Validated Terminal Review of the UNEP-GEF Project "Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety" (GEF ID 3730) 2012 – 2021

UNEP ECOSYSTEMS DIVISION

Validation Date: August 2024

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Project *"Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety"*
GEF ID 3730
(January 2024)

ACKNOWLEDGEMENTS

This Terminal Review was prepared for UNEP Ecosystems Division/GEF Biodiversity and Land Degradation Unit] by Rachel Omukatia Shibalira as an independent consultant. The reviewer would like to express their gratitude to all persons met and who contributed to this review, as listed in Annex 2.

The Reviewer would like to express her gratitude to the staff of UNEP, particularly Mr. Alex Owusu- Biney, The Task Manager and Ms. Evelyn Machasio, who got this Terminal Review off the ground, by availing access to ANUBIS and made elaborate arrangements for the field visit. Special thanks to the project team- Aska Ochiel, Johan Robinson, and Paul Vrontamaitis for their contributions and guidance throughout the review process, especially because the new format of report was launched and needed meticulous planning and analysis. The Reviewer would like to thank the project team and in particular Dr. Eskandar Omidinia and Khashayar Babaie for their contributions and collaboration throughout the Terminal Review process; making themselves available and putting time into exchanging thoughts, making documents putting together the interviewee lists and documents needed for the Review has been commendable.

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The Reviewer would like to sincerely thank all stakeholders and entities that spent time to participate in interviews, discussions and focused group meetings with the Reviewer and generously contributed their valuable views and opinions on the activities and impacts of this project during the course of the Terminal Review mission.

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The Reviewer would also like to thank all those who took time to provide comments on the draft report and hopes that the findings, conclusions and recommendations will contribute to the successful finalization of the current project, formulation of a next phase and to the continuous improvement of similar projects in other countries and regions.

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BRIEF EXTERNAL CONSULTANT'S BIOGRAPHY

Rachel Omukatia Shibalira Muyonga, is a trained Lawyer (Advocate of the High Court of Kenya). She worked for the Government of Kenya as a Legislative Drafter working on developing policies and laws on sustainable natural resource management, biodiversity, climate change and science and technology, including emerging technologies such as genetic engineering. She has dedicated herself to environmental issues, in particular biodiversity, ever since. She has also served as UNEP's regional Advisor on the Cartagena Protocol on Biosafety, where she has been involved in supporting countries implement their international obligations as signed up on the Protocol. Rachel has also carried out mid-term reviews for various countries implementing their National Biosafety frameworks.

ABOUT THE REVIEW

Joint Review: No

Report Language(s): English.

Review Type: Terminal Review

Brief Description: This report is a Terminal Review of a UNEP/GEF project ***"Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety"***, implemented between December 2012 and June 2021. The project's overall development goal was to consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. The Review sought 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 review has 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, and the relevant agencies of the project participating countries.
Key words: Biosafety Policy; Regulatory Biosafety Regime; System for handling requests; Decision- making; follow up mechanisms; monitoring of environmental effects; enforcement.

Primary data collection period: September–November 2023

Field mission dates: 7th-17th October 2023

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LIST OF ACRONYMS

ABRII	Agriculture Biotechnology Research Institute of Iran
BCH	Biosafety Clearing House
CBD	Convention on Biological Diversity
CAN	Competent National Authority
CPB	Cartagena Protocol on Biosafety
DoE	Department of Environment
GEF	Global Environmental Facility
LMO	Living Modified Organism
M&E	Monitoring and Evaluation
MOAJ	Ministry of Agriculture Jihad
NBC	National Biosafety Council
NBF	National Biosafety Framework
NEA	National Executing Agency
NBSAP	National Biodiversity Strategy and Action Plan
NRCGEB	National Research Centre for Genetic Engineering and Biotechnology
NIGEB	National Institute of Genetic Engineering and Biotechnology
NGO	Non-Governmental Organization
NPC	National Project Coordinator
PRODOC	Project Document
ToC	Theory of Change
UNEP	United Nations Environment Program

PROJECT IDENTIFICATION TABLE

Table 1: Project Identification Table

<table>
<tr><td>GEF Project ID/SMA ID[1]:</td><td>3730/20156</td><td>GRANT ID: WBSE</td><td>SB-005786</td></tr>
<tr><td>Implementing Agency (UNEP Division/Branch/Unit):</td><td>Ecosystems Division/GEF Biodiversity and Land Degradation Unit</td><td>Executing Agency:</td><td>Department of Environment</td></tr>
<tr><td>Sources of Funding (Co-finance):</td><td colspan="2">Country[2](ies):
Islamic Republic of Iran</td><td>Institution[3] Name/Type:
Department of Environment Government</td></tr>
<tr><td>Relevant SDG(s):</td><td colspan="3">This project enhances the science, technology and innovation (STI) in country. The SDGs objectives including 2, 13 , 15 and 17 are directly related to the results of the project.
2.4.1 Proportion of agricultural area under productive and sustainable agriculture
2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium or long term conservation facilities
13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity building to implement</td></tr>
<tr><td>MTS (at approval):</td><td></td><td>UNEP approval date:</td><td>28..09.2012</td></tr>
<tr><td rowspan="2">POW Direct Outcome(s) number/reference (applicable for projects approved from 2022):

OR

POW Output(s) number/reference (applicable for projects approved pre-2022)</td><td>POW Direct Outcome:
Subprogramme 3 – Healthy and productive ecosystems
Subprogramme 4 – Environmental governance</td><td rowspan="2">MTS 2025 Outcome(s) number/reference (applicable for projects approved from 2022):

OR

POW Expected Accomplishment(s) number/reference (applicable for projects approved pre-2022):</td><td>MTS 2025 Outcome:
N/A</td></tr>
<tr><td>POW Output:
Healthy and Productive Ecosystems

2.Environmental</td><td>POW Expected Accomplishment:
Subprogramme 3 – Healthy and Productive Ecosystems
Indicator (i) Increase in</td></tr>
</table>

[1] SMA refers to the ID provided by the Integrated Planning, Management and Reporting Solution (IPMR) system, which was introduced by UNEP in July 2023.
[2] Where applicable, list countries who have provided project funds and/or co-finance.
[3] Indicate where funding institutions are any/all of the following: Foundation/NGO; Private Sector; UN Body; Multilateral Fund; Environment Fund.

	Governance		the number of countries and transboundary collaboration frameworks that have made progress to monitor and maintain the health and productivity of marine and terrestrial ecosystems *E*A (a) The health and productivity of marine, freshwater and terrestrial ecosystems are institutionalized in education, monitoring and cross-sector and transboundary collaboration frameworks at the national and international levels Subprogramme 4 – Environmental Governance Indicator (i) Increase in the number of countries that have enhanced institutional capacity and legal frameworks to fully implement the multilateral environmental agreements and for the achievement of internationally agreed environmental goals including the 2030 Agenda and the Sustainable Development Goals EA (b) Institutional

			capacities and policy and/or legal frameworks enhanced to achieve internationally agreed environmental goals, including the 2030 Agenda for Sustainable Development and the Sustainable Development Goals
Sub-programme:	3 and 4	Programme Coordination Project:	N/A
UNEP approval date:	15.12.2010	GEF approval date:	19.09.2011
GEF Operational Programme #:	GEF-4	GEF Strategic Priority:	SP-6
Project type:	MSP	Focal Area(s):	BD
Expected start date:	08.10.2012	Actual start date:	08.12.2015
Planned completion date:	27.09.2015	Actual operational completion date:	27.06.2021
Planned total project budget at approval:	USD 749,000	Actual total expenditures reported as of [date]:	USD 724,000
GEF grant allocation:	USD 749,000	GEF grant expenditures reported as of [date]:	USD 749,000 as of 27.06.2021
Expected Medium-Size Project/Full-Size Project co-financing:	*Cash*:USD 749,000 *In-kind:*851,000	Secured Medium-Size Project/Full-Size Project co-financing:	*Cash*:USD 749,000 *In-kind:* 851,000
No. of formal project revisions:	12	Date of last approved project revision:	31.12.2020
No. of Steering Committee meetings:	11	Date of Last Steering Committee meeting:	16.09.2019
Mid-term Review/ Evaluation *(planned date):*	NIL	Mid-term Review/ Evaluation (actual date):	NIL
Terminal Evaluation *(planned date):*	SEPT 2023	Terminal Evaluation (actual date):	07.10.2023 to 17.10.2023
Coverage - Country(ies):	Islamic Republic of Iran	Coverage - Region(s):	Asia
Dates of previous project phases:	N/A	Status of future project phases:	N/A

[1] $25,000 set aside for Terminal Evaluation

Executive Summary

Project Background

1. The project aims at strengthening Iran's National Biosafety Framework (NBF) envisaged as a Governance System / Coordination Mechanism that encompasses policy, legal, administrative, and technical instruments as well as management arrangements. This is intended to make the country fully comply with CPB requirements regarding safe transfer, handling, and use of Living Modified Organisms (LMOs) from modern biotechnology, and to ensure the inclusive, equitable and sustainable character of the process. The United Nations Environment Program (UNEP) and Global Environment Facility (GEF) Medium-sized project for Iran "***Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety*** (GEF ID 3730) finalized in 2021 and is now subject to a Terminal Review.

2. This Review seeks to assess project performance (in terms of relevance, effectiveness and efficiency) and determine the project's outcomes and impacts (actual and potential), including the sustainability of its results.

3. The objectives of the Terminal Review to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNEP programming.

The Review

4. The project was executed between December 2012 and June 2021 by Iran's Department of Environment, with the close involvement of a number of key government institutions, in particular from the Ministry of Agriculture, Jihad, the Ministry of Health and the Ministry of Science and technology. The project had a national focus where universities, the academia and private sector stakeholders played key roles. As stated in the Review Terms of Reference (TORs), this Terminal Review had two primary purposes:
    (i) to provide evidence of results to meet accountability requirements, and
    (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among the teams at UNEP and other national partners.
5. The Review aims to highlight commonalities, priorities and comparative advantages for UNEP under the GEF's the project is also fully consistent with the *GEF Strategy for Financing Biosafety* (Document GEF/C.30/8/Rev.1, in view of developing and implementing future programs.

Key Findings

Summary of Performance Rating

Criterion	Summary Assessment	Rating
A.Strategic Relevance	The Project confirms all its relevance in supporting and enhancing country's capacity to comply with country's obligations towards CPB. It has also contributed to fulfil UNEP's mandate and policy, as well as GEF priorities and strategies	Highly satisfactory
1.Alignment to MTS and PoW	Aligned with MTS 2010-2013 AND 2014-2017 sub-program	Highly satisfactory
2.Alignment to UNEP/Donor strate	Project belongs to GEF Biodiversity Focal Area, Strategic Program 6 (BD- SP6): "Building Capacity for the Implementation of the Cartagena Protocol on Biosafety	Highly satisfactory
3. Relevance to regional, sub-regional and national environmental priorities	Highly relevant to national and regional context and priorities regarding management and safe useof LMOs for agricultural purposes.	Highly satisfactory
4. Complementarity with existing Interventions	Builds upon UNEP- GEF Project "Development of the NBF (2004-2006) and complements UNEP-GEF Project supporting BCH in Iran	NOT RATED
B. Quality of Project Design	Project Outcomes in the ProDoc not fully matching with the Results Framework. Not fully evident the underlying logic of the Project Design, as well as the way to objectively measure and assess Project performance	Satisfactory
C. Nature of external context	COVID 19 slowed down project activities. Challenges due to financial embargo on the country meant that the project activities which received funding in foreign currency, had to slow down. Despite being challenging at national and regional level; the external context of the Project did not affect Project implementation.	Moderately Satisfactory
D. Effectiveness(Attainment of projects objectives and results)	Very satisfactory in Outputs availability, rooms for Improvement in Outcomes achievement and Likelihood of Impact	Moderately Satisfactory
1.Achievement of Outputs	Despite important initial delays, most of outputs delivered, some at a highly satisfactory level (e.g., capacity building). In the context of a difficult environment, the Project has nonetheless delivered some of the expected Outputs, most of them, however, only partially.	Satisfactory

2.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. The operationalization of the system has enabled the achievement of the outcomes. Overall improvement achievement of Biosafety through the adoption of the policy (Dir Outcome 1). Partial achievement of monitoring and enforcement mechanisms (Dir Outcome 5). effectiveness of training and capacity building (Dir Outcome 3).	Satisfactory
3.Likelihood of Impact	The intermediate state has been largely achieved and is likely to be achieved in its entirety in the medium term. Project impact is achieved in one part and likely to be achieved in the other. Assumptions and Drivers for progress to Intermediate States (i.e. transitory conditions needed to progress from direct outcomes to impact) hold only partially	Moderately likely
E. Financial Management	After initial difficulties in adopting the ANUBIS System, financial information has been provided accurately and timely (quarterly). Budget revisions clearly explained (all in Anubis). Updated expenditures provided during the Terminal Review by Budget Line.	Highly Satisfactory
1.Completeness of project financial information	Availability, Communication and High Responsiveness of all actors have been key for implementing the Admin System. The financial information is available and administrative requirements have been fulfilled	Highly Satisfactory
2.Communication between finance and project management staff	Communication has been consistent and effective throughout the project cycle	Highly Satisfactory
3.compliance with UNEP standards and procedures	inventory reports regularly prepared and yearly audits submitted	Highly Satisfactory
4. Efficiency	Delays in the operational start of the activities due to administrative and procedural hindrances. Political transitions leading to the interruption of operations due to change of leadership. Request for 4 no cost extensions and completion of the project in 69 months instead of 36 months	Moderately Satisfactory
F. Monitoring and Reporting		Highly Satisfactory
1.Monitoring design and budgeting	The project document presented a costed M&E Plan. The Budget for Mid term review and end term review had to be adjusted upwards. The M&E plan had SMART indicators and plans for collection of disaggregated data.	Highly Satisfactory
2.Monitoring of project implementation	Monitoring System focused on Activities and Outputs, and relied on the Work Plan as well as the Outcomes' indicator and monitoring for effective process steering.	Highly Satisfactory
3.project reporting	Reporting, based on GEF and UNEP M&E tools, timely delivered and ANUBIS uploaded. Report exclusively on Activities and Outputs. Rating and judgement elements were also present	Highly satisfactory
H. Sustainability (the overall rating for Sustainability will be the lowest rating among the three sub-categories)		Moderately Likely
1.socio-political sustainability	Difficult socio-political situation of the country hampering decision- making processes, amplifying politicization in the public sector and hindering development and environmental release of LMO. Only imports of feed/food is allowed.	Moderately Likely
2.Financial Sustainability	Ensured by the enactment of the law that establishes the NBC and sets a budget for the DoE	Moderately Likely
3.institutional sustainability	interaction that exists between government institutions that are part of the NBC and intersectoral committees lends to greater institutional sustainability in terms of their respective mandates to work on biosafety related to the handling of LMOs.	Moderately Likely
I. Factors affecting performance		Satisfactory

1.preparation and readiness	Stakeholders were prepared and ready to implement the project. There is evidence, in the ProDoc, on clearly set out roles and responsibilities of each partner. The Project also built coherently upon the previous Project "Development of the National Biosafety Framework".	Satisfactory
2.quality of project management and supervision	There were a few changes in the project leadership, but this later stabilized. Procedures of management met good standards. The working relationship between the task manager and project partners was constructive and effective. The speed of responses to execution challenges provided evidence of "adaptive management" capabilities.	Satisfactory
3.stakeholder participation and cooperation	Key roles played by the National Executing Agency and other relevant stakeholders Biosafety Council, Academia, and private sector. Coordination, networking, partnership. Certain societal groups marginally represented- especially the general public. All stakeholders envisaged by the ProDoc, actively engaged in the Project implementation. Yet, not "all of those who are affected by or could affect this project were considered, e.g. the ultimate potential beneficiaries (such as small and commercial farmers, consumers, the public in general) were marginally included.	Satisfactory
4.country ownership and drivenness	The NBF set-up fully relied on National ownership and leadership. The adoption of the Biosafety Policy and its inclusion in the National Action plan is evidence of the country ownership. The project provided all the assistance possible for the activities to be undertaken, with a dedicated group of people assigned to project management and to continue working in academia and in monitoring of progress (long-term outcomes and impacts) once the project had ended.	Highly Satisfactory
5.communication and public awareness	The project was successful in communicating with stakeholders and beneficiaries. Anecdotal evidence is the continued use of some of the project deliverables (such as some of the publications).However, more needs to be done to ensure that the general public awareness is well Conducted	Highly Satisfactory
Overall rating	**Satisfactory**	**Satisfactory**

Conclusions

6. **Relevance Conclusion 1:** The project is highly relevant to the global and national environmental problem, and it is aligned with the national and local environmental and socio-economic problems and challenges.

Effectiveness

7. **Conclusion 2**. The project was effective at generating most of the outputs and outcomes, although for planning reasons, some outputs were generated late and as such are still emerging, which affected the scope of the outcomes and in the long run, the impact. The project is geared towards achieving its development objective of this project, i.e to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety, thus develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act if it manages to effectively implement the instruments that are still not consolidated, and that institutional sustainability is ensured. The project managed to improve environmental governance regarding the strengthened capacities to undertake risk assessment and LMO detection and the tools available, but some have not been consolidated yet.

Efficiency

8. **Conclusion 3.** The project was efficiently managed both technically and administratively, thanks to a work team with high professional standards, effective collaboration among personnel and with other

entities, and good support from the implementing agency that managed to turn it around albeit the delays, the global political embargo, and hiccups. The management model, with UNDP managing the flow of funds, helped the high efficiency.

Stakeholder involvement

9. **Conclusion 4.** The project managed the effective inclusion of the different interested parties in the project. The synergy with local universities, NGOs and private sector contributed to the effectiveness of the project and increases the probability of the sustainability of the outcomes. The project satisfactorily involved local participants in the design, execution, and monitoring of the activities.

Sustainability

10. **Conclusion 5.** The sustainability of the project outcomes is moderately likely because the project was built upon existing activities and made the most of synergies with other stakeholders. In addition, there is a good level of appropriation by local participants and a commitment by the public institutions to continue to promote the project strategies. Although there is still a shortage of technical and financial capacity among many of the participants and institutions, some initiatives are already self-sustainable and there is a high likelihood that other initiatives will continue to become stronger, just like other initiatives that are still emerging.

Impact

11. **Conclusion 6.** The project is geared towards achieving a positive impact on the conservation and sustainable management of natural resources and potentially towards generating additional income for the rural population (findings 38, 39).

Lessons Learned

Learned Lessons related to Country Context and Project's Management.

12. The design, implementation and management of the project have provided a series of lessons that may be useful for other current and future projects. Based on the Terminal Review findings, the ET has identified the following lessons learned during the design, implementation, and management of the project:

13. **Lesson learned 1**: Given that the project was designed at a time when the political and economic situation was good, it accepted substantial financial and institutional commitments from the national and local government and from public companies. However, in an economically vulnerable country such as is currently, this situation changed and the made the commitments difficult to carry through, resulting in a possible escalation of costs for the project. This can be mitigated with a thorough risk management plan, relevant and transparent adaptive management as well as close accompaniment of the change process that values the capacity created in the institution during the prior administration.

14. **Lesson learned 2:** The approach of working with stakeholders who already have experience in the field of modern biotechnology and biosafety, ensured greater effectiveness and sustainability.
    Context: The context is drawn from the project management team working with stakeholders who possess expertise in modern biotechnology and biosafety, to develop scientific material such as the guidelines, to provide training to various groups including students, researchers, laboratory technicians, port officials, just to name a few. These stakeholders include scientists, researchers, policymakers, and

industry professionals. Their existing knowledge and experience contribute to the effectiveness and sustainability of the project.

Collaborating with knowledgeable stakeholders enhances decision-making and implementation. Involving experts ensures well-informed choices regarding biotechnology practices and biosafety measures. By tapping into existing expertise, projects can be sustained over the long term.

Wider Application:

1. **Biotechnology Projects**: This lesson applies to any biotechnology-related initiative, such as genetic engineering, pharmaceutical development, or agricultural biotech.
2. **Environmental Conservation**: Experts play a crucial role in sustainable practices related to biodiversity, ecosystem management, and climate change.
3. **Policy Formulation**: Policymakers benefit from engaging experts to create informed regulations.
4. **Business and Industry**: Companies can apply this lesson by collaborating with specialists for product development and safety compliance.

In summary, the lesson emphasizes the value of expertise and collaboration, which extends beyond biotechnology to various fields. By working with knowledgeable stakeholders, projects can achieve greater effectiveness and long-term sustainability.

15. **Lesson learned 3:** In this project, collaboration with local universities, NGOs and the private sector was an important added value to the project because it gave a professional dimension to the training and studies on risk assessment and management In addition, due to having found a mutual strategic interest, it was possible to do so without additional cost to the project or to the universities.

Context: The project involved collaboration with local universities, NGOs, and the private sector.

Key aspects of this collaboration included-

- **Professional Dimension**: The involvement of these stakeholders added a professional dimension to training and risk assessment studies.
- **Mutual Strategic Interest**: The collaboration was mutually beneficial due to shared strategic interests.
- **Cost-Effective**: Importantly, this collaboration occurred without additional costs to the project or the universities.

The lesson derived therefore shows that **stakeholder engagement (**Involving universities, NGOs, and the private sector) enhances project outcomes. Their expertise and resources contribute significantly. Secondly, Collaboration with professionals elevates the quality of training and research and identifies mutual interests thus ensuring productive partnerships. Collaboration further increases Cost Efficiency. This is by Leveraging existing relationships minimizes financial burden.

Wider Application:

- **Education and Training Programs**: Collaborating with educational institutions enriches training initiatives across various fields.
- **Research and Innovation**: In research projects, involving experts from different sectors accelerates progress.
- **Business Partnerships**: Companies can benefit from strategic collaborations with other businesses or organizations.
- **Policy Development**: Engaging stakeholders ensures well-informed policy decisions.
- **Community Projects**: Local NGOs and private sector involvement can enhance community development efforts.

In summary, this lesson emphasizes the value of cross-sector collaboration, professionalism, and

strategic alignment. These principles apply broadly and can enhance project effectiveness and sustainability in diverse contexts.

16. **Learned Lesson 4**: Execution with adaptability, increasing the chances of success with greater political and technical support. The Project in the first 4 years centralized its actions to: build up technical and institutional capacity; additional studies; national diagnosis; and identification of learned lessons and best practices of other countries.
    Context: The context is derived from the implementation challenges that the project faced and learned to adapt its approach over time. As for wider application, organizations across various domains can benefit by fostering adaptability, learning from past experiences, and remaining open to change.

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17. **Learned Lesson 5:** During the Project implementation, some initiatives would have been executed to strengthen the implementation transference process of the leadership and the ownership of the Project results to representatives of local communities and the private sector. These instances levels of participation could have increased the possibilities of management and partnership of the implementation of the Biosafety Policy and the monitoring and evaluation of the use of biotechnological products.

Recommendations

Recommendations for the Executive Agency

18. The main recommendations to the Executive Agency are indicated as following:

19. **Recommendation 1:** Considering that the project does not have a future sustainability plan, it is recommended that as the first next step, the Executing Agency may need to begin planning for a transition phase and secure interim financing. The transition phase will consider the emerging issues in biotechnology. The Executing Agency may consider engaging the GEF secretariat with a view to exploring ways to access funding for GEF 8 for promising initiatives, and to continue with, replicate and scale up relevant activities for the sustainable development of biotechnology in Iran. In addition to the lack of a sustainability plan, the late delivery of certain activities diminishes the likelihood that the results will be sustained: Certain project activities were delivered late in the implementation timeframe. The Executing agency may identify strategies to implement these activities to ensure full impact of the project is achieved. To this end, it is suggested that:

    - ✓ By the end of February 2024, the Executing Agency, develop a specific sustainability plan that identifies these actions and outputs that require continuity or scaling up, specify responsible parties, budgets, and dates for each of the actions necessary. It should also identify other initiatives and stakeholders including NGOs and the private sector and projects that can assist with these actions in the future.
    - ✓ The Executing Agency holds discussions to identify these initiatives and stakeholders with the aim of reaching specific assistance agreements.

20. **Recommendation 2:** To achieve the most visibility of the project and to make the project outputs, tools, and lessons available for future users, it is recommended that the Executing Agency publish all the reports, systematizations, and protocols in a visible, easy-access and permanent location. To this end,

it is suggested that:

- ✓ The Executing Agency should make the inclusion of the project outputs visible on the Department's website, train the personnel in charge and report their location via other media (radio, television, newspapers, direct meetings).

- ✓ The Executing Agency must ensure the maintenance of this information and its permanent availability in the long term. This involves, among others, the permanent dedication of a webmaster, trained by the Executing Agency.
- ✓ The Executing Agency must run a communication campaign geared toward the
- ✓ stakeholders to increase the chances of success of the initiatives supported by the project.

21. **Recommendation 3:** The non-governmental organizations and the private sector continue to drive change and introduce innovation to biotechnology and biodiversity conservation in Iran.: The results of the project showcased the critical role that NGOs and the private sector have with respect to driving biotechnology in the country, including introducing innovative techniques and management arrangements, and advocating for legal and institutional reform. The Executing agency may consider a partnership with the NGO and Private Sector in the management of the next phase.

Recommendations to the UNEP

22. The main recommendations to be considered on future Technical Cooperation by the Implementation Agency are:

23. **Recommendation 1:** To increase the likelihood of Project impact and sustainability, it is recommended that the following partners actively participate: civil society, NGOs and the private sector among others.

24. **Recommendation 2:** UNEP could include the elaboration of agreements that make formal the cooperation and responsibilities in the implementation of initiatives or projects between the Executive Agency and several governmental and non-governmental partners for implementation of the NBF.

25. **Recommendation 3:** To improve the effectiveness of its work, the Reviewer recommends that UNEP improves the quality of project baselines, indicators and targets for more effective monitoring and measurement of change towards the results. The Reviewer does not recommend any indicators (qualitative, quantitative or proxy), rather suggests that they follow the SMART criteria. The Reviewer also suggests using diverse sources for obtaining necessary baselines and targets, such as opinion surveys, statistical data, own assessments, and reports (e.g. Rapid Assessment), and the like.

Validation

The report has been subject to an independent validation exercise performed by UNEP's Evaluation Office. The performance ratings for the 'Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety' project (GEF ID 3730), set out in the Conclusions and Recommendations section, have been adjusted as a result. The overall project performance is validated at the **Satisfactory** level. The Evaluation Office has found the overall quality of the report to be **Satisfactory** (see Annex XIII).

I. INTRODUCTION

1.1 Purpose of the Terminal Review

26. The objectives of the Terminal Review to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNEP programming.

1.2 Scope and Methodology

27. The terminal review was an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, and review of available documents and findings made during field visits. The overall approach and methodology of the Terminal Review followed the guidelines outlined in the UNEP Guidance for Conducting Terminal Reviews of UNEP-supported, GEF-financed Projects.

The Terminal Review was carried out by one international consultant and included the following-

- The Reviewer completed a desk review of relevant sources of information, such as the project document, project progress reports, financial reports, PIRs and key project deliverables. A compilation of actual financial expenditures is included in Annex 1, and a complete list of information reviewed is compiled in Annex 2;
- A Terminal Review mission was carried out from 7-17 October 2023; the itinerary is attached as Annex 3.
- Key project stakeholders were interviewed for their feedback on the project; interviewed persons are listed in Annex III.

28. A debriefing meeting on the Review findings was held in Tehran on 16th October 2023.

As a data collection and analysis tool, and Terminal Review matrix was adapted from the preliminary set of questions included in the TOR (see Annex 6). Evidence gathered during the fact-finding phase of the Terminal Review was cross-checked between as many sources as practicable, to validate the findings. The project logical results framework was also used as a Review tool, in assessing attainment of project objective and outcomes (see Annex 7).

1.3 Structure of the Terminal Review Report

29. The Review report starts out with a description of the project, indicating the duration, main stakeholders, and the immediate and development objectives. The findings of the Terminal Review are broken down into the following sections in the report:
    - Project Formulation
    - Project Implementation
    - Project Results

30. The discussion under project formulation focuses on a Review of how clear and practicable the project's objectives and components were, and whether project outcomes were designed according to SMART criteria (see Exhibit 3)

S: Specific: Outcomes must use change language, describing a specific future condition
M: Measurable: Results, whether quantitative or qualitative, must have measurable indicators, making it possible to assess whether they were achieved or not
A: Achievable: Results must be within the capacity of the partners to achieve
R : Relevant: Results must contribute to selected priorities of the national development framework
T Time- bound: Results are never open-ended. There should be an expected date of accomplishment
Source: Guidance for conducting Terminal Reviews of UNEP supported, GEF Financed projects

31. Also, project formulation covers whether capacities of executing agencies were sufficiently considered when designing the project, and if partnership arrangements were identified and negotiated prior to project approval. An assessment of how assumptions and risks were considered in the development phase is also included.

32. The report section on project implementation first looks at how the logical results framework was used as an M&E tool during project execution. Also, the effectiveness of partnerships and the degree of involvement of stakeholders are evaluated. Project finance is assessed, by looking at the degree of co-financing that was materialized in comparison to what was committed, and whether or not additional or leveraged financing was secured during the implementation phase. The cost- effectiveness of the project is evaluated by analyzing how the planned activities met or exceeded the expected outcomes over the designed timeframe, and whether an appropriate level of due diligence was maintained in managing project funds. The quality of execution by both the implementing agency and the lead implementing partner (executing agency) is also evaluated and rated in the project implementation section of the report.

33. This Terminal Review considers whether there was sufficient focus on results, looks at the level of support provided, quality of risk management, and the candour and realism represented in the annual reports. The project implementation section also contains Review and rating of the project M&E system. The appropriateness of the M&E plan is assessed, as well as a review of how the plan was implemented, e.g., compliance with progress and financial reporting requirements, how were adaptive measures taken in line with M&E findings, and management response to the recommendations from the mid-term review, if any.

34. In GEF terms, project results include direct project outputs, short- to medium-term outcomes, and longer-term impact, including global environmental benefits, replication efforts, and local effects.

35. The focus is at the outcome level, as most UNEP supported GEF financed projects are expected to

achieve anticipated outcomes by project closing and recognizing that global environmental benefit impacts are difficult to discern and measuring outputs is insufficient to capture project effectiveness. Project outcomes are evaluated and rated according to relevance, effectiveness, and efficiency:

- **Relevance:** The extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time. Also, relevance considers the extent to which the project is in line with GEF Operational Programs or the strategic priorities under which the project was funded.
- **Effectiveness:** The extent to which an objective has been achieved or how likely it is to be achieved.
- **Efficiency:** The extent to which results have been delivered with the least costly resources possible; also called cost effectiveness or efficacy.

In addition to assessing outcomes, the report includes a Review of country ownership, sustainability (which is also rated), catalytic role and impact. In terms of impact, the Review assessed whether the Project has demonstrated:

1. verifiable improvements in ecological status,
2. verifiable reductions in stress on ecological systems, and/or
3. demonstrated progress towards these impact achievements.

36. Finally, the Terminal Review presents recommendations for reinforcing and following up on initial project benefits. The report concludes with a discussion of lessons learned and best practices which should be considered for other GEF and UNEP interventions.

1.4 Ethics

37. The Terminal Review was conducted in accordance with the UNEG Ethical Guidelines for Reviews, and the Review has signed the Review Consultant Code of Conduct Agreement form (Annex 8). In particular, the Reviewer ensured the anonymity and confidentiality of individuals who were interviewed and surveyed. In respect to the UN Declaration of Human Rights, results are presented in a manner that clearly respects stakeholders' dignity and self-worth.

1.5 Limitations

38. The Terminal Review was carried out in October 2023; including preparatory activities, field mission, desk review, and completion of the Terminal Review report, according to the guidelines outlined in the Terms of Reference (Annex 9). As the operational closure of the project was the end of June 26, 2021, there was a concern that people involved during implementation might not be available during the Terminal Review mission. However, the Reviewer was able to hold interviews with key stakeholders, including the former project manager. There were no limitations with respect to language, though the official language of Iran is Persi, and original versions of project documents are in English. Interviews were held with stakeholder groups comprising of governmental departments, research institutions, researchers from the private sector, academia and Non-Governmental Organizations (NGOs).

1.6 Review Ratings

39. The findings of the Review are compared against the targets set forth in the logical results framework and analyzed considering particular circumstances. The effectiveness and efficiency of project outcomes are rated according to the 6-point GEF scale, ranging from Highly Satisfactory (no

shortcomings) to Highly Unsatisfactory (severe shortcomings). Monitoring & Evaluation and execution of the implementing and executing agencies were also rated according to this scale. Relevance is evaluated to be either relevant or not relevant. Sustainability is rated according to a 4- point scale, ranging from Likely (negligible risks to the likelihood of continued benefits after the project ends) to Unlikely (severe risks that project outcomes will not be sustained). Impact was rated according to a 3-point scale, including significant, minimal, and negligible.

II REVIEW METHOD

40. The terminal review is an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, and review of available documents and findings made during field visits.

41. The terminal review included the following activities:

- The Review mission which was carried out from 7th October-17th October 2023. The Reviewer interviewed key project stakeholders, including the Project team including the National Project Coordinator and his assistant, representatives from participating government agencies and ministries, consultants, and local beneficiaries.
- A desk review of available reports and other documents, as listed in Annex 2.
- As a data collection and analysis guidance tool, the review matrix included as Annex 3 was prepared. Evidence gathered during the review was cross-checked between as many sources as practicable, to validate the findings.
- The project results framework was used as an review tool, in assessing attainment of the project objective and outcomes against indicators.
- The Terminal Reviewer also reviewed the available information regarding co-financing realized throughout the duration of the project and what activities were completed with the co-financing support (Annex 5).
- Financial delivery was assessed by comparing the actual expenditures incurred for each outcome and project management, for each year of implementation compared to the annual work plans.

2.1 The Terminal Review Rating Criteria

42. The findings of the review were compared against the targets set forth in the project results framework and analyzed considering local circumstances. The effectiveness and efficiency of project outcomes will be rated according to the 6-point GEF scale, ranging from Highly Satisfactory (no shortcomings) to Highly Unsatisfactory (severe shortcomings). Monitoring & evaluation and execution of the implementing and executing agencies will also be rated according to this scale. Relevance is evaluated to be either relevant or not relevant. Sustainability will be rated according to a 4-point scale, ranging from Likely (negligible risks to the likelihood of continued benefits after the project ends) to Unlikely (severe risks that project outcomes will not be sustained). Impact will be rated according to a 3-point scale, including significant, minimal, and negligible. The rating scales are outlined below.

Extend to which the project has Met, or is likely to Meet its own Target	
Score	**Description**
4. Highly Satisfactory	The project's intended results at output and outcome level have been achieved or exceeded; results can be clearly attributed to the project

	interventions
3. Satisfactory	A majority of the projects stated objectives outcomes and results have been achieved; there is evidence that results can be at least attributed to the project's intervention
4.Moderately Satisfactory	A minority of the project's stated objectives, outcomes and results have been achieved; there is some evidence that results can be partly attributed to the project's interventions
5.Unsatisfactory	Few of the project's stated objectives, outcomes and results have been achieved and there is little evidence that results can be even partly attributed to the project's intervention

2.2 Approach

43. The approach and methodology for carrying out the Terminal Review was flexible both in design and management, given the need to generate practical recommendations on the governance structure, management, instruments, and processes of the project. The methods used for data collection in response to the objectives, key questions and indicators used the following principles as the basis of the approach to ensure a fair Review:
    - Focus on results: Expected results, performance indicators, as well as potential risks were identified to ensure coherent and integrated results-based management to frame the Review.
    - Learning: The Reviewer adapted principles, tools and indicators (i.e., the Review matrix), based on the needs and context of this Review with the aim of increasing the potential for learning and focus on the achievements of the Biosafety Capacity Building Project in Iran.
    - Evidence-based: The Review aimed to gain insights and conclusion based on a variety of data and data collection methods, and, wherever possible, triangulating information to ensure the reliability and validity of Review analysis and conclusions.

44. The Review was organized in three overlapping phases. During the inception phase, the Reviewer conducted a documentation review and conduct a number of key interviews to get a clearer grasp of the context of the Review and fine-tune the Review approach. The Inception Report was reviewed by the UNEP Task Manager and shared with the Iran Project Management for comment. The Reviewer embarked on the data collection and analysis phase with more in-depth review of project implementation reports and additional interviews with project stakeholders. During the reporting phase, the Reviewer prepared a draft report and the final report, which was shared widely for comments.

45. Findings from the Inception review further informed the methods used for this Review and enabled refinement of the Review framework by filling information gaps and helping to identify further data collection needs.

46. A limited number of phone interviews with UNEP staff and managers was conducted to help orient the Review and inform the development of both the Inception and Draft Review reports. Subsequent interviews during the data collection phase was primarily semi-structured, based on the review matrix presented in the inception report, and was conducted with project stakeholders including staff and managers, cooperating partners, national and local government administrations involved in project implementation (Ministries of the Environment), CSOs, NGOs, bilateral organizations, regional and local institutions and research Centers and other key informants as relevant.

47. The Review focused on a manageable number of meaningful interviews. Interviews included-
    - The UNEP Task Manager and key persons in the project management team
    - Selected representatives from the Project Management Unit
    - Selected representatives from among the project partners;
    - Other relevant resource persons identified by Reviewer
48. A detailed list of interviewees is included in Annex 3 to this report.

49. A field visit to Iran, was undertaken by the Reviewer to allow for face to-face meetings with members of the project team The visit provided the Reviewer with an opportunity to gain a better understanding of the project and its implementation status. It also allowed the Reviewer to collect data and set up the modalities for accessing project information in ANUBIS, the global project information sharing facility.

50. The field visit enhanced the understanding of the Reviewer on the strengths and weaknesses of the project with regards to country/local situation and context, and how beneficiaries and other key stakeholders especially perceive the project effectiveness, sustainability and impact. The field visit also helped the Reviewer to assess limitations and opportunities presented by implementation challenges, address crosscutting issues (such as gender), and identify possible areas and means for improvements for future related projects.

2.3 The Review Framework

51. The Review framework provides the basis for our overall analytical approach and will guide how evidence is collected and analysis conducted. The approach is developed to ensure internal validity (credibility and transferability) and reliability through triangulation of findings from multiple methods, data sources, and the Reviewer's interpretations. The Review matrix provides the overarching framework guiding the Management-Led Terminal Review. It will be used to review links between inputs, processes, and outputs; their relevance, efficiency and effectiveness; and to assess evidence of achievement of impact. The Review matrix will be used during the Inception Phase to identify the data requirements for the review and how these requirements will be met (i.e., through additional primary data collection, reliance on available secondary information). The combination of methods has been selected to ensure data and evidence captured is triangulated and supported by evidence from individual cases. Annex 1 outlines the Review matrix. These questions will be answered through the document review, online survey and key informant interviews.

2.3 Data Collection Methods

52. The Final Review framework is based on a set of predefined sub-questions, which have been developed to ensure the information necessary to answer the EQs is captured. The document Review questions, and stakeholder interview questions are outlined in Annex 2.

(a) Desk-Based Document Review

53. During the data collection phase, the Reviewer built on the initial Review document conducted during the inception phase. The Reviewer worked closely with all relevant stakeholders to gather additional documentary information concerning the project. The document review drew upon all project documentation made available to the Reviewer by UNEP and the project implementers. These will include:

- project documents provided by UNEP Portfolio manager on ANUBIS, including copies of proposals, ToC and log frames, appraisal reports, annual reports, completion reports, M&E reporting), minutes of the Steering Committee, etc.; Iran's country strategies and policies (in particular biosafety, biodiversity and development policies); and,
- Publicly available information on the Iran Biosafety website[2] and on other sustainable biosafety funding institutions to act as benchmarks, other initiative documents/websites.

(b) Key Informant Interviews

54. Semi-structured interviews were used to guide the interviews with key informants. The interview questions included key questions but also allowed for the inclusion of additional thoughts provided by the interview partners and inspiration for innovative and improved ideas. Building on the Review questions from the ToR, the Reviewer drafted preliminary set of semi-structured interview questions. This was a list of questions and topics that need to be covered during the conversation, usually in a particular order. The Reviewer followed the guide, but was also able to follow topical trajectories in the conversation, when appropriate.

(c) **Focus Group Discussions**

55. In some cases, individual interviews were complemented or substituted by Focus Group Discussions (FGD). For example, focus groups was used during the mission where the Reviewer attended a planned scientific seminar that was attended by various stakeholders including the universities and high schools, researcher, and private sector practitioners in biotechnology.

(d) Physical Observation

56. The Reviewer conducted physical observation of project activities and conduct individual interviews with key project committees and key stakeholders. Project site visits helped to gather as much rich information about the projects' progress and factors which have enabled or constrained the changes they aimed to create. The field visits produced a deeper insight to find out more about the innovative and transformational nature of the project, the extent to which the project has created sustainability

and what elements could be scalable. The field visits also provided an opportunity to explore the extent to which the operational procedures applied under the project facilitated or slowed-down project implementation.

57. The sources for the TR included interviews representing all types of stakeholders including project staff and consultants, national government, civil society organizations (CSOs), and academia. (see Annex III for the list of consulted stakeholders). From the list of relevant stakeholders, 18 were individually interviewed or provided feedback on the project.

58. This Terminal Review was bound to the Ethical Code of Conduct as per the UNEP Evaluation policy, which includes the following key factors:

(a). all interviews and information were provided in confidence and anonymously and no information can be traced back to a direct source/individual,

(b). those involved in the TR have had the opportunity to review the report findings as well as the main review report,

(c)the Reviewer was sure to have empathy and sensitivity to different contexts and particularly the culture and religion of the stakeholders.

59. The overall sampling frame for interviews are as presented in the table below

Table 2:The Respondent's Sample for the Terminal Review of the Iran Biosafety Project

Respondent Category	Entity	No of People involved (M/F)	No of People Contacted (M/F)	No of Respondents	% Respondents
Project Team	Implementing Agency (UNEP)	M=3 F=0	M=3 F=0	M=3 F=0	M=100% F=0%
	Executing Agency(DoE)	M=2 F=0	M=2 F=0	M=2 F=0	M=100% F=0%
Project Implementing/ Executing Partners Steering Committee	Ministry of Science, Research and Technology Ministry of Health, Therapy and Medical Education	M=3 F=2	M=3 F=3	M=3 F=2	M=100% F=66%

	Ministry of Agriculture Jihad Ministry of Foreign Affairs Iran Standard Organization DoE				
Other Government Partners	National Institute for Genetic Engineering and Biotechnology Agriculture Biotechnology Research Institute (ABRII) National Center for Genetic Resources of Iran Razi vaccine and Serum research Institute	M=10 F=10	M=7 F=7	M=7 F=3	M=100% F=30%
Private Sector	Biotechnology Society of the IR Iran, Iranian Molecular Medicine Network	M=3 F=1	M=3 F=1	M=3 F=1	M=100% F=100%

	Kawsar Biotech Co., Tehran, Iran Pasteur Institute of Iran, Pasteur				
CSOs/ NGOs	Biosafety Society Iranian Genetics Society Iranian Molecular Medicine Network,	M= 10 F= 20	M=10 F=10	M=10 F=10	M=100% F=50%
Researchers/ Academia	Sttandard Research Institute (SRI) Tarbiat Modares University	>1000	~100	~40	50%

2.5 Data Analysis Methods

60. During the Inception Phase, a project-level ToC was developed based on the RBM and the draft data collection tools and questions have been developed (Annex 2). The proposed data analysis methods were as follows:

(a) Data Quality Analysis

61. During the analysis phase, the Reviewer will review the quality of the facts, insights, and opinions collected, and create evidence-based protocols to ensure sufficient triangulation of findings. Notes from all data collection activities will be rapidly coded based on key themes emerging in relation to the review framework. This will enable the Reviewer to draw out findings and the evidence that support these findings.

(b) Portfolio Analysis

62. The portfolio analysis analyzed data on the portfolio of the project. This covered a range of indicators from the project logical frameworks. It looked at performance (disbursement and delivery); coverage;

monitoring and review performance; availability of lesson learning and possible responses; and the extent to which gender, inequality and other relevant crosscutting issues have been tackled across the portfolio. Value for money (data permitting) was also evaluated across the different types of projects and is shown in the table below. This table is based on the UNEP-GEF satisfaction scorecard for completion reports, which uses the following grades:

i. Unsatisfactory
ii. Moderately satisfactory
iii. Satisfactory
iv. Highly satisfactory

63. The specific scoring definitions for each category was further defined for the PPR/PIRs. Draft descriptions of performance that would justify each score was shared with the UNEP-GEF Task manager before finalization:

Extend to which the Project has Met, or is likely to Meet its own Target	
Score	**Description**
4. Highly Satisfactory	The project's intended results at output and outcome level have been achieved or exceeded; results can be clearly attributed to the project Interventions
3. Satisfactory	A majority of the projects stated objectives outcomes and results have been achieved; there is evidence that results can be at least attributed to the project's intervention
2. Moderately Satisfactory	A minority of the project's stated objectives, outcomes and results have been achieved; there is some evidence that results can be partly attributed to the project's interventions
1. Unsatisfactory	Few of the project's stated objectives, outcomes and results have been achieved and there is little evidence that results can be even partly attributed to the project's intervention

(c) Sustainability Analysis

64. As part of this analysis the Reviewer will build a sustainability framework, outlining the impacts we would expect to see if the project is likely to be sustainable. For example, money deployed, local engagement, demonstrated understanding of other users).

2.6. Data Synthesis

65. The synthesis brought together the findings from across the portfolio, by comparing, contrasting, and integrating the empirical evidence on which factors contributed to which change. The Reviewer was

also able to identify overarching themes and key insights running across the project. The review relied on synthesis methods to draw useful, policy-relevant findings from large heterogeneous data sources. A range of synthesis methods were considered and applied when analysis data and formulating findings. The Review used a systematic approach to selecting, critically appraising and synthesizing the Review results. All project documents were systematically reviewed.

III. THE PROJECT

Table 3: Project Start and Duration

Milestones	Key dates
Project Approval	
GEF Approval	19.09.2011
UNEP Approval	29.09.2012
Operational Date	01.05.2012
Project Commencement	28.09.2012
First Disbursement	19.04.2013
Mid- Term Evaluation	-
Terminal Review	07.10.2023
Planned Project Completion	27.09.2015
Actual Project Completion	27.06.2021
Financial Closure	27.06.2021

66. This report refers to the Project "Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran–GEFSEC ID: 3730, (GFL/5060-2716- 4C43); approved by GEF on 19/09/2011 and by UN Environment the 29/09/2012 for a duration of 36 months (28/9/2011-30/8/2015). The operational starting date was May 2012, and the official end date was August 2015, after 13 budget revisions and 69 months of project extension; with a total budget of 1,600,000 USD, 46.81% of which is GEF allocation (USD 749,000) and the remaining 53.19% (851,000 USD) in kind co-finance by the Government of the Islamic Republic of Iran. The project is a Medium- Sized Project (MSP) financed through GEF-4 Funding Cycle and belongs to GEF Biodiversity Focal Area. It is relevant to GEF Strategic Program 6 (BDSP6): Building Capacity for the Implementation of the Cartagena Protocol on Biosafety. The Project relates to two UN Environment Medium-Term Strategies (2010-2013 and 2014-2017) and three Biennial PoWs (Program of Work), i.e. 2012-2013, 2014- 2015 and 2016- 2017, Environmental Governance Sub-Programme, "The Terminal Review provides a comprehensive and systematic account of the performance of a completed project by assessing its project design, process of implementation, and achievements vis-à-vis project objectives endorsed".

67. In line with the UN Environment Program Evaluation Policy and Evaluation Manual, and following the Guidelines for GEF Agencies on Conducting Terminal Reviews, the Terminal Review had two primary purposes:
    (a) to provide evidence of results to meet accountability requirements, and
    (b) to promote learning, feedback, and knowledge sharing through results and lessons learned

among UN Environment Program the GEF, the National Executing Agency and the national partners.

A. Context

68. The Islamic Republic of Iran covers 164.8 million hectares between latitudes 25° and 40° N, situated where three climatic zones meet the Mediterranean, the arid West Asian and the temperate humid/semi-humid Caspian zone. Iran is bordered by Azerbaijan (432 km) and Armenia (35 km) to the north-west; Turkmenistan (992 km) to the north-east; Pakistan (909 km) and Afghanistan (936 km) to the east; Turkey (499 km) and Iraq (1,458 km) to the west; the Caspian Sea to the north (1000 km); and the waters of the Persian Gulf and the Sea of Oman to the south (3200 km). Iran is the eighteenth largest country in the world and the second largest in the Middle East. Various cultures and ethnicities varied climatic conditions and a long history of agriculture have contributed to the richness and uniqueness of biodiversity in Iran. However, the country is considered predominantly dry where, out of total land area of 164.8 million hectares (ha), 86 million ha (52.4%) are rangelands; 14.2 million ha (8.6%) forests and 32 million ha (19.5%) deserts including bare salty lands. Approximately only 18.5 million ha (11%) are under cultivation, of which 8.5 million ha are irrigated and 10 million ha are rain fed. Due to Iran's location in the arid and semiarid region of the world and its geographic features, the country receives an average annual rainfall of 240 mm, less than a third of the world's average precipitation. However, annual precipitation in the inland dry deserts of the country can be as low as only 10 mm. As a result, most rivers are seasonal, and their flows depend heavily upon the amount of rainfall.

69. Most of Iran is in the Palearctic realm and is considered the center of origin of many genetic resources of the world, including many of the original strains of commercially valuable plant species such as wheat or medicinal and aromatic species. The southwest has some Afro-tropical features, while the southeast has some species from the Indo-Malayan sub-tropical realm. There is no clear estimation on the rate at which genetic diversity is being lost in Iran. However, recent studies and population declines indicate that genetic erosion is rapidly increasing. Low genetic variation may also limit species adaptation to disease or climate change.

70. Approximately 8,200 plant species from 167 families and 1,200 genera have been recorded in Iran. Nearly 20% of these species are considered endemic. Field surveys confirmed the presence of 521 species of birds, 194 mammals, 203 reptiles, 22 amphibians and 1,080 species of fish. Iranian fish resources include 900 species from the Persian Gulf and Sea of Oman (with 9 endemic species) and 180 species from the Caspian Sea (with 10 endemic species) and living in inland and fresh waters (with 15 endemic species). There are 12.4 million hectares of woodland and more than 10,000 hectares of mangroves along the Persian Gulf and Sea of Oman coast. Ecosystem diversity of marine and coastal zones in the north and the south of the country consist of 25 ecological types and units, most importantly coral reefs, bays and small islands.

71. Through a Presidential Order, the Iran National Biosafety Committee (NBC) was established in August 2000. The board of this committee consisted of the Minister of Science, Research and Technology, the Minister of Health and Medical Education, the Minister of Agriculture, President of Environment Protection Organization, Minister of Commerce Minister of Industry and Mining, and three specialists. The secretariat of the NBC was located in the National Research Centre for Genetic Engineering and

Biotechnology (NRCGEB) affiliated to the Ministry of Science, Research and Technology and a specialized working group consisting of representatives from the mentioned Ministries/Organization and Ministry of Foreign Affairs to address the following issues:

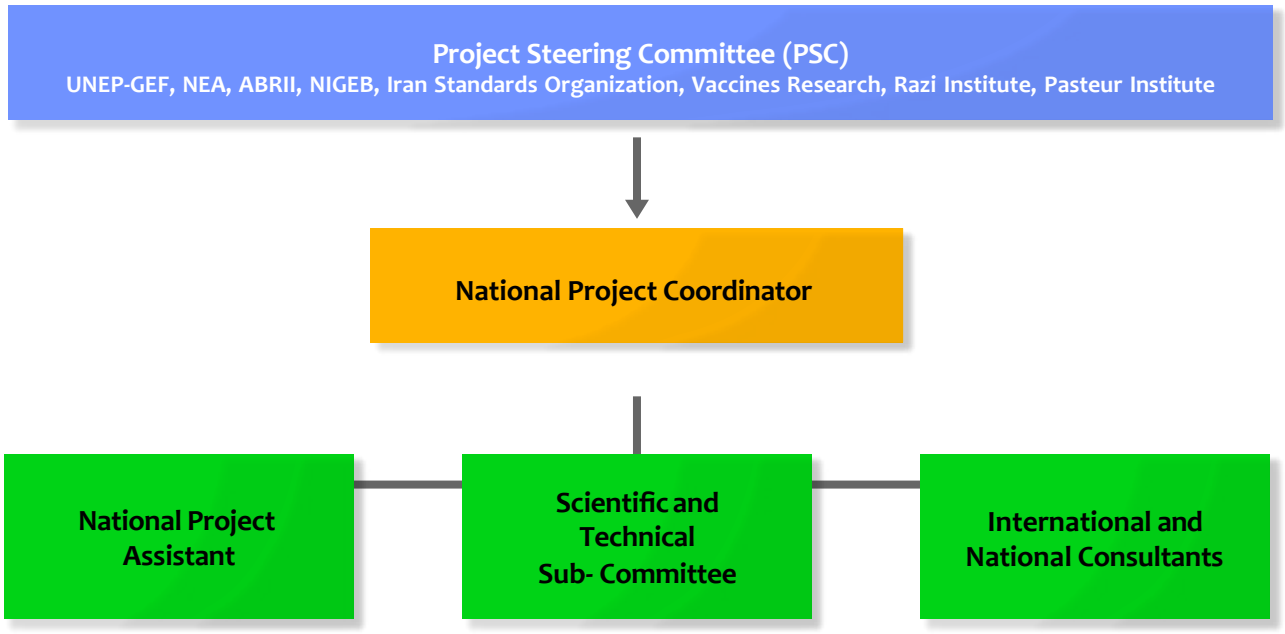
(a) Providing consultation to the Government concerning the country's joining the Biosafety Protocol and other related issues.

(b) Preparation of a draft for national biosafety laws and regulations.

72. The Islamic Republic of Iran signed the Cartagena Protocol on Biosafety on April 23, 2001, and ratified it on November 20, 2003. The UNEP-GEF Project on the Development of the National Biosafety Framework of the I. R. of Iran started in November 2002 and ended in September 2004. The draft NBF was submitted to the Government. The National Biosafety Committee was repealed and replaced by the National Biosafety Council according to the Cabinet Ministers decree. The National Biotechnology strategy (the country's eleven-year plan for the development of biotechnology) was also approved, which emphasized on the development of biotechnology in agriculture, botany, medicine, livestock and marine life, industry and mining. It emphasized that "the development of biotechnology should be in harmony with environmental regulations" and that "the development of biotechnology should be in accordance with the observation of biosafety regulations", and that Iran should cultivate at least 0.5% of the global area under the cultivation of transgenic crop plants.

73. The project builds on the NBF. It aims at strengthening Iran's National Biosafety Framework (NBF) envisaged as a Governance System / Coordination Mechanism that encompasses policy, legal, administrative, and technical instruments as well as management arrangements. This is intended to make the country fully comply with CPB requirements regarding safe transfer, handling and use of Living Modified Organisms (LMOs) from modern biotechnology, and to ensure the inclusive, equitable and sustainable character of the process.

Figure 1: Project Implementation Structure



Problems that the Project Sought to Address

74. Iran is an importer of agricultural products and could therefore be considered a potential importer of LMOs. Lack of capacity in terms of financial and human resources, equipment, regulations and responsible regulating and enforcement organizations will increase the likelihood of exposure to and introduction of LMOs into the environment. Therefore, the country is in urgent need of capacity building in the implementation of its NBF to minimize any risk arising from the movement and introduction of LMOs into its environment. Iran is also an important transit route through which many 9 commodities and goods are being transferred to/from other countries in the region. In addition, biotechnology is developing rapidly in the country without similar capacity building in biosafety. This project will help reduce this imbalance between biotechnology development and biosafety applications in the country and at the same time equip Iran with the necessary skills to ensure that the movement of LMOs between its borders will be carried out safely.

B Objectives and components

75. According to the ProDoc, the overarching goal of this project is to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. As a signatory to the CPB, Iran needs to develop its national capacities in biosafety required to carry out risk assessments with appropriate scientific and technical skills; implement necessary activities for risk management, evaluate and strengthen the legal and regulatory framework and develop infrastructure for information exchange and data management, as well as achieve broad social participation in biosafety matters. The aim of the project is to develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act. According to the ProDoc, the Project encompassed five components (See table 1 below). The objectives and achievements under Components 1 to 5 were directly related to the institutional and human resources capacity building for the effective implementation of the NBF mechanism; namely:
    - Component 1 - Stock taking and Biosafety Policy (1) main outcome and five related outputs.
    - Component 2- Regulatory Biosafety Regime involving one outcome and three outputs.
    - Component 3- system for handling of requests and authorization- and foreseeing one outcome and five outputs.
    - Component 4- addressing follow up mechanisms (monitoring and environmental effects and enforcement; control and inspection)- envisaging one outcome and six outputs;
    - Component 5- dealing public awareness and participation-envisaging one outcome and three outputs.
    - Components 6 and 7 concern the Project management and Project Monitoring and Evaluation

Table 4: Components and Outcomes of the Project

No.	Project Component	Expected Outcome
1.	Stocktaking and Biosafety Policy	Integration of Biosafetyinto relevant national development plans, biodiversity strategies and biotechnology strategy/ policy/ action plans
2.	Regulatory Biosafety Regime	A fully functional and responsive regulatory framework in line with CPB, other relevant international agreements and national regulations is developed in Iran
3.	System for handling requests and authorisations	An operational institutional structure effective decision- making, handling requests, and performing, risk assessment and administrative tasks developed in Iran
4.	Follow up mechanisms (monitoring and environmental effects and enforcement; control and inspection)	A functional national system for long term monitoring and reporting of LMO release is developed in Iran
5.	Public awareness and participation	A functional national system for public awareness and participation, in line with the CPB requirements is developed in Iran
6.	Project Management	Not considered in the log frame
7.	Project Monitoring and Evaluation	Not considered in the Log frame
8.	Regional Networking and cooperation	Not considered in the log frame

C. Stakeholders

76. The Project is essentially an Institutional and Capacity Building Project aiming at strengthening national capacities to fulfil the national and international obligations of the Cartagena Protocol on Biosafety (CPB). The main target groups are the national institutions involved in the implementation of the NBF, particularly the Ministry of Science, Research and Technology (MSRT), Ministry of Health and Medical Education (MHME), Ministry of the Agriculture Jihad (MAJ), Department of Environment (DOE), Iran Standard Organization (ISO) and the Ministry of Commerce. Descriptions of the key stakeholders and their role in project implementation are outlined below

Table 5: Main Stakeholders

Stakeholders	Description of Stakeholders' Role in Project Implementation
Ministry of Science, Research and Technology	It is involved in education at the graduate and postgraduate level. This organization is also responsible for education, research and technology production in biotechnology and genetic engineering.
Ministry of Health, Therapy and Medical Education	It is responsible for education, research, diagnostic and therapy related to human health. Food and Drug Office of the country is a part of this Ministry. Anything as a food has to pass the necessary regulations and getting the final permission from this office before entering to the market. The Pasture Institute, which plays an important role in biotechnology to produce vaccine and serum, is also under the supervision of this ministry. They will be responsible for presenting the formal opinion of the MSRT regarding the biosafety regulatory framework and the national capacity of biosafety. The Ministry will help in undertaking the gap analysis and the integration of the new biosafety rules and regulations in the future development program. The experts of the MSRT will help as trainers in the workshops.
The Ministry of the Agriculture Jihad	It is responsible for food and feed. The Ministry will be responsible for presenting the formal opinion in regard of the biosafety regulatory framework and the national capacity of the biosafety. It will help for the gap analysis and the integration of the new biosafety rules and regulations in the future development program.
The Department of the Environment (DOE)	It is one of the National Competent Authorities for the Cartagena Protocol in Islamic Republic of Iran. The Secretariat for the Biosafety High Council is in the DOE.

D. Project Implementation Structure and Partners

77. The National Executing Agency (NEA) of the project is the Department of Environment which is also the Competent National Authority (CNA) for the CPB. The NEA managed the project and took overall responsibility for its implementation by providing scientific, technical, financial, and administrative support, and by working in close cooperation with relevant government agencies, the Scientific community, and other stakeholders.

Project Implementation Structure

E. Changes in Design During Implementation

78. During its lifetime, the Project was granted 13 budget revisions, mainly for reallocation of funds between budget lines. Three no-cost extensions of 69 months in total, was granted, including the administrative closure of the project. The project ended on 27th June 2021, instead of 27th September 2015, due to the period where there was an embargo in transmitting funds through UNDP which let to substantial delays in execution. No formally approved changes to project design have been made during implementation. Nonetheless, there is evidence (discussed below) of adaptive management, mostly as replies to Project Steering Committee requests.

F. Project Financing

79. Table 6 below present the project budget by component, including the estimated vs actual cost, as well as the sources of funds.

Table 6: Project Budget by Component

No.	Component/ Sub- component	Estimated Cost at Design	Actual Cost	Expenditure Ratio(Actual/ Planned)
1.	Stocktaking Assessment	$58,200	$39,596.60	0.68
2.	Strengthening the Regulatory Biosafety Regime	$87,200	$71,596.60	0.821
3.	System for handling requests for authorization	$313,200	$230,879.36	0.737
4.	Follow up mechanisms (monitoring of environmen- tal effects and enforcement: control and inspection)	$92,200	$74,129.93	0.804
5.	Public awareness and Participation	$107,700	$233,111.05	2.164
6	Project coordination and Monitoring unit	$90,500	$74,686.54	0.825
7.	Project Monitoring and Evaluation	$9000 (part of NUMBER 6)	$25,000	2.778
	TOTAL	**749,000**	**749,000**	**0**

Table 7: Co-Financing Table

Co- Financing (Type/ Source)		EP Own Financing (USD749,000)		Government	Other *	
Planned		Actual	Planned	Actual	Planned	Actual Planned
Grants	749,000	749,000	749,000	851,000 (in- kind)	851,000	
Loans	-	-	-	-	-	
Credits	-	-	-	-	-	
Equity Investments	-	-	-	-	-	
In Kind support	-	-	-	-	851,000	
Other *	-	-	-	-	-	

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

Table 8: Rating Financial Management

Financial Management Components		Rating	Evidence/ comments
Questions relating to financial management across the life of the project:			
Compliance with financial requirements and procedures of UN Environment and all funding partners (including procurement rules, financial reporting and audit reports etc)		S	
Timeliness of project financial reports and audits		S	UNDP issued Audit letter at the end of the project as payments were executed through the Fax Authorizations issued by UNEP
Quality of project financial reports and audits		S	
Contact/ Communication between the PM/TM and FMO		HS	From email communications, WhatsApp etc.
PM/TM and FMO responsiveness to addressing and resolving financial issues		HS	From email communications, WhatsApp etc.
Questions relating to financial information provided during the Review			
Provision of Key documents to the Reviewer (based on the provision of A-F below)			
A.	An up-to-date co-financing and project costs table	HS	
B.	A summary report on the project's financial expenditures during the life of the project	HS	
C.	Financial documents from Mid-term Review (where applicable	N/A	
D.	All relevant project legal agreements (SSFA, PCA, ICA) Where applicable	S	
E.	Associated financial reports for legal agreements (where applicable)	S	

IV THEORY OF CHANGE AT REVIEW

Reconstructed Theory of Change

80. An explicit Theory of Change (TOC) that maps out and describes the results framework was not required at the time of the development of the project and none was developed even during project implementation. For this review, a draft Theory of Change has been reconstructed to gain a better understanding of the conceptual thinking behind project design and to assist with the assessment of project effectiveness and likelihood of impact, sustainability, and up-scaling. The reconstructed Theory of Change of the project seeks to define:

(1) nature and scope of the changes to which the project is expected to contribute.
(2) cause-effect relationships between outputs delivered by the project and expected higher- level changes (also called results chains or causal pathways);
(3) external factors and conditions that would allow the project to achieve the expected higher- level changes. These are considered in two groups: **assumptions** are external conditions over which the project has no influence or control; **drivers** are external factors that the project can influence with specific activities or outputs; and;
(4) role of key stakeholders in making those changes happen.

81. The reconstructed Theory of Change enhances our common understanding of the underlying program logic. It depicts what and how the project planned and achieved results and maps out the underlying intervention logic, identifying key drivers of impact and the underlying assumptions. The reconstructed Theory of Change of the project is based on the actual results statements in the project document which have been "broken up" and re-arranged to better conform to UN Environment definitions of the different results levels and to show the theoretical cause-effect relationships. The reconstructed Theory of change was shared with project staff and stakeholders in Tehran during the Terminal Review mission.

82. The project objective is to strengthen Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. As a signatory to the Cartagena Protocol, Iran needs to develop its national capacities in biosafety required to carry out risk assessments with appropriate scientific and technical skills; implement necessary activities for risk management; evaluate and strengthen the legal and regulatory frameworks and develop infrastructure for information exchange and data management, as well as achieve broad social participation in biosafety matters. The aim of this project is to develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act. Enhanced capacities result from putting in place a biosafety policy and regulatory regimes, institutional structures, a cost-effective risk-assessment, and management program for Living Modified Organism (LMOs) and built awareness of key stakeholders including government agencies, Universities and NGOs of the risk of LMOs.

83. All these activities are expected to be coordinated by a functional administrative system with the capacity to manage LMOs. Strengthened capacity, where there is political will and financial support from government as well as an informed public and civil society engagement, is expected to result in Iran transitioning to sound management of living modified organisms.

84. In reconstructing the Theory of Change, the Reviewer noted that the project objective is an intermediate state towards a desired impact, which is that the risk of the of introduction of LMOs is managed. For

changes to happen along the causal chain from outcomes to impact several external conditions need to be met or external factors need to be present. Key assumptions made by the project (over which the project has no influence) are that there will be no changes in the managers of the biosafety stakeholders and no delays in project implementation. **It is assumed that the government will be supportive as Biotechnology development is one of priorities at the national development plan.**

85. **Second main assumption is good cooperation among stakeholders and no different opinions between stakeholders in all areas, for example for accepting of the development a biosafety regulatory framework**. Cooperation among stakeholders also involves scientists and institutions related to the biosafety which will fully cooperate and participate in the various activities**. It is also assumed that Stakeholders will be willing to participate and support the project activities.**

86. **The final assumption is that the public will be active and participate and support the project, there will be general interest and no opposition from any stakeholders group.**

The Project document did not identify any drivers.

87. The reconstruction of the TOC of the Project considered the following aspects:
    - formulation of the Project Impact and of the Main Project Outcome.
    - the main Components of the Project and correspondent Outcomes, in the ProDoc (as concisely exposed under Section 3.2. Table 1: Components and Outcomes).
    - the standard conceptual framework of the National Biosafety Framework (NBF), which usually
    - comprises five main components:
        - A Government policy on biosafety.
        - A regulatory regime for biosafety.
        - A system to handle notifications or requests for authorizations.
        - Systems for 'follow up' such as enforcement and monitoring for environmental effects.
        - Mechanisms for public awareness, education, and participation.

88. The exercise of reconstruction of the Theory of Change has permitted to define the overall causal pathway between Outputs and Outcomes. As a result, five (5) clusters of Outputs have been assembled and five Direct Outcomes have been identified, contributing to the main Project Outcome. The reconstructed ToC also depicted the pathway from Outcomes to Impact and any intermediate change required between them, called intermediate states. It permits to appreciate to what extent the project has to date contributed, and is likely in the future to further contribute, to changes in stakeholders behaviour as a result of the project's direct outcomes, and the likelihood of those changes in turn leading to environmental benefits (impact).

Table 9: Justification for Reformulation of Results Statements

Results as stated in the ProDoc Log Frame	Results as Stated in the Reconstructed TOC at Evaluation
Impact	Impact
Not Stated	Enhanced Conservation and Sustainable Use Of Biological Diversity in Iran

Overall Goal (in the ProDoc)	Intermediate State to Impact
To assist the Government of Iran, as Party to the CPB, to build capacity to implement the CPB through activities at the national, sub regional and regional levels.	(IS 3) Protection of biological diversity against possible adverse effects of LMOs by means of ensuring safe transfer, handling, use and transboundary movement of LMOs, in compliance with Art. 1 of Cartagena Protocol (CPB)
	(IS2) Improved governance of national / regional biosafety systems based on: Accountability and Liability, Transparency, Rule of law, Equity, Citizens' Participation, in full compliance with CPB and other relevant international obligations.
	(IS 1) LMOs safe intentional release into the environment with emphasis on Iran's numerous LMOs from its national laboratories"
Objective of the Project (in the ProDoc)	Main Project Outcome
To strengthen the biosafety management system in Iran with special emphasis on Risk Assessment and Management, Handling, Transport, Packaging, and Identification of LMOs, Socio Economic Considerations and Public awareness, to ensure that adequate protection of human health and biodiversity from potential harm arising from all LMO-related activities.	Strengthened Management System and fully operational National Biosafety Framework in Iran
Results as stated in the ProDoc log frame	Results as Stated in the Reconstructed TOC at Terminal Review
A. A formal approval of the Biosafety Policy for the safe application of modern biotechnology (especially for LMOs) across sectors	Outcome 1: Baseline established and biosafety policy in place
B. A fully functional and responsive regulatory framework in line with the CPB, other relevant international agreements and national regulations developed in Iran	Outcome 2: A fully functional and responsive regulatory regime, including implementing Regulations and Guidelines
C. An operational institutional structure for effective decision making, handling requests, and performing risk assessment and administrative tasks developed in Iran	Outcome3: A responsive administrative system for handling applications, Risk Assessment and Risk Management, including Socio-Economic Considerations
D. A functional national system for long term monitoring and reporting LMO release is developed in Iran	Outcome 4: Enforcement, Monitoring, and Inspection System for LMOs strengthened

E. A functional national system for public awareness and participation, in line with the CPB requirements is developed in Iran	Outcome 5: Functional systems for public awareness, education, and participation
Outputs	**Outputs**
1.1.1 Analysis of potentials and deficiencies in regard of biosafety policy	1.1 A baseline (Stocktaking Report) on current status of Modern Biotechnology and Biosafety Systems
1.1.2 Development of biosafety policy 1.1.3 Integration of biosafety criteria deriving from the newly developed biosafety policy into other national policies	1.1.1 Analytical Report of Potentials and Deficiencies of the Biosafety Policy 1.1.2 Draft Biosafety Policy
2.1.1 A legal and regulatory framework for the evaluation, management, and monitoring of LMOs is developed. 2.1.2 training courses for stakeholders on regulatory framework 2.1.3 Manuals for stakeholders on regulatory Framework	2.1.1 Training module for stakeholders on evaluation, management, and monitoring of LMOs 2.1.2 150 trained personnel on evaluation, management, and monitoring of LMOs 2.13 Training manual for stakeholders on evaluation, management, and monitoring of LMOs
3.1.1 Trainings for handling requests, decision making and risk assessment 3.1.2 Establishing scientific advisory board 3.1.3 Design of technical guidelines for handling LMO requests 3.1.4 Training for scientists involved in working with LMOs 3.1.5 Equipping of reference laboratory	3.1.6 90 personnel trained on handling requests, decision making and risk assessment 3.1.7 Scientific Advisory Board 3.1.8 Draft technical guidelines on handling LMO requests 3.1.9 700 trained scientists in risk assessment and risk management 3.1.10 4 reference Laboratories equipped

4.1.1 Publishing technical guidelines for monitoring and reporting 4.1.2 Training of stakeholders on monitoring and reporting 4.1.3 Technical workshop on preparation of dossier for field release of LMOs 4.1.4 Training in quantitative detection of LMO products 4.1.5 Workshop on Food and Feed safety assessment of genetically modified food 4.1.6 Identifying the equipped government institute and private companies as reference laboratories for performing of the risk assessment of LMOs identifying the standard conditions for a reference laboratory	4.1.1 Draft Technical guidelines on Monitoring and Reporting 4.1.2 4 trained stakeholders on monitoring and reporting 4.1.3 300 Trained personnel on quantitative detection of LMO products 4.1.4 Two Laboratories equipped with LMO detection equipment.
5.1.1 Organizing lectures and seminars for public awareness. 5.1.2 Publishing Information Material	5.1.1 Outreach material 5.1.2 Educational programs 5.1.3 Brochures, booklets,

The Causal Logic from Outputs to Outcome

89. Based on the causal logic of the project from the project documents (to include, the Logical Framework (Results Framework), the "Key deliverables and milestones" and the Project Workplan), the following Diagram 2 maps out the lower part of the reconstructed Theory of Change (TOC), from Outputs to the Main Outcome, i.e. "**Strengthened Management System and fully operational National Biosafety Framework in Iran**". Project's Outputs have been grouped into five components / groups, the first being a preliminary Output - "baseline assessment" (stocktaking) and a biosafety Policy to be adopted. The other four groups evolve around the building-blocks underpinning an effective NBF. Each group of Outputs supports a Direct Outcome that represents a change expected to be achieved within a specific component of the NBF. Institutional Capacity Building and Human Resources Development evolve around and refer to the key structural requirements for an effective NBF. The reconstructed TOC considers Human Resources Development at the Output level, as it is necessary to underpin the achievement of Direct Outcomes. On the other hand, Institutional Capacity Building is closely related to the Main Outcome as stated in the reconstructed ToC.

90. All the foreseen outputs were reconstructed as they were seen to be identical to activities rather than outputs (e found to be identical to activities (e.g. Output 1.1 "Development of a Biosafety Policy "or output 2.1.2 training courses for stakeholders on regulatory framework"). Drivers were not considered in the ProDoc. The reconstructed ToC considers several drivers, specific to each level of results. For the delivery of all Project's Outputs, "Building on experience gained in Phase I by the National Executing Agency" has been considered as a key Driver. This is related to the "institutional memory" and the existence of appropriate mechanisms for the retention of experience and related achievements.

Moving from the Outputs level to the Direct Outcomes, four other relevant Drivers have been identified.

91. It should be noted that all of them are explicit elements of the Project even if they are not identified as Drivers within the ProDoc. In relation to Direct Outcome 4, "Enforcement Monitoring and inspection system for LMOs established", four main Drivers were considered; namely:
    (1) Staff attrition mitigated through training a core mass of qualified human resources;
    (2) Existing enforcement mechanisms are built upon. In relation to the Direct Outcome 5, "Functional systems for public awareness, education and participation", the following two Drivers were considered relevant, namely:
    (3) Appropriate participatory methods are identified for Risk Communication throughout the decision-making process;
    (4) the Biosafety Clearing House is regularly updated.

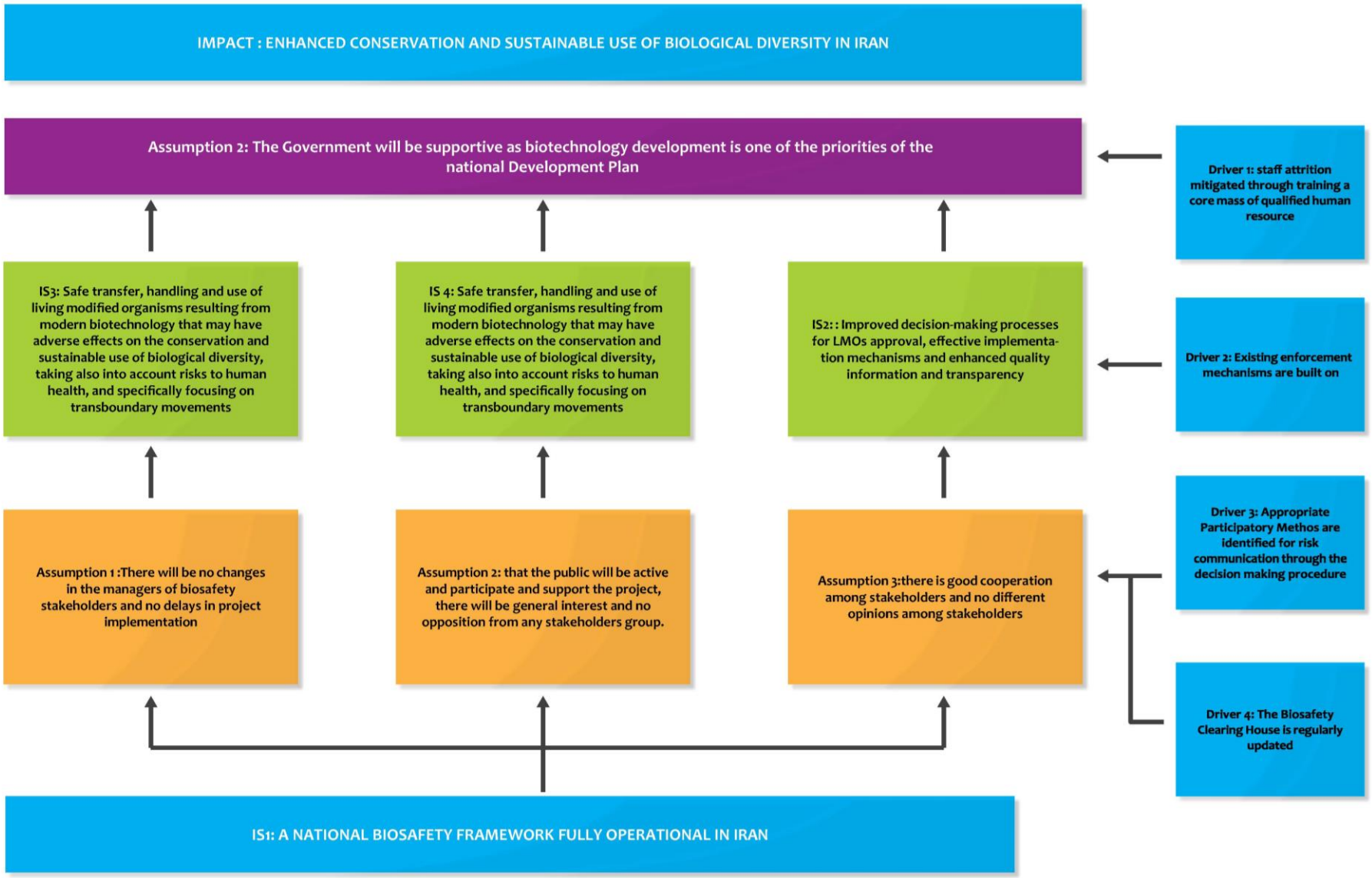
92. Four main Assumptions are identified along the pathway from Outputs to Direct Outcomes: namely.
    (a) that there will be no changes in the managers of the biosafety stakeholders and no delays in project implementation.
    (b) that the government will be supportive as Biotechnology development is one of priorities at the national development plan.
    (c) There is good cooperation among stakeholders and no different opinions between stakeholders in all areas, for example for accepting of the development a biosafety regulatory framework. Cooperation among stakeholders also involves scientists and institutions related to biosafety which will fully cooperate and participate in the various activities. It is also assumed that Stakeholders will be willing to participate and support the project activities.
    (d) that the public will be active and participate and support the project, there will be general interest and no opposition from any stakeholders group.

Figure 2:Pathway from Output to Outcomes

93. The intended Impact of the project is the Global Environmental Benefit (GEB) to which it contributes, i.e. “enhanced conservation and sustainable use of biological diversity in Iran”. The pathway from the Main Project Outcome to the intended Impact is not a straightforward process. Transitional conditions (referred to in the TOC as ‘Intermediate States’) should be fulfilled. Overall, the pathway towards higher levels of results entails the continuous and progressive improvement of decision- making processes and of governance mechanisms. Schematically, the pathway from the Intermediate State 1 to the intended Impact can be simplified by identifying further transitional conditions (Intermediate States) to be fulfilled, as shown in Diagram 2. If the Intermediate State 1 (IS 1) is achieved and maintained, three other Intermediate States can be achieved:

- “**Improved decision-making processes for LMOs approval, effective implementation mechanisms and enhanced quality information and transparency” (Intermediate State 2 / IS 2**) can be achieved under the conditions that, firstly, the NBF has the financial resources to effectively monitor all the relevant aspects of the LMOs management and, secondly, a resource mobilization strategy is conceived and developed. Key impact drivers at that stage are the coordinating role of the Competent National Authority/CNA (DoE), effective LMOs management systems (e.g. for detection and referral, for handling applications, for risk assessment and monitoring), stakeholders and public participation, quality information available and timely flowing into the BCH.
- **“Improved Governance of National/Regional Biosafety systems based upon: Rule of Law and Compliance, Accountability and Liability, Equity, Transparency and Citizens’ Participation” (Intermediate State 3 / IS 3)** can be achieved under the assumption that the required political will of the Government is not missing. That should be reflected in the implementation of a National Policy on Biosafety and of an Action Plan (actually foreseen in the first Project Outcome). Improved Governance also implies that the national policy on Biosafety is streamlined into government plans and an effective strategy of resource mobilization is operational. The main impact drivers at that stage will be effective forms of stakeholder participation (in planning, decision making and funding), conducive to open and transparent information flows and negotiation processes at different levels.
- **The Intermediate State 4 (IS 4) is the “Safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements”, as requested under art. 1 of Cartagena Protocol (CPB**). Political will and negotiations will act as impact drivers at that level, under the main assumption that decision-making of the National Biosafety Council persists based on rigorous Risk Assessment and Risk Management best practices, and those financial resources flow into Biosafety programs mechanisms. Under the same assumption that internationally followed principles of Risk Assessment and Risk Management are lastingly used by the Competent National Authority, the Project Impact (Enhanced Conservation and Sustainable Use of Biological Diversity in Iran) can be achieved. As visualized in Diagram 2, Intermediate States 2, 3 and 4 are not necessarily sequential and could be emerging simultaneously, though it is expected that IS 4 would come after the other two. IS 2 can also be a driving force to IS 3

Figure 3: Theory of Change at Review



V REVIEW FINDINGS

94. Complying with the UN Environment Program Evaluation Office requirements and guidelines, in this chapter, the Terminal Review findings are exposed, discussed, and consequently rated against a set of criteria. Rating uses a six-point scale, i.**e. Highly Satisfactory (6), Satisfactory (5), Moderately Satisfactory (4), Moderately Unsatisfactory (3), Unsatisfactory (2), Highly Unsatisfactory (1).**

95. While the amount of information generated by this Terminal Review was large, the findings presented in this chapter cover only the most essential aspects of the project and are to some extent focused on those issues and lessons that provide a better understanding of the achievements of the project and which would benefit the project stakeholders the most in similar future endeavours. The findings of this Terminal Review are organized into the following sections: i) Project Design; ii) Project Implementation; and iii) Project Results.

A. Strategic Relevance

96. At the global and national levels, the project was designed to contribute to, and is consistent with, GEF Strategic Program (SP) 6 and SF under the GEF 4 Biodiversity Strategy. SP 6 focuses on assisting countries to implement the provisions of the Cartagena Protocol on Biosafety.

97. The project was aligned with the UNEP Biennial Program of Work (PoW) 2010- 2011:Sub-Programme Environmental Governance with Expected Accomplishment (EA) B: The capacity of States to implement their environmental obligations and achieve their environmental priority goals, targets and objectives through strengthened laws and institutions is enhanced with Output 2: Legal and policy instruments are developed and applied to achieve synergy between national and international environment and development goals; and Output 3: Countries' legislative and judicial capacity to implement their international environmental obligations is enhanced through implementation of policy tools.

98. Even though the GEF Biosafety projects had not been mainstreamed into the UN Environment Medium-term Strategy 2010-2013 and its programmatic framework at the time this project was designed, Biosafety activities were a substantial part of the biodiversity portfolio of UN Environment. The project was consistent with the programmatic objectives and Expected Accomplishments Ecosystem Management, and Environmental Governance sub-programs.

99. The project builds on efforts to harmonize policy and approaches to building coordinated institutional frameworks with a capacity to detect, exclude, eradicate, control, and effectively manage introduced organisms (LMOs) that could pose a threat to biodiversity.**The overall rating for strategic relevance is Highly satisfactory.**

Expected Accomplishments (EA)	Contribution of the Project

MTS 2010-2013, Sub-program Environmental Governance, EA(b): States increasingly implement their environmental obligations and achieve their environmental priority goals, targets and objectives through strengthened laws and institutions	▪ Overall support to the implementation of the NBF ▪ Biosafety Policy integrated the 5year National Action Plan
MTS 2014-2017, Sub-program Environmental Governance, EA2: 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 is enhanced;	▪ Overall support to the implementation of the NBF ▪ Biosafety Policy ▪ Capacity Building in Risk Assessment and Management and LMO detection ▪ Public Awareness and Information ▪ Equipping of two national referral laboratories for detection of LMOs

Alignment to UN Environment /GEF Strategic PrioritiesT

100. The project is a Medium-Size Project (MSP) financed through GEF-4 mechanism and belongs to GEF Biodiversity Focal Area. Under GEF-4, Strategic Objective 3, it is relevant to GEF Strategic Program 6 (BD-SP6): Building Capacity for the Implementation of the Cartagena Protocol on Biosafety. Given its focus on Capacity Building, the Project is aligned with Bali Strategic Plan (BSP). The project was active in addressing many of the cross-cutting issues listed in Section D of the Plan, such as the strengthening of national institutions, the development of national guidelines, and compliance with obligations under Multilateral Environmental Agreements.

Relevance to Regional, Sub-regional and National Environmental Priorities

101. The Project fostered a regional and sub-regional approach to Biosafety starting with its design (project component on regional networking and cooperation). The participation of Iranian experts in several activities within the Western Asia Region was supported and regional workshops were promoted. The annual meeting of the teams of the Biosafety UN Environment / GEF Projects at regional level has also been instrumental in enhancing the regional dimension.

Complementarity with Existing Interventions

102. The Project builds upon and consolidates the achievements and the institutional network developed in the context of the previous project. The National Biosafety Framework has progressively been built through the contribution of several government ministries, universities, research institutions, regulatory agencies and, to a minor extent, the involvement of the private sector and some NGOs. It is also consistent with and relevant to several national priorities and plans. The Project supported the national effort in protecting the country's biodiversity and genetic resources and was well aligned with national priorities in those areas.

The strategic Relevance of the Project can be rated as Highly Satisfactory.

B Quality of Project Design

Project Design Logic

103. An assessment of the initial design of the project was undertaken as a part of the inception phase of this review. It helped to refine the questions and issues defined in the Terminal Review matrix and the Reconstructed Theory of Change for the project by identifying causal links, assumptions and drivers. Key sources of information for project design quality assessment included the approved project document, the Project Review Committee (PRC) review sheets, and the project logical framework. In general, the project was reasonably well designed and clearly drafted. The case for the need for the project was clearly made. Relevance of the project was articulated through a discussion of the project's consistency with CBD Articles 8b and 8g on the implementation of the Cartagena Protocol on Biosafety and the execution of the WTO SPS Agreement which embodies CBD and IPPC common work program. A clear description of the existing situation with respect to LMO and IAS was done and opportunities and constraints to project implementation were identified and documented in the project document. Linkages to other GEF and World Bank interventions were identified. The problem of Living Modified organisms and the barriers to effective biosafety were clearly and adequately articulated in the project document.

104. The project document includes a description of stakeholder analysis. However, the list is heavily focused on government departments to the exclusion of other players in the research, academia, private sector as well as members of the public. It provides a listing of stakeholders and their respective role in the project.

105. A log-frame was developed, and a narrative of the intervention logic was included in the project document. However, the description does not detail causal linkages between the various project elements. Many activities were presented as outputs even at intermediate levels (i.e., even where several activities contribute to an output) resulting in an overly large number of outputs which had to be re-aggregated in the reconstructed theory of change of the project. A project implementation diagram was developed, and a clear description of roles and responsibilities was attached as appendix 17 to the project document.

106. An M&E Plan was developed and included as appendix 7. Responsibilities for monitoring of activities were included in a detailed chart. A cost was assigned to project monitoring specifically but how it was derived was not explained. However, the Terminal Review learned that the cost of monitoring was subsumed under the project coordination budget. Milestones were defined in the work plan and scheduled and responsibilities for monitoring of activities were included in a detailed chart.

Critical Success Factors and Risks

107. For the most part, critical success factors have been identified and seemed to have been adequately considered. A Risk analysis table was included in the project document. Some critical risks related to the ability to mobilize the required resources to undertake the projects were clearly identified as a high risk and measures stated to mobilize the resources.**The rating of Project design is moderately satisfactory.**

C. Nature of the External Context

108. Over the period of project implementation, the country faced economic, and financial embargo, imposed by several countries including USA and UK Governments. The sanctions have had an adverse effect on the Iran economy with the currency collapsing and increasing inflation. This has a direct bearing on the project implementation as the funding of the project in USD. The project however applied adaptive management in agreement with UNEP by using UNDP to pay for goods and services through UNEP Fax Authorizations. **Rating for Nature of the external context is moderately Satisfactory/ moderately favorable**

D. Effectiveness

Attainment of Project Objectives and Results

109. The project's overarching goal was to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. The project developed the Biosafety Policy, which is an important achievement. The impact of this policy development on the level of inclusion of Biosafety in decision-making will depend on the integration of this policy into the wider Biodiversity Policy, for which there is commitment. Capacities to implement best practices in Biosafety were strengthened within different agencies involved in Biosafety, communities, and the private sector through several well-attended stakeholder workshops and training sessions.

Achievement of Outputs

110. The Terminal Review has assessed the delivery of Project Outputs against the planned Outputs of the Results Framework (Annex A of the ProDoc - Results Framework and Appendix 7 - Costed M&E Work Plan Summary for Iran) in close collaboration with the National Project Team and the relevant DoE officers. The revision of the outputs produced (e.g., trainings report, training material, awareness material, etc.), their good level of systematization and filing (also in ANUBIS), as well as the interviews with different stakeholders have permitted the reviewer to confirm the quality of the outputs and the participatory process of their production. The Project has satisfactorily delivered all the expected outputs. These are-

(a)The definition of a national Policy on Biosafety and the inclusion of Biosafety in the National Biodiversity Strategy and Action Plan (NBSAP) 2015-2020 and inclusion of Biosafety in the National 5-year Plan.

(b)The publication of four relevant Technical Guidelines (on handling requests and RA/RM, Inspection and Monitoring, LMO Detection and Public Awareness);

(c)The equipping of two existing laboratories (Department of Environment and the Ministry of Science, Research and Technology) for LMO detection.

(d)The high number of Ministries officers, Biosafety officers in research institutions, inspectors and different staff sensitized and/or trained on Biosafety-related issues.

(e)Several information and awareness raising activities, including the production, publication, and dissemination of communication material.

111. It is widely recognized that the main key-drivers have been the high dedication of the team and the strong institutional anchorage and support received from the NCA (DoE), particularly the Biosafety Unit, which, in sum, have created a favourable environment for the setting and implementation of the Biosafety Agenda in the country.**The Terminal Review concludes that all main Outputs have been successfully delivered (rating: Highly Satisfactory / HS)**

Achievement of Direct Outcomes

112. The overall project goal of this project was to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. The Terminal Review assesses to what extent the actual delivery of the Outputs outlined in previous Section has produced, or has the potential to produce, in the short - medium term, the institutional changes and systemic effects (Direct Outcomes) conducive to a fully operational National Biosafety Framework in Iran. On this basis, this section presents a qualitative analysis and interpretation of the Outcomes achieved, in the light of the reconstructed Theory of Change (ToC). Triangulation of data underpins the current Terminal Review judgement, and is based on Project reports and outputs, stakeholders' perception on Outcomes achievement, and the GEF Tracking Tool. The following sub-chapter presents a qualitative analysis and interpretation of the Outcomes achieved in the light of the reconstructed Theory of Change (ToC) from Outputs to Outcomes, depicted in Diagram 1.

Project Outcomes from Reconstructed ToC

113. The exercise of reconstruction of the Theory of Change has permitted the streamlining of the results framework of the Project, by grouping Outputs in five clusters and identifying five Immediate/Direct Outcomes that have been appropriately reformulated without changing their substance and that contribute to the main Project Outcome, as shown in Diagram 1 that follows.

114. **The expected Immediate Outcome 1 "Formal approval of biosafety policy for the safe application of modern biotechnology** across "has been achieved. An expert team that was set up, conducted, and established a baseline situation through a careful and comprehensive analysis of the gaps and potential priorities in the development of the policy. Subsequently, existing policies or strategies were analyzed, and their gaps were identified and addressed through the work of four technical working groups based in the Department of Environment, the Ministry of Agriculture,

115. The Ministry of Health and the Ministry of Science, Research and Technology. Their preliminary conclusions have been discussed and endorsed by the Project Steering Committee. A policy document was produced and endorsed by the main national stakeholders through the National Biosafety Council. The Biosafety priorities are also reflected in the National Environment Strategy and most importantly in the National Biosafety Strategy and Action Plan 2 (NBSAP 2 2016-2030), that has been approved by all line Ministries and by the prime Ministry Cabinet. Specifically, the National Target 12 of NBSAP2 provides that: By 2020, policies and regulations for biosafety are compiled and an effectively implemented mechanism is in place.

116. **The expected Immediate Outcome 2 "A fully functional and responsive regulatory regime established"** in place. This has been achieved through different approaches. The Government does not allow the cultivation or local production of LMOs. However, the country imports corn worth 51. million tons, followed by wheat worth 3 million tons, soybeans 1.6 million tons, rice 1.3million tons and unrefined sugar 1.0 million tons, of which imports are likely LMOs. The Project has carried out meticulous and scientifically sound preparatory work necessary for the importation of LMOS. Through the project, several technical Guidelines have complemented the Regulatory Regime. Biosafety Regulations have been developed and operationalized and f responsibilities among the NCAs have been defined. The Rules and Regulations developed include -

- rules for registration and import of biological products.
- guidelines for contained field trials of LMOs,
- Guidelines on issuance of permits to LMOs with stacked events.
- regulations of Art 5 of the Biosafety Law in order to remove production obstacles and define roles of Competent national authorities and National Focal points);
- procedure for approval of importing transgenic events for food/feed consumption and
- Biosafety Regulations on Environmental Risk Assessment.

117. The Regulatory Regime has full legal force, is operational, and linked to the administrative system, i.e., used for decisions". Iran may claim a well consolidated system that is anchored in the Biosafety Act, 2009. Requests for imports of LMOs have been received, processed and decisions communicated to the BCH, thus testing the functionality of the regulatory regime. Direct Outcome 2 was achieved to a satisfactory level.

118. **Immediate Outcome 3"An operational Institutional structure for effective decision making, handling requests, and performing risk assessments and administrative tasks"** has been approached through relevant initiatives in terms of training and capacity building (Guideline produced, workshops, conducted), as well as the integration of Biosafety in key sectoral policies under the Ministries of Health, Agriculture, Science, Research and Technology and the Department of Environment. The National Biosafety Council has undoubtedly become the pivotal national institution in charge of Biosafety in Iran, referral point for any institutional or private actor dealing with LMOs in the country. This is a major achievement. Coordination among key Biosafety stakeholders, however, remains a challenge. Each of the key institutions namely the DoE, MSRT, NIGEB, MOH, MAJ continue to work in silos. During the review, it was noted that the departments continue to work independently and do not share information with other teams or departments. For example, a consignment with corn may be imported in the country for Feed/Food and processing. The samples are drawn for LMO detection by each laboratory of the respective institutions. The results of the LMO detection are shared only with the importer and not amongst the respective departments. The networking of the needs to be actualized.

119. **Immediate Outcome 4 "A follow up system in place able to monitor environmental effects and enforce regulations"** has also been approached through training and capacity building activities (guidelines for inspection, workshops, lab equipment provided). Cooperation already exists between the respective competent authorities, for instance in the enforcement of the red list of threatened/ endangered species. Different institutions carry on inspection activities of different kind related to

border control, to food quality, to hygiene and human health, to phytosanitary and veterinary issues, to seeds control and to environmental inspections for permits, among others. There may be lapses on close monitoring of LMO material that has been approved for import for food/feed or processing. What is not clear is the surveillance of the material from the port to the Iran Veterinary organization for process. The full achievement of Outcome 4, therefore depends on the effective definition and coordination of the specific roles of each of those entities.

120. **Immediate Outcome 5"A functional system for public awareness and participation**" has also been addressed by some relevant initiatives, such as the document of Guidance for public awareness, which has been published as a booklet and has oriented several awareness raising activities (workshops, conferences, meetings, development of content for the official website on Biosafety, among others) with a large range of public (technical staff, students, NGOs, etc.). The DoE has its own website, which is maintained by an IT staff of the Department.

121. The role of the private sector in supporting public education and awareness, through the Biosafety Association, is unmatched. Through donations, partnerships, workshops and awareness initiatives, the Biosafety Association has contributed positively to LMO awareness and education. Generally, a more strategic approach to public awareness and participation is still to be consolidated. This is because the awareness creation has concentrated much on the scientific As far as human and infrastructural capacity in relation to LMO detection is concerned, the Review finds that immense capacity has been built here and the Country has advanced in technology. The laboratories are well equipped, and the relevant officers well trained to undertake the LMO detection work. More exposure is however, needed to enable the researchers interact with other researchers and showcase while at the sometime gaining more lessons on the technology.

122. The role of private researchers in research and development is also worth mentioning. The Reviewer spoke with researchers from the private sector, and they were able to share their insights on the project. The private sector researchers have been involved in the project as they have invested in agricultural research and development, and they therefore have a role in the policy and regulation development. These researchers also have developed risk assessment studies and standard operating procedures on the LMOs that they are developing in laboratories and green houses. The embargo on LMO cultivation has adversely affected their work as they cannot advance to the next level which is to make the LMO available to the environment.

123. A fully operational system has yet to be proved effective when challenged by LMOs applications and development in the country. The same goes for the effective functioning of the NBC that, though formally established, did not have the opportunity to be particularly active, so far, in matters of locally developed LMOs. However, the risk assessment aspect is yet to be put into test and use. This may be attributed to the embargo by the Government on local production or cultivation of LMOs. Moreover, the structure of NBC is highly unbalanced, with just two representatives from outside the Government (one PhD-holding member of Scientific-Specialized Associations of Modern Biotechnology and one Nongovernmental Organizations. Relevant foundations have been built up, partly achieved.

Likelihood of Impact

Likelihood of impact using ROtI and based on reconstructed ToC

124. The intended impact of the project is the Global Environmental Benefit to which it contributes: the enhanced conservation and sustainable use of biological diversity in Iran. The pathway from the Project Outcome (a fully operational NBF) to the intended Impact is not a straightforward process: transitional conditions (called Intermediate States) have to be fulfilled, which presents our understanding of the causal logic and of the pathway from Outcome to Impact.

125. Three main Intermediate States (I.S.) have been identified. Under the conditions that, firstly, the NBF has the financial resources to effectively implement its Work Plan and, secondly, that the NBC will be well resourced with capacity to handle applications, the process will lead to "Improved decision-making processes for LMOs approval, effective implementation mechanisms and enhanced quality information and transparency" (I.S. 1). Key impact drivers in that step are the coordinating role of the National Biosafety Council (NBC) and of the National Competent Authority/NCA (DoE), effective community and leaving out the general public that may not be aware of LMOs as a subject. Awareness-raising and public-opinion concerns are a top priority for all stakeholders, including high- level public administration officials, academics, and private sector. As the interviewed stakeholders also indicated, there is still room for improvement, although good results were achieved during the Project's lifespan. **The Outcome's delivery is rated Satisfactory (S).**

126. From the above analysis regarding the five Immediate Outcomes, it can be concluded that the Country has steadily moved towards the achievement of the main Project Outcome "A workable and transparent National Biosafety Framework (NBF)". All the necessary conditions have been set, yet its full achievement will require the consolidation and the practical application of the systems put in place, which did not have many concrete opportunities to be challenged and proved so far, given the early stage of LMOs development in the country. Notwithstanding these limitations, the achievement of the Outcome can be considered overall as certainly Satisfactory (S) and promising, if the strength and motivation of the key-drivers are maintained and some conditions are fulfilled.

127. The Review considers that the main key-drivers of the implementation process have been:

(a)the technical and methodological assistance of the Project (the National Project Coordinator/NPC and his team);

(b) the NEA (DoE, Min. of Environment), particularly the Biosafety Unit that has completely fulfilled its leading and coordinating role; the strong and effective integration of the Project Team in the DoE and the motivation of the staff involved.

(c)the effective guidance and supervision provided by UNEP Management Officers (Biosafety Unit).

In the understanding of the Reviewer, the full achievement of the five Direct/Immediate Outcomes would need the fulfilment of some assumptions, namely:

(I) The National Biosafety Council (NBC) becomes a more dynamic and inclusive institution, for a more solid institutional up-taking of Biosafety in the country.

(II) Forms of technical and more flexible coordination are explored (e.g., working group, task force, technical / scientific committees,) in order to strengthen the existing coordination and to increase the responsibilities of other national stakeholders in running the Biosafety agenda.

(III) the lifting of the ban on cultivation of LMOs to allow for the technology to be tried and tested in the Country.

(IV) LMOs management systems (e.g. for detection and referral, for handling applications, for risk assessment and monitoring), active stakeholders and public participation, quality information available and timely flowing into BCH and national websites.

128. Improved decision-making will lead to **"Improved Governance of National/International Biosafety systems based upon: Rule of Law and Compliance, Accountability and Liability, Equity, Transparency and Citizens' Participation" (I.S. 2)**, under the assumption that the political will of the Governments is not missing. That should be reflected in the consolidation of NBF Work Plans to streamline national policy on Biosafety into government plans. The main impact drivers at that stage will be effective forms of stakeholders' participation (in planning, decision making and funding), conducive to open and transparent information flows and negotiation processes at different levels.

129. **The Intermediate State 3 (I.S. 3) is the Objective of the Protocol itself, as stated in its art. 1: "The safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements".** Political will and negotiations will act as impact drivers at that level, under the main assumption that the NCA's decision-making persists based on rigorous Risk Assessment and Risk Management best practices, and those financial resources flow into Biosafety programs mechanisms.

130. Under the same assumption that internationally followed principles of Risk Assessment and Risk Management are lastingly used by the National Competent Authorities (NCA) for deciding on LMOs production/use, the Project Impact (Enhanced Conservation and Sustainable Use of Biological Diversity in Iran) can be achieved. The discussion of the likelihood of impact cannot be disconnected from the discussion of sustainability of direct project outcomes because it will take a long time to achieve medium term outcomes, the intermediate state, and impact, well beyond the project lifetime.

131. **The immediate project outcome "Strengthened Management System and fully operational National Biosafety Framework in Iran**". – will require sustained support for national measures to implement it, long after project completion, and additional follow-up activities will be required for the intended impact to occur." This main Outcome is not the end but a precondition for progressively achieving high international standards in Risk Assessment and Risk Management, consequently ensuring "Enhanced Conservation and Sustainable Use of Biological Diversity in Iran." The Project document did not consider pathways toward impact because that type of analysis was not required at the time the project was designed. The Project document also did not ask the question 'what next?' GEF6 (2014-2018) supports national measures designed to move towards the medium-term outcomes and the intermediate state proposed in the reconstructed ToC. Using the reconstructed Theory of Change, the results from the implementation of the project show that the project made appreciable progress from results towards impact. Indeed, with effective government commitment and support, collaboration among scientists and relevant agencies such as the customs department, public awareness, education and participation campaigns and Civil Society Organizations (CSO) and NGO support, the impact of the project can be achieved.

132. **A fully functional and effective regulatory and administrative system established for the implementation of the Biosafety Act**. A direct outcome of the project which involved setting up or enhancing the functioning components of a national biosafety framework comprising a system for receiving LMO applications with transparent procedures for handling applications for LMO contained use, field trial, environmental release permit and for marketing was achieved. The project ensured the harmonization and implementation of national biosafety instruments. The project further established procedures and processes including administrative filing procedures which are supported by a functional Biosafety Unit made up of a Biosafety Council as its decision-making body and Human resource capacity for risk assessment and management developed. Concurrently with the development of the procedures and processes along with institutional arrangements, the necessary human capacity for risk assessment and management, a mandatory component of LMO decision making was enhanced. Workshops were held with the aim of increasing the necessary human resource capacity for risk assessment, evaluation, and management, including socio economic considerations. These workshops enabled better understanding of the impacts of LMOs on the ecosystem function. Safety levels and measures in the use of biotechnology products for contained use were established with the development of laboratory protocols, equipping designated laboratories with LMO detection equipment, sample collection protocols and the standardization of good laboratory practices (Standard Operating Procedures) for the various safety level laboratories.

133. **Accommodation for the LMO identification laboratory is in place and equipped.** Arrangements are also far advanced to leverage the sampling equipment that already exists in ABRII, NIGEB and in the DoE. Training in LMO Sampling; field trial inspection; contained use facility inspection are ongoing. An established information sharing system with mechanism for public engagement and collaboration: Another direct outcome of the project is the establishment of a national Biosafety Clearing- house which has a direct link with the global BCH in the exchange of information to facilitate the decision making, public awareness, education, and participation.

134. The reconstructed ToC identifies two medium-term outcomes on the causal pathway that the direct outcomes may be expected to open up:

(a) The adopted policy framework regulations to implement the Policy; and
(b) strengthened capacity to carry out risk assessments, make decisions, manage, and monitor risks.

135. The reconstructed ToC identifies three successive levels of intermediate states through which the project's medium-term outcomes could move toward impact. The first is that self-sustaining implementation mechanisms will be established and maintained at national levels. As those self-sustaining mechanisms are put in place and function effectively, it will be possible to progress to the second level of intermediate states. The project document listed benefits that building capacity to implement the NBF would generate.

136. The reconstructed ToC reflects these benefits as four second-level intermediate states: This project will contribute to the safe use of modern biotechnology, preventing potential harm and giving the opportunity for both environmental and socio-economic benefits; By improving the laboratories for LMO detection, this project will also improve the monitoring and surveillance system in the country; There is long-term effect of the project as biotechnology is an evolving area and by defining clear rules

initially; the country will benefit from it later on, and evading the harm to the environment and human health.

Rating of Likelihood of Impact is Likely.

Drivers and Assumptions

137. The Project document did not identify drivers. This Terminal Review extracted information from the project document to propose what could have been a driver for the project: The reconstructed ToC reflects two of the project document's assumptions as common drivers for all three medium-term outcomes: governments remain willing to involve other stakeholders and all stakeholders maintain their engagement. The Outputs and Outcomes analyzed above must be understood along the whole causal pathway as shown in the TOC, where a "Strengthened Management System and fully operational National Biosafety Framework in Iran" (Main Outcome) is not the end but a precondition for progressively achieving high international standards in Risk Assessment and Risk Management, consequently ensuring "Enhanced Conservation and Sustainable Use of Biological Diversity in Iran". As stated in the context section, Iran, has a robust, multi-year, experience in biosafety, a strategic vision, vigorous technical / scientific, economic, and institutional capabilities. The NBF is in place, and it may be expected to move to the next intermediate states, up to the final impact / global environmental benefit. Regarding Intermediate State 1, i.e., "LMOs' safe intentional release into the environment with emphasis on the number of LMOs still at the contained field trials stage in the laboratories (weather public or private Laboratories) there have been no decisions on release local development of LMOs in Iran, although the legal framework is ensured through the Regulations and implementing guidelines are in place.

138. The assumptions related to I.S. 1 and I.S. 2 are not yet fully satisfied, i.e., the political will does not seem sufficient. Although the Five-year National Action Plan includes budgetary allocations, there seems to be reluctance to allow the local development of LMOs hence keeping the researchers in abeyance. Not much is reported on the Public-Private Partnership although the relevance of the private sector is acknowledged by all stakeholders consulted. Effective forms of stakeholders' participation (in planning, decision making and funding), conducive to open and transparent information flows and negotiation processes at different levels, are still to be strengthened and confirmed. All in all, the project's intended outcomes were achieved at the time of the review, the Assumptions for progress to the Intermediate States identified in the Theory of Change held partially, and the Drivers to support transition to towards Impact were also partially in place. Notwithstanding the robust technical and institutional background of the country, the Impact i.e. "Enhanced Conservation and Sustainable Use of Biological Diversity in Iran" is rated Moderately Likely to be achieved, at least in the medium term.

139. The key drivers were effective government commitment and support, good collaboration among scientists and relevant agencies workable mechanisms for public awareness, education and participation campaigns and support by CSOs and NGOs. The government through the DoE provided dedicated staff time and logistics to support the project. There has also been good collaboration among scientists and relevant agencies which maximizes use of available resources for the project. Other drivers include active engagement of stakeholders including civil society and the private sector and the researchers who provided support for training and private sector support for training technicians in laboratories.

EXHIBIT 5: OUTCOMES TO IMPACTS PATHWAYS			
Outcomes	**Impact Drivers (ID) and Assumptions (A)**	**Intermediate State**	**Impact**
Formal approval of biosafety policy for the safe application of modern biotechnology across sector A fully functional and responsive regulatory regime established in place A follow up system in place able to monitor environmental effects and enforce regulations An established information sharing system with mechanism for public engagement and collaboration	**Impact Drivers (ID)** +Effective government commitment and support +Good collaboration among scientists and relevant agencies +Workable mechanisms for public awareness, education and participation campaigns and support by CSOs and NGOs. Assumptions +There will be no changes in the managers of the biosafety stakeholders and no delays in project implementation. + Good cooperation among stakeholders and no different opinions between stakeholders in all areas, for example for accepting of the development a biosafety regulatory framework. +Stakeholders will be willing to participate and support the project activities.	Improved decision-making processes for LMOs approval, effective implementation mechanisms and enhanced quality information and transparency Rule of Law and Compliance, Accountability and Liability, Equity, Transparency and Citizens' Participation The safe transfer, handling, and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements	The enhanced conservation and sustainable use of biological diversity in Iran. Globally significant biodiversity conserved

E. Financial Management

140. The project followed UNEP's financial policies and procedures, as stipulated in the Project Cooperation Agreement (PCA), which describes the project's financial management, contracting procedures, as well as conditions and obligations related to project implementation, subcontracts, personnel administration, cost overruns, project management costs, record keeping, unspent balances, and reporting requirements will be carried out. Adherence to these policies and procedures is reported in the periodic expenditure reports, budget reviews, and financial documents to which the reviewer had access during this Review.

141. The first disbursement was delayed. It was made on 31.12.2013, though the project was approved by UNEP ON 28.09.2012. In general, the financial information provided was complete. The original budget, as given in the Prodoc was detailed in terms of expenditures per project component and per UN Environment Programme expenditure category. It also provided a breakdown by the activities to be performed within each category. Administration and reporting were further done following UNEP expenditure categories and presented in Budget Revisions and Periodic Expenditure Reports. All the dimensions of financial management have been very satisfactorily addressed by the Project Information about actual project costs and co-financing used has been supplied by the Project. Actual Project expenditure by operational component was effectively used. There were no formal audit reports as the payment for goods and services were effected by UNDP on behalf of UNEP for the Iranian Project. An audit letter was issued by UNDP at the end of the project. **The overall rating for Financial Management is Highly Satisfactory.**

F. Efficiency

142. The Project suffered from initial delays, as showed by the intervals between GEF approval (Nov 2011) UNEP approval (April 2012) and the actual start of the operations (May 2012), due to the concomitance of different administrative, procedural and political impediments. The first year of implementation was also slow, until a new dynamic team (Project Coordinator and Financial Assistant) was recruited in 2012 and formally took over in December 2012. There were two changes in the NPC before the third NPC settled and continued with the smooth implementation of the project. The project also suffered the political transitions that the country was facing. There were two presidential elections in between the project implementation, namely 2013 and 2017 respectively and with each change of Cabinet meant a new arrangement as to the Ministers, the organization of the Ministries and the heads of the Ministries. These changes led to the abrupt interruption of Project operations.

143. Further, the economic and financial measures levied against Iran have hampered or slowed down project activities, as the UNEP-GEF Funding was in USD, thus making it difficult to transact. In as much as the sanctions still exist, the situation was alleviated by using the UNDP Country office to make necessary payments for the smooth running of the project. The project has been granted three extensions (dated 21st June 2015; 29th June 2017 and 22nd January 2020) and thirteen (13) budget revisions. These extensions and budget revisions were necessary for the project completion. Since then, the Project has been run very efficiently, catching up on the initial delay and practically developing all the activities foreseen in just three years (completion due in December 2020), instead of the four years initially planned. UNEP and Government disbursements have also been timely, through UNDP. Finally, the COVID pandemic didn't appear to impact on the project too much on project program. This

is because most of the project activities had been completed by the time the covid restrictions took effect. The remaining project activities involving meetings, seminars and workshops were conducted online when COVID restrictions hit. Despite the initial delays and the no-cost extension, the efficiency of the project is **considered as satisfactory.**

G. Monitoring and Reporting

144. The project document included the standard UNEP/GEF budgeted monitoring and Evaluation plan with a specific budget, timeframe, and responsible parties. UNEP holds the responsibility of following up on the M&E plan which is supposed to be conducted in accordance with the established UNEP and GEF procedures. A total of US$ 13,000, about 3.7% of the total GEF grant was allocated for the M&E activities and had to be supplemented with in kind co-finance. Evidently, this amount is not enough to conduct the proposed M&E plan. The TR consultant reviewed three M&E plans for 2017, 2018 and 2019. The Plans were very detailed. In addition to the standard M&E plan, all standard UNEP/GEF M&E tools were included in the project document, including the log-frame, indicators, targets, inception workshop, an inception report, Terminal Review, learning and knowledge sharing, project's audit, the quarterly and annual progress reports, and Steering Committee meetings.

145. The quality of the logical framework of the Project was considered quite satisfactory in the assessment of the Project Design presented in the Inception Report. The framework contains all the standard elements (Outcomes and Outputs, Objectively Verifiable Indicators, Means of Verification Important Assumptions), though with some evident shortcomings, like the lack of quantification of some of the Outputs. The ProDoc contemplates a Budget Table that specifies the yearly and total amount for Monitoring and Evaluation and for Audit. Budget provisions exist both for Mid-term and Terminal Review. They have both materialized through the mission of the UNEP Task Manager mission and the current Terminal Review. For this review, the consultant held constant communication with the Task Manager and regularly exchanged email messages during the conduct of the Terminal Review. The Task Manager provided the Reviewer with access to the ANUBIS database, the repository of most of the project information.

146. As noted above, oversight and supervision by the Task Manager was based mainly on the PIRs, technical backstopping/reviews and country visits. The PIRs and Half Yearly progress reports provided detailed information on the assessment of project progress as well as actions needed to address identified problems. The PIRs also included a detailed analysis of risks, and the Task Manager was responsible for providing ratings on his assessment of risks to the project. This Terminal Review found that ratings assigned in the PIRs were realistic. The Task Manager closely monitored project progress and regularly communicated with the lead Project Coordination Office to ensure that problems and challenges in project implementation were promptly addressed. The Project team considers that the UNEP/GEF Monitoring system in place (progress reports) has been useful and effective in following Project's implementation. **Overall, the Monitoring and Reporting n score is Highly Satisfactory (HS).**

Implementation of M&E

147. The Terminal Reviewer reviews the UNEP role as project assurance and considers that it has been correctly and effectively applied to this project, due to the following observations: -

The UNEP Task Manager has been very active in

- preparing project annual progress reports,
- preparing, discussing, and finalizing annual work plans in line with the UNEP/GEF guidelines,
- following up in financial payments and transactions, and
- providing crucialsupport to mobilize consultants/advisors to support project implementation.

148. The project's M&E activities followed the UNEP/GEF established procedures as the Task Manager as well as the Project Team have conducted several monitoring exercises including preparation and review of the project progress reports and participation in the project Steering Committee meetings. The project document identified key elements of the Project's M&E. The rating on M & E implementation is Highly satisfactory.

Annual Progress Reports (APRs) and Project Implementation Report (PIR)

149. The APRs/PIRs are UNEP-GEF's requirement and part of UNEP's Country Office central oversight, monitoring, and project management. According to the project document, an APR/PIR is to be prepared on an annual basis by June but should be completed well before this deadline (at least one month) to be considered at the Project Steering Committee meeting. The Reviewer used the APR/PIRs to identify any changes in the project's structure, indicators, work plan, among others, and view a history of delivery and assessment. Reviewing the APRs highlighted the project's progress per component, key successes, challenges, and lessons, as well as financial progress.

Project Steering Committee meeting

150. The project is subject to Project Steering Committee meetings at least four times per year as per the project document. However, the Project developed an intensive project implementation follow up mechanisms including: - The establishment of a Project Review Committee; A project implementation committee which was organized on a yearly basis and the Project Annual Work Plan review meeting. The Tr observed the high-level commitment of the Government of Iran, UNEP, and the Project team in meeting on monthly, quarterly, and annual bases to review the project progress and consider these mechanisms as effective and efficient adaptive management measures that helped the project to achieve all its outcomes despite the delays it encountered at the beginning of the project. Half Progress Monitoring (QPRs); are short reports outlining the main updates in project performance and are to be provided bi-annually to the UNEP Task Team with quarterly expenditure reports.

H. Sustainability

Socio-political Sustainability

151. The socio-political sustainability of the project interventions are often influenced by broader contexts and external factors that are outside the project's influence. In this regard, Component A of the project has created the platform from which project sustainability will be attained, though generating a degree of ownership within each Entity whilst infusing clear commitment needs amongst all relevant stakeholders that is needed in the future. Once established through an existing

proclamation process, Biosafety in Iran will then be subjected to the development of its own sustainability mechanisms, such as their own income generation plans, for instance through the approvals for use, including cultivation, imports and exports, thus leading to a pathway for self-sustainability. Many of the project interventions are designed to support larger processes that are (hopefully) going to continue beyond the project's scope and timeline. The project has faced political and economic challenges that are factors outside the project but important to the completion of the project. However, the project has demonstrated that despite the political administrative challenges, efforts can be made at the national level to move biodiversity conservation forward. The project has also shown that all parties (including political ones) can attempt to work in partnership to achieve the common goal of biodiversity conservation. The visits made during the Terminal Review has noted that there is now impetus for a sustained approach towards implementing the National Biosafety Project as the Country is in the process of amending the Biosafety law with a view to accommodating emerging biotechnology trends. The inclusion of Biosafety in the National five-year Action Plan is a boost as it shows that the biosafety activities are planned and budgeted for.

152. Finally, it is observable, however that the relevant subsectors, namely agriculture, science, research and technology, environment, health need to ensure that biosafety matters are incorporated into their specific sectoral or ministerial plans and budgeted for. Thus, a policy framework at national level to sustain the project's achievements and lessons learned beyond the project expiry period now needs to be better conveyed. The vehicle for this is likely to be through the National 5-Year Action Plan, the Biosafety Law, regulations and even strategies. **Rating for Socio- political Sustainability: Moderately Likely**

Financial Sustainability

153. Financial sustainability is deeply linked to and dependent on Socio-political and Institutional Sustainability. It is also an area of concern among the stakeholders. The approval of the National Biosafety Framework and the Biosafety Policy by the Government gives elements of optimism, since the Policy will be included in the budget by the Ministry of Finance. However, whether the budget assigned for Policy implementation would be enough to carry out the planned activities or not, remains to be seen. On the other hand, modern biotechnology tools can be developed in the emerging areas of synthetic biotechnology and gene editing for which Biosafety can play a critical role in which such services can be paid for by the private sector. Financial sustainability will largely depend on funding from the national budget, technology transfer to the private sector or biosafety related financing streams and initiatives of other external donors and regional institutions, as the project design did not propose specific strategies for self-financing in the post-project period. Opportunities for financial sustainability, however, remain extremely variable according to each Entity and includes commitments of long-term investment that are needed by inter alia government departments, universities, community organizations and private sector.

154. Though GEF 7 has allocated 5M USD to Biodiversity for Iran and Biosafety is included in the biodiversity package, the need for alternative sources of funding for the implementation of the NBF is recognized. The main stakeholders are keen on having a public -private partnership for the management of Biosafety resources to have the private sector injecting capital in Biotechnology and

ensuring financial sustainability. It is thus important that any follow-up phase is designed and implemented as soon as possible before the momentum built by the project is lost.
Financial Sustainability is rated ML (Moderately Likely).

Institutional Sustainability

155. The interaction that exists between government institutions that are part of the NBC and intersectoral committees lends to greater institutional sustainability in terms of their respective mandates to work on biosafety related to the handling of LMOs. The leadership at the DoE during the implementation of this project proved to be an important link to create a space for the exchange of ideas, needs, and opportunities, and continuing with the expressed commitment of other institutions. The Review observed that there are opportunities to foster institutional sustainability and to consolidate the biosafety framework by strengthening collaboration ties with research institutes and working to incorporate the academic sector, which can be a great ally in the sustainability of this issue due to its research activities that can guide the biosafety procedures to be undertaken. Considering the capacity-building activities carried out within the project, and the fact that their contribution to strengthening biosafety knowledge is unanimously recognized by all the institutions involved, and it will be imperative that the institutions find ways to continue with these initiatives that contribute to institutional sustainability. Therefore, the **overall institutional sustainability is moderately l**ikely if the coordination and communication between the key stakeholders of this project are maintained.

I. Factors Affecting Performance and Cross Cutting Issues

Preparedness and Readiness

156. The Islamic Republic of Iran was prepared to implement the project and take full advantage of GEF financing. Iran ratified the CPB in 2004. The country is a leader within West Asia in terms of installed biotechnology biosafety capabilities - as evidenced by the National Institute of Genetic Engineering and Biotechnology (NIGEB), the Agriculture Biotechnology Research Institute, Pasteur Institute of Iran, Jahad Daneshgahi, among others - and has consistently applied risk analysis practices for the authorization of agricultural LMO for importation of animal feed. The Agricultural Biotechnology Research Institute, affiliated to the Ministry of Jihad Agriculture is the first in Iran to produce transgenic rice and plays an important role in research in the field of Agricultural Biotechnology. This centre is equipped with strong professional personnel and educational facilities and at the onset of the project, announced its willingness to put these facilities at the disposal of the project. Likewise, the Pasteur Institute of Iran affiliated to the Ministry of Health, Therapy and Medical Training. This institute, working in the field of production and application of human vaccines, is a large research centre playing a pivotal role in the development of biotechnology and genetic. This centre has many skilled professionals who were instrumental in creating public awareness and education on biotechnology and were employed in assisting this project. This centre also plays a central role in the policy making and law-making at the Ministry Health, Therapy and Medical Training in the field of biotechnology and genetics. Razi vaccine and Serum research Institute is affiliated to the Ministry of Agriculture and produces bestial vaccines. The huge facilities of this centre, including educational area and laboratory facilities was also instrumental in this project as the researchers and experts cooperated with the project team in theoretical and practical. The biosafety capacities generated over the years have largely remained in place. This has enabled the continuity of technical staff despite

periodic changes of government and allowed Iran's NBF to progressively build on the achievements of past projects. The current project was designed to implement the NBF that was developed in phase 1 of the funding by UNEP-GEF. The choice of implementing and executing partners, based on their respective competencies, contributed to the successful implementation of the project. The implementing partners (MRST, MAJ, MOH, Standards Organization, NIGEB and ABRII were identified at the project preparation phase. Additional executing partners were also identified during the inception phase.

Project Implementation Approach and Supervision

157. The Reviewer has reviewed and assessed the project implementation arrangement and its adaptive management. The following aspects of project implementation have been assessed: the changes to the project design and project outputs during implementation- adaptive management; Partnership arrangements (with relevant stakeholders involved in the country); Feedback from M&E activities used for adaptive management; Project finance; Monitoring and evaluation; design at entry and implementation, and UNEP and Implementation Partner Implementation/ execution coordination, and operational issues. Achievements of project implementation and adaptive management have been rated in terms of the criteria above at a six-level scale. The following paragraphs provide a complete review and justifications for the rating of the results.

Inception Phase

158. According to the UNEP-GEF project management guidelines, the inception phase is considered as an opportunity to unite the project management team, to define the current and near-future status of the project, to discuss and review the project strategy with stakeholders, to put in place the necessary logistics, to develop the first Annual Work Plan and to review and refine the Project Logical Framework. The major output of the inception phase should be the Inception Report and the first annual work plan, which, on an agreement with the Project Board, should form a necessary flexible basis for implementation. The Inception workshop discussed the project's log-frame, work- plan, and proposed making the needed modifications to the Log Frame. However, no changes were reflected in the Inception report or the project document. The Project Steering Committee has been quite active. Meanwhile, the National Biosafety Council (NBC) was established under the Biosafety Act, virtually with the same membership of the Project Steering Committee and with overall functions of strategic guidance and coordination of Biosafety in the country. Based on the nature of NBC it may be useful to have technical subcommittee(s) or experts' working groups who can provide technical advice to facilitate the decision-making work of the Committee.

Adaptive Management

159. The project started 12month after the planned date due to bureaucratic procedures for new projects. The project team therefore introduced a few adaptive management measures to overcome the barriers and constraints facing the project's implementation. The project management developed progress reports during the project cycle which reviewed the accomplished activities against the expected achievements, presenting the plans for the remaining activities. The reports also presented the challenges such as those related to the delay in the project activities. The reports have been

prepared by responding to a structured set of questions and the presented information in the progress reports and in the Terminal, Report was quite informative for this Terminal Review. The project encountered delays in implementation mainly due to the political and economic embargoes which limited access to GEF resources for delivery of project activities and procurement of external resources. Although the three time no cost extension might be regarded as acceptable, the fact that plenty of the project activities have been delayed and shifted to this extension and considerably squeezed makes the project efficiency questionable. However, it should be kept in mind that some of the delays were caused by factors outside the control of the project, e.g. political transition, political embargoes and change of government. One of the prepared progress reports includes a section about the challenge encountered and the actions taken by the project management to deal with these challenges.

Feedback from M&E Activities used for Adaptive Management

160. The Project Management Team had an honest desire to get on with the job and get some of the project's activities in place despite the delay of commencing project activities at the beginning of the project. The monitoring role of the UNEP was satisfactory as the Project Assurance has been active in assisting in the preparation of the project quarterly financial report and annual progress reports, monthly reports, as well as in preparing for the project review, development of the project annual work plans, budget reviewing and follow up on the consultants' works and quality of the deliverables. The risks and issues were updated on a regular basis/quarterly basis and the mitigation measures provided. Project activities were organized under five components and the appropriate designated partner(s) was assigned to lead each component and for delivery of specific outputs. Most activities at the initial stage were conducted under the leadership of the technical working Groups set up in the Ministries and Government Departments. In general, the working relationship between partners was excellent. It is credit to the project management team for their strength and organization that the project was able to achieve as much as it did within the timeframe and to work within the budget allocated despite the challenges inherent in the project design. Project implementation and management rating was **Highly Satisfactory**.

Partnership Arrangements

161. The Project has established several key partnerships with the main stakeholders, and other key partners like The National Centre for Genetic Resources of Iran affiliated to Jahad Daneshgahi. This centre is responsible for the banking of genetics, cell and tissue materials of all living organisms. The centre also plays a management networking role to coordinate the collaboration of all gene cell and tissue banks across the country. This centre is prepared to provide the educational facilities related to the project such as laboratories, classroom space etc. The university of Jahad Daneshgahi is one of the significant organizations playing a vital role in providing the link between universities and industries in the country. The centre is renowned for performing the first animal cloning and production of transgenic animals in Iran. It also bears an important role in the field of stem cell research inside the country. Other partners involved in project implementation were the Working Groups, Knowledge

Product Partners and Action Advocacy Partners such as the Biosafety Association of Iran.

162. The project required a range of knowledge and expertise that is not usually available within a single organization or a single sector of activity. Among the major factors that contributed to the success of the project was the fact that the overall project team was multi-sectoral and represented a coalition of key actors that were well-positioned to advance biosafety within their own organization and to outreach to their specific networks and allies to advocate more broadly for biosafety. That is why partners at all levels were co-opted based on their respective expertise and comparative advantages.

163. To strengthen this, strategic partnership arrangements with well-defined roles and responsibilities were formed to include the executing agency, the project Steering Committee. The technical working groups, the knowledge product partners and action and advocacy partners. The clear and well-defined roles of all involved in the project design and implementation encouraged key stakeholders to participate in the project. The project managed to include many stakeholders in the project's technical working groups and committees as well as in the comprehensive training program. The overall conclusion is that project management has achieved an acceptable level of partnership with the relevant national stakeholders, but the established partnership could have been stronger.

Quality of Project Management and Supervision

164. Supervision and backstopping were provided by the project's Task Manager, who is based in the UNEP Head Quarters in Nairobi, Kenya. The governance and supervision arrangements were straightforward. According to the project document the roles and responsibilities for project coordination and management were to be shared by UNEP, as the GEF implementing agency, and the DoE as the executing agency. UNEP was expected to be responsible for coordinating activities, monitoring the implementation, guided by UNEP's standard M&E procedures, and transmitting financial and progress reports to the GEF. DoE was supposed to be responsible for coordinating and managing project implementation on a day-to-day basis. UNEP/GEF office monitored the project in accordance with the agreed budget and disbursed funds to facilitate implementation. As part of its supervision and backstopping role, UNEP closely monitored project progress and was instrumental in communicating the GEF requirements for project reports and evaluations to project partners. It participated in the annual review meetings and in turn provided report to GEF. It was recognized that all requests, (mostly financial and related to disbursements of funds for activities) handled by UNEP were done in an expeditious and professional manner. No major issues in project implementation and execution were encountered. The rating on UNEP supervision and backstopping is Highly Satisfactory.

Stakeholder Participation and Cooperation

165. The Project has established several key partnerships with the main stakeholders, and other key partners like The National Centre for Genetic Resources of Iran affiliated to Jahad Daneshgahi. This centre is responsible for the banking of genetics, cell and tissue materials of all living organisms. The centre also plays a management networking role to coordinate the collaboration of all gene cell and tissue banks across the country. This centre is prepared to provide the educational facilities related to the project such as laboratories, classroom space etc. The university of Jahad Daneshgahi is one of the significant organizations playing a vital role in providing the link between universities and industries

in the country. The centre is renowned for performing the first animal cloning and production of transgenic animals in Iran. It also bears an important role in the field of stem cell research inside the country. Other partners involved in project implementation were the Working Groups, Knowledge Product Partners and Action Advocacy Partners such as the Biosafety Association of Iran. The project required a range of knowledge and expertise that is not usually available within a single organization or a single sector of activity. Among the major factors that contributed to the success of the project was the fact that the overall project team was multi-sectoral and represented a coalition of key actors that were well-positioned to advance biosafety within their own organization and to outreach to their specific networks and allies to advocate more broadly for biosafety. That is why partners at all levels were co-opted based on their respective expertise and comparative advantages. To strengthen this, strategic partnership arrangements with well-defined roles and responsibilities were formed to include the executing agency, the project Steering Committee. The technical working groups, the knowledge product partners and action and advocacy partners. The clear and well-defined roles of all involved in the project design and implementation encouraged key stakeholders to participate in the project. The project managed to include many stakeholders in the project's technical working groups and committees as well as in the comprehensive training program. The overall conclusion is that project management has achieved an acceptable level of partnership with the relevant national stakeholders, but the established partnership could have been stronger.

Responsiveness to Human Rights and Gender Equality

166. While Iran has been criticized for limiting freedom of speech and public gatherings, this apparently didn't hinder the biosafety project. This is evidenced by the numerous conferences and workshops organized by various stakeholder groups, where they freely discussed biosafety issues in Iran, despite the criticisms surrounding limitations on free expression and assembly. The project has had considerable contribution to the gender mainstreaming. The project maintained a good balance throughout the project implementation. The project benefited from the presence of women in many aspects. Unlike many countries, Women in Iran, have had an undeniable impact on the project's progression. In all of the workshops that have been conducted by the project, the gender balance was maintained. Throughout the review process and in the compilation of the Final Review Report efforts have been made to represent the views of both mainstream and more marginalised groups. All efforts to provide respondents with anonymity have been made.

The consideration of human rights and gender considerations were considered Satisfactory.

Environmental and Social Safeguards

167. A Safeguards Plan was not required for GEF 4 projects at the time of CEO Approval. However the project focuses on the implementation of the Cartagena protocol on Biosafety which is an Environmental and Social Safeguards instrument. The project did deliver risk assessment and risk management guidelines and technical manuals with LMO Detection capacity which will facilitate and provide support in measures on environmental and social safeguards including sustainable use of biodiversity. The risks identified during the project were two, namely (a)COVID-19 causing lockdown

and slowing down of activities and (b) the unpredictability of the economic sanctions placed on the Government of Iran, it was not clear if the project would be accomplished. **The risks were however later classified as low risk. The environmental and social safeguards were rated as Satisfactory.**

Communication and Public Awareness

168. The project was built around five core components with associated outputs. The third component "public awareness and participation was essentially about communication and public awareness. As a cross-cutting issue over the life-span of the project, communication and public awareness could be analysed at three complementary levels: community level, regional level and nationally. At local, community and regional level effective communication of learning and experience sharing between project partner and interested groups occurred. The public awareness activities undertaken during the implementation of the project to shape behaviour among wider communities were effective. These various activities included learning exchanges on sites and awareness meetings, workshops and conferences with a raft of stakeholders including students, researchers, relevant officers carrying out monitoring function and NGOs. This communication activity was well targeted towards key audiences (local leaders, beneficiaries, population at large, including most marginalized). The project also used regional radio and TVs as effective communication channels. These communication activities and channels were well tailor-made to local farmers driving the desired change and who have moderate awareness of the project's main messages. In addition to its core activities, the project produced a range of communication materials, such as brochures, videos, and animated books, tailored to specific audiences. **Communication and Public awareness was rated highly satisfactory**

Country Ownership and Driven-Ness

169. Implementation of the National Biosafety Framework of Iran was country driven with high levels of national ownership throughout the project cycle. National partners assumed full responsibility. National ownership was also evidenced in the co-financing provided by the Government. Country ownership made effective through the leading role of the DoE, as previously explained under Sustainability (4.4.3). The existing legal and policy framework is proof of that, particularly the BNSAP. The NBC has still to prove its effectiveness, as well as the national systems for handling applications and carrying out LMOs monitoring and enforcement, but the institutional instruments are there, and the country is surely prepared and willing to drive the process. **Overall, country ownership is strong, rated Highly Satisfactory (HS).**

Financial Planning and Management

170. Financial planning and management were consistent with UNEP/GEF procedures. Allocation and schedule of disbursement were well defined from inception workshop to Terminal Review. Funds were allocated for the execution of specific intervention/activities. An adequate and detailed financial reporting (according to UNEP/GEF) was presented. There were 13 budget revisions, all done to accommodate the extension period of the project. The actual funds used were in line with the planned budget. Disbursements were made, through UNDP, under the supervision of the project manager and

the assistance of the financial administrative assistant. The total approved budget for the project was US $1,600,000.000 inclusive of US $851,000 in kind co-finance and the total expenditure as per the financial report provided was US $1,600,000.00. There was an adequate flow of funds. Funding did not seem to have affected operation and overall project performance. All budgeting and co-financing targets were met. Financial Planning and management is rated **Highly Satisfactory**

UNEP Supervision and Backstopping

171. Supervision and backstopping were provided by the project's Task Manager, who is based in the UNEP Head Quarters in Nairobi, Kenya. The governance and supervision arrangements were straightforward. According to the project document the roles and responsibilities for project coordination and management were to be shared by UNEP, as the GEF implementing agency, and the DoE as the executing agency. UNEP was expected to be responsible for coordinating activities, monitoring the implementation, guided by UNEP's standard M&E procedures, and transmitting financial and progress reports to the GEF. DoE was supposed to be responsible for coordinating and managing project implementation on a day-to-day basis. UNEP/GEF office monitored the project in accordance with the agreed budget and disbursed funds to facilitate implementation. As part of its supervision and backstopping role, UNEP closely monitored project progress and was instrumental in communicating the GEF requirements for project reports and evaluations to project partners. It participated in the annual review meetings and in turn provided report to GEF. It was recognized that all requests, (mostly financial and related to disbursements of funds for activities) handled by UNEP were done in an expeditious and professional manner. No major issues in project implementation and execution were encountered. The rating on UNEP supervision and backstopping is Highly Satisfactory. **Overall, the project preparation and readiness was Satisfactory**

VI CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

172. The UNEP-GEF funded Project "Capacity Building for the Development of the National Biosafety Framework of the Islamic Republic of Iran" has suffered from the slowing down of its activities since mid-2014 due to political embargoes outside the scope of the project but has been successfully completed after 69 months. Main reasons for the slowing down of activities can be identified as follows:

(a) The difficult socio-political situation the country has been going through for few years now, which hampers decision-making processes, amplifies politicization in the public sector and diminishes people's motivation and participation; The situation influenced the financial management of the project.

(b) The "silent embargo" on cultivation and environmental release of LMOs in Iran.

173. The Islamic Republic of Iran has interest and commitment in developing the Biotechnology sector while providing appropriate measures of environmental safeguard and mechanisms of Biosafety regulation and control. As emphasized in the Project Document "the issue is to maintain a balance between biotechnology development and a regulatory response to meet both national and international obligations". The Country prepared its National Biosafety Framework (NBF) with the support of previous GEF-UNEP Project on Development of NBF, as well as the Biosafety Law (approved by the Government in 2006). The necessary conditions were, therefore, met to move towards the implementation of the NBF, which was at the core of the rationale of the current Project. More specifically, the Project Document highlighted the need for "a coordinated approach to be developed to ensure that development of biotechnology is balanced by a sound and science based regulatory approach for the use of LMOs in Iran". In practical terms, the Project was formulated "to address the main constraints in areas like regulations and soft laws, capacity building in LMOs Risk Assessment and Risk Management, improved infrastructure for monitoring and detection of LMOs, and enhancing public awareness and capacity to actively and meaningfully participate in decision-making on LMOs notifications".

174. The Competent National Authority, which is the Department of Environment/DOE) has supported the Project in delivering different outputs for making fully operational the National Biosafety Framework (NBF) and in promoting a coordinated, interinstitutional approach to foster involvement and participation of different Biosafety national stakeholders. The development, approval, and implementation of a Biosafety Policy and of the updated Regulatory Regime, corresponding to expected Project Outcomes 1 and 2, have been at the focus of many Project activities: in depth analysis and assessment of existing legal instruments, large stakeholders' consultation, and final approval by the National Biosafety Council and adoption at Government level. The whole process has been highly energy and time-demanding, admittedly more extended than expected, but eventually concluded, after the life of the project. Whereas some argue that lack of commitment of policy and decision-makers could be blamed for that, it is also true that the process of elaboration, approvals, and final promulgation of legal instruments in Iran is normally very elaborate and time-consuming. Overall, it can be said that supplementary efforts and commitment on the side of Policy and Decision-makers

(Ministries, Government and Parliament), and of the Competent National Authority itself are needed to fully deliver the foreseen Policy and Regulatory instruments.

175. The Administrative System for Handling applications and Decision-making is in place, as well as the Monitoring and Enforcement System for the follow-up of the decisions made and is used as the reference laboratory and has on many occasions provided clarity of decision where there was a dispute of results between other LMO detection laboratories.

176. The component of public awareness and public participation related to Outcome 5 has not been developed as expected. Although the activities of public information and awareness have been elaborate for the research community including secondary school education, limited and a consistent strategic program to enhance public consultation, discussion and participation of the local public is not yet in place. This is an area of concern, particularly considering the increasing field trials and cultivation of LMO food crops, which could be a sensitive and controversial issue in future. The need for an appropriate Communication Strategy to identify different target groups to be matched with appropriate messages and forms of communication has not yet been adequately addressed. Appropriate institutional mechanisms of information-sharing like the BCH are also in need of a more dynamic and transparent approach regarding the communication process of risk assessment and decision-making.

177. Since the country is constantly importing LMO for feed/food and processing the effective functioning of the two Systems is key for the full operationalization of the NBF. The Project has supported the Competent National Authority to establish and improve both systems, with mixed results. The decision-making process and system is well tried and tested, whereas the functioning of the monitoring and enforcement system is still obscure. It is not clear how the monitoring and enforcement unit functions once the approval for importation of the LMO for feed and processing is triggered. Stakeholders' capacity building has been relevant for the setting of the Systems and is highly appreciated by the stakeholders. It unfolded through information, awareness raising and training activities, as well as through other opportunities of dialogue, interaction, and coordination (e.g., joint preparation of manuals, establishment of the Institutional Committees, setting of consensual Standard Procedures, etc.).

178. The project also provided regional opportunities for training and exchange. All stakeholders agree that information, awareness, knowledge, and technical capacities have significantly increased in the last few years, and that the efforts of the Project have strongly contributed to this result. It is also apparent that national capacities on Biosafety Management must be further improved, taking into consideration the fast development of the Biotechnology sector in Iran and the involvement of new human resources in the sector. All stakeholders agree that Risk Assessment is an area that needs to be constantly updated given the emerging biotechnologies, to sustain knowledge- based and technically sound decision-making on use of LMOs. Capacity Building on this subject has been generally pointed out as a priority need. The revision and updating of the Biosafety Guidelines (Outcome 2) have direct and evident implications on the Administrative and Decision-making System, as well as on the Monitoring and Enforcement System (Outcomes 3 and 4).

179. The Project has also supported the equipping of at least two LMO Detection laboratory and

capacity building through training of the laboratory staff on LMO detection, including sampling, analyzing and reporting the findings The Staff of the laboratory has received some initial trainings that have to be complemented by more hands-on training and follow-up. The potential of the laboratory has to be fully unfolded to support the testing and detection system of the materials entering into the country legally or illegally, particularly LMOs for Food, Feed and Processing (FFP).

180. A referral system linking border entry-points (Custom, Health and Agriculture border control systems) and the laboratory has been implemented. The National Genetic Engineering Institute. The political commitment of the country towards Biosafety has to be unequivocally expressed through the adoption and implementation of Policy and Regulatory frameworks and inclusion of Biosafety in the National Development Plan hence allowing biotechnology developers and biosafety regulators to be effectively and smoothly operational under clear and consensual strategies and regulations.

181. As a matter of fact, environmental release and LMOs production is a highly strategic debate evolving along social, political, ethical, environmental, and vital economic considerations in Iran. Taking the long view, in the global food market, Iran and its commercial partners are still considering which the best option to foster. Yet, at this stage, poultry and beef value chain represents a pressing economic factor that requires huge quantities of feed which, to be accessed at competitive prices in the global market, must be LMO. Currently, Iran has in place all NBF components, including a Biosafety Law that underpins the NBF, defining the Authorities, their mandate, and the means for their functioning. The DoE staffed by a small group of employees, is institutionally and financially underpinned by the Biosafety Law, and ensures the Secretariat of the Biosafety Council, which since its setting-up is regularly working and deliberating as the relevant number of decisions may prove. Although, in terms of Regulatory regime, the project registered consistent progress, several stakeholders consider that the Biosafety Law is strict and often implemented in a very severe manner. Additionally, although people have been informed how the NBF system works, the Government still has placed a 'silent embargo' on the development and environmental release of LMOs in Iran. These are relevant shortcomings that may still challenge the smooth functioning of the NBF system.

182. The Project has nevertheless delivered some relevant Outputs, such as:

- Stocktaking report and definition of a draft policy on Biosafety; -
- Draft guidelines on Risk Assessment (RA) and Risk Management (RM).
- Gap analysis of existing national capacities for LMOs laboratories settingand implementation.
- Training of at least 1000 scientists and lab officials on LMO Detection and Risk assessment
- Equipping of at least two main laboratories with LMO detection equipment

183. The Project has been very active and successful in catalyzing and championing the Biosafety agenda in the country, by largely contributing to high-quality assessments of existing legal, procedural and technical gaps, by implementing several Capacity Building actions and by delivering the above significant Outputs.

184. The Terminal Review was asked to provide an informed, evidence-based judgement on the following four key strategic questions, i.e.:

(a) To what extent was the project able to assist Iran to establish and consolidate a fully functional and responsive regulatory regime that responds to its obligations under the Cartagena Protocol on Biosafety as well as its national needs for a viable and profitable National Biosafety Framework?
(b) To what extent was the project able to develop institutional and technical capacity, awareness, and participation amongst the key actors to ensure that biosafety becomes part of their permanent action?
(c) To what extent was the project able to assist Iran to establish and consolidate a functional national monitoring system for Biotechnology to follow up on the releases of Living Modified Organisms (LMOs) and their possible effects on the environment?
(d) To what extent are the outcome indicators verifiable, and record progresses towards the achievement of the development objectives, as well as the obligations under the Cartagena Protocol?

185. On the first three questions, based on triangulation of findings and particularly on the perception of the relevant national stakeholders, the Terminal Review may confirm the full ownership of the Iran authorities and stakeholders over the process of NBF building-up, as demonstrated throughout the Project implementation and during the Terminal Review. It is in this context, of full National ownership and leadership, that the Project did play a catalytic role. The Project was highly instrumental to the NBF implementation, triggering an acceleration of the process, aggregating stakeholders and a relevant number of participants around an array of activities, e.g., awareness-raising / training sessions, experience exchange meetings, also at international level, training for laboratory officials.

186. The project also provided qualified support for the preparation and publication of guidelines as well as communication material and, partially, for the upgrading of the National BCH. However, Iran's achievements in encompassing socio-economic considerations in the decision- making process was not sufficiently explored, e.g., by further promoting exchange with other countries, triggering a knowledge-building dynamic on this demanding topic. Eventually, and in relation to the fourth question, the evaluability of the Project was challenged by the absence of outcome indicators.

187. Relevant gaps in the monitoring and evaluation (M&E) system limited, to a certain extent, an evidence-based judgement on the Project's progress towards the achievement of its objectives, including the obligations under CPB. Therefore, the oversight of the M&E system by UN Environment Program as the Implementing Agency, presents an opportunity for further improvement. Based on the findings, the Reviewer draws the following conclusions from this Review-

Relevance

188. **Conclusion 1:** The project is highly relevant to the global and national environmental problem, and it is aligned with the national and local environmental and socio-economic problems and challenges.

Effectiveness

189. **Conclusion 2.** The project was effective at generating most of the outputs and outcomes, although for planning reasons, some outputs were generated late and as such are still emerging, which

affected the scope of the outcomes and in the long run, the impact. The project is geared towards achieving its development objective of this project, i.e. to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety, thus develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act if it manages to effectively implement the instruments that are still not consolidated, and that institutional sustainability is ensured. The project managed to improve environmental governance regarding the strengthened capacities to undertake risk assessment and LMO detection and the tools available, but some have not been consolidated yet.

Efficiency

190. **Conclusion 3.** The project was efficiently managed both technically and administratively, thanks to a work team with high professional standards, effective collaboration among personnel and with other entities, and good support from the implementing agency that managed to turn it around albeit the delays, the global political embargo, and hiccups. The management model, with UNDP managing the flow of funds, helped the high efficiency,

Stakeholder involvement

191. **Conclusion 4.** The project managed the effective inclusion of the different interested parties in the project. The synergy with local universities, NGOs and private sector contributed to the effectiveness of the project and increases the probability of the sustainability of the outcomes. The project satisfactorily involved local participants in the design, execution, and monitoring of the activities.

Sustainability

192. **Conclusion 5.** The sustainability of the project outcomes is moderately likely because the project was built upon existing activities and made the most of synergies with other stakeholders. In addition, there is a good level of appropriation by local participants and a commitment by the public institutions to continue to promote the project strategies. Although there is still a shortage of technical and financial capacity among many of the participants and institutions, some initiatives are already self-sustainable and there is a high likelihood that other initiatives will continue to become stronger, just like other initiatives that are still emerging.

Impact

193. **Conclusion 6.** The project is geared towards achieving a positive impact on the conservation and sustainable management of natural resources and potentially towards generating additional income for the general population.

B. Summary of project findings and ratings

194. The following Table provides the summarized rating of the different criteria established by UNEP Evaluation Office (EO) that have been assessed all along this report. **Overall, Project performance scores "Satisfactory" (S)**

Table 10: Summary of Project Rating

UNEP Evaluation Office Validation of Performance Ratings:

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

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

– That what is being assessed is the contents of the report and the extent to which it makes a consistent and justifiable case for the performance ratings it records.

- That the consultant has, within the report, presented all the evidence that was made available to them.

- That the Review has been based on a robust Theory of Change, reconstructed where necessary, which reflects UNEP's definitions at all levels of results.

- That the project team and key stakeholders have already reviewed a draft version of the report and provided substantive comments and made factual corrections to the Review Consultant, who has responded to them. The Evaluation Office assumes, therefore, that it has received the Final (revised) version of the report.

In this instance the Evaluation Office validates the overall project performance rating at the **'Satisfactory'** level.

Criterion	Summary Assessment	Rating	UNEP Evaluation Office: Justification for any ratings change from validation process	UNEP Evaluation Office Validated Rating
Strategic Relevance	The Project confirms all its relevance in supporting and enhancing country's capacity to comply with country's obligations towards CPB. It has also contributed to fulfil UNEP's mandate and policy, as well as GEF priorities and strategies	Highly satisfactory	Rating validated	Highly satisfactory
1.Alignment to MTS and PoW	Aligned with MTS 2010-2013 AND 2014-2017 sub-program	Highly satisfactory	Rating validated	Highly satisfactory
2.Alignment to UNEP priorities	Project belongs to GEF Biodiversity Focal Area, Strategic Program 6 (BD- SP6): "Building Capacity for the Implementation of the Cartagena Protocol on Biosafety	Highly satisfactory	Rating validated	Highly satisfactory

3. Relevance to regional, sub-regional and national environmental priorities	Highly relevant to national and regional context and priorities regarding management and safe useof LMOs for agricultural purposes.	Highly satisfactory	Rating validated	Highly satisfactory
4. Complementarity with existing Interventions	Builds upon UNEP- GEF Project "Development of the NBF (2004-2006) and complements UNEP-GEF Project supporting BCH in Iran	NOT RATED	The report mentions how the project builds on previous efforts, including the National Biosafety Framework, and consolidates achievements made by various stakeholders, including government ministries, universities, and NGOs.	Highly satisfactory
B. Quality of Project Design	Project Outcomes in the ProDoc not fully matching with the Results Framework. Not fully evident the underlying logic of the Project Design, as well as the way to objectively measure and assess Project performance	Satisfactory	Rating validated	Satisfactory
C. Nature of external context	COVID 19 slowed down project activities. Challenges due to financial embargo on the country meant that the project activities which received funding in foreign currency, had to slow down. Despite being challenging at national and regional level; the external context of the Project did not affect Project implementation.	Moderately Satisfactory	Rating not validated, having to work under conditions of international sanctions was deemed Moderately Unfavourable (note this criterion does not affect project ratings) but informs effectiveness ratings positively	Moderately Unfavourable
D. Effectiveness(Attainment of projects objectives and results)	Very satisfactory in Outputs availability, rooms for Improvement in Outcomes achievement and Likelihood of Impact	Moderately Satisfactory	Rating validated	Moderately Satisfactory

1.Achievement of Outputs	Despite important initial delays, most of outputs delivered, some at a highly satisfactory level (e.g., capacity building). In the context of a difficult environment, the Project has nonetheless delivered some of the expected Outputs, most of them, however, only partially.	Satisfactory	Rating validated, however the summary text in this table does not match the main text in this report	Satisfactory
2.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. The operationalization of the system has enabled the achievement of the outcomes. Overall improvement achievement of Biosafety through the adoption of the policy (Dir Outcome 1). Partial achievement of monitoring and enforcement mechanisms (Dir Outcome 5). effectiveness of training and capacity building (Dir Outcome 3).	Satisfactory	Rating validated	Satisfactory
3.Likelihood of Impact	The intermediate state has been largely achieved and is likely to be achieved in its entirety in the medium term. Project impact is achieved in one part and likely to be achieved in the other.	Moderately likely	Rating validated	Moderately likely
Criterion	**Summary Assessment**	**Rating**		
	Assumptions and Drivers for progress to Intermediate States (i.e. transitory conditions needed to progress from direct outcomes to impact) hold only partially			
E. Financial Management	After initial difficulties in adopting the ANUBIS System, financial information has been provided accurately and timely (quarterly). Budget revisions clearly explained (all in Anubis). Updated expenditures provided during theTerminal Review by Budget Line.	Highly Satisfactory	Rating validated	Highly Satisfactory
1.Completeness of project financial information	Availability, Communication and High Responsiveness of all actors have been key for implementing the Admin System. The financial information is available and administrative requirements have been fulfilled	Highly Satisfactory	Rating validated	Highly Satisfactory

2.Communication between finance and project management staff	Communication has been consistent and effective throughout the project cycle	Highly Satisfactory	Rating validated	Highly Satisfactory
3.compliance with UNEP standards and procedures	inventory reports regularly prepared and yearly audits submitted	Highly Satisfactory	Rating validated	Highly Satisfactory
4. Efficiency	Delays in the operational start of the activities due to administrative and procedural hindrances. Political transitions leading to the interruption of operations due to change of leadership. Request for 4 no cost extensions and completion of the project in 69 months instead of 36 months	Moderately Satisfactory	Rating validated	Moderately Satisfactory
F. Monitoring and Reporting		Highly Satisfactory	Rating validated	Highly Satisfactory
1.Monitoring design and budgeting	The project document presented a costed M&E Plan. The Budget for Mid term review and end term review had to be adjusted upwards. The M&E plan had SMART indicators and plans for collection of disaggregated data.	Highly Satisfactory	The M&E budget was insufficient and this hampered the implementation of the M&E plan. Rating lowered to Satisfactory	Satisfactory
2.Monitoring of project implementation	Monitoring System focused on Activities and Outputs, and relied on the Work Plan as well as the Outcomes' indicator and monitoring for effective process steering.	Highly Satisfactory	Rating validated	Highly Satisfactory
3.project reporting	Reporting, based on GEF and UNEP M&E tools, timely delivered and	Highly satisfactory	Rating validated	Highly Satisfactory
	ANUBIS uploaded. Report exclusively on Activities and Outputs. Rating and judgement elements were also present			
H. Sustainability (the overall rating for Sustainability will be the lowest rating among the three sub-categories)		Moderately Likely	Rating Validated	Moderately Likely
1.socio-political sustainability	Difficult socio-political situation of the country hampering decision- making processes, amplifying politicization in the public sector and hindering development and environmental release of LMO. Only imports of feed/food is allowed.	Moderately Likely	The report shows there is a huge potential for the project from a political angle. There is a high level of ownership from the government. Rating changed to Likely.	Likely

2.Financial Sustainability	Ensured by the enactment of the law that establishes the NBC and sets a budget for the DoE	Moderately Likely	The report mentions the approval of the National Biosafety Framework and the Biosafety Policy by the government. Even with the need for a supplement budget, there is still potential for financial sustainability. Rating changed to Likely:	Likely
3.institutional sustainability	interaction that exists between government institutions that are part of the NBC and intersectoral committees lends to greater institutional sustainability in terms of their respective mandates to work on biosafety related to the handling of LMOs.	Moderately Likely	Rating validated	Moderately Likely
I. Factors affecting performance		Satisfactory	Rating validated	Satisfactory
1.preparation and readiness	Stakeholders were prepared and ready to implement the project. There is evidence, in the ProDoc, on clearly set out roles and responsibilities of each partner. The Project also built coherently upon the previous Project "Development of the National Biosafety Framework".	Satisfactory	Rating validated	Satisfactory
2.quality of project management and supervision	There were a few changes in the project leadership, but this later stabilized. Procedures of management met good standards. The working relationship between the task manager and project partners was constructive and effective. The speed of responses to execution challenges provided evidence of "adaptive management" capabilities.	Satisfactory	Rating validated	Satisfactory

3.stakeholder participation and cooperation	Key roles played by the National Executing Agency and other relevant stakeholders Biosafety Council, Academia, and private sector. Coordination, networking, partnership. Certain societal groups marginally represented- especially the general public. All stakeholders envisaged by the ProDoc, actively engaged in the Project implementation. Yet, not "all of	Satisfactory	Rating validated	Satisfactory
Criterion	**Summary Assessment**	**Rating**		
	those who are affected by or could affect this project were considered, e.g. the ultimate potential beneficiaries (such as small and commercial farmers, consumers, the public in general) were marginally included.			
4.country ownership and drivenness	The NBF set-up fully relied on National ownership and leadership. The adoption of the Biosafety Policy and its inclusion in the National Action plan is evidence of the country ownership. The project provided all the assistance possible for the activities to be undertaken, with a dedicated group of people assigned to project management and to continue working in academia and in monitoring of progress (long-term outcomes and impacts) once the project had ended.	Highly Satisfactory	Rating validated	Highly Satisfactory
5.communication and public awareness	The project was successful in communicating with stakeholders and beneficiaries. Anecdotal evidence is the continued use of some of the project deliverables (such as some of the publications).However, more needs to be done to ensure that the general public awareness is well Conducted	Highly Satisfactory	Rating validated	Highly Satisfactory
Overall rating	**Satisfactory**	**Satisfactory**		**Satisfactory**

Table 11: Weightings Table for Review Criteria Ratings

Review criteria	Rating	Score	Weight	Weighted Score

A	**Strategic Relevance (select the ratings for sub-categories)**	**Highly Satisfactory**	**2.10**	10	0.2
	Alignment to UNEP's MTS, POW and strategic priorities	Highly Satisfactory	6	0.5	
	Alignment to Donor/Partner strategic priorities	Highly Satisfactory	6	0.5	
	Relevance to regional, sub-regional and national issues and needs	Highly Satisfactory	6	2.5	
	Complementarity with existing interventions	Not rated	0	2.5	
B	**Quality of Project Design**	Satisfactory	5	4	0.2
C	**Nature of External Context**	Moderately Favourable	3		
D	**Effectiveness** (select the ratings for sub-categories)	**Moderately Satisfactory**	**4.30**	50	2.2
	Availability of outputs	Satisfactory	5	5	
	Achievement of project outcomes	Satisfactory	5	30	
	Likelihood of impact	Moderately Likely	4	10	
E	**Financial Management** (select the ratings for sub-categories)	**Highly Satisfactory**	**6.00**	5	0.3
	Adherence to UNEP's policies and procedures	Highly Satisfactory	6		
	Completeness of project financial information	Highly Satisfactory	6		
	Communication between finance and project management staff	Highly Satisfactory	6		
F	**Efficiency**	Highly Satisfactory	6	10	0.6
G	**Monitoring and Reporting** (select the ratings for sub-categories)	**Highly Satisfactory**	**6.00**	5	0.3
	Monitoring design and budgeting	Highly Satisfactory	6		
	Monitoring of project implementation	Highly Satisfactory	6		
	Project reporting	Highly Satisfactory	6		
H	**Sustainability** (select the ratings for sub-categories)	**Moderately Likely**	4.00	20	0.8
	Socio-political sustainability	Moderately Likely	4		
	Financial sustainability	Moderately Likely	4		

	Institutional sustainability	Moderately Likely	4		
I	**Factors Affecting Performance** (select the ratings for sub-categories)	**Satisfactory**	**4.39**	4	0.3
	Preparation and readiness	Satisfactory	5		
	Quality of project management and supervision	Highly Satisfactory	5.50		
	UNEP/Implementing Agency: (select the ratings for sub-categories)	Highly Satisfactory	6		
	Partner/Executing Agency: (select the ratings for sub-categories)	Satisfactory	5		
	Stakeholder participation and cooperation	Satisfactory	5		
	Responsiveness to human rights and gender equity	Satisfactory	5		
	Environmental, social and economic safeguards	Satisfactory	5		
	Country ownership and driven-ness	Highly Satisfactory	6		
	Communication and public awareness	Highly Satisfactory	6		
				109	**4.83**
				Satisfactory	

	SECTION	SELECT RATING	SCORE (1-6)	WEIGHTING	TOTAL (Rating x Weighting/10)
A	Operating Context	Moderately Satisfactory	4	**0.4**	**0.16**
B	Project Preparation	Moderately Satisfactory	4	**1.2**	**0.48**
C	Strategic Relevance	Highly Satisfactory	6	**0.8**	**0.48**
D	Intended Results and Causality	Moderately Satisfactory	4	**1.6**	**0.64**
E	Logical Framework and Monitoring	Satisfactory	5	**0.8**	**0.4**
F	Governance and Supervision Arrangements	Highly Satisfactory	6	**0.4**	**0.24**
G	Partnerships	Satisfactory	5	**0.8**	**0.4**
H	Learning, Communication and Outreach	Highly Satisfactory	6	**0.4**	**0.24**
I	Financial Planning / Budgeting	Moderately Satisfactory	4	**0.4**	**0.16**
J	Efficiency	Moderately Satisfactory	4	**0.8**	**0.32**
K	Risk identification and Social Safeguards	Moderately Unsatisfactory	3	**0.8**	**0.24**
L	Sustainability / Replication and Catalytic Effects	Moderately Satisfactory	4	**1.2**	**0.48**
M	Identified Project Design Weaknesses/Gaps	Moderately Satisfactory	4	**0.4**	**0.16**
				TOTAL SCORE (Sum Totals)	**4.4**

1 (Highly Unsatisfactory)	< 1.83
2 (Unsatisfactory)	>= 1.83 < 2.66
3 (Moderately Unsatisfactory)	>=2.66 <3.5
4 (Moderately Satisfactory)	>=3.5 <=4.33
5 (Satisfactory)	>4.33 <= 5.16
6 (Highly Satisfactory)	> 5.16

C. Lessons Learned

195. The design, implementation and management of the project have provided a series of lessons that may be useful for other current and future projects. Based on the Terminal Review findings, the Reviewer has identified the following lessons learned during the design, implementation, and management of the project:

196. **Lesson learned 1**: Given that the project was designed at a time when the political and economic situation was good, it accepted substantial financial and institutional commitments from the national and local government and from public companies. However, in an economically vulnerable country such as is currently, this situation changed and the made the commitments difficult to carry through, resulting in a possible escalation of costs for the project. This can be mitigated with a thorough risk management plan, relevant and transparent adaptive management as well as close accompaniment of the change process that values the capacity created in the institution during the prior administration.

Context: The context described highlights the challenges faced by projects that initially received substantial financial and institutional commitments but encountered difficulties due to changing economic and political changes. The context emphasizes the importance of project sustainability beyond its initial implementation phase. While many projects focus on achieving short-term objectives, long-term sustainability is equally crucial.

The changing economic landscape poses risks to project commitments. A thorough risk management plan is essential to anticipate and mitigate potential challenges. It is therefore imperative to Implement robust risk management practices, including identifying risks, assessing their impact, and developing strategies to address them. Regular monitoring and adaptation are key. Adaptive management involves adjusting project strategies based on real-time feedback and changing circumstances. Transparent and flexible decision-making is vital. Projects should therefore adopt adaptive management practices, allowing them to respond effectively to evolving conditions. Regular evaluations and adjustments enhance sustainability.There is need for close accompaniment during the change process ensures that institutional capacity developed during prior administrations is valued and leveraged. There is need for consistent engagement with stakeholders, providing ongoing support, and facilitating knowledge transfer. There is also need to acknowledge and build upon existing institutional strengths. The lessons drawn from this context extend beyond specific projects. They apply to various sectors, including development cooperation, infrastructure, and public sector (Government)

Potential Applications:

1. **International Development**: Agencies supporting development projects can integrate sustainability, risk management, and adaptive approaches.
2. **Business and Organizations**: Companies facing economic shifts can learn from these lessons to enhance resilience.
3. **Political Contexts**: Understanding institutional change and valuing existing capacities applies to political reforms and governance.
4. **Environmental Initiatives**: Sustainability principles are relevant for conservation efforts and climate change adaptation.

In summary, the context underscores the need for forward-thinking, adaptable approaches that prioritize long-term sustainability and navigate changing circumstances. These lessons have broader implications across sectors that can guide effective decision making in an ever- evolving world.

197. **Lesson learned 2:** The approach of working with stakeholders who already have experience in the field of modern biotechnology and biosafety, ensured greater effectiveness and sustainability.

198. **Lesson learned 3:** In this project, collaboration with local universities, NGOs and the private sector was an important added value to the project because it gave a professional dimension to the training and studies on risk assessment and management In addition, due to having found a mutual strategic interest, it was possible to do so without additional cost to the project or to the universities.

199. **Learned Lesson 4**: Execution with adaptability, increasing the chances of success with greater political and technical support. The Project in the first 4 years centralized its actions to: build up technical and institutional capacity; additional studies; national diagnosis; and identification of learned lessons and best practices of other countries.

200. **Learned Lesson 5:** During the Project implementation, some initiatives would have been executed to strengthen the implementation transference process of the leadership and the ownership of the Project results to representatives of local communities and the private sector. These instances levels of participation could have increased the possibilities of management and partnership of the implementation of the Biosafety Policy and the monitoring and evaluation of the use of biotechnological products.

D. Recommendations

Recommendations for the Executive Agency

201. The main recommendations to the Executive Agency are indicated as following:

Recommendation 1: Plan the Transition Phase

202. Considering that the project does not have a future sustainability plan, it is recommended that as the first next step, the Executing Agency may need to begin planning for a transition phase and secure interim financing. The transition phase will consider the emerging issues in biotechnology. The Executing Agency may consider engaging the GEF secretariat with a view to exploring ways to access funding for GEF 8 for promising initiatives, and to continue with, replicate and scale up relevant activities for the sustainable development of biotechnology in Iran. In addition to the lack of a sustainability plan, the late delivery of certain activities diminishes the likelihood that the results will be sustained: Certain project activities were delivered late in the implementation timeframe. The Executing agency may identify strategies to implement these activities to ensure full impact of the project is achieved. To this end, it is suggested that: By the end of June 2024, the Executing Agency, develop a specific sustainability plan that identifies these actions and outputs that require continuity or scaling up, specify responsible parties, budgets, and dates for each of the actions necessary. It should also identify other initiatives and stakeholders including NGOs and the private sector and projects that can assist with these actions in the future. The Executing Agency holds discussions to identify these initiatives and stakeholders with the aim of reaching specific assistance agreements.

Recommendation 2: Creating Visibility of the project Results

203. To achieve the most visibility of the project and to make the project outputs, tools, and lessons available for future users, it is recommended that the Executing Agency publish all the reports, systematizations, and protocols in a visible, easy-access and permanent location. To this end, it is suggested that:

(a) The Executing Agency should make the inclusion of the project outputs visible on the Department's website, train the personnel in charge and report their location via other media (radio, television, newspapers, direct meetings).
(b) The Executing Agency must ensure the maintenance of this information and its permanent availability in the long term. This involves, among others, the permanent dedication of a webmaster, trained by the Executing Agency.
(c) The Executing Agency must run a communication campaign geared towards the stakeholders to increase the chances of success of the initiatives supported by the project.

Recommendation 3: Partnership with NGOs for Execution/ Implementation

204. The non-governmental organizations and the private sector continue to drive change and introduce innovation to biotechnology and biodiversity conservation in Iran.: The results of the project showcased the critical role that NGOs and the private sector have with respect to driving biotechnology in the country, including introducing innovative techniques and management arrangements, and advocating for legal and institutional reform. The Executing agency may consider a partnership with the NGO and Private Sector in the management of the next phase. The Government of India has successfully managed this kind of arrangement and the Executing Agency may draw lessons from

that of the Government of India Model.

Recommendations to the UNEP

205. The main recommendations to be considered on future technical cooperation by the Implementation Agency are:

Recommendation 1: UNEP to involve Non-State Actors in Implementation Agreements

206. **T**o enhance the likelihood of project impact and long-term sustainability, UNEP should actively involve non-state actors, including civil society organizations, NGOs, and the private sector, in implementation agreements with governments. Additionally, UNEP could consider formalizing cooperation and responsibilities through agreements with both governmental and non-governmental partners. These agreements would outline specific roles, expectations and joint efforts to effectively implement initiatives or projects related to the NBF by engaging a diverse range of partners. UNEP can foster synergies, capacity building and targeted transformational change in pursuit of environmental goals.

Recommendation 2: Improve Quality of Project Indicators and Targets

207. To enhance the effectiveness of its work, UNEP should focus on improving the quality of project baselines, indicators, and targets. These improvements will facilitate more effective monitoring and measurement of progress toward desired outcomes. Specifically, UNEP should adhere to the SMART criteria when defining indicators. Additionally, UNEP can enhance the reliability of baselines and targets by drawing from diverse sources, including opinion surveys, statistical data, internal assessments, and relevant reports (such as Rapid Assessments). By implementing these measures, UNEP can better track progress, assess impact, and ensure alignment with its environmental goals.

Recommendation 3: Each Project to have a Theory of Change

208. UNEP should mandate that each Project Implementation Document includes a well-defined Theory of Change (ToC). The ToC serves as a critical framework that outlines how an intervention is expected to create meaningful and sustainable change. By explicitly articulating the causal pathways from inputs to outcomes and impact, the ToC provides clarity on the logic behind project activities and expected results. integrating a Theory of Change into Project Documents empowers UNEP to design, implement, and evaluate interventions more effectively. It ensures that projects are grounded in a thoughtful understanding of causality, context, and desired outcomes.

ANNEX I: RESPONSES TO STAKEHOLDERS COMMENTS

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

Page Ref	Stakeholder Comment	The Reviewer's Response
Page reference 10- project description table	If its making reference to the time the PCA was signed. If it is, the 28.09.2012	Dates harmonized accepted
Page reference – 15-project implementation structure	Please be aware that the PSC members listed in the first row were from the preliminary list. There were subsequent changes in the individuals attending the committee meetings	Please provide the names of these members so that they are included in the report.
Page reference- 20 comparison of results framework	Provided the information	Inserted the information provided
Page referenced-22 Results framework	The numbers provided for the Trained personnel on quantitative detection of LMO products included students majoring in the related field	Inserted the number of trained personnel in results framework comparison table
Page referenced- 23	The laboratories of the Department of Environment and the MSRT were equipped with funds from UNEP-GEF while the laboratories of the Ministry of Health and the Ministry of Agriculture, Jihad were equipped through in kind contributions	Accepted the inserted figures of number of labs

Page referenced -56 to include the exact number of	This included all the university staff and students that were trained by MSRT through the workshops held	Response accepted
Referenced page -65 recommendations to UNEP	Request UNEP to establish a working group or hold an annual meeting where regional representatives can gather and share knowledge practices in matters related to biosafety	Recommendation not included/ accepted

ANNEX II: REVIEW FRAMEWORK/MATRIX

Review Criteria and Questions		Indicators/ Judgement Criteria	Data Sources	Method of Data collection	Data analysis method
Relevance : The extent to which the intervention objectives and design respond to the Government of Iran/ UNEP-GEF policies and priorities					
1.	To what extent the objectives and operations of the Biosafety program were consistent with the need of beneficiaries of the partner institutions, the need of implementing partners, current country needs and donor's policies and expectations	Relevant involvement of stakeholders in planning, designing, and consulting at national and district levels to improve capacities to plan and monitor the Project	ProDoc Annual reports MTR	Desk Review Key informant interviews (KII)	Multi- source evidence assessment (MEA) TOC analysis
2.	To what extent were the interventions aligned with the needs of other key stakeholders, particularly government and other actors in the sectors relevant to biosafety	Relevant support at national and provincial levels to improve the capacity to plan, monitor and implement the project	UNEP Task Manager Donors IP agencies	Desk review KII	MEA
3.	Were the approaches and strategies/ arrangements used relevant to achieve intended sub outputs, outputs, and outcomes of The program/intervention? To what extent the thematic focus and institutional scope of the program were appropriate to achieve the intended results?	Key indicators for all outputs; key drivers of change; assessment of the planning/ Designing Initiatives	UNEP-GEF Task Manager ProDoc review Annual reports MTR	Desk Review KII	MEA
4.	To what extent did the	ProDoc	ProDoc review	KII	MEA

	interventions respond to the needs of vulnerable groups and women	Demonstrates gendered analysis of vulnerability; Progress reports Disaggregate gender; Rigorous use of gender marker	Progress Reports Ips Project staff	Desk review	
5.	To what extent the program was aligned to SDGs, homegrown economic reform program, ten year development plan and other relevant national policies	Clear diagnostic of institutional capacity weaknesses. Activities follow a clear pathway to capacity development; evidence of outcome monitoring	UNEP staff Development Partners IPs	KII Desk Review	MEA
6.	To what extent were the project's interventions coherent with UNEP- GEF's policies, strategies, and normative guidance	Overlaps with Q1 and 5	UNEP staff Progress reports	KII Desk review	MEA
7.	To what extent were the key stakeholders of the project including the downstream stakeholders engaged in the design, implementation, and monitoring of the project? To what extent is the national ownership and leadership on the planning, implementation, and monitoring of the project?	Overlaps with Q1	ProDoc Annual reports MTR IPs	KII Desk Review	MEA

8.	Did the assumptions and the Theory of Change hold true? If not, why and recommend TOC and results pathway	Key indicators for all outputs. Key elements of TOC are coherent ; evidence of TOC parameters reflected in monitoring and reporting	UNEP staff Development partners IPs	KII Desk Review MTR Annual reports	MEA, TOC analysis
Effectiveness: The extent to which the interventions are achieved, or is expected to achieve, its objectives and its results.					
9.	To what extent did this project achieve its planned sub outputs, outputs, immediate outcomes, and objectives	Overlaps with Qs 1,2,3	UNEP Task manager Development Partners IPs	KII Desk review	MEA
10.	What were the main expected and unexpected results of the project?	Key indicators for all the outputs; key drivers of change/ outcomes	UNEP Task manager Development Partners IPs Progress reports	KII Focus Group Discussions (FGD) Site visit Desk	Contribution analysis Qualitative Analysis

			IP MTR Report	Review	
11.	To what extend did the strategic revision for repositioning of the project lead to achievement(or lack of achievement) of the sub-outputs, outputs, and objectives of the project?	Overlaps with Q3, 6	UNEP task manager Ips Progress reports MTR	KII FGD Site visit Desk Review	MEA
12.	What were the major factors influencing implementation and operations of the project for achievement or non-achievement of results? What was the quality of the implementation of the project?	Overlaps with Q 11 Clear diagnostic of institutional capacity weaknesses Activities follow a clear pathway to capacity development; evidence of outcome monitoring	UNEP Frontline staff of Ips MTR Progress reports	KII FGDs Site visit Desk review	MEA
13.	What were the intended results of the changes in political landscape and the reforms underway in the country to the project implementation and achievement of results?	Positive: stability; strong engaged Ips Negative: Insecurity, unfrequently or weak monitoring	IP Staff UNEP Other development partners Progress reports ToC	KII Desk Review	Contribution and ToC analysis
14.	What are the lessons learned and good practices to take up for future in designing a new second phase of the project?	Key indicators for all outputs; Clear diagnostic of institutional capacity Adaptability of UNEP to continue project; Active support for Ips	Prodoc Progress reports MTR, Ips, Project staff	Desk review KII	Qualitative analysis
Efficiency: The extent to which the intervention delivers, or is likely to deliver, results in an economic and timely manner					

15.	Did the project's implementation mechanisms- including institutional arrangements, partnership, support services, etc., permit utilization of resources in an efficient way and also delivery of services and achievement of results in a timely manner?	All activities demonstrate cost, quality, timeliness factors taken into consideration throughout the implementation cycle.	Finance and operations data on funds disbursements, major cost drivers, contract management and major Decision timelines MTR Progress reports UNEP Staff IP staff	Desk review KII	Progress and monitoring reports assessed against ToC and CPD outputs/outcomes
16.	Were the project's resources efficiently used? Was the cost per output used in the most cost effective manner or were there areas where savings ought to have been made to reduce costs?	Linked to Q15	MTR	Desk Review KII	MEA
17.	To what extent were the project management practices and tools adequate to timely and effective implementation of the project?	UNEP's distinctive competence and strategic positioning within the development landscape in the country. Strong knowledge sharing partnership developed with donors, Ips, CSOs	MTR UNEP IP staff	Desk review KII	MEA

18.	Are the project resources adequate and available on time to implement the activities as planned?	All activities demonstrate cost, quality, timeliness factors taken into consideration throughout the implementation cycle	Finance and operations data on funds disbursements, cost drivers, contract management and major decision Timelines	Desk review KII	MEA
Impact: The long- term effects/outcomes of the project					
19.	What were the long-term effects/ outcomes of the project on the target beneficiaries/ institutions and citizens? To what extent were the project's objectives met? What are the indications of success?	Key indicators for all outputs; key drivers of change/outcomes; assessment of the planning and designing of initiatives	MTR UNEP IP Staff	Desk Review KII	MEA
20.	Did the interventions of the project bring about any unintended (both negative and positive) effects on the target beneficiaries/institutions,	Overlaps with Q10, 12	MTR Progress reports UNEP IP Staff	KII FGDs Site visit Desk review	MEA

	citizens and/or operational environment?				
21.	What were the gender specific impacts, especially regarding women's empowerment?	Overlaps with Q4 ProDoc demonstrates gendered analysis of vulnerability Progress reports disaggregate gender Rigorous use of gender marker	ProDoc review Progress reports Ips Project Staff	KII FGDs Site visit Desk Review	MEA
22.	How could the project be improved in its design, implementation, and monitoring to have long term effect/ impact	Key indicators for all outputs; clear diagnostic of institutional capacity; adaptability of UNEP to continue programing; active support for Ips	MTR Progress report UNEP, IP staff	KII FGDs Site visit Desk Review	MEA
Sustainability: The extent to which the net benefits of the interventions continue or are likely to continue beyond the life of the project					
23.	To what extent are the results and positive changes from the project implementation up to this point in time likely to continue after the end of the current phase of the project	Alternate resources (funds, policies, regulatory framework, budgetary support, partnerships) for continuation of relevant outputs and outcomes identified and agreed	IP staff UNEP Multiyear resourcing plans of Ips	KII Desk Review	Analysis and assessment of drivers of sustainability

24.	To what extent did the shift in the governance landscape and political arena of the country affect continuity and sustainability of the results achieved?	Resilience and capacity at national and local level; local institutions at the frontline of delivery of services have planning capacity to continue services	National and local authorities who are currently involved in implementing UNEP supported activities	KII FGDs	Qualitative analysis
25.	To what extent did the implementing partners show ownership of the project, results and lessons learned and their ability to continue with the project within the limited resources or without intervention from	Adaptability of Ips to continue programing, e.g. In the COVID Scenario and/ or in the event of a major security challenge. Proactive support for relevant	UNEP IP Covid/security mitigation strategies/ briefings	KII	Descriptive data analysis

	UNEP-GEF.	institutions to ensure that vital activities are delivered.			
26.	To what extent did the project establish and maintain effective partnership with development partners, government, civil society etc.?	String knowledge sharing partnerships developed with donors, Ips, UN agencies, private sector and civil society	MTR Donor reporting UNEP staff	Desk review KII	MEA
27.	To what extent was the participation and ownership of the project by the Ips and other key stakeholders for ensuring sustainability of achieved results and lessons learned after the end of the current program	ProDoc and progress reports demonstrate planned phase out of UNEP'S role and support for relevant techniques and strategies to ensure that vital activities can continue under local ownership	ProDoc Progress reports UNEP AND IP staff	KII Desk review	MEA
Gender: The extent to which the project addressed gender issues					
28.	To what extent has gender considerations been mainstreamed and addressed in the design, implementation, and monitoring of the project?	ProDoc demonstrates gender analysis of poverty and vulnerability. Progress reports disaggregate gender Rigorous use of gender marker	ProDoc Progress reports Beneficiary data MTR Project staff	Desk review KII	Qualitative and quantitative analysis

29.	Is the gender marker data assigned to this project representative of the reality?	Linked to Q28. All activities which have any interface with communities must demonstrate that gender is directly addressed	Gender assessment reports Beneficiary selection criteria Cross section of beneficiaries/ target communities	Desk Review FGDs KII	Qualitative analysis
30.	To what extent has the project promoted positive changes in women participation in biosafety activities? To what extent have women benefited from this project	Linked to Q28, 29. All activities which have any direct interface with biosafety must demonstrate that gender is directly addressed	Gender assessment reports Beneficiary selection criteria Cross section of beneficiaries / target communities	ProDoc Progress reports Beneficiary data MTR Project staff	Qualitative analysis

ANNEX III: PERSONS CONSULTED DURING THE REVIEW

Organization	Name	Position/ Location	Gender
National Project Director	Dr. Nayer Azam Khoshkholgh Sima	National Project Director	Male
Ministry of Agriculture Jihad,	Mrs. Fatemeh Farshad		
UNEP Biosafety Task Manager	Mr Alex Owusu- Biney	UNEP Biosafety Task Manager	Male
Cartagena Protocol on Biosafety – National Focal Point	Dr. Gholamreza Salehi Jouzani	Cartagena Protocol on Biosafety – National Focal Point	Male
Biosafety Clearing House – National Focal Point	Ms. Nasrin Sadat EsmaeilzadehArabi	Biosafety Clearing House – National Focal Point	Female
Representative of Biotechnology Society of Islamic Republic of Iran	Dr. Mohammad Ali Malboobi	Representative of Biotechnology Society of Islamic Republic of Iran	Male
Head of Iranian Genetics Society and the Biosafety working group of the Department of Environment during 2017-2021	Dr Mohamood Tavalaie	Head of Iranian Genetics Society and the Biosafety working group of the Department of Environment during 2017-2021	Male
Responsible of project in Ministry of Agriculture Jihad- at present Iran Permanent Representative FAO	Dr Rasoul Zare	Focal Point/ Liaison for the project in Ministry of Agriculture Jihad- at present Iran Permanent Representative FAO	Male
Sirous Zeinali, Professor of Medical Genetics, Head, Biotechnology Society of the IR Iran, Director, Iranian Molecular Medicine Network, Pasteur Institute of Iran, Pasteur St., Tehran, Iran, CEO, Kawsar Biotech Co., Tehran, Iran	Dr Sirous Zeinali	Sirous Zeinali, Professor of Medical Genetics, Head, Biotechnology Society of the IR Iran, Director, Iranian Molecular Medicine Network, Pasteur Institute of Iran, Pasteur St., Tehran, Iran, CEO, Kawsar Biotech Co., Tehran, Iran	Male
Tarbiat Modares University	Dr Seyed Abbass Shojaossadati	Professor of Industrial Biotechnology	Male
MOH	Dr Eskandar Omidinia	National Project Coordinator- Project Steering committee member	Male

Organization	Name	Position/ Location	Gender
DoE	Mr Khashayar Babaie	Project Administrator	Male
MSRT	Dr Amir Mousavi	Focal Point/ Liaison of project in the Ministry of Science and Project Steering Project Steering committee member	Male
Plant Bioproducts Department, National Institute of Genetic Engineering and Biotechnology	Dr Kasra Esfahani	Assistant Professor	Male
Standard Research Institute (SRI), Board member of Biosafety Society, and responsible of biosafety project in Biosafety Society	Mrs Fahimdokht Mokhtari	Board member of Biosafety Society, and responsible of biosafety project in Biosafety Society	Female
UN Environment Programme	Mr. Johan Robinson	Chief of the Global Environment Facility (GEF) Biodiversity and Land Degradation Unit, Ecosystes Division, UN Environment' Programme	Male
UN Environment Programme	Mr. Paul Vrontamitis	Fund Management Officer, Ecosystems ·	Male
DoE	Ms. Samira Kahak,	Secretary to Environment Working Group	Female

ANNEX IV KEY DOCUMENTS CONSULTED

During this Terminal Review the following main project documents had been considered.

A - Project preparation and design

- UNEP Project design documents
- Project Document

B - Project contracts

- Iran PCA
- Iran PCA 2
- Iran PCA Amendment
- Annex to the PCA
- CEO Endorsement
- GEF Endorsement Letter
- Consultants 'contracts
-

C - Project monitoring

- Project Implementation Reports (PIR)
- Six-monthly Progress Reports
- Quarterly Progress Reports
- annual progress
- financial reports to the UNEP
- Project UNEP financial statements
- Steering committee meetings minutes
- Lessons Learned Reports
- Results Framework
- Tracking tool

D - Internal UNEP documents

- Annual work plans
- Budgets
- Rephasal
- Project Document and its annexures

- Logical framework,

E - Project deliverables – direct

- Biotechnology Policy
- Risk Assessment Regulations
- Biology Documents
- Biotechnology awareness material
- Trained Personnel
- Equipped laboratories

F - Project deliverables – indirect

- Inception Report
- Training Reports
- Workshop proceedings
- Project Closure Report

G - Tools prepared by Evaluation Office

MANAGEMENT-LED REVIEW TOOLS - Evaluation Office of UNEP - Global Site
00_TR_Tools Description 12.04.2024.docx

00a_Review Consultants Agreement Form_11.04.2024.docx

00b_UNEP Glossary of results definitions_December 2023.pdf

00c_Estimating Review Budgets 12.04.2024.docx

00d_List of Documents for TR 31.01.2024.docx

00e_TR Main Report Template FOR USE BY CONSULTANT_15.04.24.doc

00f_TR Quality Assess of TR Report Template FOR USE BY UNEP_18.06.24.docx

01_TOR TR All Funders 12.04.2024.docx

02_TR Criteria Ratings Table 31.01.2024.doc

03_TR Criterion Rating Descriptions Matrix 31.01.2024.docx

04_TR Weighted Ratings Table 31.01.2024.xlsx

05_TR Inception Report Structure and Contents FOR USE BY CONSULTANT 31.01.2024.doc

06_TR Main Review Report Structure and Contents FOR USE BY CONSULTANT 31.01.2024.docx

07_TR TOC Reformulation Justification Table 31.01.2024.docx

08_TR Quality of Project Design Table 31.01.2024.docx

08a_TR Quality of Project Design Template 31.01.2024.xlsx

09_TR Stakeholder Analysis Guidance 31.01.2024.doc

10_TR Review Methodology Guidance 31.01.2024.docx

11_TR Gender_Methods Guidance 31.01.2024.docx

12_TR Safeguards Assessment Template 31.01.2024.docx

13_TR Use of TOC in Project Reviews 31.01.2024.docx

14_TR_Financial Tables 31.01.2024.docx

15_TR Likelihood of Impact Flow Chart 31.01.2024.xlsm

15a_TR Likelihood of Impact Test Case 31.01.2024.xlsm

16_TR Recommendations Quality Guidance 31.01.2024.docx

16a_TR In Report Template Presenting Recs and LL 31.01.2024.docx

17_TR Recommendation Impl Plan Template 31.01.2024.docx

ANNEX V: REVIEW ITINERARY

Day	Activity	Details
7th October 2023	Arrival in Tehran, Iran	
8th October 2023	Introductory meeting	Meet the Project Management Unit Setting the scene for the Purpose of the Final Review
	Going through the list of documents required	Confirming the list of documents, what is available, what is not available
	Meeting with the Project Management Unit – NPC + support team	Walk through the project documents and the narrative/ technical reports
9th October 2023	Meeting with finance assistant PC NPC	Going through the financial reports/ documents/statements
10th October 2023	Meeting with DIRECTOR GENERAL (PROJECT DIRECTOR) DIRECTOR FOR ENFORCEMENT DIRECTOR RESEARCH DIRECTOR CORPORATE/ NPC PROJECT DIRECTOR CBD FOCAL POINT UNEP Task Manager (virtual) NSC UNDP	Pay courtesy call to Chair of biosafety Board and hold interviews with the selected interviewees
11-12 October (Weekend)	Assembling a draft report	Work in the hotel and assemble the draft report and fill gaps and identify areas that may need additional information
13th October 2023	Face to face Interviews/ FGD with stakeholders including Researchers; consultants, policy experts, enforcement agency	Run the interview schedule- Project Management Unit may organize Focus group discussions or face to face individual meetings with identified interviewees

Day	Activity	Details
14th October	Meeting with Private Sector- Labs	Understanding the role of private sector and their involvement in the implementation of the NBF.
15th Oct2023	Meeting with key GMO testing Labs- ABRII, NIGEB	Understanding the capacity build; and sustainability plan for the testing facilities and capacities
16th October 2023	Meeting with the Steering Committee Meeting with the Project Management Team	De-brief the Steering committee Share inception report Share findings of the Review Exit Meeting
17th October	Travel back to Nairobi	

ANNEX VI. PROJECT BUDGET AND EXPENDITURE

The Table below present the project budget by component, including the estimated vs actual cost, as well as the sources of funds.

Project Budget by Component

No.	Component/ Sub- component	Estimated Cost at Design (USD)	Actual Cost (USD)	Expenditure Ratio(Actual/ Planned)
1.	Stocktaking Assessment	$58,200	$39,596.60	0.68
2.	Strengthening the Regulatory Biosafety Regime	$87,200	$71,596.60	0.821
3.	System for handling requests for Authorization	$313,200	$230,879.36	0.737
4.	Follow up mechanisms (monitoring of environmental effects and enforcement: control and inspection)	$92,200	$74,129.93	0.804
5.	Public awareness and Participation	$107,700	$233,111.05	2.164
6	Project coordination and Monitoring unit	$90,500	$74,686.54	0.825
7.	Project Monitoring and Evaluation	$9000 (part of NUMBER6)	$25,000	2.778
Total		**749,000**	**749,000**	**0**

Co-Financing

Co- Financing (Type/ Source)		UNEP Own Financing (USD749,000)		Government	Other *
Planned		Actual	Planned	Actual	Planned Actual
Grants	749,000	749,000	749,000	851,000 (in- kind)	851,000
Loans	-	-	-	-	-
Credits	-	-	-	-	-
Equity Investments	-	-	-	-	-
In Kind support	-	-	851,000	-	851,000
Other *	**-**	**-**	**-**	**-**	**-**

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

ANNEX VII: FINANCIAL MANAGEMENT

Financial Management Components		Rating	Evidence/ comments
Questions relating to financial management across the life of the project:			
Compliance with financial requirements and procedures of UN Environment and all funding partners(including procurement rules, financial reporting, and audit reports etc)		S	
Timeliness of project financial reports and audits		S	UNDP issued Audit letter at the end of the project as payments were executed through the Fax Authorizations issued by UNEP
Quality of project financial reports and audits		S	
Contact/ Communication between the PM/TM and FMO		HS	From email communications, WhatsApp etc
PM/TM and FMO responsiveness to addressing and resolving financial issues		HS	From email communications, WhatsApp etc
Questions relating to financial information provided during the evaluation			
Provision of Key documents to the Reviewer (based on the provision of A-F below)			
A.	An up to date co-financing and project costs table	HS	
B.	A summary report on the projects financial expenditures during the life of the project	HS	
C.	Financial documents from Mid-term Review (where applicable	N/A	
D.	All relevant project legal agreements (SSFA, PCA, ICA) Where applicable	S	
E.	Associated financial reports for legal agreements (where applicable)	S	

ANNEX VIII: COMMUNICATION AND OUTREACH TOOLS

- The project has done noticeable actions in this regard by conducting workshops and webinars about Biosafety related topics helping the public students, authorities and farmers to increase their knowledge regarding GMOs/LMOs, risk assessments, risk managements, labelling, etc.

- The project has also published brochures, posters and articles, videoclips which are available to the public.

- Guidelines and manuals of GMO Testing, Risk Assessment and Risk Management and management of field trials have been published.

- The Biosafety Clearing House is active and has records on national contacts, risk assessments, decisions and declarations and the National Reports (1-4)

- **The following are the material and tools developed under the project**

  - Bisoafety Society of Iran-Biotechnology, genetic engineering and transgenics in words and fatwas of the supreme leader and Marjas(book)-E5 (OUTREACH, V1)
  - Biosafety Society of Iran-public awareness in social networks-E5 (OUTREACH, V1)
  - MSRT-3 Different contents provided for the project's website -E8 (OUTREACH, V1)
  - Biosafety Society of Iran-10 facts about GMOs(Book)-E5 (OUTREACH, V1)
  - Biosafety Society of Iran-Biotechnology in plain language(book)-E5 (OUTREACH, V1)
  - Bisoafety Society of Iran- GMO in the mirror of truth(book)- E5 (OUTREACH, V1)
  - Bisoafety Society of Iran-52 Facts about GMOs(BOOK)-E5 (OUTREACH, V1)
  - Biosafety Society of Iran- Newletter on biosafety and GMOs-E5 (OUTREACH, V1)
  - MAJ-(Third) Workshop about monitoring, reviewing and reporting after the release of GM crops to market-D4 (WRKSHP, V1)
  - RCESD-Guideline on probabilistic environmental risk assessment related to the export, import and transboundary movements of the LMOs-C1C2 (MANUAL, V1)
  - RCESD-Guideline on reviewing the probabilistic environmental risk assessment of the LMOs release to the environment-C1C2 (MANUAL, V1)
  - RCESD-Guideline on the preparation of environmental monitoring report after the LMOs release into the environment-D1 (MANUAL, V1)
  - RCESD-Guideline on the probabilistic environmental risk management of the LMOs-C1C2 (MANUAL, V1)
  - RCESD-Guideline on the public awareness and public participation in regards to the LMOs in the field of environmental science-E1 (MANUAL, V1)
  - RCESD- Monograph on Analysis of Environmental Aspects of pest-resistant GM Potatoes-E5.pdf (OUTREACH, V1)
  - RCESD-Monograph on Analysis of environmental aspects of herbicide-resistant GM sugar beet-E5 (OUTREACH, V1)
  - RCESD-Monograph on Analysis of Environmental Aspects of Genetically Modified Maize-E5 (OUTREACH, V1)
  - RCESD-Modern Biotechnology and Biosafety in the field of environment(Book)-E5 (OUTREACH, V1)
  - Biosafety Society of Iran- Webinar on The relationship between genetic engineering and nature- E6 (WRKSHP, V1)

- Biosafety Society of Iran-Webinar on Genome Editing using CRISPR Technology (with the focus on genome editing of plants)- E6 (WRKSHP, V1)
- Biosafey Society of Iran- Webinar on GMO (Genocide or Human Savior)-E6 (WRKSHP, V1)
- RCESD- Monograph on Collection of biosafety regulations in the field of environment- E5 (OUTREACH, V1)
- MOH-Mnograph on Bioafety, Transgenic Foods and its safety- E5 (OUTREACH, V1)
- MOH-Monoghraph on analysis of probability of allergenicity of GM foods-E5 (OUTREACH, V1)
- Project's Secretariat-Explanatory guide on biosafety rules and regulation- B5 (OUTREACH, V1)
- SONBC- Meetings to preparing a draft for conducting survey of potentials, priorities and gaps in the biosafety law and approve the outcome (B1-B2-B3-B4) (WRKSHP, V1)
- SONBC-Meetings on Technical Guidelines of Components C, D and E(C3-D2-E2) (WRKSHP, V1)
- SONBC and Biosafety Project's Website(Main Page Screenshot) E9 (OUTREACH, V1)
- Biosafety Society o Iran-Two Posters on Probable Risks of GMOs and licensing-E5 (OUTREACH, V1)
- MAJ-International Instruments, National Laws and Regulations on the safety of Living Modified Organisms(Book) (E5) (OUTREACH, V1)
- MAJ-webinar on biosafety of transgenic food and feed-D7 (WRKSHP, V1)
- RCESD-Developing the national biosafety policy at the biosafety working group of the Department of Environment-A3 (POL, V1)
- MAJ-Biotechnology Development Book-E5 (OUTREACH, V1)11/11/2021
- MAJ-Guide book on probabilistic environmental risk assessment of GMOs-E5 (OUTREACH, V1)09/11/2021
- RCESD-Workshop on detection and identification of Living Modified Organisms (LMOs) - quantitative and Qualitative approaches-D6 (WRKSHP, V1)
- SONBC-Meetings for Integrating the drafted biosafety policies -A4 (WRKSHP, V1)
- SONBC-Workshop on CPB, Biosafety Law, GMO risk assessment and management and public awareness of transgenic products at the department of Environment (B6) (WRKSHP, V1)
- Biosafety Society of Iran- Webinar on CRISPR Symposium-E6 (WRKSHP, V1)
- Biosafety Society of Iran-Educational Video about GMOs (OUTREACH, V1)
- Brochures published by Biosafety Society of Iran (E5) (OUTREACH, V1)
- Biosafety Society of Iran- 3 infographs on GMOs(E5) (OUTREACH, V1)
- Biosafety Society of Iran- 3 public awareness workshops(E4) (WRKSHP, V1)
- MOHME-Training Workshop on Labeling and Packaging of the GMO- C10 (WRKSHP, V1)
- SIWASD-Training Workshop on GMO and Biosafety-E4 (WRKSHP, V1)
- MOH-3 Monographs about GMO and its health aspects (TECH, V1)
- MSRT-biosafety guidelines for the research laboratories for GMOLMOs-B8 (MANUAL, V1)
- MSRT-Preparing and approving the guidelines for Ã¢â‚¬Å“field trials for GM plantsÃ¢â‚¬Â•-B9 (MANUAL, V1)
- MSRT- Laws and Regulations Related to Biosafety- E5 (OUTREACH, V1)
- MSRT- Razi university -Improvement of Biosafety, human Health and Environment- E4 (WRKSHP, V1)
- Biosafety Society of Iran- Report on Agronomy and Plant Breeding in the World after Genetic Engineering (E5) (TECH, V1)
- MSRT-Training Workshop on Biosafety and Detection of Genetically Modified Organisms(C9) (WRKSHP, V1)
- MSRT-GM PLANTS questions and answers-E5 (OUTREACH, V1)

- MSRT- Training Workshop on Ã¢â‚¬Å“Requirements for Establishing Biosafety SystemsÃ¢â‚¬Â• - Sari City-(E4) (WRKSHP, V1)
- MSRT- Training workshop on Biosafety Issues Related to Genetically Modified Organisms -Tabriz City (E4) (WRKSHP, V1)
- MAJ-(First)Workshop about monitoring, reviewing and reporting after the release of GM crops to market -D4 (WRKSHP, V1)
- MAJ- (Second)workshop on monitoring, reviewing and reporting after the release of GM crops to market-D4 (WRKSHP, V1)
- MAJ-(Third) Workshop about Ã¢â‚¬Å“monitoring, reviewing and reporting after the release of GM crops to market-D4 (WRKSHP, V1)
- Training workshop on National Biosafety laws and regulations - B7 (MAJ) (WRKSHP, V1)
- MAJ-Report of the Preparing and finalizing the biosafety technical and sample papers in order to be able to monitor and report on the field release of GM crops-D1 (WRKSHP, V1)
- MAJ - Training workshop on probabilistic risk management and risk assessment in Qazvin- C6 (WRKSHP, V1)
- MAJ-Workshop about International Biosafety laws and regulations Biotechnology for the Safe Food and the Environment-B6 (WRKSHP, V1)
- MAJ- Workshop about the technical guidelines of the ministry of Agricultural Jihad for biosafety-C11 (WRKSHP, V1)
- MAJ- Workshop about the technical guidelines of the ministry of Agricultural Jihad for biosafety Genetic Engineering for Human and Environment- C11 (WRKSHP, V1)
- MAJ-Workshop about Introduction to Biotech Crop and Labeling Principles of GMOs- C11 (WRKSHP, V1)
- SONBC-Biosafety Rules and Regulations and GMO Products at Irna News Agency- B6 (WRKSHP, V1)
- SONBC-Training workshop on GMOs at DOE-B6 (WRKSHP, V1)
- MOH- training workshop on Ã¢â‚¬Å“Generalities and approaches used in assessing the safety of GMO productsÃ¢â‚¬Â• for Editors in chiefs of news services belong to IRNA news agency(E4) (WRKSHP, V1)
- MOH-training workshop on the executive guidelines regarding the GMOs and the related food products including import and export and labeling and packaging,etc (C5) (WRKSHP, V1)
- MOH-Developing and finalizing the guidelines for safety evaluation of GM food(C1-C2) (MANUAL, V1)
- MOH- training-workshop on Risk Assessment of the GMO Products (C6) (WRKSHP, V1)
- Meeting- Approval of the National Policies on the Safe Application of Modern Biotechnology - A3-(MAJ) (POL, V1)
- Research Center of Environment- 9 training workshops about different subjects of biosafety E4 (WRKSHP, V1)
- MSRT-Methods of Analysis for Detection of Genetically Modified Organisms and Derived Products-Identification of Imported Soybean (Glycine max (L.)) Events [C8] (MANUAL, V1)
- MSRT-Methods of Analysis for Detection of Genetically Modified Organisms and Derived Products-Identification of Imported Maize (Zea mays) Events [C8] (MANUAL, V1)
- MSRT- Introduction to Biosafety Guidelines on Laboratory and Confined Field Trials of Genetically Modified Crops [B10] (WRKSHP, V1)
- MSRT-Workshop on Ã¢â‚¬Å“Methods for Detection of Genetically Modified Organisms (GMOs) and their Food Products [C9] (WRKSHP, V1)
- MSRT-Report of the training-workshop on An Introduction to Principles of Genetic Engineering and Biosafety [E4] (WRKSHP, V1)

- MSRT-Methods of Analysis for Detection of Genetically Modified Organisms and Derived Products-Identification of Imported Cotton (Gossypium hirsutum) Events [C8] (MANUAL, V1)
- MAJ - Guideline for conducting field trial of Genetically Modified (transgenic) Plants- C1 C2 (MANUAL, V1)
- MAJ - Training workshop on probabilistic risk management and risk assessment in Semnan - C6 (WRKSHP, V1)
- MAJ-Training workshop on probabilistic risk management and risk assessment in Hamedan - C6 (WRKSHP, V1)
- MAJ-Report of the website for licensing requests and handling the request for LMO-GMO field release-C12 (TECH, V1)
- MAJ - Training workshop on quantitative and qualitative Detection of GMO products - D6 (WRKSHP, V1)
- Training workshop about risk assessment of GM food safety- Ministry of Health and Medical Education- C6 (WRKSHP, V1)
- Public Awareness Workshop- Ministry of Health and Medical Education- E4 (WRKSHP, V1)
- Workshop for Public awareness about Biosafety in Hormazgan Province (WRKSHP, V1)
- CENESTA-National Conference on biosafety and public awareness-E6 (WRKSHP, V1)
- CENESTA-Workshop on biosafety and GMOs- Education & Trainingon ministry. E4 (WRKSHP, V1)
- CENESTA-Farmers Conference on biosafety and public awareness- E6 (WRKSHP, V1)
- Qom - Workshop on Cartagena Protocol on Biosafety (WRKSHP, V1)
- Damavand - workshop on Cartagena Protocol on Biosafety (WRKSHP, V1)
- Tehran - 3 Training workshops on reviewing GM products' do's and don'ts (Tehran University) (WRKSHP, V1)
- Gilan - Workshop on Cartagena Protocol on Biosafety (WRKSHP, V1)
- CENESTA-workshop on Legal aspects of GMOs in Azad university of Damavand-E4 (WRKSHP, V1)
- CENESTA-workshop on Legal aspects of GMOs in Azad university of Tehran-E4 (WRKSHP, V1)
- Research Center for Environment and Sustainable Development- CPB Workshop for food producers-B7 (WRKSHP, V1)
- Research Center for Environment and Sustainable Development- CPB Workshop for media staff-B7 (WRKSHP, V1)
- Secretariat for Biosafety High Council- Workshop on Biosafety and related laws-B6 _Media Workshop (WRKSHP, V1)
- Secretariat for Biosafety High Council-Meeting on biosafety gaps and priorities- A2 (WRKSHP, V1)
- Demo Page for the Project Website (TECH, V1)
- Training Workshop-Biosafety and Public Awareness on Genetically Modified Organisms(E4) (WRKSHP, V1)
- Report of the training workshop about biosafety and related laws(B6) (WRKSHP, V1)
- NGO report on situation of biosafety in Iran (TECH, V1)
- Meeting on biosafety and Genetically Modified Organisms.in Hamedan (WRKSHP, V1)

- Some of the published can be seen in the project's website http://sonbc.doe.ir

ANNEX IX: BRIEF CV OF THE REVIEWER

Rachel Omukatia Shibalira Muyonga, a Kenyan National, is a seasoned international expert in environmental policy and Law. She has over 15 years' experience in designing, implementation, coordination and management of projects and programs and institutional capacity strengthening in Africa and Asia, with different donors and agencies. Rachel has worked as an expert, a regional Advisor on the Cartagena Protocol on Biosafety, and an independent consultant for UNEP. Mainstreaming Environmental issues in Strategies and countries development plans has been a main component of Rachel's action, through Biodiversity projects, Reforestation and agro-forestry initiatives, and Sustainable management of natural resources. Rachel has acquired a robust experience in advising on national policies and laws on environment. .Since 2008, Rachel has worked as an Independent Consultant and has carried out and led relevant Evaluation missions, in Namibia, Eswatini, Lao PDR, India, Malaysia and Iran.

Rachel holds a Bachelor of Law Degree and a Master of Science in Environmental Planning and Management.

ANNEX X: REVIEW TORS (WITHOUT ANNEXES)

TERMS OF REFERENCE

Terminal Review of the UNEP project
Project *"Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety"*
GEF ID 3730
(June 2024)

Section 1: PROJECT BACKGROUND AND OVERVIEW
1. Project General Information

Table 1. Project summary

UNEP PIMS ID/SMA[4] ID:	3730/20156	Grant ID[5] (if applicable): WBSE	SB-005786
UNEP Management (Division/Branch/Unit):	UNEP Ecosystems Division, GEF Biodiversity & Land Degradation Unit, Biodiversity & Land Branch		
Implementing Partners:	UNEP		
Sources of Funding:	*Country[6](ies):* Islamic Republic of Iran	*Institution[7] Name/Type:* UNEP-GEF	
Relevant SDG(s):	This project enhances the science, technology and innovation (STI) in country. The SDGs objectives including 2, 13 , 15 and 17 are directly related to the results of the project. 2.4.1 Proportion of agricultural area under productive and sustainable agriculture 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium or long term conservation facilities 13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer, and development actions 15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species 17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies		

[4] SMA refers to the ID provided by the Integrated Planning, Management and Reporting Solution (IPMR) system, which was introduced by UNEP in July 2023.
[5] For example, ID references from EC, IKI, UNDA, Adaptation Fund, GCF.
[6] Where applicable, list countries who have provided project funds and/or co-finance.
[7] Indicate where funding institutions are any/all of the following: Foundation/NGO; Private Sector; UN Body; Multilateral Fund; Environment Fund; Other.

MTS (all that apply):		**UNEP approval date:**	28.09.2012
POW Direct Outcome(s) number/reference *(applicable for projects approved from 2022):* **OR** **POW Output(s) number/reference *(applicable for projects approved pre-2022)***	POW Direct Outcome: Subprogramme 3 – Healthy and productive ecosystems Subprogramme 4 – Environmental governance	**MTS 2025 Outcome(s) number/reference *(applicable for projects approved from 2022):*** **OR** **POW Expected Accomplishment(s) number/reference *(applicable for projects approved pre-2022):***	*N/a*
	POW Output: *1*.– Healthy and Productive Ecosystems 2. Environmental Governance		*POW Expected Accomplishment:* *Subprogramme 3 – Healthy and Productive Ecosystems* *Indicator (i)* Increase in the number of countries and transboundary collaboration frameworks that have made progress to monitor and maintain the health and productivity of marine and terrestrial ecosystems *E*A (a) The health and productivity of marine, freshwater and terrestrial ecosystems are institutionalized in education, monitoring and cross-sector and transboundary collaboration frameworks at the national and international levels

			Subprogramme 4 – Environmental Governance Indicator (i) Increase in the number of countries that have enhanced institutional capacity and legal frameworks to fully implement the multilateral environmental agreements and for the achievement of internationally agreed environmental goals including the 2030 Agenda and the Sustainable Development Goals *EA (b) Institutional capacities and policy and/or legal frameworks enhanced to achieve internationally agreed environmental goals, including the 2030 Agenda for Sustainable Development and the Sustainable Development Goals*
Sub-programme:	3 and 4	**Programme Coordination Project:**	*N/A*
***Expected* start date:**	08.10.2012	**Actual start date:**	08.12.2015
***Planned* completion date:**	27.09.2015	**Actual operational completion date:**	27.06.2021
***Planned* total project budget[8] at approval:**	USD 749,000	**Actual total expenditures reported as of 30 JUNE 2021**	USD 724,000

[8] Total budget may include; Regular Budget, Environment Fund, Extra-Budgetary, including 'softly-earmarked' etc.

***Planned* Extra-budgetary Funds[9]:**	*Cash: USD* 851,000 *In-kind:*	**Secured Extra-budgetary Funds:**	*Cash:*USD 851,000 *In-kind:*
		Actual Extra-budgetary Funds expenditures reported as of [date]:	*Cash:*
First disbursement:	31.12.2013	**Planned date of financial closure:**	27.09.2015
No. of formal project revisions:	12	**Date of last approved project revision:**	31.12.2020
No. of Steering Committee meetings:	11	**Date of Last Steering Committee meeting:**	16.06.2019
Mid-term Review/ Evaluation *(planned date):*	-	**Mid-term Review/ Evaluation (actual date):**	-
Terminal Evaluation *(planned date):*	SEPT 2023	**Terminal Evaluation (actual date):**	07.10.2023-17.10.2023
Coverage – Implementing Country(ies):	IRAN	**Coverage – Implementing Region(s):**	ASIA
Dates of previous project phases:		**Status of future project phases:**	

2. Project Rationale[10]

The Islamic Republic of Iran signed the Cartagena Protocol on Biosafety on April 23, 2001, and ratified it on November 20, 2003. The UNEP-GEF Project on the Development of the National Biosafety Framework of the I. R. of Iran started in November 2002 and ended in September 2004. The draft NBF was submitted to the Government. The National Biosafety Committee was repealed and replaced by the National Biosafety Council according to the Cabinet Ministers decree. The National Biotechnology strategy (the country's eleven-year plan for the development of biotechnology) was also approved, which emphasized on the development of biotechnology in agriculture, botany, medicine, livestock and marine life, industry and mining. It emphasized that "the development of biotechnology should be in harmony with environmental regulations" and that "the development of biotechnology should be in accordance with the observation of biosafety regulations", and that Iran should cultivate at least 0.5% of the global area under the cultivation of transgenic crop plants.

The project builds on the NBF. It aims at strengthening Iran's National Biosafety Framework (NBF) envisaged as a Governance System / Coordination Mechanism that encompasses policy, legal, administrative, and technical instruments as well as management arrangements. This is intended to make the country fully comply with CPB requirements regarding safe transfer, handling and use of Living Modified Organisms (LMOs) from modern biotechnology, and to ensure the inclusive, equitable and sustainable character of the process.

Iran is an importer of agricultural products and could therefore be considered a potential importer of LMOs.

[9] Extra-budgetary funds may include co-finance (cash/in-kind)

[10] Grey =Info to be added

Lack of capacity in terms of financial and human resources, equipment, regulations and responsible regulating and enforcement organizations will increase the likelihood of exposure to and introduction of LMOs into the environment. Therefore, the country is in urgent need of capacity building in the implementation of its NBF to minimize any risk arising from the movement and introduction of LMOs into its environment. Iran is also an important transit route through which many 9 commodities and goods are being transferred to/from other countries in the region. In addition, biotechnology is developing rapidly in the country without similar capacity building in biosafety. This project will help reduce this imbalance between biotechnology development and biosafety applications in the country and at the same time equip Iran with the necessary skills to ensure that the movement of LMOs between its borders will be carried out safely.

3. Project Results Framework

According to the ProDoc, the overarching goal of this project is to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. As a signatory to the CPB, Iran needs to develop its national capacities in biosafety required to carry out risk assessments with appropriate scientific and technical skills; implement necessary activities for risk management, evaluate and strengthen the legal and regulatory framework and develop infrastructure for information exchange and data management, as well as achieve broad social participation in biosafety matters. The aim of the project is to develop the necessary capacity within the country to implement its National Biosafety Act. According to the ProDoc, the Project encompassed five components (See table 1 below). The objectives and achievements under Components 1 to 5 were directly related to the institutional and human resources capacity building for the effective implementation of the NBF mechanism; namely:

Component 1 - Stock taking and Biosafety Policy (1) main outcome and five (2) related outputs.
Component 2- Regulatory Biosafety Regime involving one outcome and three outputs.
Component 3- system for handling of requests and authorization- and foreseeing one (1) outcome and five outputs.
Component 4- addressing follow up mechanisms (monitoring and environmental effects and enforcement; control and inspection)- envisaging one outcome and six outputs; and
Component 5- dealing public awareness and participation-envisaging one outcome and three outputs.
Components 6 and 7 concern the Project management and Project Monitoring and Evaluation

Table 1: Components and Outcomes of the Project

No.	Project Component	Expected Outcome
1.	Stocktaking and Biosafety Policy	Integration of Biosafety into relevant national development plans, biodiversity strategies and biotechnology strategy/ policy/ action plans
2.	Regulatory Biosafety Regime	A fully functional and responsive regulatory framework in line with CPB, other relevant international agreements and national regulations is developed in Iran
3.	System handling of requests And for authorization	An operational institutional structure effective decision- making, handling requests, and performing, risk assessment and administrative tasks developed in Iran
4.	Followup mechanisms(monitoring and environmental effects and enforcement; control and inspection)	A functional national system for long term monitoring and reporting of LMO release is developed in Iran
5.	Public awareness and participation	A functional national system for public awareness and participation, in line with the CPB requirements is developed in Iran
6.	Project Management	Not considered in the log frame
7.	Project Monitoring and Evaluation	Not considered in the Log frame
8.	Regional Networking and cooperation	Not considered in the log frame

Reconstructed Theory of Change

An explicit Theory of Change (TOC) that maps out and describes the results framework was not required at the time of the development of the project and none was developed even during project implementation. For this evaluation, a draft Theory of Change has been reconstructed to gain a better understanding of the conceptual thinking behind project design and to assist with the assessment of project effectiveness and likelihood of impact, sustainability, and upscaling.

The reconstructed Theory of Change of the project seeks to define:

- nature and scope of the changes to which the project is expected to contribute.
- cause-effect relationships between outputs delivered by the project and expected higher- level changes (also called results chains or causal pathways);
- external factors and conditions that would allow the project to achieve the expected higher- level changes. These are considered in two groups: assumptions are external conditions over which the project has no influence or control; drivers are external factors that the project can influence with

specific activities or outputs; and role of key stakeholders in making those changes happen.

The reconstructed Theory of Change enhances our common understanding of the underlying program logic. It depicts what and how the project planned and achieved results and maps out the underlying intervention logic, identifying key drivers of impact and the underlying assumptions. The reconstructed Theory of Change of the project is based on the actual results statements in the project document which have been "broken up" and re-arranged to better conform to UN Environment definitions of the different results levels and to show the theoretical cause-effect relationships. The reconstructed Theory of change was shared with project staff and stakeholders in Tehran during the Terminal Review mission.
The project objective is to strengthen Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. As a signatory to the Cartagena Protocol, Iran needs to develop its national capacities in biosafety required to carry out risk assessments with appropriate scientific and technical skills; implement necessary activities for risk management; evaluate and strengthen the legal and regulatory frameworks and develop infrastructure for information exchange and data management, as well as achieve broad social participation in biosafety matters. The aim of this project is to develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act. Enhanced capacities result from putting in place a biosafety policy and regulatory regimes, institutional structures, a cost-effective risk-assessment, and management program for Living Modified Organism (LMOs) and built awareness of key stakeholders including government agencies, Universities and NGOs of the risk of LMOs.

All these activities are expected to be coordinated by a functional administrative system with the capacity to manage LMOs. Strengthened capacity, where there is political will and financial support from government as well as an informed public and civil society engagement, is expected to result in Iran transitioning to sound management of living modified organisms.
In reconstructing the Theory of Change, the Reviewer noted that the project objective is an intermediate state towards a desired impact, which is that the risk of the of introduction of LMOs is managed. For changes to happen along the causal chain from outcomes to impact several external conditions need to be met or external factors need to be present. Key assumptions made by the project (over which the project has no influence) are that there will be no changes in the managers of the biosafety stakeholders and no delays in project implementation. It is assumed that the government will be supportive as Biotechnology development is one of priorities at the national development plan. Second main assumption is good cooperation among stakeholders and no different opinions between stakeholders in all areas, for example for accepting of the development a biosafety regulatory framework. Cooperation among stakeholders also involves scientists and institutions related to the biosafety which will fully cooperate and participate in the various activities. It is also assumed that Stakeholders will be willing to participate and support the project activities. The final assumption is that the public will be active and participate and support the project, there will be general interest and no opposition from any stakeholders group. The Project document did not identify any drivers.
The reconstruction of the TOC of the Project considered the following aspects:

- formulation of the Project Impact and of the Main Project Outcome.
- the main Components of the Project and correspondent Outcomes, in the ProDoc (as concisely exposed under Section 3.2. Table 1: Components and Outcomes).
- the standard conceptual framework of the National Biosafety Framework (NBF), which usually comprises five main components:
    1. A Government policy on biosafety.
    2. A regulatory regime for biosafety.

3. A system to handle notifications or requests for authorizations.
4. Systems for 'follow up' such as enforcement and monitoring for environmental effects.
5. Mechanisms for public awareness, education, and participation.

The exercise of reconstruction of the Theory of Change has permitted to define the overall causal pathway between Outputs and Outcomes. As a result, five (5) clusters of Outputs have been assembled and five Direct Outcomes have been identified, contributing to the main Project Outcome. The reconstructed ToC also depicted the pathway from Outcomes to Impact and any intermediate change required between them, called intermediate states. It permits to appreciate to what extent the project has to date contributed, and is likely in the future to further contribute, to changes in stakeholders behaviour as a result of the project's direct outcomes, and the likelihood of those changes in turn leading to environmental benefits (impact).

The Causal Logic from Outputs to Outcome

Based on the causal logic of the project from the project documents (to include, the Logical Framework (Results Framework), the "Key deliverables and milestones" and the Project Workplan), the following Diagram 2 maps out the lower part of the reconstructed Theory of Change (TOC), from Outputs to the Main Outcome, i.e. "Strengthened Management System and fully operational National Biosafety Framework in Iran". Project's Outputs have been grouped into five components / groups, the first being a preliminary Output - "baseline assessment" (stocktaking) and a biosafety Policy to be adopted. The other four groups evolve around the building-blocks underpinning an effective NBF. Each group of Outputs supports a Direct Outcome that represents a change expected to be achieved within a specific component of the NBF. Institutional Capacity Building and Human Resources Development evolve around and refer to the key structural requirements for an effective NBF. The reconstructed TOC considers Human Resources Development at the Output level, as it is necessary to underpin the achievement of Direct Outcomes. On the other hand, Institutional Capacity Building is closely related to the Main Outcome as stated in the reconstructed ToC.

All the foreseen outputs were reconstructed as they were seen to be identical to activities rather than outputs (e found to be identical to activities (e.g. Output 1.1 "Development of a Biosafety Policy "or output 2.1.2 training courses for stakeholders on regulatory framework"). Drivers were not considered in the ProDoc. The reconstructed ToC considers several drivers, specific to each level of results. For the delivery of all Project's Outputs, "Building on experience gained in Phase I by the National Executing Agency" has been considered as a key Driver. This is related to the "institutional memory" and the existence of appropriate mechanisms for the retention of experience and related achievements. Moving from the Outputs level to the Direct Outcomes, four other relevant Drivers have been identified. It should be noted that all of them are explicit elements of the Project even if they are not identified as Drivers within the ProDoc. In relation to Direct Outcome 4, "Enforcement Monitoring and inspection system for LMOs established", four main Drivers were considered; namely:

Staff attrition mitigated through training a core mass of qualified human resources;

Existing enforcement mechanisms are built upon. In relation to the Direct Outcome 5, "Functional systems for public awareness, education and participation", the following two Drivers were considered relevant, namely:

Appropriate participatory methods are identified for Risk Communication throughout the decision-making process.

the Biosafety Clearing House is regularly updated.

Four main Assumptions are identified along the pathway from Outputs to Direct Outcomes: namely.

- that there will be no changes in the managers of the biosafety stakeholders and no delays in project

implementation.

- that the government will be supportive as Biotechnology development is one of priorities at the national development plan.

There is good cooperation among stakeholders and no different opinions between stakeholders in all areas, for example for accepting of the development a biosafety regulatory framework. Cooperation among stakeholders also involves scientists and institutions related to biosafety which will fully cooperate and participate in the various activities. It is also assumed that Stakeholders will be willing to participate and support the project activities that the public will be active and participate and support the project, there will be general interest and no opposition from any stakeholders group.

T**he Pathway from Outcome to Impact**

The intended Impact of the project is the Global Environmental Benefit (GEB) to which it contributes, **i.e. "enhanced conservation and sustainable use of biological diversity in Iran". The pathway from the Main Project Outcome to the intended Impact is not a straightforward process.** Transitional conditions (referred to in the TOC as 'Intermediate States') should be fulfilled. Overall, the pathway towards higher levels of results entails the continuous and progressive improvement of decision- making processes and of governance mechanisms. Schematically, the pathway from the Intermediate State 1 to the intended Impact can be simplified by identifying further transitional conditions (Intermediate States) to be fulfilled, as shown in Diagram 2. **If the Intermediate State 1 (IS 1) is achieved and maintained, three other Intermediate States can be achieved:"Improved decision-making processes for LMOs approval, effective implementation mechanisms and enhanced quality information and transparency" (Intermediate State 2 / IS 2) can be achieved under the conditions that, firstly, the NBF has the financial resources to effectively monitor all the** relevant aspects of the LMOs management and, secondly, a resource mobilization strategy is conceived and developed. Key impact drivers at that stage are the coordinating role of the Competent National Authority/CNA (DoE), effective LMOs management systems (e.g. for detection and referral, for handling applications, for risk assessment and monitoring), stakeholders and public participation, quality information available and timely flowing into the BCH.

"Improved Governance of National/Regional Biosafety systems based upon: Rule of Law and Compliance, Accountability and Liability, Equity, Transparency and Citizens' Participation" (Intermediate State 3 / IS 3) can be achieved under the assumption that the required political will of the Government is not missing. That should be reflected in the implementation of a National Policy on Biosafety and of an Action Plan (actually foreseen in the first Project Outcome). Improved Governance also implies that the national policy on Biosafety is streamlined into government plans and an effective strategy of resource mobilization is operational. The main impact drivers at that stage will be effective forms of stakeholder participation (in planning, decision making and funding), conducive to open and transparent information flows and negotiation processes at different levels.

The Intermediate State 4 (IS 4) is the "Safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements", as requested under art. 1 of Cartagena Protocol (CPB). Political will and negotiations will act as impact drivers at that level, under the main assumption that decision-making of the National Biosafety Council persists based on rigorous Risk Assessment and Risk Management best practices, and those financial resources flow into Biosafety programs mechanisms. Under the same assumption that internationally followed principles of Risk Assessment and Risk Management are lastingly

used by the Competent National Authority, the Project Impact (Enhanced Conservation and Sustainable Use of Biological Diversity in Iran) can be achieved. As visualized in Diagram 2, Intermediate States 2, 3 and 4 are not necessarily sequential and could be emerging simultaneously, though it is expected that IS 4 would come after the other two. IS 2 can also be a driving force to IS 3.

4. Executing Arrangements

[The National Executing Agency (NEA) of the project is the Department of Environment which is also the Competent National Authority (CNA) for the CPB. The NEA managed the project and took overall responsibility for its implementation by providing scientific, technical, financial, and administrative support, and by working in close cooperation with relevant government agencies, the Scientific community, and other stakeholders.

5. Project Cost and Financing

Table: Project Budget by Component

No.	Component/ Sub- component	Estimated Cost at Design	Actual Cost	Expenditure Ratio(Actual/ Planned)
1.	Stocktaking Assessment	$58,200	$39,596.60	0.68
2.	Strengthening the Regulatory Biosafety Regime	$87,200	$71,596.60	0.821
3.	System for handling requests for authorization	$313,200	$230,879.36	0.737
4.	Follow up mechanisms (monitoring of environmen- tal effects and enforcement: control and inspection)	$92,200	$74,129.93	0.804
5.	Public awareness and Participation	$107,700	$233,111.05	2.164
6	Project coordination and Monitoring unit	$90,500	$74,686.54	0.825
7.	Project Monitoring and Evaluation	$9000 (part of NUMBER 6)	$25,000	2.778
	TOTAL	749,000	749,000	0

Table: Co- Financing Table

Co- Financing (Type/ Source)		UNEP Own Financing (USD749,000)		Government	Other *	
Planned		Actual	Planned	Actual	Planned	Actual
Grants	749,000	749,000	749,000	851,000 (in- kind)	851,000	
Loans	-	-	-	-	-	
Credits	-	-	-	-	-	
Equity Investments	-	-	-	-	-	
In Kind support	-	-	-	-	851,000	
Other *	-	-	-	-	-	

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

6. Implementation Issues

Over the period of project implementation, the country faced economic, and financial embargo, imposed by several countries including USA and UK Governments. The sanctions have had an adverse effect on the Iran economy with the currency collapsing and increasing inflation. This has a direct bearing on the project implementation as the funding of the project in USD. The project however applied adaptive management in agreement with UNEP by using UNDP to pay for goods and services through UNEP Fax Authorizations.

During its lifetime, the Project was granted 13 budget revisions, mainly for reallocation of funds between budget lines. Three no-cost extensions of 69 months in total, was granted, including the administrative closure of the project. The project ended on 27th June 2021, instead of 27th September 2015, due to the period where there was an embargo in transmitting funds through UNDP which let to substantial delays in execution. No formally approved changes to project design have been made during implementation. Nonetheless, there is evidence (discussed below) of adaptive management, mostly as replies to Project Steering Committee requests.

Section 2. OBJECTIVE AND SCOPE OF THE REVIEW

7. Objective of the Review

In line with the UNEP Evaluation Policy[11] and the UNEP Programme and Project Management Manual[12], the Terminal Review (TR) is undertaken at operational completion of the project 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 Review has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP and other project partners including [Ministry of Health and Medical Education(MOHME), Ministry of Agriculture of Jihad(MAJ) ;Ministry of Science, Research and Technology (MSRT); Department of Environment; Secretariat for Biosafety High Council; Non-Governmental Organizations (CENESTA,SIWASD. Therefore, the Review will identify lessons of operational relevance for future project formulation and implementation, especially for future phases of the project, where applicable.

8. Key Review principles

Review findings and judgements will be based on sound evidence and analysis, clearly documented in the Review Report. Information will be triangulated (i.e. verified from different sources) as far as possible, and when verification is not possible, the single source will be mentioned (whilst anonymity is still protected). Analysis leading to evaluative judgements should always be clearly spelled out.

The "Why?" Question. As this is a Terminal Review and a follow-up project is likely [or similar interventions are envisaged for the future], particular attention will be given to learning from the experience. Therefore, the "*why?*" question should be at the front of the consultant(s)' minds all through the review exercise and is supported by the use of a theory of change approach. This means that the consultant(s) need 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. what contributed to the achievement of the project's results). This should provide the basis for the lessons that can be drawn from the project.

Attribution, Contribution and Credible Association: In order to *attribute* any outcomes and impacts to a project intervention, one needs to consider the difference between what has happened with, and what would have happened without, the project (i.e. take account of changes over time and between contexts in order to isolate the effects of an intervention). This requires appropriate baseline data and the identification of a relevant counterfactual, both of which are frequently not available for reviews. Establishing the *contribution* made by a project in a complex change process relies heavily on prior intentionality (e.g. approved project design documentation, logical framework) and the articulation of causality (e.g. narrative and/or illustration of the Theory of Change). Robust evidence that a project was delivered as designed and that the expected causal pathways developed supports claims of contribution and this is strengthened where an alternative theory of change can be excluded. A *credible association* between the implementation of a project and observed positive effects can be made where a strong causal narrative, although not explicitly articulated, can be inferred by the chronological sequence of events, active involvement of key actors and engagement in critical processes.

[11] https://wedocs.unep.org/handle/20.500.11822/41114
[12] https://wedocs.unep.org/20.500.11822/42752

Communicating Review Results. A key aim of the Review is to encourage reflection and learning by UNEP staff and key project stakeholders. The consultant should consider how reflection and learning can be promoted, both through the review process and in the communication of review findings and key lessons. Clear and concise writing is required on all review deliverables. Draft and final versions of the main review report will be shared with key stakeholders by the UNEP Project Manager[13]. There may, however, be several intended audiences, each with different interests and needs regarding the report. The consultant will plan with the UNEP Project Manager which audiences to target and the easiest and clearest way to communicate the key review findings and lessons to them. This may include some or all of the following: a webinar, conference calls with relevant stakeholders, the preparation of a review brief or interactive presentation.

9. Key Strategic Questions

In addition to the review criteria outlined in Section 10 below, the Review will address the strategic questions[14] listed below (no more than 5 questions are recommended). These are questions of interest to UNEP and to which the project is believed to be able to make a substantive contribution:

The Terminal Review was asked to provide an informed, evidence-based judgement on the following four key strategic questions, i.e.:

1. To what extent was the project able to assist Iran to establish and consolidate a fully functional and responsive regulatory regime that responds to its obligations under the Cartagena Protocol on Biosafety as well as its national needs for a viable and profitable National Biosafety Framework?
2. To what extent was the project able to develop institutional and technical capacity, awareness, and participation amongst the key actors to ensure that biosafety becomes part of their permanent action?
3. To what extent was the project able to assist Iran to establish and consolidate a functional national monitoring system for Biotechnology to follow up on the releases of Living Modified Organisms (LMOs) and their possible effects on the environment?
4. To what extent are the outcome indicators verifiable, and record progresses towards the achievement of the development objectives, as well as the obligations under the Cartagena Protocol?
5. (Where relevant) What changes were made to adapt to the effects of COVID-19 and how might any changes affect the project's performance?

For GEF-funded projects there are a series of questions that need to be uploaded to the GEF Portal. The consultant should complete the table in Annex 5 of these TOR and append it to the Final Review report.

10. Review Criteria

All review criteria will be rated on a six-point scale. Sections A-I below, outline the scope of the review criteria. The set of review criteria are grouped in nine categories: (A) Strategic Relevance; (B) Quality of Project Design; (C) Nature of External Context; (D) Effectiveness, which comprises assessments of the availability of outputs, achievement of outcomes and likelihood of impact; (E) Financial Management; (F) Efficiency; (G) Monitoring and Reporting; (H) Sustainability; and (I) Factors Affecting Project Performance.

Where UNEP funding partners have areas of specific interest, these are noted, below.

A suite of various tools, templates and guidelines that can help Review Consultant(s) to follow a thorough review process that meets all of UNEP's needs is available via the UNEP Project Manager.

[13] For GEF funded projects, UNEP Project Manager refers to the Task Manager.

[14] The strategic questions should not duplicate questions that will be addressed under the standard review criteria described in section 10.

Strategic Relevance

At the global and national levels, the project was designed to contribute to, and is consistent with, GEF Strategic Program (SP) 6 and SF under the GEF 4 Biodiversity Strategy. SP 6 focuses on assisting countries to implement the provisions of the Cartagena Protocol on Biosafety.

The project was aligned with the UNEP Biennial Program of Work (PoW) 2010- 2011:Sub-Programme Environmental Governance with Expected Accomplishment (EA) B: The capacity of States to implement their environmental obligations and achieve their environmental priority goals, targets and objectives through strengthened laws and institutions is enhanced with Output 2: Legal and policy instruments are developed and applied to achieve synergy between national and international environment and development goals; and Output 3: Countries' legislative and judicial capacity to implement their international environmental obligations is enhanced through implementation of policy tools.

Even though the GEF Biosafety projects had not been mainstreamed into the UN Environment Medium-term Strategy 2010-2013 and its programmatic framework at the time this project was designed, Biosafety activities were a substantial part of the biodiversity portfolio of UN Environment. The project was consistent with the programmatic objectives and Expected Accomplishments Ecosystem Management, and Environmental Governance sub-programs.

The project builds on efforts to harmonize policy and approaches to building coordinated institutional frameworks with a capacity to detect, exclude, eradicate, control, and effectively manage introduced organisms (LMOs) that could pose a threat to biodiversity.

The overall rating for strategic relevance is Highly satisfactory.

Expected Accomplishments (EA)	Contribution of the Project
MTS 2010-2013, Sub-program Environmental Governance, EA(b): States increasingly implement their environmental obligations and achieve their environmental priority goals, targets and objectives through strengthened laws and institutions	Overall support to the implementation of the NBF Biosafety Policy integrated the 5year National Action Plan
MTS 2014-2017, Sub-program Environmental Governance, EA2: 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 is enhanced;	Overall support to the implementation of the NBF Biosafety Policy Capacity Building in Risk Assessment and Management and LMO detection Public Awareness and Information Equipping of two national referral laboratories for detection of LMOs

Alignment to the UNEP's Medium-Term Strategy[15] (MTS), Programme of Work (POW) and Strategic Priorities

The project is a Medium-Size Project (MSP) financed through GEF-4 mechanism and belongs to GEF Biodiversity Focal Area. Under GEF-4, Strategic Objective 3, it is relevant to GEF Strategic Program 6 (BD-SP6): Building Capacity for the Implementation of the Cartagena Protocol on Biosafety. Given its focus on

[15] UNEP's Medium Term Strategy (MTS) is a document that guides UNEP's programme planning over a four-year period. It identifies UNEP's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes, known as *POW Outcomes and POW Direct Outcomes*, of the Sub-programmes. https://www.unenvironment.org/about-un-environment/evaluation-office/our-evaluation-approach/un-environment-documents

Capacity Building, the Project is aligned with Bali Strategic Plan (BSP). The project was active in addressing many of the cross-cutting issues listed in Section D of the Plan, such as the strengthening of national institutions, the development of national guidelines, and compliance with obligations under Multilateral Environmental Agreements.

(ii) Alignment to Donor/Partner Strategic Priorities

The Project builds upon and consolidates the achievements and the institutional network developed in the context of the previous project. The National Biosafety Framework has progressively been built through the contribution of several government ministries, universities, research institutions, regulatory agencies and, to a minor extent, the involvement of the private sector and some NGOs. It is also consistent with and relevant to several national priorities and plans. The Project supported the national effort in protecting the country's biodiversity and genetic resources and was well aligned with national priorities in those areas.

(iii) Relevance to Regional, Sub-regional and National Environmental Priorities

The Project fostered a regional and sub-regional approach to Biosafety starting with its design (project component on regional networking and cooperation). The participation of Iranian experts in several activities within the Western Asia Region was supported and regional workshops were promoted. The annual meeting of the teams of the Biosafety UN Environment / GEF Projects at regional level has also been instrumental in enhancing the regional dimension.

Complementarity with Relevant Existing Interventions/Coherence[16]

The Project builds upon and consolidates the achievements and the institutional network developed in the context of the previous project. The National Biosafety Framework has progressively been built through the contribution of several government ministries, universities, research institutions, regulatory agencies and, to a minor extent, the involvement of the private sector and some NGOs. It is also consistent with and relevant to several national priorities and plans. The Project supported the national effort in protecting the country's biodiversity and genetic resources and was well aligned with national priorities in those areas.

B. Quality of Project Design

An assessment of the initial design of the project was undertaken as a part of the inception phase of this evaluation. It helped to refine the questions and issues defined in the Terminal Review matrix and the Reconstructed Theory of Change for the project by identifying causal links, assumptions and drivers. Key sources of information for project design quality assessment included the approved project document, the Project Review Committee (PRC) review sheets, and the project logical framework. In general, the project was reasonably well designed and clearly drafted. The case for the need for the project was clearly made. Relevance of the project was articulated through a discussion of the project's consistency with CBD Articles 8b and 8g on the implementation of the Cartagena Protocol on Biosafety and the execution of the WTO SPS Agreement which embodies CBD and IPPC common work program. A clear description of the existing situation with respect to LMO and IAS was done and opportunities and constraints to project implementation were identified and documented in the project document. Linkages to other GEF and World Bank interventions were identified. The problem of Living Modified organisms and the barriers to effective biosafety were clearly and adequately articulated in the project document.

The project document includes a description of stakeholder analysis. However, the list is heavily focused on government departments to the exclusion of other players in the research, academia, private sector as well

[16] This sub-category is consistent with the new criterion of 'Coherence' introduced by the OECD-DAC in 2019.

as members of the public. It provides a listing of stakeholders and their respective role in the project.
A log-frame was developed, and a narrative of the intervention logic was included in the project document. However, the description does not detail causal linkages between the various project elements. Many activities were presented as outputs even at intermediate levels (i.e., even where several activities contribute to an output) resulting in an overly large number of outputs which had to be re-aggregated in the reconstructed theory of change of the project. A project implementation diagram was developed, and a clear description of roles and responsibilities was attached as appendix 17 to the project document.

An M&E Plan was developed and included as appendix 7. Responsibilities for monitoring of activities were included in a detailed chart. A cost was assigned to project monitoring specifically but how it was derived was not explained. However, the Terminal Review learned that the cost of monitoring was subsumed under the project coordination budget. Milestones were defined in the work plan and scheduled and responsibilities for monitoring of activities were included in a detailed chart.

Critical Success Factors and Risks
For the most part, critical success factors have been identified and seemed to have been adequately considered. A Risk analysis table was included in the project document. Some critical risks related to the ability to mobilize the required resources to undertake the projects were clearly identified as a high risk and measures stated to mobilize the resources.
The rating of Project design is moderately satisfactory.

C. Nature of the External Context
Over the period of project implementation, the country faced economic, and financial embargo, imposed by several countries including USA and UK Governments. The sanctions have had an adverse effect on the Iran economy with the currency collapsing and increasing inflation. This has a direct bearing on the project implementation as the funding of the project in USD. The project however applied adaptive management in agreement with UNEP by using UNDP to pay for goods and services through UNEP Fax Authorizations.

D. Effectiveness

Attainment of Project Objectives and Results
The project's overarching goal was to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. The project developed the Biosafety Policy, which is an important achievement. The impact of this policy development on the level of inclusion of Biosafety in decision-making will depend on the integration of this policy into the wider Biodiversity Policy, for which there is commitment. Capacities to implement best practices in Biosafety were strengthened within different agencies involved in Biosafety, communities, and the private sector through several well-attended stakeholder workshops and training sessions.

Achievement of Outputs
The Terminal Review has assessed the delivery of Project Outputs against the planned Outputs of the Results Framework (Annex A of the ProDoc - Results Framework and Appendix 7 - Costed M&E Work Plan Summary for Iran) in close collaboration with the officers. The revision of the outputs produced (e.g., trainings report, training material, awareness material, etc.), their good level of systematization and filing (also in ANUBIS), as well as the interviews with different stakeholders have permitted the reviewer to confirm the quality of the

outputs and the participatory process of their production.
The Project has satisfactorily delivered all the expected outputs. These are-

(a)The definition of a national Policy on Biosafety and the inclusion of Biosafety in the National Biodiversity Strategy and Action Plan (NBSAP) 2015-2020 and inclusion of Biosafety in the National 5year Plan.
(b)The publication of four relevant Technical Guidelines (on handling requests and RA/RM, Inspection and Monitoring, LMO Detection and Public Awareness);
(c)The equipping of two existing laboratories (Department of Environment and the Ministry of Science, Research and Technology) for LMO detection.
(d)The high number of Ministries officers, Biosafety officers in research institutions, inspectors and different staff sensitized and/or trained on Biosafety-related issues.
(e)Several information and awareness raising activities, including the production, publication, and dissemination of communication material.

It is widely recognized that the main key-drivers have been the high dedication of the team and the strong institutional anchorage and support received from the NCA (DoE), particularly the Biosafety Unit, which, in sum, have created a favourable environment for the setting and implementation of the Biosafety Agenda in the country.
The Terminal Review concludes that all main Outputs have been successfully delivered (rating: Highly Satisfactory / HS)

National Project Team and the relevant DoE Achievement of Project Outcomes[17]
The overall project goal of this project was to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety. The Terminal Review assesses to what extent the actual delivery of the Outputs outlined in previous Section has produced, or has the potential to produce, in the short - medium term, the institutional changes and systemic effects (Direct Outcomes) conducive to a fully operational National Biosafety Framework in Iran. On this basis, this section presents a qualitative analysis and interpretation of the Outcomes achieved, in the light of the reconstructed Theory of Change (ToC). Triangulation of data underpins the current Terminal Review judgement, and is based on Project reports and outputs, stakeholders' perception on Outcomes achievement, and the GEF Tracking Tool. The following sub-chapter presents a qualitative analysis and interpretation of the Outcomes achieved in the light of the reconstructed Theory of Change (ToC) from Outputs to Outcomes, depicted in Diagram 1.
Project Outcomes from Reconstructed ToC
The exercise of reconstruction of the Theory of Change has permitted the streamlining of the results framework of the Project, by grouping Outputs in five clusters and identifying five Immediate/Direct Outcomes that have been appropriately reformulated without changing their substance and that contribute to the main Project Outcome, as shown in Diagram 1 that follows.
The expected Immediate Outcome 1 "Formal approval of biosafety policy for the safe application of modern biotechnology across "has been achieved. An expert team that was set up, conducted, and established a baseline situation through a careful and comprehensive analysis of the gaps and potential priorities in the development of the policy. Subsequently, existing policies or strategies were analysed, and their gaps were identified and addressed through the work of four technical working groups based in the Department of Environment, the Ministry of Agriculture, The Ministry of Health and the Ministry of Science, Research and

[17] Outcomes are the change at institutional level, or changes in behaviors, attitudes or conditions achieved from the use (i.e., uptake, adoption, application) of outputs by intended beneficiaries (UNEP, 2023) (UNEP, 2023)

Technology. Their preliminary conclusions have been discussed and endorsed by the Project Steering Committee. A policy document was produced and endorsed by the main national stakeholders through the National Biosafety Council. The Biosafety priorities are also reflected in the National Environment Strategy and most importantly in the National Biosafety Strategy and Action Plan 2 (NBSAP 2 2016-2030), that has been approved by all line Ministries and by the prime Ministry Cabinet. Specifically, the National Target 12 of NBSAP2 provides that: By 2020, policies and regulations for biosafety are compiled and an effectively implemented mechanism is in place.

The expected Immediate Outcome 2 "A fully functional and responsive regulatory regime established" in place. This has been achieved through different approaches. The Government does not allow the cultivation or local production of LMOs. However, the country imports corn worth 51. million tons, followed by wheat worth 3 million tons, soybeans 1.6 million tons, rice 1.3million tons and unrefined sugar 1.0 million tons, of which imports are likely LMOs. The Project has carried out meticulous and scientifically sound preparatory work necessary for the importation of LMOS. Through the project, several technical Guidelines have complemented the Regulatory Regime. Biosafety Regulations have been developed and operationalized and f responsibilities among the NCAs have been defined. The Rules and Regulations developed include -

- rules for registration and import of biological products.
- guidelines for contained field trials of LMOs,
- Guidelines on issuance of permits to LMOs with stacked events.
- regulations of Art 5 of the Biosafety Law in order to remove production obstacles and define roles of Competent national authorities and National Focal points);
- procedure for approval of importing transgenic events for food/feed consumption and
- Biosafety Regulations on Environmental Risk Assessment.

The Regulatory Regime has full legal force, is operational, and linked to the administrative system, i.e., used for decisions". Iran may claim a well consolidated system that is anchored in the Biosafety Act, 2009. Requests for imports of LMOs have been received, processed and decisions communicated to the BCH, thus testing the functionality of the regulatory regime.
Direct Outcome 2 was achieved to a satisfactory level.

Immediate Outcome 3"An operational Institutional structure for effective decision making, handling requests, and performing risk assessments and administrative tasks" has been approached through relevant initiatives in terms of training and capacity building (Guideline produced, workshops, conducted), as well as the integration of Biosafety in key sectoral policies under the Ministries of Health, Agriculture, Science, Research and Technology and the Department of Environment. The National Biosafety Council has undoubtedly become the pivotal national institution in charge of Biosafety in Iran, referral point for any institutional or private actor dealing with LMOs in the country. This is a major achievement. Coordination among key Biosafety stakeholders, however, remains a challenge. Each of the key institutions namely the DoE, MSRT, NIGEB, MOH, MAJ continue to work in silos. During the review, it was noted that the departments continue to work independently and do not share information with other teams or departments. For example, a consignment with corn may be imported in the country for Feed/Food and processing. The samples are drawn for LMO detection by each laboratory of the respective institutions. The results of the LMO detection are shared only with the importer and not amongst the respective departments. The networking of the laboratories needs to be actualized. As far as human and infrastructural capacity in relation to LMO detection is concerned, the Review finds that immense capacity has been built here and the Country has advanced in technology. The laboratories are well equipped, and the relevant officers well trained to undertake the LMO detection work. More exposure is however, needed to enable the researchers interact with other researchers and showcase while at the sometime gaining more lessons on the technology.
The role of private researchers in research and development is also worth mentioning. The Reviewer spoke with researchers from the private sector, and they were able to share their insights on the project. The private sector researchers have been involved in the project as they have invested in agricultural research and development, and they therefore have a role in the policy and regulation development. These researchers also have developed risk assessment studies and standard operating procedures on the LMOs that they are developing in laboratories and green houses. The embargo on LMO cultivation has adversely affected their

work as they cannot advance to the next level which is to make the LMO available to the environment.
A fully operational system has yet to be proved effective when challenged by LMOs applications and development in the country. The same goes for the effective functioning of the NBC that, though formally established, did not have the opportunity to be particularly active, so far, in matters of locally developed LMOs. However, the risk assessment aspect is yet to be put into test and use. This may be attributed to the embargo by the Government on local production or cultivation of LMOs.
Moreover, the structure of NBC is highly unbalanced, with just two representatives from outside the Government (one PhD-holding member of Scientific-Specialized Associations of Modern Biotechnology and one Nongovernmental Organizations.
Relevant foundations have been built up, thus, outcome 3 can be considered partly achieved.

Immediate Outcome 4 "A follow up system in place able to monitor environmental effects and enforce regulations" has also been approached through training and capacity building activities (guidelines for inspection, workshops, lab equipment provided). Cooperation already exists between the respective competent authorities, for instance in the enforcement of the red list of threatened/ endangered species. Different institutions carry on inspection activities of different kind related to border control, to food quality, to hygiene and human health, to phytosanitary and veterinary issues, to seeds control and to environmental inspections for permits, among others. There may be lapses on close monitoring of LMO material that has been approved for import for food/feed or processing. What is not clear is the surveillance of the movement of the material from the port to the Iran Veterinary organization for processing.
The full achievement of Outcome 4, therefore depends on the effective definition and coordination of the specific roles of each of those entities.
Immediate Outcome 5"A functional system for public awareness and participation" has also been addressed by some relevant initiatives, such as the document of Guidance for public awareness, which has been published as a booklet and has oriented several awareness raising activities (workshops, conferences, meetings, development of content for the official website on Biosafety, among others) with a large range of public (technical staff, students, NGOs, etc.). The DoE has its own website, which is maintained by an IT staff of the Department. The role of the private sector in supporting public education and awareness, through the Biosafety Association, is unmatched. Through donations, partnerships, workshops and awareness initiatives, the Biosafety Association has contributed positively to LMO awareness and education. Generally, a more strategic approach to public awareness and participation is still to be consolidated. This is because the awareness creation has concentrated much on the scientific community and leaving out the general public that may not be aware of LMOs as a subject. Awareness-raising and public-opinion concerns are a top priority for all stakeholders, including high- level public administration officials, academics, and private sector. As the interviewed stakeholders also indicated, there is still room for improvement, although good results were achieved during the Project's lifespan. The Outcome's delivery is rated Satisfactory (S).
From the above analysis regarding the five Immediate Outcomes, it can be concluded that the Country has steadily moved towards the achievement of the main Project Outcome "A workable and transparent National Biosafety Framework (NBF)". All the necessary conditions have been set, yet its full achievement will require the consolidation and the practical application of the systems put in place, which did not have many concrete opportunities to be challenged and proved so far, given the early stage of LMOs development in the country. Notwithstanding these limitations, the achievement of the Outcome can be considered overall as certainly Satisfactory (S) and promising, if the strength and motivation of the key-drivers are maintained and some conditions are fulfilled.
The Review considers that the main key-drivers of the implementation process have been:

the technical and methodological assistance of the Project (the National Project Coordinator/NPC and his team);
the NEA (DoE, Min. of Environment), particularly the Biosafety Unit that has completely fulfilled its leading and coordinating role; the strong and effective integration of the Project Team in the DoE and the motivation of the staff involved.
the effective guidance and supervision provided by UNEP Management Officers (Biosafety Unit).
In the understanding of the Reviewer, the full achievement of the five Direct/Immediate Outcomes would need the fulfilment of some assumptions, namely:

- The National Biosafety Council (NBC) becomes a more dynamic and inclusive institution, for a more solid institutional up-taking of Biosafety in the country.
- Forms of technical and more flexible coordination are explored (e.g., working group, task force, technical / scientific committees,) in order to strengthen the existing coordination and to increase the responsibilities of other national stakeholders in running the Biosafety agenda.
- the lifting of the ban on cultivation of LMOs to allow for the technology to be tried and tested in the Country.

Likelihood of Impact

Likelihood of impact using ROtI and based on reconstructed ToC

The intended impact of the project is the Global Environmental Benefit to which it contributes: the enhanced conservation and sustainable use of biological diversity in Iran. The pathway from the Project Outcome (a fully operational NBF) to the intended Impact is not a straightforward process: transitional conditions (called Intermediate States) have to be fulfilled, which presents our understanding of the causal logic and of the pathway from Outcome to Impact.

Three main Intermediate States (I.S.) have been identified. Under the conditions that, firstly, the NBF has the financial resources to effectively implement its Work Plan and, secondly, that the NBC will be well resourced with capacity to handle applications, the process will lead to "Improved decision- making processes for LMOs approval, effective implementation mechanisms and enhanced quality information and transparency" (I.S. 1). Key impact drivers in that step are the coordinating role of the National Biosafety Council (NBC) and of the National Competent Authority/NCA (DoE), effective

LMOs management systems (e.g. for detection and referral, for handling applications, for risk assessment and monitoring), active stakeholders and public participation, quality information available and timely flowing into BCH and national websites.

Improved decision-making will lead to "Improved Governance of National/International Biosafety systems based upon: Rule of Law and Compliance, Accountability and Liability, Equity, Transparency and Citizens' Participation" (I.S. 2), under the assumption that the political will of the Governments is not missing. That should be reflected in the consolidation of NBF Work Plans to streamline national policy on Biosafety into government plans. The main impact drivers at that stage will be effective forms of stakeholders' participation (in planning, decision making and funding), conducive to open and transparent information flows and negotiation processes at different levels.

The Intermediate State 3 (I.S. 3) is the Objective of the Protocol itself, as stated in its art. 1: "The safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements". Political will and

negotiations will act as impact drivers at that level, under the main assumption that the NCA's decision-making persists based on rigorous Risk Assessment and Risk Management best practices, and those financial resources flow into Biosafety programs mechanisms.

Under the same assumption that internationally followed principles of Risk Assessment and Risk Management are lastingly used by the National Competent Authorities (NCA) for deciding on LMOs production/use, the Project Impact (Enhanced Conservation and Sustainable Use of Biological Diversity in Iran) can be achieved.

The discussion of the likelihood of impact cannot be disconnected from the discussion of sustainability of direct project outcomes because it will take a long time to achieve medium term outcomes, the intermediate state, and impact, well beyond the project lifetime.

The immediate project outcome "Strengthened Management System and fully operational National Biosafety Framework in Iran". – will require sustained support for national measures to implement it, long after project completion, and additional follow-up activities will be required for the intended impact to occur."

This main Outcome is not the end but a precondition for progressively achieving high international standards in Risk Assessment and Risk Management, consequently ensuring "Enhanced Conservation and Sustainable Use of Biological Diversity in Iran."

The Project document did not consider pathways toward impact because that type of analysis was not required at the time the project was designed. The Project document also did not ask the question 'what next?' GEF6 (2014-2018) supports national measures designed to move towards the medium-term outcomes and the intermediate state proposed in the reconstructed ToC.

Using the reconstructed Theory of Change, the results from the implementation of the project show that the project made appreciable progress from results towards impact. Indeed, with effective government commitment and support, collaboration among scientists and relevant agencies such as the customs department, public awareness, education and participation campaigns and Civil Society Organizations (CSO) and NGO support, the impact of the project can be achieved.

A fully functional and effective regulatory and administrative system established for the implementation of the Biosafety Act

A direct outcome of the project which involved setting up or enhancing the functioning components of a national biosafety framework comprising a system for receiving LMO applications with transparent procedures for handling applications for LMO contained use, field trial, environmental release permit and for marketing was achieved. The project ensured the harmonization and implementation of national biosafety instruments. The project further established procedures and processes including administrative filing procedures which are supported by a functional Biosafety Unit made up of a Biosafety Council as its decision-making body and Human resource capacity for risk assessment and management developed. Concurrently with the development of the procedures and processes along with institutional arrangements, the necessary human capacity for risk assessment and management, a mandatory component of LMO decision making was enhanced. Workshops were held with the aim of increasing the necessary human resource capacity for risk assessment, evaluation, and management, including socio economic considerations. These workshops enabled better understanding of the impacts of LMOs on the ecosystem function. Safety levels and measures in the use of biotechnology products for contained use were established with the development of laboratory protocols, equipping designated laboratories with LMO detection equipment, sample collection protocols and the standardization of good laboratory practices (Standard Operating Procedures) for the various safety level laboratories.

Accommodation for the LMO identification laboratory is in place and equipped.

Arrangements are also far advanced to leverage the sampling equipment that already exists in ABRII, NIGEB

and in the DoE. Training in LMO Sampling; field trial inspection; contained use facility inspection are ongoing. An established information sharing system with mechanism for public engagement and collaboration: Another direct outcome of the project is the establishment of a national Biosafety Clearing- house which has a direct link with the global BCH in the exchange of information to facilitate the decision making, public awareness, education, and participation.

The reconstructed ToC identifies two medium-term outcomes on the causal pathway that the direct outcomes may be expected to open up:
The adopted policy framework regulations to implement the Policy; and
Strengthened capacity to carry out risk assessments, make decisions, manage, and monitor risks.

The reconstructed ToC identifies three successive levels of intermediate states through which the project's medium-term outcomes could move toward impact. The first is that self-sustaining implementation mechanisms will be established and maintained at national levels. As those self- sustaining mechanisms are put in place and function effectively, it will be possible to progress to the second level of intermediate states. The project document listed benefits that building capacity to implement the NBF would generate.
The reconstructed ToC reflects these benefits as four second-level intermediate states: This project will contribute to the safe use of modern biotechnology, preventing potential harm and giving the opportunity for both environmental and socio-economic benefits; By improving the laboratories for LMO detection, this project will also improve the monitoring and surveillance system in the country; There is long-term effect of the project as biotechnology is an evolving area and by defining clear rules initially; the country will benefit from it later on, and evading the harm to the environment and human health.
Rating of Likelihood of Impact is Likely.

E. Financial Management
All the dimensions of financial management have been very satisfactorily addressed by the Project Information about actual project costs and co-financing used has been supplied by the Project. Actual Project expenditure by operational component was effectively used. There were no formal audit reports as the payment for goods and services were effected by UNDP on behalf of UNEP for the Iranian Project. An audit letter was issued by UNDP at the end of the project. The overall rating for Financial Management is Highly Satisfactory.

F. Efficiency
The Project suffered from initial delays, as showed by the intervals between GEF approval (Nov 2011) UNEP approval (April 2012) and the actual start of the operations (May 2012), due to the concomitance of different administrative, procedural and political impediments. The first year of implementation was also slow, until a new dynamic team (Project Coordinator and Financial Assistant) was recruited in 2012 and formally took over in December 2012. There were two changes in the NPC before the third NPC settled and continued with the smooth implementation of the project. The project also suffered the political transitions that the country was facing. There were two presidential elections in between the project implementation, namely 2013 and 2017 respectively and with each change of Cabinet meant a new arrangement as to the Ministers, the organization of the Ministries and the heads of the Ministries. These changes led to the abrupt interruption of Project operations.
Further, the economic and financial measures levied against Iran have hampered or slowed down project activities, as the UNEP-GEF Funding was in USD, thus making it difficult to transact. In as much as the

sanctions still exist, the situation was alleviated by using the UNDP Country office to make necessary payments for the smooth running of the project.
The project has been granted three extensions (dated 21st June 2015; 29th June 2017 and 22nd January 2020) and thirteen (13) budget revisions. These extensions and budget revisions were necessary for the project completion. Since then, the Project has been run very efficiently, catching up on the initial delay and practically developing all the activities foreseen in just three years (completion due in December 2020), instead of the four years initially planned. UNEP and Government disbursements have also been timely, through UNDP. Finally, the COVID pandemic didn't appear to impact on the project too much on project program. This is because most of the project activities had been completed by the time the covid restrictions took effect. The remaining project activities involving meetings, seminars and workshops were conducted online when COVID restrictions hit.
Despite the initial delays and the no-cost extension, the efficiency of the project is considered as satisfactory.

G. Monitoring and Reporting
The Review will assess monitoring and reporting across three sub-categories: monitoring design and budgeting, monitoring implementation and project reporting.
Monitoring Design and Budgeting

M&E Design at Entry
The project document included the standard UNEP/GEF budgeted monitoring and Evaluation plan with a specific budget, timeframe, and responsible parties. UNEP holds the responsibility of following up on the M&E plan which is supposed to be conducted in accordance with the established UNEP and GEF procedures. A total of US$ 13,000, about 3.7% of the total GEF grant was allocated for the M&E activities and had to be supplemented with in kind co-finance. Evidently, this amount is not enough to conduct the proposed M&E plan. The TR consultant reviewed three M&E plans for 2017, 2018 and 2019. The Plans were very detailed. In addition to the standard M&E plan, all standard UNEP/GEF M&E tools were included in the project document, including the log-frame, indicators, targets, inception workshop, an inception report, Terminal Review, learning and knowledge sharing, project's audit, the quarterly and annual progress reports, and Steering Committee meetings.

The quality of the logical framework of the Project was considered quite satisfactory in the assessment of the Project Design presented in the Inception Report. The framework contains all the standard elements (Outcomes and Outputs, Objectively Verifiable Indicators, Means of Verification Important Assumptions), though with some. evident shortcomings, like the lack of quantification of some of the Outputs. The ProDoc contemplates a Budget Table that specifies the yearly and total amount for Monitoring and Evaluation and for Audit. Budget provisions exist both for Mid-term and Terminal Review. They have both materialized through the mission of the UNEP Task Manager mission and the current Terminal Review. For this review, the consultant held constant communication with the Task Manager and regularly exchanged email messages during the conduct of the Terminal Review. The Task Manager provided the Reviewer with access to the ANUBIS database, the repository of most of the project information.

As noted above, oversight and supervision by the Task Manager was based mainly on the PIRs, technical backstopping/reviews and country visits. The PIRs and Half Yearly progress reports provided detailed information on the assessment of project progress as well as actions needed to address identified problems. The PIRs also included a detailed analysis of risks, and the Task Manager was responsible for providing

ratings on his assessment of risks to the project. This Terminal Review found that ratings assigned in the PIRs were realistic. The Task Manager closely monitored project progress and regularly communicated with the lead Project Coordination Office to ensure that problems and challenges in project implementation were promptly addressed. The Project team considers that the UNEP/GEF Monitoring system in place (progress reports) has been useful and effective in following Project's implementation.
Overall, the Monitoring and Evaluation score is Highly Satisfactory (HS).

Monitoring of Project Implementation
The Inception Phase is a key activity of any UNEP/GEF project. The project inception workshop is usually used to introduce an understanding and ownership of the project's goals and objectives among the project stakeholder groups. The Project's inception workshop was organized almost 19 months after the signing of the Project Document. The Inception workshop included fair discussion of the Project's log-frame, work-plan, and M&E, however, some changes to the Project Log-Frame were discussed at the inception meeting.
The Terminal Reviewer reviews the UNEP role as project assurance and considers that it has been correctly and effectively applied to this project, due to the following observations: -
The UNEP Task Manager has been very active in preparing project annual progress reports, preparing, discussing, and finalizing annual work plans in line with the UNEP/GEF guidelines, following up in financial payments and transactions, and providing crucialsupport to mobilize consultants/advisors to support project implementation.
The project's M&E activities followed the UNEP/GEF established procedures as the Task Manager as well as the Project Team have conducted several monitoring exercises including preparation and review of the project progress reports and participation in the project Steering Committee meetings. The project document identified key elements of the Project's M&E. The rating on M & E implementation is Highly satisfactory.
Project Reporting
Annual Progress Reports (APRs) and Project Implementation Report (PIR)
The APRs/PIRs are UNEP-GEF's requirement and part of UNEP's Country Office central oversight, monitoring, and project management. According to the project document, an APR/PIR is to be prepared on an annual basis by June but should be completed well before this deadline (at least one month) to be considered at the Project Steering Committee meeting. The Reviewer used the APR/PIRs to identify any changes in the project's structure, indicators, work plan, among others, and view a history of delivery and assessment. Reviewing the APRs highlighted the project's progress per component, key successes, challenges, and lessons, as well as financial progress.
whether reporting has been carried out with respect to the effects of the initiative on disaggregated groups.

H. Sustainability
Sustainability is understood as the probability of the benefits derived from the achievement of project outcomes being maintained and developed after the close of the intervention. The Review will identify and assess the key conditions or factors that are likely to undermine or contribute to the endurance of achieved project outcomes (i.e. 'assumptions' and 'drivers'). Some factors of sustainability may be embedded in the project design and implementation approaches while others may be contextual circumstances or conditions that evolve over the life of the intervention. Where applicable an assessment of bio-physical factors that may affect the sustainability of project outcomes may also be included.
Socio-political Sustainability
The socio-political sustainability of the project interventions are often influenced by broader contexts and external factors that are outside the project's influence. In this regard, Component A of the project has

created the platform from which project sustainability will be attained, though generating a degree of ownership within each Entity whilst infusing clear commitment needs amongst all relevant stakeholders that is needed in the future. Once established through an existing proclamation process, Biosafety in Iran will then be subjected to the development of its own sustainability mechanisms, such as their own income generation plans, for instance through the approvals for use, including cultivation, imports and exports, thus leading to a pathway for self- sustainability. Many of the project interventions are designed to support larger processes that are (hopefully) going to continue beyond the project's scope and timeline. The project has faced political and economic challenges that are factors outside the project but important to the completion of the project. However, the project has demonstrated that despite the political administrative challenges, efforts can be made at the national level to move biodiversity conservation forward. The project has also shown that all parties (including political ones) can attempt to work in partnership to achieve the common goal of biodiversity conservation. The visits made during the TE has noted that there is now impetus for a sustained approach towards implementing the National Biosafety Project as the Country is in the process of amending the Biosafety law with a view to accommodating emerging biotechnology trends. The inclusion of Biosafety in the National five-year Action Plan is a boost as it shows that the biosafety activities are planned and budgeted for.

Finally, it is observable, however that the relevant subsectors, namely agriculture, science, research and technology, environment, health need to ensure that biosafety matters are incorporated into their specific sectoral or ministerial plans and budgeted for. Thus, a policy framework at national level to sustain the project's achievements and lessons learned beyond the project expiry period now needs to be better conveyed. The vehicle for this is likely to be through the National 5-Year Action Plan, the Biosafety Law, regulations and even strategies.

Rating for Socio- political Sustainability: Moderately Likely

Financial Sustainability

Financial sustainability is deeply linked to and dependent on Socio-political and Institutional Sustainability. It is also an area of concern among the stakeholders. The approval of the National Biosafety Framework and the Biosafety Policy by the Government gives elements of optimism, since the Policy will be included in the budget by the Ministry of Finance. However, whether the budget assigned for Policy implementation would be enough to carry out the planned activities or not, remains to be seen. On the other hand, modern biotechnology tools can be developed in the emerging areas of synthetic biotechnology and gene editing for which Biosafety can play a critical role in which such services can be paid for by the private sector. Financial sustainability will largely depend on funding from the national budget, technology transfer to the private sector or biosafety related financing streams and initiatives of other external donors and regional institutions, as the project design did not propose specific strategies for self-financing in the post-project period. Opportunities for financial sustainability, however, remain extremely variable according to each Entity and includes commitments of long-term investment that are needed by inter alia government departments, universities, community organizations and private sector.

Though GEF 7 has allocated 5M USD to Biodiversity for Iran and Biosafety is included in the biodiversity package, the need for alternative sources of funding for the implementation of the NBF is recognized. The main stakeholders are keen on having a public -private partnership for the management of Biosafety resources to have the private sector injecting capital in Biotechnology and ensuring financial sustainability. It is thus important that any follow-up phase is designed and implemented as soon as possible before the momentum built by the project is lost.

Financial Sustainability is rated ML (Moderately Likely).

I. Factors Affecting Project Performance and Cross-Cutting Issues

Preparation and Readiness

The Islamic Republic of Iran was prepared to implement the project and take full advantage of GEF financing. Iran ratified the CPB in 2004. The country is a leader within West Asia in terms of installed biotechnology biosafety capabilities - as evidenced by the National Institute of Genetic Engineering and Biotechnology (NIGEB), the Agriculture Biotechnology Research Institute, Pasteur Institute of Iran, Jahad Daneshgahi, among others - and has consistently applied risk analysis practices for the authorization of agricultural LMO for importation of animal feed. The Agricultural Biotechnology Research Institute, affiliated to the Ministry of Jihad Agriculture is the first in Iran to produce transgenic rice and plays an important role in research in the field of Agricultural Biotechnology. This centre is equipped with strong professional personnel and educational facilities and at the onset of the project, announced its willingness to put these facilities at the disposal of the project. Likewise, the Pasteur Institute of Iran affiliated to the Ministry of Health, Therapy and Medical Training. This institute, working in the field of production and application of human vaccines, is a large research centre playing a pivotal role in the development of biotechnology and genetic. This centre has many skilled professionals who were instrumental in creating public awareness and education on biotechnology and were employed in assisting this project. This centre also plays a central role in the policy making and law-making at the Ministry Health, Therapy and Medical Training in the field of biotechnology and genetics. Razi vaccine and Serum research Institute is affiliated to the Ministry of Agriculture and produces bestial vaccines. The huge facilities of this centre, including educational area and laboratory facilities was also instrumental in this project as the researchers and experts cooperated with the project team in theoretical and practical. The biosafety capacities generated over the years have largely remained in place. This has enabled the continuity of technical staff despite periodic changes of government and allowed Iran's NBF to progressively build on the achievements of past projects. The current project was designed to implement the NBF that was developed in phase 1 of the funding by UNEP-GEF. The choice of implementing and executing partners, based on their respective competencies, contributed to the successful implementation of the project. The implementing partners (MRST, MAJ, MOH, Standards Organization, NIGEB and ABRII were identified at the project preparation phase. Additional executing partners were also identified during the inception phase.

Quality of Project Management and Supervision

Supervision and backstopping were provided by the project's Task Manager, who is based in the UNEP Head Quarters in Nairobi, Kenya. The governance and supervision arrangements were straightforward. According to the project document the roles and responsibilities for project coordination and management were to be shared by UNEP, as the GEF implementing agency, and the DoE as the executing agency. UNEP was expected to be responsible for coordinating activities, monitoring the implementation, guided by UNEP's standard M&E procedures, and transmitting financial and progress reports to the GEF. DoE was supposed to be responsible for coordinating and managing project implementation on a day-to-day basis. UNEP/GEF office monitored the project in accordance with the agreed budget and disbursed funds to facilitate implementation. As part of its supervision and backstopping role, UNEP closely monitored project progress and was instrumental in communicating the GEF requirements for project reports and evaluations to project partners. It participated in the annual review meetings and in turn provided report to GEF. It was recognized that all requests, (mostly financial and related to disbursements of funds for activities) handled by UNEP were done in an expeditious and professional manner. No major issues in project implementation and execution were encountered. The rating on UNEP supervision and backstopping is Highly Satisfactory.

Stakeholder Participation and Cooperation

The Project has established several key partnerships with the main stakeholders, and other key partners like The National Centre for Genetic Resources of Iran affiliated to Jahad Daneshgahi. This centre is responsible for the banking of genetics, cell and tissue materials of all living organisms. The centre also plays a management networking role to coordinate the collaboration of all gene cell and tissue banks across the country. This centre is prepared to provide the educational facilities related to the project such as laboratories, classroom space etc. The university of Jahad Daneshgahi is one of the significant organizations playing a vital role in providing the link between universities and industries in the country. The centre is renowned for performing the first animal cloning and production of transgenic animals in Iran. It also bears an important role in the field of stem cell research inside the country. Other partners involved in project implementation were the Working Groups, Knowledge Product Partners and Action Advocacy Partners such as the Biosafety Association of Iran.

The project required a range of knowledge and expertise that is not usually available within a single organization or a single sector of activity. Among the major factors that contributed to the success of the project was the fact that the overall project team was multi-sectoral and represented a coalition of key actors that were well-positioned to advance biosafety within their own organization and to outreach to their specific networks and allies to advocate more broadly for biosafety. That is why partners at all levels were co-opted based on their respective expertise and comparative advantages.

To strengthen this, strategic partnership arrangements with well-defined roles and responsibilities were formed to include the executing agency, the project Steering Committee. The technical working groups, the knowledge product partners and action and advocacy partners. The clear and well-defined roles of all involved in the project design and implementation encouraged key stakeholders to participate in the project. The project managed to include many stakeholders in the project's technical working groups and committees as well as in the comprehensive training program. The overall conclusion is that project management has achieved an acceptable level of partnership with the relevant national stakeholders, but the established partnership could have been stronger.

Responsiveness to Human Rights and Gender Equality
Environmental and Social Safeguards:

Country Ownership and Driven-ness

Implementation of the National Biosafety Framework of Iran was country driven with high levels of national ownership throughout the project cycle. National partners assumed full responsibility. National ownership was also evidenced in the co-financing provided by the Government. Country ownership made effective through the leading role of the DoE, as previously explained under Sustainability (4.4.3). The existing legal and policy framework is proof of that, particularly the BNSAP. The NBC has still to prove its effectiveness, as well as the national systems for handling applications and carrying out LMOs monitoring and enforcement, but the institutional instruments are there, and the country is surely prepared and willing to drive the process. Overall, country ownership is strong, rated Highly Satisfactory (HS).

Communication and Public Awareness

The Project Management Team had an honest desire to get on with the job and get some of the project's activities in place despite the delay of commencing project activities at the beginning of the project. The monitoring role of the UNEP was satisfactory as the Project Assurance has been active in assisting in the

preparation of the project quarterly financial report and annual progress reports, monthly reports, as well as in preparing for the project review, development of the project annual work plans, budget reviewing and follow up on the consultants' works and quality of the deliverables. The risks and issues were updated on a regular basis/quarterly basis and the mitigation measures provided. Project activities were organized under five components and the appropriate designated partner(s) was assigned to lead each component and for delivery of specific outputs. Most activities at the initial stage were conducted under the leadership of the technical working Groups set up in the Ministries and Government Departments. In general, the working relationship between partners was excellent. It is credit to the project management team for their strength and organization that the project was able to achieve as much as it did within the timeframe and to work within the budget allocated despite the challenges inherent in the project design. Project implementation and management rating was Highly Satisfactory.

Section 3. REVIEW APPROACH, METHODS AND DELIVERABLES

The terminal review is an evidence-based assessment and relied on feedback from persons who have been involved in the design, implementation, and supervision of the project, and review of available documents and findings made during field visits.

The terminal review included the following activities:

The Review mission which was carried out from 7th October-17th October 2023. The Reviewer interviewed key project stakeholders, including the Project team including the National Project Coordinator and his assistant, representatives from participating government agencies and ministries, consultants, and local beneficiaries.

A desk review of available reports and other documents, as listed in Annex 2.

As a data collection and analysis guidance tool, the review matrix included as Annex 3 was prepared. Evidence gathered during the review was cross-checked between as many sources as practicable, to validate the findings.

The project results framework was used as an review tool, in assessing attainment of the project objective and outcomes against indicators.

The Terminal Reviewer also reviewed the available information regarding co-financing realized throughout the duration of the project and what activities were completed with the co-financing support (Annex 5).

Financial delivery was assessed by comparing the actual expenditures incurred for each outcome and project management, for each year of implementation compared to the annual work plans.

Interviews (individual or in group) with:

- **UNEP Project Manager**[18] Mr Alex Owusu Biney
- **Chief of the Global Environment Facility (GEF) Biodiversity and Land Degradation Unit, UN Environment's Ecosystem Division:** Mr. Johan Robinson
- **Project management team**; Dr Nayer Azam Khoshkholgh Sima, National Project Director; Dr. Eskandar Omidinia, National Project Coordinator (NPC) and Mr Khashayar Babaie, Project administrator
- **UNEP Fund Management Officer** (FMO)/ Chief Global Funds, Ecosystems · UN Environment Programme Mr. Paul Vrontamitis
- **Project partners,** including Ministry of Health and Medical Education (MOHME), Ministry of Agriculture of Jihad(MAJ) ;Ministry of Science, Research and Technology (MSRT); Department of Environment; Secretariat for Biosafety High Council; Non-Governmental Organizations (CENESTA,SIWASD and Biosafety Society of

[18] For GEF funded projects, UNEP Project Manager refers to the Task Manager.

Iran),National Focal Point,

- **Relevant resource persons**- Dr. Mahmood Tavalaie, Head of Iranian genetics Society and the biosafety working group of the Department of Environment; Dr. Vahid Mofid, Secretary of biosafety working group of Ministry of Health and Medical Education; Dr. Mohammad Jafaraghaie, Secretary of biosafety working group of Ministry of Agriculture Jihad; Dr.Mostafar Motalebi, Head of National Institute of Genetic Engineering and Biotechnology
- **Representatives from civil society and specialist groups** (such as women's, farmers and trade associations etc) Dr. Mohammad Ali Malboobi, Representative of Biotechnology Society of Islamic Republic of Iran

Surveys

Other data collection tools [provide details, where appropriate]

Field visits [provide details, where appropriate]

11. Review Deliverables and Review Procedures

See Annex 1 of these TOR for a list of tools and guidance available, see Annex 2 for a list of review criteria and sub-categories to be assessed. The Review Consultant will prepare:

Inception Report: (see Annex 3 of these TOR) containing an assessment of project design quality, a draft reconstructed Theory of Change of the project, project stakeholder analysis, review framework and a tentative review schedule.

Preliminary Findings Note: typically in the form of a PowerPoint presentation, the sharing of preliminary findings is intended to support the participation of the project team, act as a means to ensure all information sources have been accessed and provide an opportunity to verify emerging findings.

Draft and Final Review Report: (See Annex 4 of these TOR) containing an Executive Summary that can act as a stand-alone document; detailed analysis of the review findings organised by review criteria and supported with evidence; lessons learned and recommendations and an annotated ratings table.

A Review Brief (a 2-page overview of the evaluand and review findings) for wider dissemination through the UNEP website may be required. This will be discussed with the UNEP Project Manager no later than during the finalization of the Inception Report.

Review of the Draft Review Report. The Review Consultant will submit a draft report to the UNEP Project Manager and revise the draft in response to their comments and suggestions. The UNEP Project Manager will then forward the revised draft report to other project stakeholders, for their review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions as well as providing feedback on the proposed recommendations and lessons. Any comments or responses to draft reports will be sent to the UNEP Project Manager for consolidation. The UNEP Project Manager will provide all comments to the Review Consultant for consideration in preparing the final report, along with guidance on areas of contradiction or issues requiring an institutional response.

The UNEP Evaluation Office provides templates and tools to support the review process and provides a formal assessment of the quality of the final Terminal Review report, which is provided within this report's annexed material. In addition, the Evaluation Office formally validates the report by ensuring that the

performance judgments made are consistent with evidence presented in the Review report and in-line with the performance standards set out for independent evaluations. As such the project performance ratings presented in the Review report may be adjusted by the Evaluation Office.

At the end of the review process, the UNEP Project Manager will prepare a Recommendations Implementation Plan in the format of a table, to be completed and updated at regular intervals, and circulate the Lessons Learned.

12. The Review Consultant

The Review Consultant will work under the overall responsibility of the UNEP Project Manager Mr Alex Owusu- Biney, in consultation with the Fund Management Officer, the Portfolio Manager of the GEF Biodiversity Unit based in Nairobi. The consultancy post is located in UNEP/ Ecosystems Division / GEF Biodiversity and Land Degradation Unit.

The Review Consultant will liaise with the UNEP Project Manager on any procedural and methodological matters related to the Review. It is, however, the consultants' individual responsibility (where applicable) to arrange for their visas and immunizations as well as to plan meetings with stakeholders, organize online surveys, obtain documentary evidence and any other logistical matters related to the assignment. The UNEP Project Manager and project team will, where possible, provide logistical support (introductions, meetings etc.) allowing the consultants to conduct the Review as efficiently and independently as possible.

The Terminal Reviewer will be hired over a period of 40 days [July 2023 year to November 2023} and should have the following: An advanced University degree in environmental sciences, Environmental Law and Policy, Biotechnology, Biosafety, Biosecurity, international development or other relevant political or social sciences area is required. A University degree in the same areas is acceptable with two additional years of relevant experience.
English and French are the working languages of the United Nations Secretariat. For this consultancy, fluency in oral and written English is a requirement. Working knowledge of the UN system and specifically the work of UNEP is an added advantage. The work will be home-based with possible field visits.

The Review Consultant will be responsible, in close consultation with the UNEP Project Manager, for overall quality of the review and timely delivery of its outputs, described above in Section 11 Review Deliverables, above. The Review Consultant will ensure that all review criteria and questions are adequately covered.

13. Schedule of the Review

The table below presents the tentative schedule.

Table 3. Tentative schedule for the Review

Milestone	Tentative Dates
Inception Report	28th July 2023
Review Mission	5th August 2023
E-based interviews, surveys etc.	15th August 2023
PowerPoint/presentation on preliminary findings and recommendations	30th August 2023
Draft Review Report to UNEP Project Manager	10th September 2023
Draft Review Report shared with wider group of stakeholders	25th October 2023

Final Main Review Report	15th November 2023
Final Main Review Report submitted to the UNEP Evaluation Office for validation and quality assessment	15th November 2023
Final Main Review Report shared with all respondents	30th November 2023

14. Contractual Arrangements

The Review Consultant(s) will be selected and recruited by the UNEP Project Manager under an individual Special Service Agreement (SSA) on a "fees only" basis (see below). By signing the service contract with UNEP/UNON, the consultant certifies 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. All consultants are required to sigh the Code of Conduct Agreement Form.

Fees will be paid on an instalment basis, paid on acceptance and approval by the UNEP Project Manager of expected key deliverables. The schedule of payment is as follows:

Schedule of Payment:

Deliverable	Percentage Payment
Approved Inception Report (*as per Guidance Note)*	30%
Approved Draft Main Review Report *(as per Guidance Note)*	30%
Approved Final Main Review Report *(as per Report Template)*	40%

Fees only contracts: Where applicable, air tickets will be purchased by UNEP and 75% of the Daily Subsistence Allowance for each authorised travel mission will be paid up front. Local in-country travel will only be reimbursed where agreed in advance with the UNEP Project Manager and on the production of acceptable receipts. Terminal expenses and residual DSA entitlements (25%) will be paid after mission completion.

The consultant may be provided with access to UNEP's information management systems (e.g. PIMS, IPMR, Anubis, SharePoint, etc.) and, if such access is granted, the consultants agree not to disclose information from that system to third parties beyond information required for, and included in, the Review Report.
In case the consultant is not able to provide the deliverables in accordance with these guidelines, and in line with the expected quality standards by the UNEP Project Manager, payment may be withheld at the discretion of the Head of Branch/Unit until the consultants have improved the deliverables to meet UNEP's quality standards.

If the consultant fails to submit a satisfactory final product to the UNEP Project Manager in a timely manner, i.e. before the end date of their contract, UNEP reserves the right to employ additional human resources to finalize the report, and to reduce the consultant's fees by an amount equal to the additional costs borne by the project team to bring the report up to standard or completion.

ANNEX XI: PORTAL INPUTS (for GEF funded projects)

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

Table II: GEF portal inputs

Question: **What was the performance at the project's completion against Core Indicator Targets? (For projects approved prior to GEF-7[19], these indicators will be identified retrospectively and comments on performance provided[20]).**
Response: *(Might be drawn from Monitoring and Reporting section)* N/A to this Project because these requirements were institutionalised after the GEF 4 cycle to which this project fits. . However Biosafety as a theme responds to Core Indicator 11 on Gender. The project has had considerable contribution to the gender mainstreaming. The project maintained a good balance throughout the project implementation. The project benefited from the presence of women in many aspects. Unlike many countries, Women in Iran, have had an undeniable impact on the project's progression. In all of the workshops that have been conducted by the project, the gender balance was maintained.
Question: **What were the progress, challenges and outcomes regarding engagement of stakeholders in the project/program as evolved from the time of the MTR?** ***(This should be based on the description included in the Stakeholder Engagement Plan or equivalent documentation submitted at CEO Endorsement/Approval)***
Response: *(Might be drawn from Factors Affecting Performance section)* The Project has established several key partnerships with the main stakeholders, and other key partners like The National Centre for Genetic Resources of Iran affiliated to Jahad Daneshgahi. This centre is responsible for the banking of genetics, cell and tissue materials of all living organisms. The centre also plays a management networking role to coordinate the collaboration of all gene cell and tissue banks across the country. This centre is **prepared to provide the educational facilities related to the project such as laboratories, classroom space** etc. The university of Jahad Daneshgahi is one of the significant organizations **playing a vital role in providing the link between universities and industries in the country**. The centre is renowned for performing the first animal cloning and production of transgenic animals in Iran. It also bears an im**portant role in the field of stem cell research inside the country.** Other partners involved in project implementation were the Working Groups, Knowledge Product Partners and Action Advocacy Partners such as the Biosafety Association of Iran. To strengthen this, s**trategic partnership arrangements with well-defined roles and responsibilities were formed t**o include the executing agency, the project Steering Committee, the technical working groups, the knowledge product partners and action and advocacy partners. The clear and well-defined roles of all involved in the project design and implementation **encouraged key stakeholders to participate in the project**. The project managed to include many stakeholders in the level of partnership with the relevant national stakeholders, but the established partnership could have been stronger.

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

[20] This is not applicable for Enabling Activities

The project required a range of knowledge and expertise that is not usually available within a single organization or a single sector of activity. Among the major factors that contributed to the success of the project was the fact that the overall project team was multi-sectoral and represented a coalition of key actors that were well-positioned to advance biosafety within their own organization and to outreach to their specific networks and allies to advocate more broadly for biosafety. That is why partners at all levels were co-opted based on their respective expertise and comparative advantages.

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

Response*: (Might be drawn from Factors Affecting Performance section)*
The project has had considerable contribution to the gender mainstreaming. The project maintained a good balance throughout the project implementation. The project benefited from the presence of women in many aspects. Unlike many countries, Women in Iran, have had an undeniable impact on the project's progression. In all of the workshops that have been conducted by the project, the gender balance was maintained.

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

Response: *(Might be drawn from Factors Affecting Performance section)*
A Safeguards Plan was not required for GEF 4 projects at the time of CEO Approval. However the project focuses on the implementation of the Cartagena protocol on Biosafety which is an Environmental and Social Safeguards instrument. The project did deliver risk assessment and risk management guidelines and technical manuals with LMO Detection capacity which will facilitate and provide support in measures on environmental and social safeguards including sustainable use of biodiversity. The risk classification in the last PIR please review and add a short narrative and from the document

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

Response: *(Might be drawn from Factors Affecting Performance section)*
Based on component 5 of the project which is "A functional national system for public awareness and participation, in line with the CPB requirements is developed in Iran" one of the main objectives of the project is to disseminate knowledge. The project has done noticeable actions in this regard by conducting workshops and webinars about Biosafety related topics helping the public students, authorities and farmers to increase their knowledge regarding GMOs/LMOs, risk assessments, risk managements, labelling, etc. The project has also published brochures, posters and articles, video clips which are available to the public. Guidelines and manuals of GMO Testing, Risk Assessment and Risk Management and management of field trials have been published. Some of the published can be seen in the project's website http://sonbc.doe.ir
Challenges:

Developing an effective knowledge-sharing platform to facilitate learning and feedback among project stakeholders.
Ensuring that knowledge products and events reached the intended audience.

Outcomes:

Website/Platform Development: The project established a dedicated website to disseminate information, share project updates, and provide resources related to transparency requirements.

Knowledge Products/Events: Various knowledge products (such as reports, guidelines, and case studies) were produced and disseminated through workshops, webinars, and conferences.

Communication Strategy: The project implemented a communication strategy to engage stakeholders, raise awareness, and promote knowledge exchange.

Lessons Learned and Good Practice: The project documented lessons learned and best practices related to transparency reporting, which can inform future initiatives.

Adaptive Management Actions: Based on Feedback and Monitoring, the project adjusted its approach to enhance knowledge dissemination and uptake

Question: What are the main findings of the evaluation?

Response:

The UNEP-GEF funded Project "Capacity Building for the Development of the National Biosafety Framework of the Islamic Republic of Iran" has suffered from the slowing down of its activities since mid-2014 due to political embargoes outside the scope of the project but has been successfully completed after 69 months. Main reasons for the slowing down of activities can be identified as follows:

The difficult socio-political situation the country has been going through for few years now, which hampers decision-making processes, amplifies politicization in the public sector and diminishes people's motivation and participation; The situation influenced the financial management of the project.

The "silent embargo" on cultivation and environmental release of LMOs in Iran.

The Islamic Republic of Iran has interest and commitment in developing the Biotechnology sector while providing appropriate measures of environmental safeguard and mechanisms of Biosafety regulation and control. As emphasized in the Project Document "the issue is to maintain a balance between biotechnology development and a regulatory response to meet both national and international obligations". The Country prepared its National Biosafety Framework (NBF) with the support of previous GEF-UNEP Project on Development of NBF, as well as the Biosafety Law (approved by the Government in 2006). The necessary conditions were, therefore, met to move towards the implementation of the NBF, which was at the core of the rationale of the current Project. More specifically, the Project Document highlighted the need for "a coordinated approach to be developed to ensure that development of biotechnology is balanced by a sound and science based regulatory approach for the use of LMOs in Iran". In practical terms, the Project was formulated "to address the main constraints in areas like regulations and soft laws, capacity building in LMOs Risk Assessment and Risk Management, improved infrastructure for monitoring and detection of LMOs**,** and enhancing public awareness and capacity to actively and meaningfully participate in decision-making on LMOs notifications".

The Competent National Authority, which is the Department of Environment/DOE) has supported the Project in delivering different outputs for making fully operational the National Biosafety Framework (NBF) and in promoting a coordinated, interinstitutional approach to foster involvement and participation of different Biosafety national stakeholders.

The development, approval, and implementation of a Biosafety Policy and of the updated Regulatory Regime, corresponding to expected Project Outcomes 1 and 2, have been at the focus of many Project

activities: in depth analysis and assessment of existing legal instruments, large stakeholders' consultation, and final approval by the National Biosafety Council and adoption at Government level. The whole process has been highly energy and time-demanding, admittedly more extended than expected, but eventually concluded, after the life of the project. Whereas some argue that lack of commitment of policy and decision-makers could be blamed for that, it is also true that the process of elaboration, approvals, and final promulgation of legal instruments in Iran is normally very elaborate and time-consuming. Overall, it can be said that supplementary efforts and commitment on the side of Policy and Decision-makers (Ministries, Government and Parliament), and of the Competent National Authority itself are needed to fully deliver the foreseen Policy and Regulatory instruments.

The Administrative System for Handling applications and Decision-making is in place, as well as the Monitoring and Enforcement System for the follow-up of the decisions made and for management of LMOs for different purposes. They correspond to expected Project Outcomes 3 and 4 Since the country is constantly importing LMO for feed/food and processing the effective functioning of the two Systems is key for the full operationalization of the NBF. The Project has supported the Competent National Authority to establish and improve both systems, with mixed results. The decision-making process and system is well tried and tested, whereas the functioning of the monitoring and enforcement system is still obscure. It is not clear how the monitoring and enforcement unit functions once the approval for importation of the LMO for feed and processing is triggered. Stakeholders' capacity building has been relevant for the setting of the Systems and is highly appreciated by the stakeholders. It unfolded through information, awareness raising and training activities, as well as through other opportunities of dialogue, interaction, and coordination (e.g., joint preparation of manuals, establishment of the Institutional Committees, setting of consensual Standard Procedures, etc.). The project also provided regional opportunities for training and exchange. All stakeholders agree that information, awareness, knowledge, and technical capacities have significantly increased in the last few years, and that the efforts of the Project have strongly contributed to this result.

It is also apparent that national capacities on Biosafety Management must be further improved, taking into consideration the fast development of the Biotechnology sector in Iran and the involvement of new human resources in the sector. All stakeholders agree that Risk Assessment is an area that needs to be constantly updated given the emerging biotechnologies, to sustain knowledge- based and technically sound decision-making on use of LMOs. Capacity Building on this subject has been generally pointed out as a priority need. The revision and updating of the Biosafety Guidelines (Outcome 2) have direct and evident implications on the Administrative and Decision-making System, as well as on the Monitoring and Enforcement System (Outcomes 3 and 4).

The Project has also supported the equipping of at least two LMO Detection laboratory and capacity building through training of the laboratory staff on LMO detection, including sampling, analyzing and reporting the findings The Staff of the laboratory has received some initial trainings that have to be complemented by more hands-on training and follow-up. The potential of the laboratory has to be fully unfolded to support the testing and detection system of the materials entering into the country legally or illegally, particularly LMOs for Food, Feed and Processing (FFP). A referral system linking border entry-points (Custom, Health and Agriculture border control systems) and the laboratory has been implemented. The National Genetic Engineering Institute is used as the reference laboratory and has on many occasions provided clarity of decision where there was a dispute of results between other LMO detection laboratories. The component of public awareness and public participation related to Outcome 5 has not been developed as expected. Although the activities of public information and awareness have been elaborate for the

research community including secondary school education, limited and a consistent strategic program to enhance public consultation, discussion and participation of the local public is not yet in place. This is an area of concern, particularly considering the increasing field trials and cultivation of LMO food crops, which could be a sensitive and controversial issue in future. The need for an appropriate Communication Strategy to identify different target groups to be matched with appropriate messages and forms of communication has not yet been adequately addressed. Appropriate institutional mechanisms of information-sharing like the BCH are also in need of a more dynamic and transparent approach regarding the communication process of risk assessment and decision-making.

Relevance

Conclusion 1: The project is highly relevant to the global and national environmental problem, and it is aligned with the national and local environmental and socio-economic problems and challenges.

Effectiveness

Conclusion 2. The project was effective at generating most of the outputs and outcomes, although for planning reasons, some outputs were generated late and as such are still emerging, which affected the scope of the outcomes and in the long run, the impact. The project is geared towards achieving its development objective of this project, i.e. to help consolidate Iran's national capacity for the implementation of the Cartagena Protocol on Biosafety, thus develop the necessary capacity within Iran to enable the country to implement its National Biosafety Act if it manages to effectively implement the instruments that are still not consolidated, and that institutional sustainability is ensured. The project managed to improve environmental governance regarding the strengthened capacities to undertake risk assessment and LMO detection and the tools available, but some have not been consolidated yet.

Efficiency

Conclusion 3. The project was efficiently managed both technically and administratively, thanks to a work team with high professional standards, effective collaboration among personnel and with other entities, and good support from the implementing agency that managed to turn it around albeit the delays, the global political embargo, and hiccups. The management model, with UNDP managing the flow of funds, helped the high efficiency,

Stakeholder involvement

Conclusion 4. The project managed the effective inclusion of the different interested parties in the project. The synergy with local universities, NGOs and private sector contributed to the effectiveness.

Annex XII: Implementation Plan of Recommendations

Project Title and Reference No. 3730: Building National Capacity to implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety
Contact Person (TM/PM): Alex Owusu- Biney

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
1. Considering that the project does not have a future sustainability plan due to challenges in assessing GEF Funds, it is recommended that as the first next step, the Executing Agency may need to begin planning for a transition phase and secure internal financing. The transition phase will consider the emerging issues in biotechnology. The Executing Agency may consider engaging the GEF secretariat with a view to exploring ways to access funding for GEF 8	Yes	1.Plan for the transition phase 2.Secure interim financing (This could be from the annual budget allocation from the Country) 3.Consider Biosafety regulatory measures for emerging technologies including synthetic biology and Gene Drives 4.Engage GEF Secretariat with a view to exploring ways to access GEF funding . This is a high-level political decision and hence the implementation of the same is beyond the mandate of UNEP 5. By the end of August 2024, the Executing Agency, develops a specific sustainability plan that identifies these actions and outputs that require continuity or scaling up, specify responsible parties, budgets, and dates for each of the actions necessary. It should also identify other initiatives and stakeholders	Long term	Executing agency

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
for promising initiatives, and to continue with, replicate and scale up relevant activities for the sustainable development of biotechnology in Iran. In addition to the lack of a sustainability plan, the late delivery of certain activities diminishes the likelihood that the results will be sustained: Certain project activities were delivered late in the implementation timeframe. The Executing agency may identify strategies to implement these activities to ensure full impact of the project is achieved.		including NGOs and the private sector and projects that can assist with these actions in the future. 6. Hold discussions to identify follow up initiatives and stakeholders with the aim of reaching specific assistance agreements.		
2.To achieve the most visibility of the project and to make the project outputs, tools,	Yes	1.Publish all the reports, systematizations, and protocols in a visible, easy-access and permanent location	Immediate	Executing Agency

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
and lessons available for future users, it is recommended that the Executing Agency publish all the reports, systematizations, and protocols in a visible, easy-access and permanent location.		2. Ensure publishing of the project's outputs on the Department's website so that the public are aware and can access the relevant material. 3. Train the personnel in charge and report their location via other media (radio, television, newspapers, direct meetings). 4. Ensure the maintenance of this information and its permanent availability in the long term. This involves, among others, the permanent dedication of a webmaster, trained by the Executing Agency who should work closely with the BCH National Focal Point. 5.Run a communication campaign geared towards various stakeholders to increase the chances of success of the initiatives supported by the project.		
SThe non-governmental organizations and the private sector continue to drive change and introduce innovation to biotechnology and biodiversity	Yes	Consider a partnership with the NGO and Private Sector in the management of the next phase.	Long term. May be considered in the next project	Executing Agency

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	**WHAT WILL BE DONE?**	**EXPECTED COMPLETION DATE**	**RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY**
conservation in Iran.: The results of the project showcased the critical role that NGOs and the private sector have with respect to driving biotechnology in the country, including introducing innovative techniques and management arrangements, and advocating for legal and institutional reform.				
To enhance the likelihood of project impact and long-term sustainability, UNEP should actively involve non-state actors, including civil society organizations, NGOs, and the private sector, in implementation agreements with governments. Additionally,	No	Given the nature of the recommendation, UNEP may consider this in the development /implementation of all similar projects in the future. Further this aspect would be considered to the extent possible in the ongoing projects UNEP GEF. It is not entirely a new concept hence it should be doable	Long term	UNEP

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
UNEP could consider formalizing cooperation and responsibilities through agreements with both governmental and non-governmental partners. These agreements would outline specific roles, expectations and joint efforts to effectively implement initiatives or projects related to the NBF by engaging a diverse range of partners. UNEP can foster synergies, capacity building and targeted transformational change in pursuit of environmental goals.				
UNEP could include the elaboration of agreements that make formal the	No	That is the function of the Executing Agency, UNEP can facilitate but this is beyond the mandate of UNEP	Immediate	UNEP

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	**WHAT WILL BE DONE?**	**EXPECTED COMPLETION DATE**	**RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY**
cooperation and responsibilities in the implementation of initiatives or projects between the Executive Agency and several governmental and non-governmental partners for implementation of the NBF.				
To enhance the effectiveness of its work, UNEP should focus on improving the quality of project baselines, indicators, and targets. These improvements will facilitate more effective monitoring and measurement of progress toward desired outcomes. Specifically, UNEP should adhere to the SMART criteria when defining indicators.	Partially	Continue to highlight the issues raised to UNEP entities responsible for developing project monitoring instruments	Immediate	UNEP Task Team

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	**WHAT WILL BE DONE?**	**EXPECTED COMPLETION DATE**	**RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY**
Additionally, UNEP can enhance the reliability of baselines and targets by drawing from diverse sources, including opinion surveys, statistical data, internal assessments, and relevant reports (such as Rapid Assessments). By implementing these measures, UNEP can better track progress, assess impact, and ensure alignment with its environmental goals.				
UNEP should mandate that each Project Implementation Document includes a well-defined Theory of Change (ToC). The ToC serves as a critical framework that outlines how an	No	UNEP may consider providing a template for the development of Theory of Change The recommendation is already in implementation	Immediate. The next projects	UNEP

	PLANS			
	ACCEPTED (YES/NO/PARTIALLY)	WHAT WILL BE DONE?	EXPECTED COMPLETION DATE	RESPONSIBLE OFFICER/ UNIT/ DIVISION/ AGENCY
intervention is expected to create meaningful and sustainable change. By explicitly articulating the causal pathways from inputs to outcomes and impact, the ToC provides clarity on the logic behind project activities and expected results. integrating a Theory of Change into Project Documents empowers UNEP to design, implement, and evaluate interventions more effectively. It ensures that projects are grounded in a thoughtful understanding of causality, context, and desired outcomes.				

The following is a summary of lessons learned from some of the project's experiences and based upon explicit findings of the review. They briefly describe the context from which the lessons are derived, and

the potential for wider application:

Lesson Learned #1: Lesson: Projects should incorporate sustainability considerations from the outset, ensuring that the infrastructure and approaches created continue to benefit communities even after project completion.	Given that the project was designed at a time when the political and economic situation was good, it accepted substantial financial and institutional commitments from the national and local government and from public companies. However, in an economically vulnerable country such as is currently, this situation changed and the made the commitments difficult to carry through, resulting in a possible escalation of costs for the project. This can be mitigated with a thorough risk management plan, relevant and transparent adaptive management as well as close accompaniment of the change process that values the capacity created in the institution during the prior administration.
Context/comment:	The context described highlights the challenges faced by projects that initially received substantial financial and institutional commitments but encountered difficulties due to changing economic and political changes. The context emphasizes the importance of project sustainability beyond its initial implementation phase. While many projects focus on achieving short-term objectives, long-term sustainability is equally crucial. The changing economic landscape poses risks to project commitments. A thorough risk management plan is essential to anticipate and mitigate potential challenges. It is therefore imperative to Implement robust risk management practices, including identifying risks, assessing their impact, and developing strategies to address them. Regular monitoring and adaptation are key. Adaptive management involves adjusting project strategies based on real-time feedback and changing circumstances. Transparent and flexible decision-making is vital. Projects should therefore adopt adaptive management practices, allowing them to respond effectively to evolving conditions. Regular evaluations and adjustments enhance sustainability. There is need for close accompaniment during the change process ensures that institutional capacity developed during prior administrations is valued and leveraged. There is need for consistent engagement with stakeholders, providing ongoing support, and facilitating knowledge transfer. There is also need to acknowledge and build upon existing institutional strengths. The lessons drawn from this context extend beyond specific projects. They apply to various sectors, including development cooperation, infrastructure, and public sector (Government) **Potential Applications**: **International Development**: Agencies supporting development projects can integrate sustainability, risk management, and adaptive approaches. **Business and Organizations**: Companies facing economic shifts can learn from these lessons to enhance resilience. **Political Contexts**: Understanding institutional change and valuing existing capacities applies to political reforms and governance.

	Environmental Initiatives: Sustainability principles are relevant for conservation efforts and climate change adaptation. In summary, the context underscores the need for forward-thinking, adaptable approaches that prioritize long-term sustainability and navigate changing circumstances. These lessons have broader implications across sectors that can guide effective decision making in an ever- evolving world.

Lesson Learned #2 : Use of Experts	**The approach of working with stakeholders who already have experience in the field of modern biotechnology and biosafety, ensured greater effectiveness and sustainability.**
Context/comment:	The context is drawn from the project management team working with stakeholders who possess expertise in modern biotechnology and biosafety, to develop scientific material such as the guidelines, to provide training to various groups including students, researchers, laboratory technicians, port officials, just to name a few. These stakeholders include scientists, researchers, policymakers, and industry professionals. Their existing knowledge and experience contribute to the effectiveness and sustainability of the project. Collaborating with knowledgeable stakeholders enhances decision-making and implementation. Involving experts ensures well-informed choices regarding biotechnology practices and biosafety measures. By tapping into existing expertise, projects can be sustained over the long term. **Wider Application**: **Biotechnology Projects**: This lesson applies to any biotechnology-related initiative, such as genetic engineering, pharmaceutical development, or agricultural biotech. **Environmental Conservation**: Experts play a crucial role in sustainable practices related to biodiversity, ecosystem management, and climate change. **Policy Formulation**: Policymakers benefit from engaging experts to create informed regulations. **Business and Industry**: Companies can apply this lesson by collaborating with specialists for product development and safety compliance. In summary, the lesson emphasizes the value of expertise and collaboration, which extends beyond biotechnology to various fields. By working with knowledgeable stakeholders, projects can achieve greater effectiveness and long-term sustainability.

Lesson Learned #3:	**In this project, collaboration with local universities, NGOs and the private sector was an important added value to the project because it gave a professional dimension to the training and studies on risk assessment and management In addition, due to having found a mutual strategic interest, it was possible to do so without additional cost to the project or to the universities.**

Context/comment:	The project involved collaboration with local universities, NGOs, and the private sector. Key aspects of this collaboration included- **Professional Dimension**: The involvement of these stakeholders added a professional dimension to training and risk assessment studies. **Mutual Strategic Interest**: The collaboration was mutually beneficial due to shared strategic interests. **Cost-Effective**: Importantly, this collaboration occurred without additional costs to the project or the universities. The lesson derived therefore shows that **stakeholder engagement (**Involving universities, NGOs, and the private sector) enhances project outcomes. Their expertise and resources contribute significantly. Secondly, Collaboration with professionals elevates the quality of training and research and identifies mutual interests thus ensuring productive partnerships. Collaboration further increases Cost Efficiency. This is by Leveraging existing relationships minimizes financial burden. **Wider Application**: **Education and Training Programs**: Collaborating with educational institutions enriches training initiatives across various fields. **Research and Innovation**: In research projects, involving experts from different sectors accelerates progress. **Business Partnerships**: Companies can benefit from strategic collaborations with other businesses or organizations. **Policy Development**: Engaging stakeholders ensures well-informed policy decisions. **Community Projects**: Local NGOs and private sector involvement can enhance community development efforts. In summary, this lesson emphasizes the value of cross-sector collaboration, professionalism, and strategic alignment. These principles apply broadly and can enhance project effectiveness and sustainability in diverse contexts.
Lesson Learned #:4	Execution with adaptability, increasing the chances of success with greater political and technical support. The Project in the first 4 years centralized its actions to: build up technical and institutional capacity; additional studies; national diagnosis; and identification of learned lessons and best practices of other countries.
Context/ Comment	The context is derived from the implementation challenges that the project faced and learned to adapt its approach over time. As for wider application, organizations across various domains can benefit by fostering adaptability, learning from past experiences, and remaining open to change.
Lesson Learned #:5	During the Project implementation, some initiatives would have been executed to strengthen the implementation transference process of the leadership and the ownership of the Project results to representatives of local communities and the private sector. These instances levels of

	participation could have increased the possibilities of management and partnership of the implementation of the Biosafety Policy and the monitoring and evaluation of the use of biotechnological products.
Context/ Content	The context

ANNEX XIII: QUALITY ASSESSMENT OF THE TERMINAL REVIEW REPORT

Review Title: Terminal review of UNEP-GEF Project "Building National Capacity to Implement the National Biosafety Framework of Islamic Republic of Iran and the Cartagena Protocol on Biosafety" (GEF ID 3730) 2012 – 2021

Consultant: Rachel Omukatia Shibalira Muyonga

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

	UNEP Evaluation Office Comments	Final Review Report Rating
Report Quality Criteria		
Quality of the Executive Summary Purpose: acts as a stand alone and accurate summary of the main review product, especially for senior management. To include: • concise overview of the review object • clear summary of the review objectives and scope • overall review rating of the project and key features of performance (strengths and weaknesses) against exceptional criteria • reference to where the review ratings table can be found within the report • summary response to key strategic review questions • summary of the main findings of the exercise/synthesis of main conclusions • summary of lessons learned and recommendations.	Final report *(coverage/omissions)*: The report provides thorough details on project background, objectives, and the review's findings. All required areas of the report are covered. While strengths and weaknesses are discussed, a clear, consolidated summary of key features against exceptional criteria could enhance understanding. Final report *(strengths/weaknesses)*: There is a weak description of the main problem the project was seeking to cure, its root causes and consequences on the environment and human well-being (i.e. synopsis of the problem and situational analyses) and some of the major interventions the project implemented to achieve its goal. Paragraph 74 & 75 could have been summarized to describe this and the evaluand. The report also includes the rating table in this section rather than a reference to where the table can be found within the report. The section did not provide a summary of responses to the strategic review questions.	3
Quality of the 'Introduction' Section Purpose: introduces/situates the evaluand in its institutional context, establishes its main parameters (time, value, results, geography) and the purpose of the review itself. To include: • institutional context of the project (sub-programme, Division, Branch etc) • date of PRC approval, project duration and start/end dates • number of project phases (where appropriate) • results frameworks to which it contributes (e.g. POW Direct Outcome) • coverage of the review (regions/countries where implemented) • implementing and funding partners • total secured budget • whether the project has been reviewed/evaluated in the past (e.g. mid-term, external agency etc.) • concise statement of the purpose of the review and the key intended audience for the findings.	Final report *(coverage/omissions)*: This section describes the terminal review as opposed to describing the evaluand. The section omits most of the required information for this section. There is no description of the evaluand's institutional context, the project timelines, and the reader does not get the picture of who the different actors were in the execution of the project. Some information is misplaced in this section such as limitations which ought to be in the review methods section. Final report *(strengths/weaknesses)*: The report's omission of the institutional context, project phases, and details about implementing and funding partners weakens the reader's understanding of the project's broader environment and alignment. The lack of budgetary information, including the total secured budget and co-financing details,	3.5

	limits financial transparency. Additionally, the absence of geographical coverage and information on whether the project was previously reviewed or evaluated leaves gaps in understanding its scope and continuity. Although thorough, the report could benefit from condensing certain sections to prevent overwhelming the reader. Redundant information, such as the process and structure of the review in paragraphs 27 to 36, should be minimized.	
Quality of the 'Review Methods' Section Purpose: provides reader with clear and comprehensive description of review methods, demonstrates the credibility of the findings and performance ratings. To include: • description of review data collection methods and information sources • justification for methods used (e.g. qualitative/ quantitative; electronic/face-to-face) • number and type of respondents *(see table template)* • selection criteria used to identify respondents, case studies or sites/countries visited • strategies used to increase stakeholder engagement and consultation • methods to include the voices/experiences of different and potentially excluded groups (e.g. vulnerable, gender, marginalised etc) • details of how data were verified (e.g. triangulation, review by stakeholders etc.) • methods used to analyse data (scoring, coding, thematic analysis etc) • review limitations (e.g. low/ imbalanced response rates across different groups; gaps in documentation; language barriers etc) • ethics and human rights issues should be highlighted including: how anonymity and confidentiality were protected. Is there an ethics statement? E.g. *'Throughout the review process and in the compilation of the Final Review Report efforts have been made to represent the views of both mainstream and more marginalised groups. All efforts to provide respondents with anonymity have been made.*	Final report *(coverage/omissions):* The report demonstrates a strong commitment to ethical standards, ensuring respondent confidentiality and anonymity while being sensitive to cultural contexts. It also details data analysis methods like coding and thematic analysis, showcasing a methodical approach that strengthens the review's findings. However, the report lacks information on strategies for including marginalized groups and does not mention any mechanisms used for triangulating the data. Final report *(strengths/weaknesses):* The report lacks explicit criteria for selecting respondents, case studies, or sites visited, which diminishes the inclusion of diverse perspectives, especially from potentially excluded or vulnerable groups. The section uses its own rating description rather than UNEP's criteria rating matrix, and the methodology is not presented succinctly, with no justification provided for the selection of data collection methods or sources. Additionally, the use of future tense in some sections (e.g., paragraphs 51 and 61) creates uncertainty about whether these methods were actually applied during the review.	4
Quality of the 'Project' Section Purpose: describes and verifies key dimensions of the evaluand relevant to assessing its performance. To include: • *Context:* overview of the main issue that the project is trying to address, its root causes and consequences on the environment and human well-being (i.e. synopsis of the problem and situational analyses) • *Results framework*: summary of the project's results hierarchy as stated in the ProDoc (or as officially revised) • *Stakeholders:* description of groups of targeted stakeholders organised according to relevant common characteristics	Final report *(coverage/omissions):* The report offers a comprehensive overview of Iran's environmental and socio-economic context, including geographical, climatic, and biodiversity-related details. It also discusses broader issues like biosafety and the risks associated with LMOs. The report includes a summary of the project's objectives and components, detailing expected outcomes in alignment with the results framework. However, Table 3 and a summary of paragraphs 66 and 67 should be included in the Executive Summary for clarity. The rationale for	4

• *Project implementation structure and partners:* description of the implementation structure with diagram and a list of key project partners • *Changes in design during implementation:* any key events that affected the project's scope or parameters should be described in brief in chronological order • *Project financing:* completed tables of: (a) budget at design and expenditure by components (b) planned and actual sources of funding/co-financing	separately rating the financial management criteria in this section is unclear. Final report *(strengths/weaknesses):* The report repeats the project implementation structure twice in the same section, which appears to be an error. It effectively describes the main stakeholders, including various ministries and government agencies, and outlines their roles in project implementation. However, the stakeholders are not organized by their influence or importance to the project. The project's context is well described, providing a clear understanding of its goals. Tables 6 and 7 summarize the project financing effectively. While the project implementation structure is presented, it lacks detail on the roles and responsibilities of the various actors. Additionally, Table 4 is missing crucial information such as outputs and outcomes for each project component. Given the extended implementation period, multiple budget revisions, and no-cost extensions, a table summarizing this information, including key dates, would have been helpful in this section or as a referenced annex.	
Quality of the Theory of Change Purpose: to set out the TOC at Review in diagrammatic and narrative forms to support consistent project performance; to articulate the causal pathways with drivers and assumptions and justify any reconstruction necessary to assess the project's performance. To include: • description of how the *TOC at Review*[21] was designed (who was involved etc) • confirmation/reconstruction of results in accordance with UNEP definitions • articulation of causal pathways • identification of drivers and assumptions • identification of key actors in the change process • summary of the reconstruction/results re-formulation in tabular form. *The two results hierarchies (original/formal revision and reconstructed) should be presented as a two-column table to show clearly that, although wording and placement may have changed, the results 'goal posts' have not been 'moved'.* This table may have initially been	Final report *(coverage/omissions):* The report effectively reconstructs the ToC, offering a detailed narrative that maps out the project's logic and the expected flow from outputs to outcomes to impacts. It also does a good job of identifying and explaining the drivers and assumptions that influence the success of the project, but lacks in gender dimensions. The description of the reconstructed TOC was adequate although not all the reconstructed results followed UNEP's definitions. Final report *(strengths/weaknesses):* Some of the reformulated outputs are stated as indicators e.g. 2.1.2; 3.1.6, 3.1.9, 4.1.3. Others are reformulated as	3.5

[21] During the Inception Phase of the review process a *TOC at Review Inception* is created based on the information contained in the approved project documents (these may include either logical framework or a TOC or narrative descriptions), formal revisions and annual reports etc. During the review process this TOC is revised based on changes made during project intervention and becomes the *TOC at Review*.

presented in the Inception Report and should appear somewhere in the Main Review report.	deliverables e.g. 1.1.2, 2.1.1, 2.1.3, 3.1.8. Reference on UNEP's definitions of results should have been applied. Figure 3 is very linear in its depiction of the causal pathway. The TOC does not incorporate any human rights or gender dimensions. These could have been incorporated as either drivers or assumptions to ensure inclusivity strengthening.	
Quality of Key Findings within the Report Presentation of evidence: nature of evidence should be clear (interview, document, survey, observation, online resources etc) and evidence should be explicitly triangulated unless noted as having a single source. Consistency within the report: all parts of the report should form consistent support for findings and performance ratings, which should be in line with UNEP's Criteria Ratings Matrix. Findings Statements (where applicable): The frame of reference for a finding should be an individual review criterion or a strategic question from the TOR. **A finding should go beyond description and uses analysis to provide insights that aid learning specific to the evaluand.** In some cases a findings statement may articulate a key element that has determined the performance rating of a criterion. Findings will frequently provide insight into 'how' and/or 'why' questions.	Final report *(coverage/omissions):* There are no stand-alone finding statements within the report. Statements are embedded within the report. Final report *(strengths/weaknesses):*	3
Quality of 'Strategic Relevance' Section Purpose: to present evidence and analysis of project strategic relevance with respect to UNEP, partner and geographic policies and strategies at the time of project approval. To include: Assessment of the evaluand's relevance vis-à-vis: • Alignment to the UNEP Medium Term Strategy (MTS), Programme of Work (POW) and Strategic Priorities • Alignment to Donor/GEF/Partners Strategic Priorities • Relevance to Regional, Sub-regional and National Environmental Priorities • Complementarity with Existing Interventions: complementarity of the project at design (or during inception/mobilisation[22]), with other interventions addressing the needs of the same target groups.	Final report *(coverage/omissions):* This section is well-covered Final report *(strengths/weaknesses):* The findings support the rating which show how well the project was designed to contribute effectively to broader strategic priorities and frameworks. PoW and complementarity with other interventions.	5
Quality of the 'Quality of Project Design' Section Purpose: to present a summary of the strengths and weaknesses of the project design, on the basis that the detailed assessment was presented in the Inception Report.	Final report *(coverage/omissions):* The report provides a summary of the project design logic, noting that it was generally well-conceived and clearly drafted. Final report *(strengths/weaknesses):* While the report provides a general overview of the project design, it lacks a more detailed analysis of specific strengths and	5

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

	weaknesses. For instance, the report could benefit from more concrete examples or case studies illustrating where the design was particularly strong or where it encountered significant challenges.	
Quality of the 'Nature of the External Context' Section Purpose: to describe and recognise, when appropriate, key external features of the project's implementing context that limited the project's performance (e.g. conflict, natural disaster, political upheaval[23]), and how they affected performance. While additional details of the implementing context may be informative, this section should clearly record whether or not a major and unexpected disrupting event took place during the project's life in the implementing sites.	Final report *(coverage/omissions):* The report identifies a major external disruptive event—the economic and financial embargo—that significantly affected the project's performance. Final report (strengths/weaknesses): The section describes the external factor that could have impacted the implementation of the project and also describes the adaptive management strategy used by the project to minimize the impact. The rating should be Moderately Unfavorable not moderately satisfactory.	5
Quality of 'Effectiveness' Section **(i) Availability of Outputs:** Purpose: to present a well-reasoned, complete and evidence-based assessment of the outputs made available to the intended beneficiaries. To include: • a convincing, evidence-supported and clear presentation of the outputs made available by the project compared to its approved plans and budget • assessment of the nature and scale of outputs versus the project indicators and targets • assessment of the timeliness, quality and utility of outputs to intended beneficiaries • identification of positive or negative effects of the project on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	Final report *(coverage/omissions):* The report clearly states that the project has satisfactorily delivered all the expected outputs as outlined in the Results Framework. It provides specific examples of the outputs produced, such as the development of a national Biosafety Policy, publication of technical guidelines, equipping of laboratories, and training of stakeholders. However, it does not provide detailed information on how these outputs compare to the approved budget Final report *(strengths/weaknesses):* Although the report states all outputs were successfully delivered and gives it a rating of HS, it is very light on detail and just lists the expected deliverable does not describe the timeliness, quality and utility of the outputs to the intended beneficiaries nor the positive or negative effects they had to the beneficiaries including those marginalized groups.	3
ii) Achievement of Project Outcomes: Purpose: to present a well-reasoned, complete and evidence-based assessment of the uptake, adoption and/or implementation of outputs by the intended beneficiaries. This may include behaviour changes at an individual or collective level. To include: • a convincing and evidence-supported analysis of the uptake of outputs by intended beneficiaries • assessment of the nature, depth and scale of outcomes versus the project indicators and targets • discussion of the contribution, credible association and/or attribution of outcome level changes to the work of the project itself • any constraints to attributing effects to the projects' work	Final report *(coverage/omissions):* The report provides a detailed assessment of the extent to which project outputs, such as the biosafety policy, regulatory regime, and public awareness initiatives, have been adopted and implemented by the intended beneficiaries. It mentions that triangulation of data was used to assess outcomes. Final report *(strengths/weaknesses):* The report demonstrates the value of reconstructing the ToC in the assessment of the outcomes. The report describes the uptake of the outputs such as endorsement and	5

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

• identification of positive or negative effects of the project on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	integration of policies by the PSC and biosafety council, operationalization of regulations of LMOs importation, and implementation of SOPs in laboratories and green houses based on research and development by private sector. The positive or negative effects if any they had to the beneficiaries including those marginalized groups was not described.	
(iii) Likelihood of Impact: Purpose: to present an integrated analysis, guided by the causal pathways represented by the TOC, of all evidence relating to likelihood of impact, including an assessment of the extent to which drivers and assumptions necessary for change to happen, were seen to be holding. To include: • an explanation of how causal pathways emerged and change processes can be shown • an explanation of the roles played by key actors and change agents • explicit discussion of how drivers and assumptions played out • identification of any unintended negative effects of the project, especially on disadvantaged groups, including those with specific needs due to gender, vulnerability or marginalisation (e.g. through disability).	Final report *(strengths/weaknesses):* The report provides a clear explanation of the causal pathways from project outcomes to the intended impact of enhanced conservation and sustainable use of biodiversity in Iran. Additionally, it explicitly discusses the drivers and assumptions necessary for achieving the project's impact, such as political will, effective coordination, and the lifting of the ban on LMO cultivation. Final report *(strengths/weaknesses):* The drivers and assumptions are well articulated. The reconstructed intermediate states underpin the insights offered by the reconstructed ToC. The findings described support the ratings.	5
Quality of 'Financial Management' Section Purpose: to present an integrated analysis of all dimensions evaluated under financial management and include a completed 'financial management' table (may be annexed). Consider how well the report addresses the following: • *adherence* to UNEP's financial policies and procedures • *completeness* of financial information, including the actual project costs (total and per activity) and actual co-financing used • *communication* between financial and project management staff	Final report *(coverage/omissions):* The report confirms adherence to UNEP's financial policies and procedures and indicates that financial information was generally complete, it is weakened by the lack of specific financial data, the omission of details about communication between financial and project management staff Final report *(strengths/weaknesses):* No mention of communication between finance and project teams. There is no table showing financial information on actual project costs and co-financing used	5
Quality of 'Efficiency' Section Purpose: to present an integrated analysis of all dimensions evaluated under efficiency (i.e. the primary categories of cost-effectiveness and timeliness). To include: • time-saving measures put in place to maximise results within the secured budget and agreed project timeframe • discussion of making use, during project implementation, of/building on pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. • implications of any delays and no cost extensions • the extent to which the management of the project minimised UNEP's environmental footprint.	Final report *(coverage/omissions):* The report does well in recognizing the initial delays and the challenges posed by political transitions and economic sanctions. It also acknowledges the adjustments made, such as the use of UNDP for payments and the transition to online activities during the COVID-19 pandemic. Final report *(strengths/weaknesses):* The report highlights the different dimensions of efficiency that caused delay and subsequent extensions and were outside the control of the project such as the two presidential elections which led toa change in the cabinet that interrupted project operations. The other	5

	was the economic and financial sanctions levied against the country which made transactions challenging.	
Quality of 'Monitoring and Reporting' Section Purpose: to present well-reasoned, complete and evidence-based assessment of the evaluand's monitoring and reporting. Consider how well the report addresses the following: • quality of the monitoring design and budgeting *(including SMART results with measurable indicators, resources for MTE/R etc.)* • quality of monitoring of project implementation *(including use of monitoring data for adaptive management)* • quality of project reporting *(e.g. PIMS and donor reports)* \	Final report *(coverage/omissions):* The report provides a detailed overview of the monitoring and evaluation (M&E) plan included in the project document, which was aligned with UNEP/GEF standards. It notes that a specific budget was allocated for M&E activities. It also highlights the quality of the Project Implementation Reports (PIRs) and Annual Progress Reports (APRs), noting that these documents provided comprehensive assessments of project progress, including risks, successes, and challenges. Final report *(strengths/weaknesses):* The report does not thoroughly assess the quality of the indicators used in the logical framework, particularly in terms of whether they were SMART. Including specific instances where monitoring data led to changes in project implementation would strengthen the assessment of the project's responsiveness and flexibility.	5
Quality of 'Sustainability' Section Purpose: to present an integrated analysis of all dimensions evaluated under sustainability (i.e. the endurance of benefits achieved at outcome level). Consider how well the report addresses the following: • socio-political sustainability • financial sustainability • institutional sustainability	Final report *(coverage/omissions):* While the report discusses the potential for sustainability, it does not fully explore long-term strategies for maintaining project outcomes. Final report *(strengths/weaknesses):* The report offers a nuanced analysis of the socio-political factors affecting sustainability, including the dependency on government funding, the role of private sector involvement, and the need for alternative funding sources. It acknowledges the project's limitations in achieving full sustainability, particularly the financial resources needed to continue the five-year action plan. However, the report also highlights efforts to sustain partial benefits, such as the development of stakeholders' inherent capacities.	5
Quality of Factors Affecting Performance Section Purpose: These factors are not always discussed in stand-alone sections and may be integrated in the other performance criteria as appropriate. However, if not addressed substantively in this section, a cross reference must be given to where the topic is addressed and that entry must be sufficient to justify the performance rating for these factors. Consider how well the review report, either in this section or in cross-referenced sections, covers the following cross-cutting themes:	Final report *(coverage/omissions):* The report provides detailed coverage of most key factors affecting performance, particularly in areas such as preparedness and readiness, project implementation approach, and stakeholder participation. Final report *(strengths/weaknesses):* All key elements are addressed in the report. The project demonstrated	5

• preparation and readiness • quality of project management and supervision[24] • stakeholder participation and co-operation • responsiveness to human rights and gender equality • environmental and social safeguards • country ownership and driven-ness • communication and public awareness	adaptive management by using UNDP mechanisms to continue implementation despite economic hardships caused by embargoes. However, this section of the report lacks proper organization and flow, making it difficult to follow.	
Quality of the Conclusions Section **(i) Conclusions Narrative:** Purpose: to present summative statements reflecting on prominent aspects of the performance of the evaluand as a whole, they should be derived from the synthesized analysis of evidence gathered during the review process. To include: • compelling narrative providing an integrated summary of the strengths and weakness in overall performance (achievements and limitations) of the project • clear and succinct response to the key strategic questions • human rights and gender dimensions of the intervention should be discussed explicitly (e.g. how these dimensions were considered, addressed or impacted on)	Final report *(coverage/omissions):* This section of the report is strong in its overall coverage and synthesis of findings, providing a clear and comprehensive summary of the project's performance. While the report mentions gender balance, it lacks a thorough exploration of how the project addressed gender equality and human rights issues. Final report *(strengths/weaknesses):* The conclusions are well synthesized with supporting evidence that describes the factors that is likely to lead to the success of the project such as interest and commitment of the country in developing the biotechnology sector, interinstitutional approach in constitution and operationalization of the national biosafety authority, and also some of the factors that may compromise its success such as lack of full appreciation by the public on the effects of LMOs and the obscure functioning of the country's monitoring and enforcement systems.	5.5
ii) Utility of the Lessons: Purpose: to present both positive and negative lessons that have potential for wider application and use (replication and generalization) Consider how well the lessons achieve the following: • are rooted in real project experiences (i.e. derived from explicit review findings or from problems encountered and mistakes made that should be avoided in the future) • briefly describe the context from which they are derived and those contexts in which they may be useful • do not duplicate recommendations	Final report *(coverage/omissions):* Final report *(strengths/weaknesses):* The report's lessons are relevant and clearly articulated, but there is some overlap with recommendations, which could blur the distinction between the two. To improve clarity, lessons should focus on broader insights and experiences, while recommendations should offer specific actions for improvement. A clearer separation between the two would enhance the report.	5
(iii) Utility and Actionability of the Recommendations:	Final report *(coverage/omissions):*	5

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

Purpose: to present proposals for specific action to be taken by identified people/position-holders to resolve concrete problems affecting the project or the sustainability of its results. Consider how well the lessons achieve the following: • are feasible to implement within the timeframe and resources available (including local capacities) and specific in terms of who would do what and when • include at least one recommendation relating to strengthening the human rights and gender dimensions of UNEP interventions • represent a measurable performance target in order that the UNEP Unit/Branch can monitor and assess compliance with the recommendations. NOTES: **(i)** In cases where the recommendation is addressed to a third party, compliance can only be monitored and assessed where a contractual/legal agreement remains in place. Without such an agreement, the recommendation should be formulated to say that UNEP project staff should pass on the recommendation to the relevant third party in an effective or substantive manner. The effective transmission by UNEP of the recommendation will then be monitored for compliance. **(ii)** Where a new project phase is already under discussion or in preparation with the same third party, a recommendation can be made to address the issue in the next phase.	Final report *(strengths/weaknesses):* The recommendations are generally clear and actionable, with specific steps outlined for the Executing Agency and UNEP. The absence of recommendations specifically addressing human rights and gender equality is a notable weakness.	
Quality of Report Structure and Presentation **(i) Structure and completeness of the report:** To what extent does the report follow the UNEP Evaluation Office structure and formatting guidelines? Are all requested Annexes included and complete?	Final report *(coverage/omissions):* Formatting and structure of the report has not fully aligned to UNEP EOU guidelines. Final report *(strengths/weaknesses):* The strategic questions were not explicitly addressed. The ratings table is colour coded – not as per UNEP guidelines	4
(ii) Writing and formatting: Consider whether the report is well written (clear English language and grammar) with language that is adequate in quality and tone for an official document? Do visual aids, such as maps and graphs convey key information?	Final report *(coverage/omissions):* Final report *(strengths/weaknesses):* The formatting has not followed the UNEP guidelines. There is a lot of errors in the ratings – those included in the narrative and those included in the table on page 81. There are also grammatical errors and a couple of spelling mistakes	4
OVERALL REPORT QUALITY RATING		**4.4**

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