UNEP Evaluation Manual and the Guidelines for GEF Agencies in Conducting Terminal Evaluations, the Terminal Evaluations of the Projects "Support for Implementation of the National Biosafety Framework for Tanzania", "Support for the Implementation of the National Biosafety Framework for Mauritius", "Support for Implementation of the National Biosafety Framework for Tunisia" will be undertaken upon completion of the project (Tanzania, Mauritius) or immediately before the completion of the project (Tunisia) to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluations have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, the GEF and their executing partners – the National Executing Agencies and the national partners in particular. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation. It will focus on the following sets of key questions, based on the projects' expected outcomes, which may be expanded by the consultants as deemed appropriate:

To what extent were the projects able to support Tanzania, Mauritius and Tunisia in establishing a national biosafety framework in accordance with national development priorities and international obligations?

To what extent were the projects able to assist Tanzania, Mauritius and Tunisia to establish and consolidate a fully functional and responsive regulatory regime in line with the Cartagena Protocol and national needs and priorities?

To what extent were the projects able to assist Tanzania, Mauritius and Tunisia to establish and consolidate a functional national system for handling request, perform risk assessment, testing of GMOs, decision-making and performing administrative tasks?

To what extent were the projects able to assist Tanzania, Mauritius and Tunisia to establish and consolidate a functional national system for "follow-up", namely monitoring of environmental effects and enforcement?

To what extent were the projects able to assist Tanzania, Mauritius and Tunisia to establish and consolidate a functional national system for public awareness, education, participation and access to information?

Overall Approach and Methods

The Terminal Evaluations of the Projects "Support for Implementation of the National Biosafety Framework for Tanzania", "Support for the Implementation of the National Biosafety Framework for Mauritius", "Support for Implementation of the National Biosafety Framework for Tunisia" will be conducted by an independent consultant under the overall responsibility and management of the UNEP Evaluation Office (Nairobi), in consultation with the UNEP Task Manager (Nairobi), and the UNEP Fund Management Officer at UNEP/DEPI (Nairobi).

They will be in-depth evaluations using a participatory approach whereby key stakeholders are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methods will be used to determine project achievements against the expected outputs, outcomes and impacts.

The findings of the evaluation will be based on the following:
A desk review of project documents and others including, but not limited to:
Relevant background documentation, inter alia UNEP and GEF-3 policies, strategies and programmes pertaining to biosafety at the time of the project's approval;
Project design documents; Annual Work Plans and Budgets or equivalent, revisions to the logical framework and project financing;
Project reports such as progress and financial reports from the executing partners; National Coordination Committee meeting minutes; annual Project Implementation Reviews and relevant correspondence;
Documentation related to project outputs;
Relevant material published, e.g. in journals and books

Interviews with:
UNEP Task Manager and Fund Management Officer and other relevant staff in UNEP as necessary;
Interviews with project management, National Coordination Committee and key partners to the extent possible;
Stakeholders involved with this project, including NGOs, private sector, academia, national organizations and institutes, including National Competent Authorities, regional and international organizations and civil society representatives, including rural communities to the extent possible;
Relevant staff of GEF Secretariat and
Representatives of the government and other organisations (if deemed necessary by the consultant).

Country visits. The evaluation consultant will schedule a visit to each country to interview relevant stakeholders and the project team. To the extent possible, the visits should take place back to back to limit the amount of travel required.
Key Evaluation principles
Evaluation findings and judgements should be based on sound evidence and analysis, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned. Analysis leading to evaluative judgements should always be clearly spelled out.
The evaluation will assess the project with respect to a minimum set of evaluation criteria grouped in six categories: (1) Strategic Relevance; (2) Attainment of objectives and planned result, which comprises the assessment of outputs achieved, effectiveness and likelihood of impact; (3) Sustainability and replication; (4) Efficiency; (5) Factors and processes affecting project performance, including preparation and readiness, implementation and management, stakeholder participation and public awareness, country ownership and driven-ness, financial planning and management, UNEP supervision and backstopping, and project monitoring and evaluation; and (6) Complementarity with the UNEP strategies and programmes. The evaluation consultants can propose other evaluation criteria as deemed appropriate.
Ratings. All evaluation criteria will be rated on a six-point scale. However, complementarity of the project with the UNEP strategies and programmes is not rated. Annex 3 provides detailed guidance on how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories.
In attempting to attribute any outcomes and impacts to the project, the evaluator should consider the difference between *what has happened with and what would have happened without the project*. This implies that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. This also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions and trends is lacking. In such cases this should be clearly highlighted by the evaluators, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.
As these are terminal evaluations, particular attention should be given to learning from the experience. Therefore, the "*Why?*" question should be at front of the consultant's minds all through the evaluation exercise. This means that the consultant needs to go beyond the assessment of "*what*" the project performance was, and make a serious effort to provide a deeper understanding of "*why*" the performance was as it was, i.e. of processes affecting attainment of project results (criteria under category 3). This should provide the basis for the lessons that can be drawn from the project. In fact, the usefulness of the evaluation will be determined to a large extent by the capacity of the consultants to explain "*why things happened*" as they happened and are likely to evolve in this or that direction, which goes well beyond the mere review of "*where things stand*" today.
Evaluation criteria
Strategic relevance
The evaluations will assess, in retrospect, whether the projects' objectives and implementation strategies were consistent with: i) Sub-regional environmental issues and needs; ii) the UNEP mandate and policies at the time of design and implementation; and iii) the GEF Biodiversity focal area, strategic priorities and operational programme(s).
The evaluations will also assess whether the projects' objectives were realistic, given the time and budget allocated to the project, the baseline situation and the institutional context in which the project was to operate.
Achievement of Outputs
The evaluation will assess, for each component, the project's success in producing the programmed results as presented in Table 3 above, both in quantity and quality, as well as their usefulness and timeliness. Briefly explain the degree of success of the projects in achieving its different outputs, cross-referencing as needed to more detailed explanations provided under Section F (which covers the processes affecting attainment of project objectives).
Effectiveness: Attainment of Objectives and Planned Results
The evaluations will assess the extent to which the project's objectives were effectively achieved or are expected to be achieved.
The evaluations will reconstruct the Theory of Change (ToC) of the project based on a review of project documentation and stakeholder interviews. The ToC of a project depicts the causal pathways from project outputs (goods and services delivered by the project) over outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (changes in environmental benefits and living conditions). The ToC will also depict any intermediate changes required between project outcomes and impact, called intermediate states. The ToC further defines the external factors that influence change along the pathways, whether one result can lead to the next. These external factors are either drivers (when the project has a certain level of control) or assumptions (when the project has no control).
The assessment of effectiveness will be structured in three sub-sections:
Evaluation of the achievement of direct outcomes as defined in the reconstructed ToC. These are the first-level outcomes expected to be achieved as an immediate result of project outputs.
Assessment of the likelihood of impact using a *Review of Outcomes to Impacts* (ROtI) approach as summarized in Annex 8 of the TORs.
Appreciate to what extent the project has to date contributed, and is likely in the future to further contribute to changes in stakeholder behaviour as a result of the project's direct outcomes, and the likelihood of those changes in turn leading to changes in the natural resource base, benefits derived from the environment and human living conditions.

Evaluation of the achievement of the formal project overall objective, overall purpose, goals and component outcomes using the project's own results statements as presented in original logframe and any later versions of the logframe. This sub-section will refer back where applicable to sub-sections (a) and (b) to avoid repetition in the report. To measure achievement, the evaluation will use as much as appropriate the indicators for achievement proposed in the Logical Framework Matrix (Logframe) of the project, adding other relevant indicators as appropriate. Briefly explain what factors affected the project's success in achieving its objectives, cross-referencing as needed to more detailed explanations provided under Section F.

Sustainability and replication

Sustainability is understood as the probability of continued long-term project-derived results and impacts after the external project funding and assistance ends. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of benefits. Some of these factors might be direct results of the project while others will include contextual circumstances or developments that are not under control of the project but that may condition sustainability of benefits. The evaluation should ascertain to what extent follow-up work has been initiated and how project results will be sustained and enhanced over time. The reconstructed ToC will assist in the evaluation of sustainability.

Four aspects of sustainability will be addressed:

Socio-political sustainability. Are there any social or political factors that may influence positively or negatively the sustenance of project results and progress towards impacts? Is the level of ownership by the main national and regional stakeholders sufficient to allow for the project results to be sustained? Are there sufficient government and stakeholder awareness, interests, commitment and incentives to execute, enforce and pursue the programmes, plans, agreements, monitoring systems etc. prepared and agreed upon under the project? To what extent was the project able to reach out to the stakeholders identified in the design phase (academia, private sector, civil society including rural communities etc)?

Financial resources. To what extent are the continuation of project results and the eventual impact of the project dependent on continued financial support? What is the likelihood that adequate financial resources will be or will become available to implement the programmes, plans, agreements, monitoring systems etc. prepared and agreed upon under the project? Are there any financial risks that may jeopardize sustenance of project results and onward progress towards impact?

Institutional framework. To what extent is the sustenance of the results and onward progress towards impact dependent on issues relating to institutional frameworks and governance? How robust are the institutional achievements such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. required to sustaining project results and to lead those to impact on human behaviour and environmental resources?

Environmental sustainability. Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits? Are there any foreseeable negative environmental impacts that may occur as the project results are being up-scaled?

Catalytic role and replication. The *catalytic role* of GEF-funded interventions is embodied in their approach of supporting the creation of an enabling environment and of investing in pilot activities which are innovative and showing how new approaches can work. UNEP and the GEF also aim to support activities that upscale new approaches to a national, regional or global level, with a view to achieve sustainable global environmental benefits. The evaluation will assess the catalytic role played by this project, namely to what extent the project has:

catalyzed behavioural changes in terms of use and application by the relevant stakeholders of: i) technologies and approaches show-cased by the demonstration projects; ii) strategic programmes and plans developed; and iii) assessment, monitoring and management systems established at national and regional level;

provided *incentives* (social, economic, market based, competencies etc.) to contribute to catalyzing changes in stakeholder behaviour;

contributed to *institutional changes.* An important aspect of the catalytic role of the project is its contribution to institutional uptake or mainstreaming of project-piloted approaches in the regional and national demonstration projects;

contributed to *policy changes* (on paper and in implementation of policy);

contributed to sustained follow-on financing (*catalytic financing*) from Governments, the GEF or other donors;

created opportunities for particular individuals or institutions ("*champions*") to catalyze change (without which the project would not have achieved all of its results).

Replication, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different geographic areas) or scaled up (experiences are repeated and lessons applied in the same geographic area but on a much larger scale and funded by other sources). The evaluations will assess the approach adopted by the project to promote replication effects and appreciate to what extent actual replication has already occurred or is likely to occur in the near future. What are the factors that may influence replication and scaling up of project experiences and lessons?

Efficiency

The evaluations will assess the cost-effectiveness and timeliness of project execution. They will describe any cost- or time-saving measures put in place in attempting to bring the project as far as possible in achieving its results within its programmed budget and (extended) time. They will also analyse how delays have affected project execution, costs and effectiveness. Wherever possible, costs and time over results ratios of the projects will be compared with that of other similar interventions and to each other's. The evaluations will give special attention to efforts by the project teams to make use of/build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency, all within the context of project execution.

The projects suffered from moderate to significant delays. To what extent were the projects efficiently managed and what lessons can be learnt for future projects? To what extent did these challenges have an impact on the delivery of project outcomes and the achievement of the project objective?

Factors and processes affecting project performance

Preparation and readiness. This criterion focusses on the quality of project design and preparation. Were project stakeholders adequately identified? Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing agencies properly considered when the project was designed? Was the project document clear and realistic to enable effective and efficient implementation? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities) and enabling legislation assured? Were adequate project management arrangements in place? Were lessons from other relevant projects properly incorporated in the project design? What factors influenced the quality-at-entry of the project design, choice of partners, allocation of financial resources etc.? Were GEF environmental and social safeguards considered when the project was designed? Were sufficient components integrated into the project design to ensure the obtaining of commitment of government representatives? Were sufficient provisions integrated into project design to minimise delays in implementation? Were the projects designed with the needs of the countries in mind and to what extent where they aligned to national priorities?

Project implementation and management. This includes an analysis of implementation approaches used by the project, its management framework, the project's adaptation to changing conditions (adaptive management), the performance of the implementation arrangements and partnerships, relevance of changes in project design, and overall performance of project management. The evaluation will:

Ascertain to what extent the project implementation mechanisms outlined in the project document have been followed and were effective in delivering project outputs and outcomes. Were pertinent adaptations made to the approaches originally proposed?
Evaluate the effectiveness and efficiency of project management by the National Executing Agencies and how well the management was able to adapt to changes during the life of the project.
Assess the role and performance of the units and committees established and the project execution arrangements at all levels.
Assess the extent to which project management, as well as national partners, responded to direction and guidance provided by the National Coordination Committee and UNEP supervision recommendations.
Identify operational and political / institutional problems and constraints that influenced the effective implementation of the project, and how the project partners tried to overcome these problems. How did the relationship between the project management team and the national coordinators develop?
Assess the extent to which MTR recommendations were followed in a timely manner.
Assess the extent to which the project implementation met GEF environmental and social safeguards requirements.

Stakeholder participation and public awareness. The term stakeholder should be considered in the broadest sense, encompassing project partners, government institutions, private interest groups, local communities etc. The TOC analysis should assist the evaluators in identifying the key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathway from activities to achievement of outputs and outcomes to impact. The assessments will look at three related and often overlapping processes: (1) information dissemination between stakeholders, (2) consultation between stakeholders, and (3) active engagement of stakeholders in project decision making and activities. The evaluations will specifically assess:
the approach(es) used to identify and engage stakeholders in project design and implementation. What were the strengths and weaknesses of these approaches with respect to the project's objectives and the stakeholders' motivations and capacities? What was the achieved degree and effectiveness of collaboration and interactions between the various project partners and stakeholders during design and implementation of the project?
the degree and effectiveness of any public awareness activities that were undertaken during the course of implementation of the project; or that are built into the assessment methods so that public awareness can be raised at the time the assessments will be conducted;
how the results of the project (strategic programmes and plans, monitoring and management systems, sub-regional agreements etc.) promote participation of stakeholders in decision making.
Country ownership and driven-ness. The evaluation will assess the performance of national partners involved in the project, as relevant:
In how far has the national partner assumed responsibility for the project and provided adequate support to project execution, including the degree of cooperation received from the various public institutions involved in the project and the timeliness of provision of counter-part funding to project activities?
To what extent has the national and regional political and institutional framework been conducive to project performance?
How responsive were the national partners to the National Executing Agencies coordination and guidance, and to UNEP supervision?
Financial planning and management. Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. The assessment will look at actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing. The evaluation will:
Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners;
Appreciate other administrative processes such as recruitment of staff, procurement of goods and services (including consultants), preparation and negotiation of cooperation agreements etc. to the extent that these might have influenced project performance;
Present to what extent co-financing has materialized as expected at project approval (see Table 1, 4, 5 and 6). Report country co-financing to the project overall, and to support project activities at the national level in particular. The evaluations will provide a breakdown of final actual costs and co-financing for the different project components (see tables in Annex 4).
Describe the resources the projects have leveraged since inception and indicate how these resources are contributing to the projects' ultimate objective. Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector.
Analyse the effects on project performance of irregularities (if any) in procurement, use of financial resources and human resource management, and the measures taken by the National Executing Agencies or UNEP to prevent such irregularities in the future. Appreciate whether the measures taken were adequate.
UNEP supervision and backstopping. The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/institutional substantive issues in which UNEP has a major contribution to make. The evaluators should assess the effectiveness of supervision and administrative and financial support provided by UNEP including:
The adequacy of project supervision plans, inputs and processes;
The emphasis given to outcome monitoring (results-based project management);
The realism and candour of project reporting and ratings (i.e. are PIR ratings an accurate reflection of the project realities and risks);
The quality of documentation of project supervision activities; and
Financial, administrative and other fiduciary aspects of project implementation supervision.

Monitoring and evaluation. The evaluations will include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will appreciate how information generated by the M&E system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:
M&E Design. Projects should have sound M&E plans to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART indicators and data analysis systems, and evaluation studies at specific times to assess results. The time frame for various M&E activities and standards for outputs should have been specified. The evaluators should use the following questions to help assess the M&E design aspects:
Quality of the project logframe (original and possible updates) as a planning and monitoring instrument; analyse, compare and verify correspondence between the original logframe in the Project Document, possible revised logframes and the logframe used in Project Implementation Review reports to report progress towards achieving project objectives;
SMART-ness of indicators: Are there specific indicators in the logframe for each of the project objectives? Are the indicators measurable, attainable (realistic) and relevant to the objectives? Are the indicators time-bound?

Adequacy of baseline information: To what extent has baseline information on performance indicators been collected and presented in a clear manner? Was the methodology for the baseline data collection explicit and reliable?
Arrangements for monitoring: Have the responsibilities for M&E activities been clearly defined? Were the data sources and data collection instruments appropriate? Was the frequency of various monitoring activities specified and adequate? In how far were project users involved in monitoring?
Arrangements for evaluation: Have specific targets been specified for project outputs? Has the desired level of achievement been specified for all indicators of objectives and outcomes? Were there adequate provisions in the legal instruments binding project partners to fully collaborate in evaluations?
Budgeting and funding for M&E activities: Determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

M&E Plan Implementation. The evaluation will verify that:
the M&E system was operational and facilitated timely tracking of results and progress towards projects objectives throughout the project implementation period;
annual project reports and Progress Implementation Review (PIR) reports were complete, accurate and with well justified ratings;
the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs.

Use of GEF Tracking Tools. These are portfolio monitoring tools intended to roll up indicators from the individual project level to the portfolio level and track overall portfolio performance in focal areas. Each focal area has developed its own tracking tool to meet its unique needs. Agencies are requested to fill out these forms at CEO Endorsement (or CEO approval for MSPs) and submit these tools again for projects at mid-term and project completion. The evaluation will verify whether UNEP has duly completed the relevant tracking tool for this project, and whether the information provided is accurate.
Complementarities with UNEP strategies and programmes
UNEP aims to undertake GEF funded projects that are aligned with its own strategies. The evaluations should present a brief narrative on the following issues:
Linkage to UNEP's Expected Accomplishments and POW 2008-2009, 2010-2011 and 2012-2013. The UNEP MTS specifies desired results in six thematic focal areas. The desired results are termed Expected Accomplishments. Using the completed ToC/ROtI analysis, the evaluation should comment on whether the project makes a tangible contribution to any of the Expected Accomplishments specified in the UNEP MTS. The magnitude and extent of any contributions and the causal linkages should be fully described. Whilst it is recognised that UNEP GEF projects designed prior to the production of the UNEP Medium Term Strategy 2010-2013 (MTS) would not necessarily be aligned with the Expected Accomplishments articulated in those documents, complementarities may still exist and it is still useful to know whether these projects remain aligned to the current MTS.
Alignment with the Bali Strategic Plan (BSP). The outcomes and achievements of the project should be briefly discussed in relation to the objectives of the UNEP BSP.
Gender. Ascertain to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to and the control over natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation. Appreciate whether the intervention is likely to have any lasting differential impacts on gender equality and the relationship between women and the environment. To what extent do unresolved gender inequalities affect sustainability of project benefits?
South-South Cooperation. This is regarded as the exchange of resources, technology, and knowledge between developing countries. Briefly describe any aspects of the project that could be considered as examples of South-South Cooperation.
The Consultants' Team
For this evaluation, the evaluation team will consist of one consultant. The consultant should have experience in project evaluation. A Master's degree or higher in the area of environmental sciences or a related field and at least 15 years' experience in environmental management, with a preference for specific expertise in the area of biosafety and biodiversity is required. Fluency in French is necessary.
By undersigning the service contract with UNEP/UNON, the consultants certify that they have not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests (within six months after completion of the contract) with the project's executing or implementing units.
Evaluation Deliverables and Review Procedures
The evaluation consultant will prepare an evaluation for each country. The evaluator will start by preparing three inception reports (see Annex 2(a) of TORs for Inception Report outline) containing a thorough review of the project context, project design quality, a draft reconstructed Theory of Change of the project, the evaluation framework and a tentative evaluation schedule.
The review of design quality will cover the following aspects (see Annex 9 for the detailed project design assessment matrix):
Strategic relevance of the project
Preparation and readiness (see paragraph 25);
Financial planning (see paragraph 30);
M&E design (see paragraph 33(a));
Complementarities with UNEP strategies and programmes (see paragraph 34);
Sustainability considerations and measures planned to promote replication and upscaling (see paragraph 23).
The inception reports will also present a draft, desk-based reconstructed Theory of Change of the project. It is vital to reconstruct the ToC *before* the most of the data collection (review of reports, in-depth interviews, observations on the ground etc.) is done, because the ToC will define which direct outcomes, drivers and assumptions of the project need to be assessed and measured to allow adequate data collection for the evaluation of project effectiveness, likelihood of impact and sustainability.
The evaluation framework will present in further detail the evaluation questions under each criterion with their respective indicators and data sources. The evaluation framework should summarize the information available from project documentation against each of the main evaluation parameters. Any gaps in information should be identified and methods for additional data collection, verification and analysis should be specified.
The inception reports will also present a tentative schedule for the overall evaluation process, including a draft programme for the country visit and tentative list of people/institutions to be interviewed.
The inception reports will be submitted for review and approval by the Evaluation Office before the evaluation team travels to the field.
The main evaluation reports should be brief (no longer than 35 pages – excluding the executive summary and annexes), to the point and written in plain English. The evaluator will deliver high quality reports in English by the end of the assignment. The team will also provide the executive summary and the conclusions, lessons learned and recommendations section in French or the Tunisia project. The reports will follow the

annotated Table of Contents outlined in Annex 1. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The reports will present evidence-based and balanced findings, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other. The reports should be presented in a way that makes the information accessible and comprehensible. Any dissident views in response to evaluation findings will be appended in footnote or annex as appropriate. To avoid repetitions in the reports, the author will use numbered paragraphs and make cross-references where possible.
Review of the draft evaluation reports. The evaluation consultant will submit the zero draft reports latest two weeks after conducting the field visits to the UNEP EO and revise the drafts following the comments and suggestions made by the EO. Once a draft of adequate quality has been accepted, the EO will share this first draft reports with the UNEP Task Manager, who will ensure that the report does not contain any blatant factual errors. The UNEP Task Manager will then forward the first draft report to the other project stakeholders, in particular the national partners, for review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. It is also very important that stakeholders provide feedback on the proposed recommendations and lessons. Comments would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to the UNEP EO for collation. The EO will provide the comments to the evaluation team for consideration in preparing the final draft report.
The evaluation consultant will submit the final draft report no later than 2 weeks after reception of stakeholder comments. The consultant will prepare a response to comments, listing those comments not or only partially accepted by them that could therefore not or only partially be accommodated in the final report. They will explain why those comments have not or only partially been accepted, providing evidence as required. This response to comments will be shared by the EO with the interested stakeholders to ensure full transparency.
Submission of the final Terminal Evaluation report. The final report shall be submitted by email to the Head of the Evaluation Office, who will share the report with the Director, UNEP/GEF Coordination Office and the UNEP/DEPI Task Manager. The Evaluation Office will also transmit the final report to the GEF Evaluation Office.
The final evaluation report will be published on the UNEP Evaluation Office web-site www.unep.org/eou. Subsequently, the report will be sent to the GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website.
As per usual practice, the UNEP EO will prepare a quality assessment of the first draft and final draft report, which is a tool for providing structured feedback to the evaluation consultants. The quality of the report will be assessed and rated against the criteria specified in Annex 4. The UNEP Evaluation Office will assess the ratings in the final evaluation report based on a careful review of the evidence collated by the evaluation consultant and the internal consistency of the report. Where there are differences of opinion between the evaluator and UNEP Evaluation Office on project ratings, both viewpoints will be clearly presented in the final report. The UNEP Evaluation Office ratings are the final ratings that will be submitted to the GEF Office of Evaluation.
Logistical arrangement
This Terminal Evaluation will be undertaken by an independent evaluation consultant contracted by the UNEP Evaluation Office. The consultant will work under the overall responsibility of the UNEP Evaluation Office and will consult with the EO on any procedural and methodological matters related to the evaluation. It is, however, the consultants' individual responsibility to arrange for their travel, visa, obtain documentary evidence, plan meetings with stakeholders, organize field visits (if any), and any other logistical matters related to the assignment. The UNEP Task Manager and local partners will, where possible, provide logistical support (introductions, meetings, transport etc.) for the country visit, allowing the consultants to conduct the evaluation as efficiently and independently as possible.
Schedule of the evaluation (tentative)

Activity	Date (s)
Start of the evaluation	29 June 2014
Inception reports	25 July 2014
Comments from Evaluation Office	8 August 2014
Field visits	11– 22 August 2014
Zero Draft reports	26 September 2014
Comments from Evaluation Office	10 October 2014
First draft reports	17 October 2014
Comments from stakeholders	31 October 2014
Final reports	15 November 2014

The consultant will be hired under an individual Special Service Agreement (SSA). There are two options for contract and payment: lumpsum or "fees only".
Lumpsum: The contract covers both fees and expenses such as travel, per diem (DSA) and incidental expenses which are estimated in advance. The consultants will receive an initial payment covering estimated expenses upon signature of the contract.
Fee only: The contract stipulates consultant fees only. Air tickets will be purchased by UNEP and 75% of the DSA for each authorised travel mission will be paid up front. Local in-country travel and communication costs will be reimbursed on the production of acceptable receipts. Terminal expenses and residual DSA entitlements (25%) will be paid after mission completion.
The payment schedule for the consultant will be linked to the acceptance of the key evaluation deliverables by the Evaluation Office:
Final inception report: 20 percent of agreed total fee
First draft main evaluation report: 40 percent of agreed total fee
Final main evaluation report: 40 percent of agreed total fee

If the consultant fails to submit a satisfactory final product to UNEP in a timely manner, i.e. within one month after the end date of their contract, the Evaluation Office reserves the right to employ additional human resources to finalize the report, and to reduce the consultants' fees by an amount equal to the additional costs borne by the Evaluation Office to bring the report up to standard.
Submission of the final evaluation report:
The final report shall be submitted by email to:
Mr. Michael Spilsbury, Chief
UNEP Evaluation Office
Email: michael.spilsbury@unep.org

The Head of Evaluation will share the report with the following persons:
Brennan Van Dyke
Director
UNEP/ GEF Coordination Office
Email: brennan.vandyke@unep.org

Shakira Khawaja
UNEP/DEPI Fund Management Officer
Email: shakira.khawaja@unep.org
Alex Owusu Biney
Task Manager
UNEP/DEPI
Email: alex.owusu-biney@unep.org

The final evaluation report will be published on the UNEP Evaluation Office web-site www.unep.org/eou and may be printed in hard copy.

2. Chronogramme of the evaluation and list of people met

2.1 Chronogramme of the field visits

Date	*place*	*Activities*
29/7/2014	Home based	Interview of UNEP task manager
30-31/7	Travel to Mauritius	
1/8	Reduit	Briefing with Mr JairajRamkissoon FARC CEO, Mr Nitish Gopaul, BS focal point, Mr Loomaswaranath Ramnath Senior accounts officer Meeting with Ms Asha Dookun-Saumtally, Mauritius Sugarcane Industry Research Institute, Mauritius Cane Industry Authority; Ms V. Ranghoo-Sanmukhiya, senior lecturer, University of Mauritius; Ms Francoise Driver, General manager, Université des Mascarenes
2/8	Reduit	Meeting with Fazia Pokun, Ministry of foreign affairs; Soodevi Sobron, Ministry of environment; S.P. Benimadhu, FAREI; Anwar B. Rumjaun, Mauritius institute of education; B.R. Kureemun, S. Buldewo, C. Gooria, National food technology laboratory Debriefing with Mr JairajRamkissoon FARC CEO, Mr Nitish Gopaul, BS focal point
3/8	Travel from Mauritius	

2.2 List of stakeholders interviewed

	surname	*Name*	*Institution*	*task*	*email*
Mr	Benimadhu	S. P.	FAREI Reduit	Principal Research Scientist	areupato@intnet.mu

Mrs	Driver	Francoise	University des Mascareignes, Beau Plan Round-About Pamplemousses - Quatre Borne	Chair of the national BSC	mfdriver@uom.ac.mu , mfdriver@udm.email
Mr	Gopaul	Nitish	Horticultural Division Ministry of Agro-Industry & Food Security Agricultural Services Royal Road, Reduit	Divisional Scientific Officer	nigopaul@mail.gov.mu
Mrs	Pokun	F.	Ministry of Foreign Affairs, International	Ag. Senior Analyst	Fpokun@mail.gov.mu, motas@intnet.mu
Mr	Prithipaul	D.	Ministry of Environment and Sustainable Development	Divisional Environment Officer	dprithipaul@mail.gov.mu
Mr	Ramkissoon	Jairaj	Food and Agricultural Research & Extension Institute, Reduit, Mauritius	Chief executive officer	farcdg@intnet.mu
Mr	Ramnath	Loomaswaranath	Food and Agricultural Research Council, Reduit, Mauritius	Senior Accounts Officer	ramnathshiv@yahoo.com
Mr	Ranghoo-Sanmukhiya	V.	Faculty of Agriculture University of Mauritius Reduit	Senior Lecturer	m.sanmukhiya@uom.ac.mu
Mr	Rumjaun	Anwar	Mauritius institute of education		a.rumjaun@mieonline.org
Mrs	Saumtally	Asha Dookun	MSIRI, MCIA, Reduit	Principal Research Manager	asha.saumtally@msiri.mu
Mrs	Soobron	Soodevi	Ministry of environment, Law division		ssoobron@mail.gov.mu
Mrs	Buldewo	S.	Food technology Laboratory	Scientific Officer	sbuldewo@mail.gov.mu
Miss	Gooria	C.	Food technology Laboratory	Senior Technical Officer	cgooria@mail.gov.mu
Mrs	Kureemun	B. R.	Food Technology Laboratory	Divisional Scientific Officer	bkureemun@mail.gov.mu

3. Synthesis of the Interviews

Date	29/8/2014 h. 17 00 – 17 40	1/9/2014 h. 10 00 - 12 30	1/9/2014 h. 13 00	1/9/2014 h. 14 00 - 14 30
Person(s) / organization	Alex Owusu-Biney, UNEP projects coordinator (skype conversation)	Jairaj Ramkissoon, Food and agriculture research institute Director general & National Project Coordinator, Nitish Gopaul Scientific Officer Horticultural Division Ministry of Agro-Industry & Assistant National Project Coordinator, Loomaswaranath Ramnath Senior accounts officer Food and Agricultural Research Institute	Asha Dookun-Saumtally, Principal Research Manager, Mauritius sugarcane Industry Research Institute, Mauritius Cane Industry Authority	V. Ranghoo-Sanmukhiya, senior lecturer, University of Mauritius, member of new National BSC
Context				

Threats to human health and biodiversity	Both Mauritius and Tunisia took part in the GEF Pilot Biosafety project managed by UNEP. The project was focused on stocktaking and inventory of biotechnology and biosafety status. For Mauritius a major outcome was the Biosafety Act (GMO Act 2004) and Tunisia a biosafety policy/draft law. – Pilot phase was for 18 countries - www.unep.org/biosafety/Pilot_project.aspx. Tanzania from Global development project to implementation – Outcome a final draft National Biosafety Framework with an Environment Management Plan which recommends the development of specific biosafety regulation. www.unep.org/biosafety/Development_Projects.aspx. The current projects for all the three countries are follow up implementation projects to the earlier interventions	75% of food is imported. The pilot project found resistance and now research was stopped through the new Act and the European union market requirements. Law is not fully implemented, so no research is done with GMO. Research and sugar cane sector are dealing with GMO. Sugar breeding uses Biotechnology; Monsanto collaboration; former regulations allowed it. Board of investment is looking for new sectors, including biotechnology; there are 7-8 pharmaceutical operators in the island - 3 billion rupees investment -; regulations on such sectors still to be considered	strengthening of the NBF because research work on genetic transformation of sugar varieties was already being pursued. Biosafety law came in 2004, but not fully promulgated. No field trials of transformed sugarcane lines carried out. MSIRI also breed sugarcane by conventional techniques for the following traits: high sugar yielding varieties, disease resistance, ratonning ability. Using biotechnological techniques, they are interested to introduce traits for high N efficiency use, herbicide resistance and drought resistance. Also without a biosafety framework, GMOs may be entering the country.	The project implemented the policy by elaborating new regulations on GMO, not yet implemented, political will to enact GMO law has to increase
Changes in the natural resource base, benefits in the environment and human living conditions	Each project is to support implementation of the Cartagena Protocol on Biosafety for which the GEF is the financial mechanism to provide funding for capacity building support. The interventions are to support the development of a regulatory framework to support the safe use and transboundary movement of Living Modified Organisms and to manage potential adverse impacts on biodiversity and human health	NBC established, capacity in administration and technics not adequate	The project benefitted, but it takes much time to implement the framework. The Ministry is putting much effort to mobilize more people and resources to implement the biosafety framework.	The new regulations not completely implemented; improving as well as procedures for permits and authorizations; good working documents, they are now simplifying the technical guidelines and regulations for users friendliness - e.g., GMO labelling guidelines
Concurrent actions in the Biosafety sector	The three countries had mechanisms in place, Tunisia had policy, the other two had law; Mauritius has developed at laboratory level capacity for development of GMOs and needed capacity to assess risk and detect GMOs and also develop mechanisms to be able to deal with commercial / release of LMO; idem in Tanzania for cotton		The biosafety framework project did essential work to structure the sector; training on field monitoring, drafting of regulations, guidelines, technical guidelines and awareness. These are now being use for the implementation of the GMO Act in Mauritius.	
Framework				
Policies, strategies and plans in the Biosatety sector	They changed orientation in the three countries and speed up the project; in Tanzania broad environmental law, no regulations, generic law. The project did make specific regulations and set up a network of centers of excellence to provide technical and material support across several key stakeholder institutions including the regulatory agencies, universities and research institutions; in Mauritius some national resources from University, Agriculture and the Sugar Research Institute, to have national laboratory to monitor LMO; Tunisia had capacities strengthened through collaborative support from Agriculture, Environment, Universities and Biotechnology Center in Sfax	With food crisis in 2008 the government did develop a food security plan (2008-2013) that didn't consider Biotechnology or Biosafety. In house analysis, lack of consultation of stakeholders in elaborating the policy, some consultation with consensus; task forces producing technical papers consolidating the plans that the Ministry has to implement; the government did policy and with the new administration there was lack of coordination to follow up; the NBC is expected to advise the government; after submission of the final report, the NBC was renewed	Project was comprehensive, the basis has been achieved, but needs at least 2 additional years for full implementation, to have the GMO law fully enacted; the Ministry is putting much effort to move the biosafety framework to completion; A new National Biosafety Committee has been constituted and sub-committees have been set to progress the biosafety framework.	

Institutional commitment and arrangements	Tunisia national gene bank and national reference laboratory and Ministry of Agriculture provided support to the coordination agency, Tanzania through the network of centers of excellence enhanced national commitment to the process in addition to the higher level coordination from the Division of Environment which is under the Office of the Vice President; in Tunisia and Tanzania environment leads the sector, in Mauritius agriculture leads National coordination with support from the University, regulatory institutions and the Sugar Research Institute and national capacities were enhanced in the three countries	They developed regulations, and renewed the NBC that is dealing with them: no reworking of them; the NBC has Ministry representatives; it is technical advisory body for the Ministry, established by law, including a consumer's association representative that is protectionist; new representative of consumers associations didn't participate to the new NBC meetings	The MSIRI is committed to the progress of the biosafety framework. It is in its interest, should new projects on genetic transformation of sugarcane be initiated. Since 2012, projects on genetic transformation have been put to a halt, but looking at the progress in biotechnology in other countries, there is a high scope for improving varieties using genetic transformation tools.	
Biosafety regulatory framework coordination, mobilization of resources, information exchange	Tanzania centre of excellence capacity development was key achievement. Most of Mauritius key players are in the same compound; close institutions; willingness joined. In Tunisia gene bank and national reference laboratory did lead the process, in addition volunteering support of national experts helped to achieve results at a lower cost. Many changes after the project in the information exchange. All the three countries did participate to the global biosafety clearing house project which supported information exchange	The 6 sections of the law on the functioning of the NBF are in place, the other ones not. Interaction with Ministry of justice, to harmonize the legal framework, to come back to the MoA, to be approved by the Council of ministers; the new NBC is going to consult for updating the regulations; finalize the regulations	There is still quite a bit to be done. More financial and human resources need to be allocated in the biosafety framework for it to be operational.	
Procedures				
Risk assessment, notifications procedures	Tunisia is still ongoing; in Tanzania the development of these tools was successful; in Mauritius the material developed supported decision making	No permit released as the law is not fully operational; stakeholders involved; one case of notification of import 3 years ago for maize as animal feed for poultry, the problem was the shipment from Argentina, it didn't come in time, the agreement with SA; the SA authority needed a clearance from Mauritius because in Kenya a consignment was refused and sent back because it was GMO maize; the Ministry of agriculture received the importers but the law was not operational and there was not yet any restriction but neither system of authorization; the NBC did discuss the issue; the Ministry did the derogatory; Argentina doesn't require import authorization for GMO exportation	Personnel have been trained in risk assessment. Notification procedures will have to be put in place.	
Follow-up / M&E procedures	Monitoring was done at project level and Steering committee level with supervisory follow up and Technical support by UNEP. The project did go through evaluations processes; the monitoring was done through the adoption of guiding tools. M&E plan were implemented in all three countries, in Tanzania some delays due to the death of the national project coordinator and also flooding of the UNDP office who UNEP had requested to facilitate the procurement of equipment	Not yet implemented as the regulations are not past the approval at the Ministry level, only 6 section of the Law have been approved by the government, so no monitoring is in place		

Biosafety clearing house mechanism	Embedded, changes are going on, they know how to assess information and share	MoA project on BCH completed (GEF funding). Website not yet active	Need to be reinforced	BCH has been inactive alghough enacted in the Ministry of agri-food
Assets				
Technical facilities / field access	UNEP provided Technical support to the countries; to help them to assess equipment; training in risk assessment, gene detection, administrative systems, Biosafety Decision making and monitoring and enforcement, additional support was client specific. Annual project coordinators meetings was used to create a platform for sharing experiences. Technical facilities are working now; they made requests in areas they wanted support, and they received them	Food technology lab of Ministry of agro-industry, GMO section is reference for inspection and enforcement declared by Ministry; it works on food industry, focus on pesticides and fish products like tunafish factories in Port Louis; it needs operational autonomy to function, as Ministry dependence technical legislation is needed; limited staffing in general and in this section too; training of lab staff has to continue to have it fully operational	Technical facilities, capabilities are available. Implementation need more effort and financial resources	EU funded workshop to harmonize and integrate GMO testing protool in the region; they are trying to establish a common testing mechanism
Sources of financial esources	Tanzania and Mauritius have laws which provides mechanisms for funding, that has to be put into practice; laboratories have to charge for analyses in the three countries; laws obliged applicants to pay for permits, law also mandates governments to provide budgetary support in addition to grants from within and donor support. As parties to the Cartagena Protocol on Biosafety the countries also have access to support from the GEF	Up to now no permits, no analyses to fund the sector; focal point on biosafety at Ministry of agriculture; the Minister delivered speech at workshop on focus on biosafety; he established an Office at the staff level of the Ministry that is made of the focal point; the NBC has been reactivated in 2014; project finance was audited, 3-4 suppliers quoted for selection; funds come from government resources, no private contribution	To tap grants, government funds, institutional funds and private sector involvement.	
Human resources and external collaborations	Human resources from countries, from capacity building by UNEP team, from experts (national and international). They can request GEF support and have national programs and other ones (Usaid Program on Biosafety Systems, ABNE and AATF Africa Projects in Tanzania; EU TAEIX project support for Tunisia), aside of GEF and Government support. RAEIN-Africa Biosafety support for Mauritius. Regional collaborations through Sadc, Comesa, EAC in science, biotechnology and biosafety specifically	They are linked with South African testing institution; links with UNEP GEF; a network of GMO laboratories was suggested that is being delayed; Ministry has a MoU with India to exchange resources	External collaborations are required as the country cannot implement the biosafety framework alone	
Awareness				
Perception by the decision makers' and public opinion	People involved in biotechnology have understanding, general public has different consciousness; there are mechanisms at institutional level for continuous engagement of public opinion in the three countries; documents have been made available through the project to support public awareness interventions	Consumers associations concerned with GMO importation; poultry industry imports animal feed like maize, soybean meal, beans, from Argentina and SA GMO; awareness campaign to be undertaken whtn the regulations will be completed	More awareness need to be raised	
Participation by the scientific community	Very satisfactory participation of the broad scientific community, in Mauritius, Tanzania and Tunisia for civil society, farmers, that contributed	Sugar industry research is not waiting for governnent; they push for the use of BT to produce GM varietis, in collaboration with Monsanto; they have a consortium of labs; they were stopped by the 2004 GM law, also if not completed, they produce 1-2 GM sugar varieties tested at the laboratory level, as no provision under the law; they stopped at that level	Academy fully collaborative and interested in moving the biosafety framework	
Project				

Implementing agency role	All three were well positioned, in Mauritius the sugar sector well endowed. They brought stakeholders, talked to high level government in all countries.	Appropriate timing of the project. Project identified in 2006, developing strategic paper, regulating the sector, training HR, building physical infrastructure; complete the law and start field activities; awareness on the NBF, how to tackle it in 4-5 years. Extension gave time for improvement; training from SA and Tanzania	National sensitization campaign has to be launched and workshops held; communication experts will have to be hired for these.	
Logframe / indicators	Original projects had proper indicators, they were reviewed and adapted in the three countries to ensure monitoring and evaluation activities are factored into all the project interventions and were used to check the progress, and used in annual meetings for steering them. Final documents in Tunisia not yet finalized, but advance draft available. All three countries had clear logframes with indicators refer to Annex 1 of the project document. Project activities were adapted to ensure that monitoring of indicators and results were properly assessed and revised where necessary		Indicators, achieved to a great extent	

Cont.

Date	1/9/2014 h. 15 00 - 16 30	2/9/2014 h. 8 45 - 9 00	2/9/2014 h. 9 30 - 9 45	2/9/2014 h. 10 15 - 10 50
Person(s) / organization	Francoise Driver, General manager, Universite des Mascarenes & chair of National BSC	Fazia Pokun, trade policy analyst, Ministry of foreign affairs, regional integration and international trade, International trade division, BSC member	Soodevi Sobron, law division, Ministry of environment	S.P. Benimadhu, Principal Research Scientist, FAREI
Context				
Threats to human health and biodiversity	The national BSC was renewed in June 2014 to check what was achieved and to develop the way forward, as the GMO act was partly implemented. Review and finalise the regulations and guidelines. Policy is unchanged, still valid, but communication to the public has to be fostered. change needs parliament act. By updating regulations they will more specific on pharmaceutical, as food agriculture, animal feed, fish; setting up the capacities for GMO products detection as food laboratory exists; regulations and guidelines are ok, no need for further ones	Trade issues		
Changes in the natural resource base, benefits in the environment and human living conditions	The natural resources should be covered by the regulations			

Concurrent actions in the Biosafety sector				Implementation was short of needs, the laboratory activities have stopped; also land races of squash from Mauritius, very acceptable to consumer but susceptible to pathogens, not possible to make biotechnological improvement, or import improved varieties; also insuline imported
Framework				
Policies, strategies and plans in the Biosatety sector		Meetings of the BSC to decide the policies for the definition of thresholds. It sends recommendations to Ministry that asks the cabinet for approval of law amendment	Ministry of agro-industry did the law and had it approved by Parliament, no full implementation of the regulations; lack of resources; if the GMO have a significant impact on environment the Ministry of environment can ask for an environmental impact assessment report; not many GMO activities in Mauritius in order to grant a license (MoE EIA Division releases the licence after having a committee advise; the permanent secretary of the MoE chairs it); the Minister approves the licence; Environmental protection act, part 4, 2002 enacted, amended in 2008 and presently being revised	
Institutional commitment and arrangements	Ministry of agro-industry commitment is ok, there is a State office representative in the NBC; the NBC has representatives of the Ministry of justice, health and the civil society. The national BSC is meeting every 2 weeks and revising law and regulations		The NBC has many stakeholders; there were a few projects committed, so no pressure, it is frozen while waiting for the promulgation of the regulations. Medicine GMO authorization needs fast track procedures, the EIA report has to assess such sector; MoH controls import of food - under the food act -; the surveillance is well established; MoE has its own laboratory but not testing the GMO	Institutions are committed, waiting for direction from political level. Project supporting the legislation; Regulations and guidelines were elaborated, sent ot the State law office for legal advise, but Minister didn't press it. The national BSC was dormant; the new national BSC has people from other institutions, the consumer association representatives didn't come to the 2 meetings; no clear cut decision: relooking to the regulations; legislation is lacking and reseearch / production / trade is not performed. They are simplifying the regulations, wording too extensive, unclear; the all act has to be ready in September
Biosafety regulatory framework coordination, mobilization of resources, information exchange	Resources for the food laboratory are needed; for technical expansion			Limited human resources in the island
Procedures				
Risk assessment, notifications procedures	Strengthening needed to habilitate authorization procedures at all levels	No experts in the GMO testing in the food laboratory; the project did train people and equipment; the laboratory took time.		

Follow-up / M&E procedures	The procedures implementation needs strengthening and resources for managing it	After deciding the GMO thresholds they will have to notify the WTO; the NPPO is in charge of the checks and authorizations of import		Guidelines for sampling have to be developed. The NBF is not yet able to detect GMO.
Biosafety clearing house mechanism	BCH has to be implemented yet			BCH has been dormant for many years, the Minister is reviving it
Assets				
Technical facilities / field access	Training and workshops were provided for drafting regulations; laboratory was equipped, they did analyse some test samples			Technicians were trained in GMO testing; they use the standard protocol in food laboratory; the food laboratory should have a quality system in place
Sources of financial resources			Lack of human resources; they pool resources through national committee; the MoA has needs to enhance the laboratory of food analysis	Resources coming from services to the market are not adequate to pay for the running of the NBF
Human resources and external collaborations	Regional collabortion is sought for training, exchange of information, laboratory services, sharing good practices, updating regulations, e.g. at Comesa level. Comesa is committed to a regional approach, but has to be strengthened. Comesa can organize workshops for exchange of experience/ Regional initiative has to be fostered, for testing	SACD and Comesa member, there is interest in harmonization of laws; SA has already in place GMO laws, it can support other countries in the region; up to now no regional coordination	Expecting collaborations as the tracing of materials coming from regional countries is needed; they can learn from other countries in the region in testing methods, getting training, on managing GMO activites - exchange of experiences -	The food laboratory should have exchanges, practices, training; the MoA is now validating the work done; some BSC members are those of the first one, other changed
Awareness				
Perception by the decision makers' and public opinion	Full section of the NBC has to be devoted to awareness raising; in the future development sectors will lobby; strategy of communication of the Ministry of agriculture should establish a way to communicate with the lobby; public awareness has to be the new focus			2 sensitization workshops; press and consumers associations, planters and parliamentarians came to separate workshop; nor representative sample of population
Participation by the scientific community	Academy was well represented in the project			Scientific community is active, also in the health sector, environment, NPPO
Project				
Implementing agency role	FARC and the first NBC were active in promoting regulations; the NBC was not active for a long time and the lab; all sectors present in the NBC were contributing; the consumer's voice not actively participating to the committee meetings; Unep was actively acting in the project			The coordination, meetings were positive; although they had little decision making power
Logframe / indicators	NBC is not formally collecting indicators			

Cont.

Date	2/9/2014 h. 10 50 - 11 20	2/9/2014 h. 12 20 - 13 00
Person(s) / organization	Anwar B. Rumjaun, Mauritius institute of education, former NBC member	B.R. Kureemun, Divisional Scientific Officer, S. Buldewo, Scientific Officer, C. Gooria, Senior Technical Officer, National food technology laboratory, MoA
Context		
Threats to human health and biodiversity		
Changes in the natural resource base, benefits in the environment and human living conditions		

Concurrent actions in the Biosafety sector		
Framework		
Policies, strategies and plans in the Biosatety sector		
Institutional commitment and arrangements		
Biosafety regulatory framework coordination, mobilization of resources, information exchange		
Procedures		
Risk assessment, notifications procedures		Local ISO 17025 accreditation of National food technology laboratory, lacking Ilac accreditation that is needed to export to EU (typically for the fish). No analyses performed until now; MoA gets free analyses, other have to pay fee. Not yet established the fee for GMO analyses
Follow-up / M&E procedures		
Biosafety clearing house mechanism		
Assets		
Technical facilities / field access		
Sources of financial resources		
Human resources and external collaborations		Trained people changed job, they now need 2 trained permanent staff in qualitative and quantitative GMO analysis with PCR. Microbiological section is in charge
Awareness		
Perception by the decision makers' and public opinion	He was in charge of communication and information, with a team from different areas of communication, they developed several documents and materials used in workshops; these served to validate the document and reach people; they reached teachers (formal education), policy makers including business men (where to go and what to do to get permit), and general public through NGOs / 2 consumer's protection organizations (choice of language). Press and Permanent secretaries were invited but didn't come to the workshops; radio and TV did come to cover and not attend to the event (the Minister was present); health practitioners were invited but didn't come; consumer's protection people were the more interested; tourist industry was not present	
Participation by the scientific community	Scientific community was involved; formal teachers education, up to seconday education level, were trained; syllabi of biology comes from Cambridge university in UK. GMO food topics are dealt with in teaching, biology is providing many information on such topics	
Project		
Implementing agency role		
Logframe / indicators		

4. Evaluation matrix

Question	*Criteria*	*Indicators*		*Sources*	*Answer to the question*
		Target	*Achievement*		
To what extent was the project able to support Mauritius in establishing a national biosafety framework in accordance with national	Impact	1. Operational NBF in line with its international and national obligations	Agricultural Biotechnology Strategy & Policy elaborated but not yet approved by MAIF	Programme document, PIR, Programme terminal report, Interview of stakeholders	Biotechnology policy and strategy were drafted and the NBF needed to

development priorities and international obligations?		(GMO Law) by 2009			make them effective was technically put in place but not made operational
To what extent was the project able to assist Mauritius to establish and consolidate a fully functional and responsive regulatory regime in line with the Cartagena Protocol and national needs and priorities?	Effectiveness	2. A regulatory regime in place and in line with CP and international obligations, by 2009	NBF in line with international regulations but only 6 sections of GMO Act 2004 drafted into regulations and vetted by the State law office. Final clearance from MAIF awaited. Regulations elaborated to set up and make operational the Biosafety Office and Operational manuals for Regulators on handling LMOs. Training of technical and administrative staff, especially for detection of GMOs Risk assessment and Management, as per mandates of institutions e.g Health, Environment, Quarantine etc. Interagency ad hoc task forces providing support on capacity issues.	Programme terminal report, Interview of stakeholders	Coordination mechanism and instruments put in place but not fully operational
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for handling request, perform risk assessment, testing of GMOs, decision-making and performing administrative tasks?	Effectiveness	3. Number of decisions made as result of request	No decision or permit released. Five guidelines produced on Handling of requests for GMO Permits, Transport of GMOs in Mauritius, Packaging of GMOs, Labelling of GMOs, Risk Assessment of GMO's in Mauritius. Format agreed to be linked to the national biosafety website when operational. Operational register to handle LMO applications	Direction of environment, Interviews of stakeholders	No practical implementati of procedures for the GMO release / introduction authorization procedures
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for "follow-up", namely monitoring of environmental effects and enforcement?	Effectiveness	4. Technical means for monitoring in use	Laboratory established but not yet used as no monitoring has been performed. GMO training courses on GMO testing facility (Food Technology Laboratory of the MAIF). No inspectors trained in the MAIF. List of consultants prepared and reviewed.	Direction of environment, Interviews of stakeholders	Consultants' roster established; no deployment of the monitoring mechanism, no GMO analysis requested
To what extent was the project able to assist Mauritius to establish and consolidate a functional national system for public awareness, education, participation and access to information?	Effectiveness	5. Public awareness & participation training delivered to representatives of public, media, NGO's, policy makers & scientists	Two workshops in 2009 & 2011 (awareness, 25 people each), and two in 2010 & 2011 (technical, 35 people each) with representatives from: academia, technicians, consumers associations, growers ; policy makers, heads of Ministries and press were invited but did not participate. Inception workshop used as stakeholder outreach activity. Development of awareness raising material. Survey done by University of Mauritius (CASR) under MRC in 2006; MGO issues	Programme document, PIR, Programme terminal report, Interview of stakeholders	Effective awareness of the general public and research community but no involvement of parlamentarians / press and interest of economic parties was minimal

			mainstreamed in environmental public education (teaching curricula up to secondary school)		

5. Summary of co-finance information and a statement of project expenditure by activity

5.1 Project costs by component

Component/sub-component	Estimated cost at design (US$)	Actual Cost (US$)	Expenditure ratio (actual/planned)
Regulatory regime	18,000	18,000	100%
Handling applications	63,000	63,000	100%
Monitoring for environmental effects and Inspection	95,000	95,000	100%
Public awareness and participation	27,000	27,000	100%
Project coordination and management	124,800	124,800	100%
Consultancy (regulations, operational manuals guidelines, etc)	30,000	30,000	100%
Technical support	70,000	70,000	100%
TOTAL	427,800	427,800	100%

5.2 Co-financing repartition

Co financing (Type / Source)	IO own Financing (US$)		Government (US$)		Other (US$)		Total (US$)		Total Disbursed (US$)
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	
– Grants	427,800	427,800					427,800	427,800	
– Loans									
– Credits									
– Equity investments									
– In-kind support			207,900	207,900			207,900	207,900	
– Other									
Totals							635,700	635,700	

6. Quality of project design

The design of the project is centered in the building of skills to sustain institutional changes contributing to the implementation of the NBF. It originated from the Mauritian Government subscription of the CP, enactment of the Environmental management act and consequent establishment of the NBF. The project design is a consequence of the Mauritian commitment to operationalize the NBF. The following table summarizes the assessment of the overall quality of this design.

Relevance		Evaluation Comments	Prodoc reference
Are the intended results likely to contribute to UNEPs Expected Accomplishments and programmatic objectives?		Yes, they contribute to strengthening the national environmental governance & international integration of the answer to global challenges	project document
Does the project form a coherent part of a UNEP-approved programme framework?		yes, it is in line with the UNEP medium term strategy and Bali strategic plan approach	project document, UNEP medium term strategy
Is there complementarity with other UNEP projects, planned and ongoing, including those implemented under the GEF?		yes, the UNEP-GEF Project on Development of National Biosafety Frameworks, the UNEP-GEF project on building capacity on BCH, and other UNEP-GEF Biosafety Unit initiatives	project document, UNEP medium term strategy, UNEP-GEF project on building capacity on BCH, the UNEP-GEF Project on Development of NBF
Are the project's objectives and implementation strategies consistent with:	i) Sub-regional environmental issues and needs?	yes, the Mauritius are leading research in biotechnology in the sub-region and integrating the output in the economic development strategy (sugar and non sugar sectors of agriculture)	project document
	ii) the UNEP mandate and policies at the time of design and implementation?	yes, it fulfills the UNEP mandate to implement the CBD/ Cartagena protocol	UNEP medium term strategy
	iii) the relevant GEF focal areas, strategic priorities and operational programme(s)? (if appropriate)	yes, the economic governance focus area and the biosafety strategy	UNEP medium term strategy
	iv) Stakeholder priorities and needs?	yes, the Mauritius government long standing priorities to govern GMO release and introduction, e.g. through the GMO law of 2004 provided inputs for the shaping of the project strategy	project document
Overall rating for Relevance			HS
Intended Results and Causality			
Are the objectives realistic?		Yes, the achievement of the immediate objectives is realistic and achievable because the project design tackles immediate needs	project document

Are the causal pathways from project outputs [goods and services] through outcomes [changes in stakeholder behaviour] towards impacts clearly and convincingly described? Is there a clearly presented Theory of Change or intervention logic for the project?	The project intervention logic is realistic with respect to the achievement of the immediate objectives; it follows a rational casual pathway, although the private sector participation is sidelined by the exclusive participation of institutions in the key decision making processes	project document
Is the timeframe realistic? What is the likelihood that the anticipated project outcomes can be achieved within the stated duration of the project?	There is a strong link between the timeframe and the technical delivery approach of this intervention; this doesn't consider the longer time needed for political decision on critical issues such as the enactment of the regulatory framework and mobilization of human resources; reference to long term impact is provided by the project document but not structured in a fully-fledged ToC	project document
Are the activities designed within the project likely to produce their intended results	yes, they are linked in putting in place the NBF and enhancing its tools / components	project document
Are activities appropriate to produce outputs?	yes, they put in place the NBF	project document
Are activities appropriate to drive change along the intended causal pathway(s)	yes, they are relevant to the achievement of the project impact and success of the control of GMO release and introduction in the country	project document
Are impact drivers, assumptions and the roles and capacities of key actors and stakeholders clearly described for each key causal pathway?	the project document includes a tab le of the role and tasks of the stakeholders, although it doesn't present a structured analysis of their interaction as it considers the national Biosafety committee able to ensure their convergence	project document
Overall rating for Intended Results and causality		S
Efficiency		
Are any cost- or time-saving measures proposed to bring the project to a successful conclusion within its programmed budget and timeframe?	The project management is centered on the national execution agency, strongly assisted by the national biosafety committee; thus there is no structured management unit	project document
Does the project intend to make use of / build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency?	yes, the project is embedded in an agency entrusted with the leadership in the biosafety regulation framework	project document
Overall rating for Efficiency		HS
Sustainability / Replication and Catalytic effects		

Does the project design present a strategy / approach to sustaining outcomes / benefits?		the project targets immediate objectives, in order to operationalize the NBF; it expects that its benefits will provide resources for sustaining the outcomes / benefits but doesn't include activities to promote the mobilization of private resources and their participation in running the NBF	project document
Does the design identify the social or political factors that may influence positively or negatively the sustenance of project results and progress towards impacts? Does the design foresee sufficient activities to promote government and stakeholder awareness, interests, commitment and incentives to execute, enforce and pursue the programmes, plans, agreements, monitoring systems etc. prepared and agreed upon under the project?		yes, by considering the economic dimension of biotechnological innovation, as the previous efforts to raise awareness on this subject created a positive reception on the management of these issues; due to the positive expectations for investment in BT innovation no extra incentives are provided to support private participation	project document
If funding is required to sustain project outcomes and benefits, does the design propose adequate measures / mechanisms to secure this funding?		the regulation of NBF and strengthening of the inspection capacities are expected to create the conditions for funding the NBF; no explicit economic approach to accomplish such goal is including the project document as the GMO law is already setting the rules for their production	project document
Are there any financial risks that may jeopardize sustenance of project results and onward progress towards impact?		yes, although limited as the modern sector of the economy is appealing to investments that can contribute to funding the NBF activities	project document
Does the project design adequately describe the institutional frameworks, governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. required to sustain project results?		Yes, there is a coherent approach involving institutions strongly coordinated through the national Biosafety council	project document
Does the project design identify environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits?		the project concerns the operationalization of the environmental legal framework not direct interventions in the field, although the former has for object the preservation and use of natural resources	project document
Does the project design foresee adequate measures to catalyze behavioural changes in terms of use and application by the relevant stakeholders of (e.g.):	i) technologies and approaches show-cased by the demonstration projects;	yes, the project is expected to achieve its immediate objectives filling loops in the coordination of key stakeholders	project document
	ii) strategic programmes and plans developed	the project establishes the regulatory framework for biosafety but doesn't directly deal with the planning of actions in such sector	project document

	iii) assessment, monitoring and management systems established at a national and sub-regional level	yes, the project has a component assisting the establishing of a monitoring framework for LMO release and introduction	project document
Does the project design foresee adequate measures to contribute to institutional changes? [An important aspect of the catalytic role of the project is its contribution to institutional uptake or mainstreaming of project-piloted approaches in any regional or national demonstration projects]		yes, the project objective is the strengthening of the institutional framework and its alignment to the international standards promoted by the Cartagena protocol	project document
Does the project design foresee adequate measures to contribute to policy changes (on paper and in implementation of policy)?		the project is the output of political decisions; its success is expected to foster such process that is high in the national priorities; awareness raising activities are contributing to create a sensibilized public opinion and facilitate the establishment of a consensus on the national biosafety strategy	project document
Does the project design foresee adequate measures to contribute to sustain follow-on financing (catalytic financing) from Governments, the GEF or other donors?		the project doesn't specifically include measures supporting financial sustainability as it expects that success will promote political support and enhance private investment to produce and adopt biotechnological innovation	project document
Does the project design foresee adequate measures to create opportunities for particular individuals or institutions ("champions") to catalyze change (without which the project would not achieve all of its results)?		the project delivers its assistance through the national executing agency and does benefit the other institutions and individuals involved in this sector thus creating the conditions for the emergence of champions	project document
Are the planned activities likely to generate the level of ownership by the main national and regional stakeholders necessary to allow for the project results to be sustained?		yes, the national coordination mechanism, capacity building and awareness raising actions that strengthen local ownership in mainstreaming the Cartagena protocol	project document
Overall rating for Sustainability / Replication and Catalytic effects			S
Risk identification and Social Safeguards			
Are critical risks appropriately addressed?		the risk analysis is based on the technical and administrative capacities already in place; it doesn't consider those related to the complex political framework in charge of decision making	project document

Are assumptions properly specified as factors affecting achievement of project results that are beyond the control of the project?	the project assumptions are properly identified as they are part of the environmental legal framework and NBF already established at the time of the project inception; nevertheless the economic dimension of such challenges is not assessed	project document
Are potentially negative environmental, economic and social impacts of projects identified	negative economic and social impacts are identified and are considered acceptable but there is no specific analysis of their interaction with the project activities	project document
Overall rating for Risk identification and Social Safeguards		S
Governance and Supervision Arrangements	The project is supervised by the National focal point for CP and UNEP biosafety unit; the National coordinating committee providing advise and guide to the implementation	project document
Is the project governance model comprehensive, clear and appropriate?	yes, it is embedded in the environmental policy making at the highest level: the project is supervised by the National focal point for CP and UNEP biosafety unit	project document
Are roles and responsibilities clearly defined?	yes, the project document defines the roles and tasks of the stakeholders, the decisions being concentrated in the Implementing agency and national executing agency, while the National Biosafety committee advises the execution by taking into consideration the inputs of the other key stakeholders	project document
Are supervision / oversight arrangements clear and appropriate?	yes, the project hierarchy is directly connected with the policy making level, although such relation is not explicitly structured	project document
Overall rating for Governance and Supervision Arrangements		HS
Management, Execution and Partnership Arrangements		
Have the capacities of partner been adequately assessed?	yes, the project strengthens the partner institutions' capacities following the assessment of the needs for reinforcing the NBF	project document
Are the execution arrangements clear?	yes, the project put the decisions in the hands of the key institution that receives inputs from the other ones directly and through the Biosafety coordination committee	project document

Are the roles and responsibilities of internal and external partners properly specified?	the project document Table 1 defines roles and tasks of each partner; the national Biosafety coordination committee and GMO law are considered adequate to ensure the convergence of partners coordination	project document
Overall rating for Management, Execution and Partnership Arrangements		HS
Financial Planning / budgeting		
Are there any obvious deficiencies in the budgets / financial planning	yes, the budget, structured along GEF activity based modality, is in line with the execution needs	project document budget plan
Cost effectiveness of proposed resource utilization as described in project budgets and viability in respect of resource mobilization potential	the use of resources concentrates on project management and systems for follow up; in the absence of detailed cost estimates it is difficult to assess cost effectiveness	project document, budget plan
Financial and administrative arrangements including flows of funds are clearly described	yes, the financial and administrative arrangements are in line with the project execution hierarchy	project document, budget plan
Overall rating for Financial Planning / budgeting		HS
Monitoring		
Does the logical framework: • capture the key elements in the Theory of Change for the project? • have 'SMART' indicators for outcomes and objectives? • have appropriate 'means of verification' • adequately identify assumptions	the Logframe describes activities and uses indicators related to their execution and immediate effects. They are both internal and external, mostly qualitative, and in most cases have no numerical target, assumptions are extensively identified	project document
Are the milestones and performance indicators appropriate and sufficient to foster management towards outcomes and higher level objectives?	milestones are appropriate while performance indicators are mostly related to immediate outputs	project document
Is there baseline information in relation to key performance indicators?	indicators being mostly qualitative, baseline data have been set in the project document (Annex 1C)	project document
Has the method for the baseline data collection been explained?	no baseline data is planned at the project inception	project document
Has the desired level of achievement (targets) been specified for indicators of Outcomes and are targets based on a reasoned estimate of baseline??	targets values are mostly absent from the Logframe, being mostly qualitative	project document
Has the time frame for monitoring activities been specified?	The M&E plan concentrates on reporting project activities and financial disbursements, no provisions are made for independent indicator collection	project document
Are the organisational arrangements for project level progress monitoring clearly specified	The UNEP task manager and National coordinating committee are in charge of the monitoring plan	project document

Has a budget been allocated for monitoring project progress in implementation against outputs and outcomes?	no budget allocation exists in the project document concerning monitoring activities	project document
Overall, is the approach to monitoring progress and performance within the project adequate?	by not establishing a structured data collection mechanism the project is unable to collect baseline and progress quantitative indicators systematically	project document
Overall rating for Monitoring		S
Evaluation		
Is there an adequate plan for evaluation?	evaluation is performed through the project progress reports, mid-term and final evaluation reports; no specific provision exists in the project document about the approach to data collection / survey	project document
Has the time frame for Evaluation activities been specified?	yes, it corresponds to the reporting schedule	project document
Is there an explicit budget provision for mid-term review and terminal evaluation?	mid-term review and terminal evaluation are not included in the project budget	project document
Is the budget sufficient?	yes, the budget is adequate to finance the planned activities	budget plan
Overall rating for Evaluation		MS

7. RoTI results score sheet

Results rating of project entitled:		Support for Implementation of the National Biosafety Framework for Mauritius					
Outputs	**Outcomes**	**Rating (D – A)**	**Intermediary**	**Rating (D – A)**	**Impact (GEBs)**	**Rating (+)**	**Overall**
To have a fully operational regulatory regime on biosafety, in line with the recently adopted GMO law and CP by 2009	By 2009, Mauritius has a workable and transparent national biosafety framework that is in line with its international obligations and national development priorities	C	Safe biodiversity conservation, exchange and use	C	Environmental governance at country, regional and global levels is strengthened to address agreed environmental priorities	C	C
To put in place and fully implement by 2009, a system for handling of permits (including administrative processing, risk assessment and decision-making), transport, packaging and labelling of LMOs		C	Biotechnology innovation in line / contributing to economic development and natural resources conservation	B			
			Biological disaster risk management capacities and tools developed and used	B			

To set up a workable system for monitoring and enforcement on biosafety by 2009		B	Resources raised to run the NBF	C			
			International collaboration promoting best biotechnology / biosafety practices	B			
To have an operational system for promoting public awareness and involvement in decision-making on GMOs by 2009		B	Society-wide stakeholder's participation in innovation / biosafety debate	B			
			Social acceptance and political consensus on innovation	B			

	Rating justification:		**Rating justification:**		**Rating justification:**		
	The project components convergence to achieve its outcome – operationalizing the NBF - is kept on hold by uncertainty at the decision making level		IF the systems becomes operational, the continuation of the intermediary states is likely as the project strategy considers that in the Mauritius context the contribution of the private sector to make sustainable the running of the NBF is assured by the opportunities for investment opened by the GMO law.		The project contributes to the achievement of environmental governance for the safe release and introduction of LMOs. A more direct involvement of the private sector in the consultative coordination mechanisms and resources mobilization could enhance its adroitness and sustainability		

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9. Brief CVs of the evaluator

Mr *Giorgio V. Brandolini* has received an *MSc in agriculture* at *Milan university*, Italy, in 1986, and specialized in the evaluation of natural resources with *Istituto agronomico per l'oltremare* in Florence in 1991. At the beginning of his career he tackled the development challenges from a rural community, environmental sustainability and technology transfer perspective. He managed field projects fostering rural development and food security in a participatory way. With the time his areas of interest became broader encompassing community development, inclusiveness and local governance in line with the evolution of the development cooperation priorities.
His full time commitment to M&E started with the assessment of the micro-realization programme in the Comoros islands in 2006. His field assignments as an evaluator involved the recruitment of monitors and organization of team work (induction, training and coaching of evaluators and counterparts M&E staff) as well as coordination of field deployment, surveying, data management, statistical processing and presentation of findings and recommendations to stakeholders. In performing these tasks he adopted and innovated M&E strategies and practices developed by UN agencies and other organizations, e.g., by adapting the highly structured WFP approach in structuring the evaluation questions, indicators and survey tools to logistic and cultural constraints (Côte d'Ivoire 2008-09) and by cross-checking sources of information and field data in situations dominated by difficult access to the beneficiaries (Afghanistan 2010-11).
He is active in the formulation of policies and strategies aimed at streamlining environmental issues into development policies and agricultural strategies, in the identification and formulation of strategies and programmes addressing natural resources conservation, non wood forestry product use, food security and community development, and in and in the project cycle management of International biodiversity conservation and forest governance programmes. His field work tackles agro-forestry, natural resources conservation & use, community ownership. He is acquainted with EU Biodiversity Policy as well as with international environmental policies such as REDD+, FLEGT, CBD, Kyoto protocol, CITES, Bern Convention, Ramsar Convention.
Team leader of missions assessing needs and performing participatory M&E of environmental and development programs as well as elaborating environmental profiles of tropical countries rich in biodiversity. He is active in conducting the evaluation of environmental programmes (ex-ante, mid-term, ex-post), as well as the assessment of community dynamics and women participation in the conservation of agricultural biodiversity and traditional knowledge and contribution to household income generation and community governance.
He provides his advice on strategies and design of work plans tackling institutional aspects of agricultural biodiversity conservation and use for the Ministries of Agriculture and Forestry of Afghanistan, Iraq, Eritrea,

Kosovo, Peru, etc. his field experience in integrating environmental issues into development policies, strategies and programmes covers Africa, the Middle East, South Asia, Eastern Europe and Latin America.
As a team leader he developed integrated packages of M&E participatory survey and analysis tools intended to expand, diversify and speed up the access to information, by interrogating beneficiaries and other stakeholders, cross-checking their feedback and statistically processing huge amount of data. He developed integrated systems of data collection and verification of data reliability through the cross-checking of project output with the beneficiaries / implementing partners' perception in order to assess the linkages among delivery mechanisms and outcome. He has expanded his M&E approach to include learning and accountability (upstream and downstream) in shaping evaluation strategies. While performing these tasks in challenging contexts he developed a deep understanding of the fundamentals of socio-economic development that he addressed by assembling and managing the diversified expertise of expat / national experts and local field monitors / facilitators working in multidisciplinary teams.
He published on a wide range of topics: project & evaluation methodology agriculture & biodiversity, local economic development & social cohesion, traditional health care & cultural heritage. He has excellent negotiation and communication skills and is accustomed to deal with international donors, Government officials, civil society representatives and community leaders. He is creative and acquainted to swiftly address emerging and hidden issues while working under pressure and across cultural barriers. He is fluent in English, French and Spanish.

10. Comparative analysis of the Mauritius Biosafety framework with those of Tanzania and Tunisia

This section presents a comparative analysis of the Mauritian Biosafety framework with those of Tunisia and Tanzania.

The implementation of the NBF has revealed the existence of external and internal conditions that impact on its sustainability. The projects have been designed by the representatives of the institutions involved in the operationalization of the NBF, although participation of high level decision makers has been quite limited. As a follow up of former initiatives establishing the BS approach, the projects identification gave for granted and paid little attention to:
- the economic development context and linkage with the precautionary principle,
- the political consensus on biosafety and decision makers' commitment to operationalize the NBF,
- private parties willingness to contribute to biosafety decision making processes.

The 4-5 components of the projects addressed key elements of the NBF, but did it mainly at the technical level and, typically, provided inputs to the decision makers but did not strengthen the decision making process. The awareness raising campaign and strategic documents had little impact on the people in charge of orientating / directing the NBF so that it would contribute to economic development and natural resources conservation. The substantial absence of private parties from the decision making process – and they are key players in creating the activities to be regulated under the NBF - contributed to create a decision making vacuum hampered the operationalization of the NBF. Further hurdles consisted in the decreasing importance of the agricultural and food sector in Mauritius, the lack of human resources in Tanzania, the integration with / appeal of the import market in Tunisia.

The projects were effective in developing strategies, regulatory and technical knowledge, in building capacities, in coordinating institutions – especially the technical ones. Although political support for the frameworks varied from country to country, all projects faced challenges in the orientation of the NBF because they did not attempt to mediate conflicting interests, strengthen political and institutional processes and ensure the mobilization of sufficient resources.

The capacities built face the challenge of being updated and utilized or being lost, especially in Mauritius and Tanzania. The implementation of the NBF is expected to rely heavily on information collection, systematization and sharing. The projects concentrated on the elaboration of regulations and guidelines and gave little space to the development of the ICT tools (software programmes) for sharing information but in Tunisia where several tools using social media were developed and deployed, including facebook and twitter. A further challenge is presented by

the operationalization of GMO monitoring. As it is expected to be integrated within the ongoing inspection systems, its implementation will face the same hurdles already hampering the reliability of existing systems, for example the great extension of Tanzania and the comparative advantages of NBF services supplied in the import markets.

The mechanisms raising awareness supported by the projects were effective but to a limited extent. The easier to reach stakeholders are now aware of the challenges related to biotechnologies but they represent a small group in the context of public opinion.

The interest of private parties to invest in biotechnology based production and import is crucial for the execution of the BS monitoring procedures. Their willingness to abide to the formal market rules – and specifically the BS regulations – depends on how much this is effective in creating enabling conditions for economic initiatives.

The projects' design took for granted the participation of the private sector and the strength of the decision making processes. Achievements were notable at the technical level but had minimal impact on the economic and political context orienting the NBF over the long term. Such approach hampered the operationalization of the NBF and threatens their sustainability.

The following grid (Table 3) compares the key elements of this analysis through the Strengths – Weaknesses – Opportunities – Threats (SWOT) approach.

Table 3. SWOT analysis of the Biosafety frameworks

Feature	*Mauritius*	*Tanzania*	*Tunisia*
Strengths	Highly qualified professionals resources	High level / effective institutional coordination of the NBF	Highly qualified professionals resources
	Strong connection NBF – academia	Strong connection to Academia through the the Network of the Centers of excellence	Strong connection NBF - academia
	Well established economic / trade monitoring system		Strong skills in GMO detection analysis

	Awareness of the public opinion on Biosafety		Well established economic / trade monitoring system
	Cluster approach to research and development		
Weaknesses	Limited involvement of the private sector	Limited involvement of the private sector	Limited involvement of the private sector
	Sector lead institutional coordination of the NBF	Limited size of the professional pool	Lack of a BS legal framework
	Limited establishment of the BS legal framework	Lack of financial resources	Dispersion of research and development initiatives
	Prevalence of administrative concerns	Weak economic / trade monitoring system	Prevalence of technical concerns

	Limited financial resources	Weak research and development system	Limited contribution of ICT in the running of the NBF
	Limited contribution of ICT in the running of the NBF	Limited contribution of ICT (software tools for data exchange) in the running of the NBF	
	Drain of BS capacities by other sectors / activities	Drain of BS capacities by other sectors / activities	
Opportunities	High technology based development	Natural resources based development	High value markets integrated development
	Limited extension of the country	Political consensus on natural resources protection	Value chain of high value products
	Availability of financial resources	Regional integration of development	

Threats	Small scale of the economy	Informal economy	Comparative advantages of NBF services supplied in the import markets
	Decreasing role of agriculture and food in economic development	Large extension of the country	Weak coordination of the economic development
		Technology dependence from neighbor countries	
		Prevalence of low value goods production	

Annex 11: UNEP Evaluation Quality Assessment

Evaluation Title:

Evaluation of the Project: National Biosafety Framework for Mauritius, Tanzania and Tunisia

All UNEP evaluations are subject to a quality assessment by the Evaluation Office. The quality assessment is used as a tool for providing structured feedback to the evaluation consultants.

The quality of both the draft and final evaluation report is assessed and rated against the following criteria:

	UNEP Evaluation Office Comments	Draft Report Rating	Final Report Rating
Substantive report quality criteria			
A. **Quality of the Executive Summary**: Does the executive summary present the main findings of the report for each evaluation criterion and a good summary of recommendations and lessons learned? (Executive Summary not required for zero draft)	Final report: Summary presents main findings and conclusions		4
B. **Project context and project description**: Does the report present an up-to-date description of the socio-economic, political, institutional and environmental context of the project, including the issues that the project is trying to address, their root causes and consequences on the environment and human well-being? Are any changes since the time of project design highlighted? Is all essential information about the project clearly presented in the report (objectives, target groups, institutional arrangements, budget, changes in design since approval etc.)?	Draft report: Project context provided, although some repetitions and overlaps among the three reports had to be eliminated (most notably in cases when the same circumstance could not apply to all three reports) Final report: Improved consistency and flow	3	4
C. **Strategic relevance**: Does the report present a well-reasoned, complete and evidence-based assessment of strategic relevance of the intervention in terms of relevance of the project to global, regional and national environmental issues and needs, and UNEP strategies and programmes?	Draft report: Analysis based on information provided by EOU and UNEP TM Final report: Same as above	4	4
D. **Achievement of outputs**: Does the	Draft report:	3	4

	report present a well-reasoned, complete and evidence-based assessment of outputs delivered by the intervention (including their quality)?	Not in detail, only general overview Final report: More details added for final version		
E.	**Presentation of Theory of Change**: Is the Theory of Change of the intervention clearly presented? Are causal pathways logical and complete (including drivers, assumptions and key actors)?	Draft report: ToC was of good quality, good analytical analysis Final report: Same as above	5	5
F.	**Effectiveness - Attainment of project objectives and results**: Does the report present a well-reasoned, complete and evidence-based assessment of the achievement of the relevant outcomes and project objectives?	Draft report: Yes, although at times difficult to follow in terms of logical sequence and flow, some repetitions in the three reports which were not based on the same conditions Final report: Improved consistency and repetitions eliminated	3	4
G.	**Sustainability and replication**: Does the report present a well-reasoned and evidence-based assessment of sustainability of outcomes and replication / catalytic effects?	Draft report: Partially, sometimes including sections which were not dealing with S and R and needed more accurate substantiation Final report: Sections revised	3	4
H.	**Efficiency**: Does the report present a well-reasoned, complete and evidence-based assessment of efficiency? Does the report present any comparison with similar interventions?	Draft report: Efficiency of the projects was analysed Final report: Same as above	4	4
I.	**Factors affecting project performance**: Does the report present a well-reasoned, complete and evidence-based assessment of all factors affecting project performance? In particular, does the report include the actual project costs (total and per activity) and actual co-financing used; and an assessment of the quality of the project M&E system and its use for project management?	Draft report: This section needed major rework, initially it did not present a discussion of all points and in several cases, it presented repetitions from one report to the other without taking into account the differences in background Final report: Eliminated repetitions and improved analysis	2	4
J.	**Quality of the conclusions:** Do the conclusions highlight the main strengths and weaknesses of the project, and connect those in a compelling story line?	Draft report: Conclusion are ok Final report: Same as above	4	4
K.	**Quality and utility of the recommendations**: Are	Draft report: R needed work and fine tuning	3	4

	recommendations based on explicit evaluation findings? Do recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?)'. Can they be implemented?	Final report: Improved		
L.	**Quality and utility of the lessons**: Are lessons based on explicit evaluation findings? Do they suggest prescriptive action? Do they specify in which contexts they are applicable?	Draft report: Lessons needed work and fine tuning Final report: Improved	3	4
Report structure quality criteria				
M.	**Structure and clarity of the report**: Does the report structure follow EO guidelines? Are all requested Annexes included?	Draft report: Repetitions and overlaps between reports required accurate cross-checking and made it sometimes difficult to follow the logical flow, sketchy list of abbreviations, occasional use of the wrong country name Final report: Consistency improved after substantial revision	2	4
N.	**Evaluation methods and information sources**: Are evaluation methods and information sources clearly described? Are data collection methods, the triangulation / verification approach, details of stakeholder consultations provided? Are the limitations of evaluation methods and information sources described?	Draft report: Yes good description Final report: Same as above	4	4
O.	**Quality of writing**: Was the report well written? (clear English language and grammar)	Draft report: Writing style needed major editing, many sections convoluted and hard to follow, use of words which do not actually exist and missing verbs etc increased the difficulty or reading the report Final report: After major editing efforts, quality has improved but it is still not excellent	2	3
P.	**Report formatting**: Does the report follow EO guidelines using headings, numbered paragraphs etc.	Draft report: No numbers of paragraphs Final report: Paragraphs introduced, but layout still not perfect	4	4
		OVERALL REPORT QUALITY RATING	3.3	4

The quality of the evaluation process is assessed at the end of the evaluation and rated against the following criteria:

		UNEP Evaluation Office Comments		Rating
Evaluation process quality criteria				
Q.	**Preparation:** Was the evaluation budget agreed and approved by the EO? Was inception report delivered and approved prior to commencing any travel?	Yes		4
R.	**Timeliness:** Was a TE initiated within the period of six months before or after project completion? Was an MTE initiated within a six month period prior to the project's mid-point? Were all deadlines set in the ToR respected?	No, Mauritius projects was terminated years ago, but was not submitted to EOU for evaluation		3
S.	**Project's support:** Did the project make available all required documents? Was adequate support provided to the evaluator(s) in planning and conducting evaluation missions?	Yes		4
T.	**Recommendations:** Was an implementation plan for the evaluation recommendations prepared? Was the implementation plan adequately communicated to the project?	Yes, R provided to the extent possible considering that some of the projects closed a long time ago		4
U.	**Quality assurance:** Was the evaluation peer-reviewed? Was the quality of the draft report checked by the evaluation manager and peer reviewer prior to dissemination to stakeholders for comments? Did EO complete an assessment of the quality of the final report?	Yes		5
V.	**Transparency:** Were the draft ToR and evaluation report circulated to all key stakeholders for comments? Was the draft evaluation report sent directly to EO? Were all comments to the draft evaluation report sent directly to the EO and did EO share all comments with the commentators? Did the evaluator(s) prepare a response to all comments?	Yes, only minor comments received in all cases		4

W. **Participatory approach:** Was close communication to the EO and project maintained throughout the evaluation? Were evaluation findings, lessons and recommendations adequately communicated?	Yes		5
X. **Independence:** Was the final selection of the evaluator(s) made by EO? Were possible conflicts of interest of the selected evaluator(s) appraised?	Yes		5
	OVERALL PROCESS RATING		4.375

Rating system for quality of evaluation reports

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 evaluation report is calculated by taking the mean score of all rated quality criteria.