



**TERMINAL EVALUATION
OF THE
IAEA/UNDP/GEF PROJECT
"MAINSTREAMING GROUNDWATER CONSIDERATIONS INTO THE
INTEGRATED MANAGEMENT OF THE NILE RIVER BASIN"
(PIMS 3765)**

EVALUATION REPORT

Ivica Trumbic

April 2016

Table of contents^[L]_[SEP]

Acknowledgements

Disclaimer

List of Acronyms^[L]_[SEP]

Executive summary

1. Introduction^[L]_[SEP]

- 1.1. Purpose of evaluation
- 1.2. Approach and methodology
- 1.3. Structure of the report

2. The project and its development context^[L]_[SEP]

- 2.1. Brief description of the project
- 2.2. Project start and duration
- 2.3. Problems that the project sought to address
- 2.4. Immediate and development objectives of the project
- 2.5. Main stakeholders
- 2.6. Results expected

3. Findings and Conclusions

3.1 Project Formulation

- 3.1.1. Project concept and design
- 3.1.2. Analysis of Strategic Results Framework
- 3.1.3. Lessons from other relevant projects incorporated into project implementation
- 3.1.4. Assumptions and risks^[L]_[SEP]
- 3.1.5. Country-ownership/drivenness^[L]_[SEP]
- 3.1.6. Stakeholder participation in formulation of the project
- 3.1.7. Replication approach
- 3.1.8. UNDP and IAEA comparative advantage
- 3.1.9. Linkages
- 3.1.10. Management arrangements^[L]_[SEP]

3.2. Project Implementation^[L]_[SEP]

- 3.2.1. Adaptive management
- 3.2.2. Monitoring, evaluation and reporting
- 3.2.3. Partnership arrangements
- 3.2.4. Stakeholder participation during the implementation stage
- 3.2.5. Financial Planning
- 3.2.6. Execution and implementation modalities

3.3. Results^[L]_[SEP]

- 3.3.1. Attainment of Outcomes/Achievement of objectives^[L]_[SEP]
 - 3.3.1.1. Component 1: Assess groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection

- 3.3.1.2. Component 2: Investigate the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection
- 3.3.1.3. Component 3: Synthesize data and information with water balance models for sub-basins, basins and the larger Nile basin
- 3.3.1.4. Component 4: Support the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework
- 3.3.2. Relevance of the project's outcomes^[L]_[SEP]
- 3.3.3. Effectiveness and efficiency
- 3.3.4. Mainstreaming
- 3.3.5. Sustainability
- 3.3.6. Impact

4. Conclusions and rating

5. Recommendations and lessons learned^[L]_[SEP]

- 5.1. Recommendations^[L]_[SEP]
- 5.2. Lessons learned

Annexes^[L]_[SEP]

- Annex 1: Evaluation TORs^[L]_[SEP]
- Annex 2: Itinerary and persons interviewed^[L]_[SEP]
- Annex 3: List of documents reviewed^[L]_[SEP]
- Annex 4: Questionnaire used
- Annex 5: Co-financing table^[L]_[SEP]

Acknowledgements

The evaluation consultant is grateful for the support provided by the IAEA and UNDP in organizing the evaluation. He also thanks all those who patiently provided answers to questions and offered their views on the project, including project management staff, government officials and other participants. He is particularly grateful to those who provided review comments on the draft of the evaluation report. While he has made every effort to accurately reflect the information and opinions received, any remaining errors or omissions are his own.

Disclaimer

This report is the work of an independent consultant and does not necessarily represent the views, or policy, or intentions of the IAEA or UNDP.

List of Acronyms

CDR	Combined Delivery Report
CEO	Chief Executive Officer
DSS	Decision Support System
EA	Executing Agency
GEF	Global Environment Facility
IA	Implementing Agency
IAEA	International Atomic Energy Agency
IR	Inception Report
M&E	Monitoring and Evaluation
MSP	Medium Sized Project
NBI	Nile Basin Initiative
NGO	Non Governmental Organisation
PD	Project Document
PIF	Project Identification Form
PIM	Project Inception Meeting
PIR	Project Implementation Review
PMU	Project Management Unit
PSC	Project Steering Committee
RTA	Regional Technical Advisor
SRF	Strategic Results Framework
TE	Terminal Evaluator
TOR	Terms of Reference
UNDP	United Nations Development Programme

Executive summary

Groundwater plays an increasingly important role in the Nile Basin countries. It is the source for irrigation and water supply in many parts of the Basin; in some countries it is an important source of domestic water supply, providing large percentages of urban water supply. In addition to this, groundwater use is expected to increase significantly over the next decade, and so is vulnerability to pollution. Groundwater information and its contribution to the Nile basin is lacking for many parts of the Nile. The role that groundwater plays in surface water systems (rivers, wetlands, lakes) has not been adequately considered in most transboundary river basin management initiatives, including the Nile basin, supported by the GEF and other donors. The project “Mainstreaming Groundwater Considerations into the Integrated Management of the Nile River Basin” (in further text: The Project) aimed at filling a gap in the consideration of the role of groundwater in surface water systems by enhancing national and regional capacity to add a groundwater dimension to joint management of the Nile basin. A second but equally important objective was to define an approach to groundwater planning and management that can be instituted in the Nile and could also be replicated in other international river and lake basins.

The development goal of the Project is to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin. In support of the development goal there are four specific objectives:

- to improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin;
- to enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle;
- to improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin as an input to water planning and management; and
- to facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries.

The Project is conceived as a Medium-Sized Project (MSP) with a total budget of US\$ 3,890,800. GEF is providing US\$ 1,000,000, while the remaining US\$ 2,890,00 is co-financing. IAEA is providing US\$ 1,000,000 of cash co-financing, while the remaining co-financing is in-kind, split between IAEA (US\$ 350,000 for project management) and participating countries (US\$ 1,540,000). The countries’ in-kind co-financing was provided only by six participating countries, i.e. by those countries that were IAEA member states at the time of the signing of the Project Document (Egypt, Ethiopia, Kenya, Sudan, Tanzania and Uganda).

The Project was planned to have 5 components/outcomes, namely:

- Component 1: Assessing groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection resulting in enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin;
- Component 2: Investigating the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection: resulting in enhanced capacity in national and regional institutions to assess the contribution of

- groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection;
- Component 3: Synthesizing data and information with water balance models for sub-basins, basins and the larger Nile basin resulting in enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin;
 - Component 4: Supporting the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework resulting in enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities; and
 - Component 5: Project monitoring, learning, adaptive feedback and evaluation.

The main purpose of the Terminal Evaluation is, internally, to assess the extent of the project accomplishments, particularly with regards to the evaluation criteria such as efficiency and effectiveness of delivery; relevance of the project and its consistency with the national and local policies and priorities; measure of the sustainability achieved with regards to project's benefits and outputs; and the impact of changes the project has made in the Nile River Basin Region. Externally, it should help UNDP, IAEA and GEF to get feedback on the issues that are recurrent across their respective portfolios, and to contribute to overall assessment of the results in achieving GEF strategic objectives. The information gathered during the evaluation process, as well as the final output – the Terminal Evaluation Report, will be used by the project management team to finalize the project, as well as by the Nile River Basin respective governments' administrations and other stakeholders to use project's results in the future.

The overall rating for this project based on the evaluation findings is **Moderately Unsatisfactory**. The ratings in Table below reflect consideration of the full set of issues affecting or characterising project performance and impact that are discussed in previous chapters of the report. Summary comments highlight aspects of the evaluation that best illustrate the rationale for the rating given.

CRITERION	SUMMARY COMMENTS	RATING
PROJECT FORMULATION		
Project concept and design	The concept is logical but not so well structured because of the large number of outputs and activities. In addition, the Project Document itself does not elaborate enough on the contents of the project and does not define its activities.	Moderately Satisfactory
Stakeholder participation in formulation of the project	While the stakeholders were involved in the project preparation phase, the PD failed to elaborate on a number of issues that are important for efficient stakeholders' participation during the project's implementation. No Stakeholder Analysis and Stakeholder Involvement Plan prepared.	Moderately Unsatisfactory
Country ownership	Most of the countries involved have demonstrated their commitment to participate in the project. The PD itself	Satisfactory

	does not elaborate on the relevance of the project's objectives to national plans and strategies.	
PROJECT IMPLEMENTATION		
Project governance	The role of Project Steering Committee is clear. It has not been meeting as regularly or as often as the course of the project's implementation required.	Moderately Satisfactory
Project administration and management	While, on one hand, it was practical to have the Project Manager stationed in IAEA in Vienna, on the other, this has proven to be impractical for managing the project so distant from the PMU. PM changed 4 times. The proposed changes to streamline the project management were not implemented. Countries have shown dissatisfaction with the management performance.	Unsatisfactory
Implementation approach		
Use of the LogFrame and adaptive management	SRF presents the logic of the project, but was not developed enough. No baseline and target values defined for indicators. PIRs not fully following the structure of SRF.	Moderately Satisfactory
Partnerships	Good partnership arrangement realized with the Nile Basin Initiative.	Moderately Satisfactory
Stakeholder participation in implementation	Involvement of stakeholders in project implementation has been very limited, with no record of communities' and NGOs' involvement.	Moderately Unsatisfactory
Risk management	Risk management was not addressed properly in the PD and, it seems, that it was not addressed actively by the PMU or the EA either.	Unsatisfactory
Project finance		
Financial planning and management	Financial planning adequate and allocation among components balanced.	Moderately Satisfactory
Disbursement process	Disbursement very slow, and by the end of 2015 almost 18% of funds still not disbursed.	Moderately Unsatisfactory
Co-financing	From the patchy and inconsistent information available, co-funding appears to be ineffectively solicited and inadequately reported.	Unsatisfactory
Monitoring and Evaluation		
M&E design, plan and budget	Project uses standard GEF monitoring procedures and is well developed.	Satisfactory
Project monitoring	PIR was used effectively by UNDP for monitoring the project's progress. Reporting between PD and PIRs	Moderately Unsatisfactory

	inconsistent. Discrepancy in ratings between PM and RTA. Very little feedback on M&E activities.	
PROJECT RESULTS		
Objective: The development objective of the project is to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin	Objectives of the project were partially met. The results present a very solid basis for the mainstreaming of the Groundwater in national water resources management, but actual mainstreaming through networking, awareness raising and institutionalisation was not fully realised.	Moderately Unsatisfactory
Outcome 1: Enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin	The quality of analytical work as well as of reports, particularly the work on modeling water flows confirmed by isotope hydrology application, is of a high quality. The completion of the work in this component was delayed by 3 years.	Moderately Satisfactory
Outcome 2: Enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection	The report for output 2.1. is of good quality, while the same could not be stated for the report on Sudd Swamp because no analysis was done. However, the Executing Agency is of the opinion that although there is no substantive report there is a good basis to start sampling in Sudd Swamp at a later stage.	Unsatisfactory
Outcome 3: Enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin	The modeling work was completed, even if Sudd Swamp analysis on the basis of isotope hydrology was not completed because of security concerns. From the reports it is not clear whether integration of assessment results in the DSS and water models of the NBI has been done. The TE concludes that this activity of the project has not been completed.	Moderately Satisfactory
Outcome 4: Enhanced capacity on the part of national and regional institutions to integrate groundwater considerations	Analysis of PIRs show that, apart from output 4.1. (national groundwater reports and regional groundwater report) very little was done.	Highly Unsatisfactory

into Nile basin planning and management activities		
Relevance, Effectiveness and Sustainability		
Relevance	The project addresses the root causes as identified in the PIF and confirmed with the project objectives and expected outcomes.	Relevant
Effectiveness	Project can be rated as cost-effective in terms of impacts made compared the resources utilized, in particular the GEF Grant. However, its efficiency was greatly reduced because of significant delays in its implementation (the planned time almost doubled) and significant amount of yet unspent funds.	Moderately Unsatisfactory
Financial sustainability	The outcomes and future impact of the project are highly dependent on continued financial investment and the implementation of project proposals acknowledges the need to mobilise resources at national, regional and international levels.	Moderately Likely
Socio-political sustainability	Project implementation was affected by political change in some countries and by serious security concerns. This type of change or uncertainty may continue to disrupt the work of agencies or organisations involved in water management in affected countries but also in the entire region and consequently delay onward progress.	Moderately Likely
Institutional framework and governance	No new institutional mechanisms were planned to be established. Stakeholders' participation at national level was confined mainly to the operation of the PSC while the communication with local communities was not developed. The focus of the project was to strengthen the existing national capacities as well as NBI to mainstream groundwater information into water planning and management.	Moderately Unlikely
Environmental sustainability	The project itself set out to address the issue of groundwater that in itself does not represent a threat to the environmental resources of the affected countries, although the reduced availability caused by	Moderately Likely

	inappropriate management could pose an environmental risk.	
Mainstreaming	One of the most important objectives of the project was to mainstream the groundwater consideration into integrated management of Nile River basin. At the level of improved knowledge this objective has been achieved. However, no evidence was found that project results contributed to better water management in participating countries.	Moderately Satisfactory
Impact	The rating is given because project succeeded in making groundwater an issue that decision makers are paying attention to, which could have a longer term impact if project results will be mainstreamed in the water planning and management.	Substantive
OVERALL PROJECT RATING	Project Design was generally appropriate and relevant to the needs of the participating counties as well as being a good fit within GEF's Operational Strategy. Administrative and managerial process was not very efficient. Planned project outcomes were not fully achieved. Project still has the potential to create solid basis for integration of groundwater considerations into water planning and management in Nile River Basin.	Moderately Unsatisfactory

The following recommendations are proposed:

- **Recommendation 1:** UNDP should close the project operationally as planned in June 2016 and no new contracts will be signed, while the existing contracts will be honoured within the limits of their stipulations. UNDP should also initiate the financial closure of the project in collaboration with IAEA, for the purpose of GEF funds.
- **Recommendation 2:** Establish procedures to complete the ongoing activities. The project management should also prepare briefs on lessons learned from the project, summaries of the project results, achievements and good practices, and on impacts of mainstreaming groundwater considerations in Nile River Basin water planning and management resulting from this project.
- **Recommendation 3:** It is recommended that the follow-on project be implemented by UNDP and executed by a partners who have extensive experience in project implementation and management. IAEA role should remain strongly focused on technical aspects of the new project.
- **Recommendation 4:** It is recommended that the purpose and scope of the Follow-up project will be to do, among other, the following: filling the knowledge gap; conjunctive use of water resources assessment of the best combination of using the river flow and groundwater; supply and demand of water; water deficits; impacts of climate change; etc. Project should also consider providing necessary equipment and relevant training to countries in most need of it, continue

with groundwater monitoring.

- **Recommendation 5:** Strong consideration should be given to the possibility that the Project Management Unit be located in the Nile River Basin region, either with an existing regional organisation or as a separate unit. It is also recommended that a Project Manager be engaged by UNDP or, eventually, by the Executing Agency that will manage the Follow-up Project in close collaboration with the NBI Secretariat and with each of the National Coordinators in participating countries. Project Manager should be engaged full time and be better accountable to the implementing agency of the project.
- **Recommendation 6:** In designing Follow – up project, adequate time should be allowed in the Inception Phase for the establishment of project implementation arrangements and undertaking all necessary initiation and preparatory activities. Outputs and activities have to be defined more precisely and clearly described. Project proposals should have better financial planning in terms of better matching financial resources to activities, and better identification of risks and mitigation measures.
- **Recommendation 7:** The GEF secretariat should consider supporting a follow-on project, which would be focused on mainstreaming groundwater considerations at the national level.

This evaluation has highlighted a number of good practices as well as problems encountered that provide potentially useful lessons for future projects operating in the Nile River Basin Region but also in other regions:

- Building the knowledge base: The project succeeded in expanding the regional knowledge base on groundwater and in proving the case for its consideration in the Nile River Basin water planning and management. The reports prepared are of a good quality and can be used as the basis for future project planning. The project activities have involved large group of national experts, resulting in enhancing their capacity to manage groundwater resources as well as water resources in general.
- Better project management: The project is an example of inadequate project management practice. It is essential that any future project have a full-time permanent project manager that will be fully committed to the project's implementation. The project manager has to be a person with good technical and communications skills. The Project Management Unit should be located closer to the region where project activities are taking place in order to facilitate communication between the project's stakeholders.
- Better monitoring and adaptive management: The project has experienced extensive delays in the implementation of activities. In addition to better identification of risks, which should contain mitigation measures, better monitoring of the project's implementation should warn of possible risks, while the adaptive mechanism should allow for the immediate action.

1. Introduction

1.1. Purpose of evaluation

The purpose of this Terminal Evaluation is to examine the extent and magnitude of the project's impacts to date and determine the likelihood of future impacts. The evaluation provides an assessment of project performance and the implementation of planned project activities and planned outputs against actual results. The evaluation focuses on the results the project has made towards the achievement of its objectives.

The main purpose of the Terminal Evaluation is, internally, to assess the extent of the project accomplishments, particularly with regards to the evaluation criteria such as efficiency and effectiveness of delivery; relevance of the project and its consistency with the national and local policies and priorities; measure of the sustainability achieved with regards to project's benefits and outputs; and the impact of changes the project has made in the Nile River Basin Region. Externally, it should help UNDP, IAEA and GEF to get feedback on the issues that are recurrent across their respective portfolios, and to contribute to overall assessment of the results in achieving GEF strategic objectives. The information gathered during the evaluation process, as well as the final output – the Terminal Evaluation Report, will be used by the project management team to finalize the project, as well as by the Nile River Basin respective governments' administrations and other stakeholders to use project's results in the future.

1.2. Approach and methodology

An overall approach and method for conducting project Terminal Evaluations of GEF-financed projects has been developed over time and is provided in UNDP document entitled "Guidance for Conducting Terminal Evaluations of UNDP - Supported, GEF-Financed Projects". The Terminal Evaluator (TE) was expected to consult this guidance notes while framing the evaluation effort using the criteria of relevance, effectiveness, efficiency, sustainability and impact. The evaluation had to provide evidence-based information that is credible, reliable and useful. The evaluator followed a participatory and consultative approach ensuring close engagement with government counterparts in the countries of the Nile River Basin Region, the IAEA project team, the respective UNDP GEF Regional Technical Adviser (RTA), and key stakeholders.

Evaluation of this nature should be independent and confidential. It should also be comprehensive and fair and disclose the full set of findings. There are a number of other requirements relating to sound accounting procedures, accuracy and transparency, which are covered by a Code of Conduct. To this effect, the TE has signed a relevant Agreement Form. The Terms of Reference and UNDP use a set of standard ratings to assess the Project as provided.

The Terms of Reference for this evaluation note that the evaluator was expected to conduct a field mission to project's region. The mission to the region took place from 9 to 20 January 2016. The TE visited the following countries: Uganda, Rwanda, Ethiopia, Sudan and Egypt. In addition, the TE visited IAEA Headquarters in Vienna on 1-2 February 2016 to have discussions with the IAEA Project Management Unit (PMU). Table 1 shows the number of interviewees the TE has met and discussed with during the preparation of the report.

Table 1: Number of persons interviewed

Countries/Institutions	N° of Interviewees
Uganda	6
Rwanda	5
Ethiopia	1
Sudan	5
Egypt	6
NBI	3
UNDP Egypt	1
IAEA	6
Other	2
Total	35

Terminal

Evaluation is intended to provide a comprehensive overall assessment of the project and serve as an opportunity to critically assess administrative and technical strategies, issues and constraints. The evaluation also aims to provide answers, *inter alia*, to the following basic questions:

- Did the project achieve its objectives?<sup>[L]
[SEP]</sup>
- Did it do it well?
- Are the results likely to be sustainable?

Like all GEF terminal evaluations, this one is being carried out:

- to promote accountability and transparency, and to assess and disclose levels of project accomplishments;<sup>[L]
[SEP]</sup>
- to synthesize lessons that may help improve the selection, design and implementation of future GEF activities;<sup>[L]
[SEP]</sup>
- to provide feedback on issues that are recurrent across the portfolio and need attention, and on improvements regarding previously identified issues; and <sup>[L]
[SEP]</sup>
- to contribute to the GEF Evaluation Office databases for aggregation, analysis and reporting on effectiveness of GEF operations in achieving global environmental benefits and on quality of monitoring and evaluation across the GEF system.<sup>[L]
[SEP]</sup>

1.3. Structure of the report

The structure of this report follows the outline as provided in the TOR and updated in the Terminal Evaluation Inception Report. After the introduction, the project's development context and design, as presented in the Project Document, are reviewed (Chapter 2), then the findings of the actual implementation and results achieved on the basis of produced reports and stakeholder interviews are assessed (Chapter 3). Conclusions and overall ratings are presented in Chapter 4, while recommendations and lessons learned are presented in Chapter 5. Several annexes are added at the end of the report.

2. The project and its development context^{[L]_{SEP}}

2.1. Brief description of the project

Groundwater plays an increasingly important role in the Nile Basin countries. It is the source for irrigation and water supply in many parts of the Basin; in some countries it is an important source of domestic water supply, providing large percentages of urban water supply. In addition to this, groundwater use is expected to increase significantly over the next decade, and so is vulnerability to pollution. Groundwater information and its contribution to the Nile basin is lacking for many parts of the Nile.^{[L]_{SEP}} The role that groundwater plays in surface water systems (rivers, wetlands, lakes) has not been adequately considered in most transboundary river basin management initiatives, including the Nile basin, supported by the GEF and other donors. The project “Mainstreaming Groundwater Considerations into the Integrated Management of the Nile River Basin” (in further text: The Project) aimed at filling a gap in the consideration of the role of groundwater in surface water systems by enhancing national and regional capacity to add a groundwater dimension to joint management of the Nile basin. A second but equally important objective was to define an approach to groundwater planning and management that can be instituted in the Nile and could also be replicated in other international river and lake basins.

More precisely, the development goal of the Project is to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin. In support of the development goal there are four specific objectives:

- to improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin;
- to enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle;
- to improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin as an input to water planning and management; and
- to facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries.

A key element of the Project was the building of national capacities to conduct groundwater assessments, assess new information and to incorporate it into current water management frameworks.

The Project was planned to result in 5 major components/outcomes, namely:

- Component 1: Assessing groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection resulting in enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin;
- Component 2: Investigating the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection: resulting in enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection;

- Component 3: Synthesizing data and information with water balance models for sub-basins, basins and the larger Nile basin resulting in enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin;
- Component 4: Supporting the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework resulting in enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities; and
- Component 5: Project monitoring, learning, adaptive feedback and evaluation.

The total of 24 outputs, divided among 5 outcomes, were planned. It was expected that the Project would lead to groundwater considerations being more comprehensively incorporated into ongoing national and regional Nile basin activities. As activities under this project were supposed to be closely linked with the respective projects under the NBI, a mechanism for sustainability was assured through the institutional and policy mechanisms explored in Component 4. The Project strived to bring scientific communities together with the appropriate water managers and policy makers at both the national and regional levels to ensure that good, needed science is both demanded and utilized by those making important water management decisions in the Nile basin (and in respective countries), which would make the sustainability of the Project assured.

The Project is conceived as a Medium-Sized Project (MSP) with a total budget of US\$ 3,890,800. GEF is providing US\$ 1,000,000, while the remaining US\$ 2,890,00 is co-financing. IAEA is providing US\$ 1,000,000 of cash co-financing, while the remaining co-financing is in-kind, split between IAEA (US\$ 350,000 for project management) and participating countries (US\$ 1,540,000). The countries' in-kind co-financing was provided only by six participating countries, i.e. by those countries that were IAEA member states at the time of the signing of the Project Document (Egypt, Ethiopia, Kenya, Sudan, Tanzania and Uganda).

2.2. Project start and duration

After PIF and several drafts of the project document were prepared, the GEF Chief Executive Officer approved the Project Document (PD) in July 2007. Initially, the project's implementation was supposed to start in October 2007, but its planned start was postponed to January 2008. However, the actual implementation started only after the Inception Meeting was held in Vienna in January 2009, therefore with a little less than 2 years delay. Consequently, the closure of the project was also delayed. The Project was planned to close in December 2010. Two extensions were granted, first one until March 2013, and the second until March 2014. However, almost 2 years since the last extension was supposed to expire, the project is not closed yet.

2.3. Problems that the project sought to address

The PD states that "...the role that groundwater plays in surface water systems (rivers, wetlands, lakes) has not been adequately considered in most transboundary river basin management initiatives, including the Nile basin". Taking in consideration that the "...information about the role of groundwater, in particular its contribution to water balances in lakes, rivers, and wetlands is crucial for determining equitable and appropriate water allocations and water resource management strategies..." the Project addresses the need to understand the role groundwater plays in the Nile River Basin, the issue that was not given adequate attention at best in previous management efforts, while in several countries it seems that the role groundwater plays has not been understood at all. In doing so, the Project also addresses the issue of enhancing the national

capacities to conduct groundwater assessments, assess new information and to incorporate it into current water management frameworks.

2.4. Immediate and development objectives of the project

The overall objective of the project is to begin to fill in the gap caused by lack of understanding of the role groundwater plays in Nile River Basin by enhancing national and regional capacity to add a “groundwater dimension” to joint management of the Nile basin.

The development objective of the Project is to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin. In support of the development objective there are four immediate objectives:

- improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin;
- enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle;
- improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin (headwaters to Aswan Dam) as an input to water planning and management; and
- facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries.

2.5. Main stakeholders

The PD notes that main stakeholders at the regional level are the country representatives cooperating within the framework of the NBI. At the Nile basin level, these stakeholders are represented by the NBI and its institutional mechanisms (e.g. Technical Advisory Committee and constituent NBI projects and programmes) as well as the Lake Victoria Basin Commission. In addition, they include international organizations who are currently partners in the NBI, such as financial institutions and key development partners; regional institutions and initiatives; regional networks; and regional networks of universities and research centers.

At the national level, stakeholders include the responsible ministries e.g. water as well as related ministries (environment, finance, planning, foreign affairs, international cooperation etc.), national atomic energy commissions and agencies, national geological surveys, national meteorological institutions, relevant research institutions and universities, water users and user associations, river basin authorities and regional development commissions and water offices.

2.6. Results expected

The Project was expected to facilitate the inclusion of groundwater considerations into integrated Nile River Basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries. In addition, the PD foresaw the End of Project Situation as one where:

- key institutional barriers to Integrated Management of the Nile River Basin will have been

overcome;

- national capacities to conduct groundwater assessments, assess new information and to incorporate it into current water management frameworks will be built;
- countries will make progress towards working collectively in managing not only the shared river resources, but also in protecting groundwater dependent ecosystems (wetlands); and
- by enhancing regional and national capacities in groundwater assessment, management and linkage with surface water and policy making, the regional ecosystems will be enhanced, which will increase the countries' resilience to climate change;

In addition, the Strategic Results Framework (SRF) in the PD listed the following as indicators of the satisfactory achievement of the four components of the Project:

- national and regional assessment reports;
- water balance model simulations;
- groundwater maps;
- institutional arrangements within the region for integrated management for Nile River basin;
- networks; and
- regional stakeholder meetings.

3. Findings and Conclusions

3.1 Project Formulation

3.1.1. Project concept and design

The Project was formulated by UNDP, in accordance with standard UNDP procedure, during 2006-2007 period and in close collaboration with the IAEA, taking in consideration the priorities identified in the participating countries. During the preparation period appropriate consultations were held with a wide range of stakeholders. The Project was approved in 2007. The following paragraphs are evaluating the approach to the project's design, in particular the initial assumptions adopted during the project's preparation phase.

The Project Inception Meeting (PIM) Report is more elaborate on the activities that preceded development and approval of the Project Document (PD) than the PD itself. It informs that this project has been envisaged as continuation of the project RAF/8/037 to utilize isotopic techniques to address hydrological problems facing the Nile River Basin. Important milestone for the preparation of the Project was the Coordination and Programming Meeting for the Formulation of the IAEA/ UNDP/ GEF Medium Sized Project Proposal to Add the Groundwater Dimension to Nile River Basin Management, which was held in Vienna from 29 May to 2 June 2006. This meeting brought together representatives of six basin countries, i.e. those countries that participated in the IAEA activities at the time. It can be concluded that stakeholders were adequately involved in the preparation of the project proposal. It seems that the lessons from other relevant projects were incorporated in the project design.

Once the PD was approved, IAEA established the PMU in Vienna. Inception meeting was held in January 2009, about a year and a half after the PD was approved. The inception report, as a separate and self standing document, has not been presented to the TE, and he assumes that one does not exist. The PIM Report is very basic in the presentation of the proceedings of the meeting but it contains 13 annexes, including the Project Document itself. The annex on budget presents only the expenditures to be covered from the GEF grant and IAEA cash contribution, but not the co-financing. Another important annex is the Project Work-plan which presents project activities in considerable detail. The project outputs, as presented in the PD, in this annex are further developed as a detailed set of activities. This gives a very good overview of the entire project, something that was missing in the PD.

The concept of the Project, i.e. its objectives, components, outcomes, outputs and activities, as presented in the PD and PIM Report is logical and easily understood. The PD is very scant in the situation analysis. It would have been useful if the situation in the Nile River Basin that has led to the Project was explained in a some more detail, because this would be useful to those who have not followed all the activities that preceded the project. However, from the strategic perspective, the PD presents a logical sequence of project components. It states one overarching goal and four project specific objectives. The project's goal is quite general and gives way to incorporation of many diverse activities in the project as long as they contribute to mainstreaming groundwater in Nile River Basin water planning and management. The goal and objectives are linked, and the latter follow the former. Outcomes are in line with the project's goal and objective. As presented in the PD, the outcomes are concentrated on the enhancement of regional and national capacities gradually increasing their capability to increase the knowledge on the groundwater in the Nile River Basin as well mainstreaming groundwater in the river basin management. However, the project outputs are too "pulverised" as they are too many for the project of this size. Merging project outputs would

make it more coherent. Same could also be stated for the activities, which emanate from a large number of outputs and, ultimately, make the project difficult to manage. Project management, as a cross cutting activity is present in all components of the project.

The project itself is concentrated on the enhancement of the capacities, in particular on making the role of groundwater in the Nile Basin Region more clear and better understood. From that perspective, it is possible to conclude that, at the start of the project, the national capacities were quite inadequate with respect to the above issue, and that the project has identified right target for its activities.

Overall rating for the project's concept and design is **Moderately Satisfactory (MS)**. The concept is logical but not so well structured because of the large number of outputs and activities. In addition, the Project Document itself is not elaborate enough on the contents of the project and does not define its activities.

3.1.2. Analysis of Strategic Results Framework

As mentioned above, the Strategic Results Framework (SRF) in the PD presents the logic of the project. It has 5 components/outcomes, each one comprising several outputs. No activities, relevant to each output, were mentioned in the PD. However, during the PIM, the activities for each output were defined and presented as an annex to the PIM Report (Annex 13: Project Workplan).

In addition to the definition of outputs' activities in PIM Report, there were also some changes made in the number and titles of the project outputs, while the outcomes remained unchanged in number and in the titles. However, in the PIM Report there is no indication which outputs have undergone changes, as well as why these changes were made.

In component/outcome 1, changes were made in the titles of all outputs except outputs 1.1. and 1.2. The outputs 1.1. to 1.9. were broken down in a number of activities and set of activities within each output follows the same template. Also, new output 1.10 was introduced (training on data analysis, interpretation), while the output 1.10. in the SRF (Summary report indicating groundwater is important...) has been deleted. No explanation for this change was given in the PIM Report.

In component/outcome 2, the titles of outputs 2.1. and 2.2. were changed but their meaning remained the same, while the output 2.3. in SRF was replaced with the new output on training. No explanation for this change was given in the PIM Report. Detailed set of activities was proposed for the first two outputs.

In component/outcome 3 the PIM Report proposed a change of title (Annex 13), and it was renamed into "Hydrological water balance models", but the meaning remained the same as one presented in the PD's SRF. However, the PIM Report states that details of activities will be determined later without disclosing when this will be done. Activities were proposed for one output only (output 3.1.), and the titles of all outputs remained unchanged.

No activities were proposed for component/outcome 4. The PIM decided that these activities will be defined at a later stage by the Project Steering Committee (PSC). Activities for the component/outcome 5 were defined for all outputs.

The TE made a brief analysis to see whether the planned outcomes were "Smart". They are "specific", because the title of each outcome indicates change, i.e. if the planned activities aimed at producing outputs will be carried out, or if the capacity of regional and national institutions will be enhanced. There is clear logic in the sequence of outcome with regards to mainstreaming the groundwater into

Nile River Basin water planning and management because follows this pattern: understanding - assessment - modelling - integration. The outcomes' indicators are also "measurable", because they are based on the production of a number of relevant reports. However, the important indicator related to the water management plans, where the activities' results will be integrated, is missing. The SRF indicates that the outcomes are "achievable" because the preparation of water balance models has been envisaged, although not developed enough. Again, no water management plans, where these models will be integrated, have been envisaged. The outcomes are "relevant", which is the statement reiterated by all the countries participating in the project. Finally, the outcomes were planned to be "time-bound" because the preparation of the concrete outputs was envisaged.

The use of Strategic Results Framework is rated as **Moderately Satisfactory (MS)**.

3.1.3. Lessons from other relevant projects incorporated into project implementation

In the PD or in the PIM Report there is almost no reference to other projects. However, in the report of the abovementioned preparatory meeting (held in 2006 in Vienna) there is a mention of the previous IAEA project (see above). The participants of that meeting concluded that the initial programme was successful and that many of its results were useful, but that further work was needed to improve the understanding of the importance of groundwater to the Nile River Basin.

3.1.4. Assumptions and risks

A section on assumptions and risks, which should comprise an assessment of risks and measures to mitigate them, could be found neither in the PD nor in the PIM Report (which could be considered as a substitute for a non-existent Inception Report). In the main body of the text of the PD, paragraph 18 speaks about the risk management but in a very superficial manner, and directs this matter to the project management and evaluation activities, i.e. as something that needs to be done after the project implementation will start. However, the PIF, which is Annex III to the PD, in its paragraph 17 mentions potential risks and their mitigation. This is a very short section of the document where risks are presented in a very general manner. The most important risk mentioned is the possibility that planned groundwater assessments could not be undertaken in some areas because of lack of ground support or of the security reasons. During the implementation of the project the latter risk has proven to be true. The TE was handed a separate table, which is a risk assessment matrix. It is well developed, following the standard GEF rules. However, it is not known to TE where this matrix belongs to because it could not be found in none of the official documents of the project. It is the opinion of TE that this matrix should have been integrated either in the PD or in the PIM Report.

Risk management was not addressed properly in the PD and, it seems, that it was not addressed actively by the PMU or the EA either. Therefore, the risk identification, mitigation and management are rated as **Unsatisfactory (U)**.

3.1.5. Country-ownership/Drivenness

The PD states that most of the countries involved have demonstrated their commitment to participate in the project. They have actively participated in the meetings that have been organised when the project was developed as well as during the PIM in Vienna. This can be considered as important because the issue of importance of groundwater for the Nile River was, until recently, quite unrecognized by the countries. However, in spite of that, countries have recognised it and decided to support this project.

The PD itself does not elaborate on the relevance of the Project's objectives to national plans and strategies, or states that the Project Concept has its origin within the national sectoral, development

and/or water management plans. This is partially understandable considering the fact that at the outset of the project's development, groundwater was not considered as important aspect for Nile River Basin management in most of the participating countries and, hence, no relevant policies, strategies and plans were produced.

Country ownership/drivenness is rated as **Satisfactory (S)**.

3.1.6. Stakeholder participation in formulation of the project^[1]_{SEP}

While the PD mentions "stakeholders" fairly often, in the main body of the document there is no section on stakeholders. If such section should exist, it would include an analysis of regional and national stakeholders, as well as define roles they should play in the project. The PD also does not say how the stakeholders have participated in the project formulation. Equally so, there is no mention of stakeholders at all in the PIF as well as in the PIM Report. TE is of the opinion that the failure to develop Stakeholders Involvement Plan is a great shortcoming of the project formulation stage. There is no Communication Strategy of the project, which would help raising the awareness on the importance of groundwater in Nile River Basin management. The PD should have an output, at least, related to the communication strategy.

Stakeholder participation in the project formulation stages was **Moderately Unsatisfactory (MU)**. While the stakeholders were involved in the project preparation phase, the PD failed to elaborate on a number of issues that are important for efficient stakeholders' participation during the project's implementation.

3.1.7. Replication approach

Preparation of the replication strategy is not envisaged in the PD. The PD does not mention "replication" at all, while in its Annex III (PIF), in paragraph 16 it is only mentioned that the project has a high replication potential. This should be materialised if the project manages to demonstrate how groundwater considerations could be mainstreamed into river basin management, but neither PD nor PIF elaborated further on this matter. Considering the importance of this project objective it is not clear why a special activity to produce replication strategy has not been envisaged.

3.1.8. UNDP and IAEA comparative advantage

The United Nations Development Programme (UNDP) is the GEF Implementing Agency for the Project. IAEA is the Executing Agency for the Project.

The comparative advantage of UNDP lies in the fact that its Country Offices in the Nile Basin Region were well positioned to assist the implementation of the project. Unfortunately, these offices were not fully utilised. In spite of that UNDP, in particular through its Regional Office in Bratislava and now Hub in Istanbul, has been an active partner in the project's implementation. It is represented at the PSC. UNDP has been responsible for the preparation of the Project Document, in full coordination and consultation with IAEA and participating countries. The responsible officer for the project in the UNDP Regional Office (now Hub) is the Regional Technical Advisor (RTA) and he has been actively following the implementation of the project consistently. The PD only briefly and in very general manner describes the UNDP role in the project. Also, it doesn't mention the UNDP Regional Office that is responsible for the project, nor the UNDP Office in Egypt which has been involved in the implementation of the project through management of funds and administration. Recently, these functions have been transferred to the UNDP Regional Office in Jordan.

IAEA is providing the project management staff, which is logical considering the fact that the isotope

hydrology is the main technical subject of the project. Being an executing agency of the project, IAEA is managing project on a daily basis and is providing the Project Manager from its own rank. The PD is not very elaborate on the precise role of IAEA or its comparative advantage.

3.1.9. Linkages

The PD mentions a number of water resources management initiatives that were ongoing in the basin at the time of project design. The most important one is the NBI whose Secretariat is a co-operating institution of the project. Additionally, several other initiatives were mentioned, in particular those that IAEA has been cooperating with in the region. However, having mentioned these initiatives, the PD fails to identify concrete linkages that the project should have with them; whether there are any mutual benefits to be gained from cooperation; or whether there are any lessons that could have arisen from them. In spite of the above, the cooperation and linkage with the NBI has been considered as particularly important for the implementation of project's activities because it was envisaged that NBI would ensure integration of project results into its cooperative mechanisms. However, it is not clear whether the partnership arrangements aimed to stimulate efficient implementation of the project were properly identified prior to the project approval, as neither PD nor PIM Report address this issue.

3.1.10. Management arrangements^[11]_(SEP)

The management arrangements as proposed in the PD are logical, relatively simple, and they are following the standard GEF project structure. UNDP is a GEF agency (unlike IAEA) and it is the project's implementing agency. IAEA is the project's executing agency, responsible for day-to-day management activities. The Project Steering Committee (PSC) consisting, among other, of the national project focal points, UNDP, IAEA, NBI and other gives a strategic direction to the Project and ensures that its results are taken up and applied. The National Advisory Committees, made up of relevant national stakeholders, were supposed to ensure relevance and coordination with related national activities. Important role was designated to the NBI Secretariat with the aim of providing coordination with other similar initiatives in the region.

There is no mention of the separate project management unit established for the Project, but the PD mentions that IAEA will designate staff to allocate the project's resources and provide support and assist to regional and national experts. A specific project component (component/outcome 5) was designated for the project management, evaluation and monitoring. But, neither in the PD nor in the PIM Report there is a flowchart that should graphically represent the project management structure.

Neither PD nor Inception Meeting Report provide the Terms of Reference for most important experts and project units. That report, though, has as an annex in the form of the PowerPoint presentation (Annex 10), where the tasks of the PSC are extensively presented. However, the similar presentation for other bodies or project positions are missing.

While, on one hand, it was practical to have the Project Manager stationed in IAEA in Vienna, because that person was the IAEA staff member and supposed to be highly technically competent in the project's most important subject– the isotope hydrology, on the other, this has proven to be impractical for several reasons. First, for a project that was relatively modest in budget and which was supposed to be of less than 4 years' duration, the changes of the project manager were too frequent. One of the major reasons for these changes was the IAEA rule that staff members have to leave after spending 7 years in the agency. That happened twice during the project's implementation. Second, the PM was usually managing several other projects at the same time. That significantly reduced his/her ability to run the project efficiently and to keep up with the deadlines.

Third, the PM was physically too distant from the project's region of operation, which resulted in a number of logistical problems, which were usually associated with less travel than it was required to be abreast with the activities in the project region. Fourth, some interviewees felt that the continuity of project management was not assured and that they had a feeling that the new project manager was not always properly briefed by the previous one. Finally, the communication channels between PM and the national experts in the field were not always timely.

Project administration and arrangement is rated as **Unsatisfactory (U)**.

3.2. Project Implementation ^[1]_[SEP]

Implementation approach includes an analysis of the adaptations to changing conditions during the project's implementation (adaptive management), an analysis of the partnerships forged during the project's implementation, execution of implementation modalities, financial planning, and overall project management.

3.2.1. Adaptive management ^[1]_[SEP]

The PD gave basic elements for the initial work planning. It defined objectives, outcomes and outputs but not the activities that would be carried out to produce project outputs. Although the activities were defined during the Inception Phase of the project, it would have helped the implementation if the activities were defined in the project preparation phase and presented in the PD, including the explanation how the activities would be carried out.

The objectives of the Project Inception Meeting were clearly defined in the PD. The meeting took place in January 2009, almost a year and a half after the PD was approved. The report of that meeting makes a step further towards work planning. The PIM produced workplan for the 3 years of the project's implementation. The workplan contains the list of activities for the first three components of the project, while the activities for the fourth component were not developed. While no explanation was given for this, this could be justified if we consider that the Component 4 of the project was planned to integrate the findings of the first three components, and at the time PIM took place it may have been too early to envisage the full details of all the activities needed for the implementation of that component.

PIM has not changed the original objectives and outcomes of the project. As mentioned earlier, the titles, although not the substance, of some outputs were changed.

PSC met six times during the implementation of the project (Kenya – 2009; Addis Ababa – 2010; Entebbe – 2011; Vienna – 2013; Kenya – 2014; Entebbe – 2015). TE was given only 4 reports of these meetings (2010, 2011, 2013, 2015). PSC meetings in Entebbe (2011) and Vienna (2013) were both named "Third PSC Meetings" in the respective reports. The last PSC meeting in Entebbe (2015) was named as the 5th Meeting, but in reality it was the 6th meeting.

The analysis of the available PSC meetings reports shows that the changes in the structure of the activities were not discussed. It was mainly the changes in the workplan, namely delays in implementation as well as the persistent problem of inadequate spending of the available funds, that were mostly discussed by the PSC members. In addition, they discussed the operational matters as well as the extensions of the project's implementation. First extension (12 months until 31 December 2012 at no cost) was requested at the 3rd PSC meeting in Entebbe in 2011, and the second extension (3 months until 31 March 2014 at no cost) was requested at the 5th PSC meeting in Vienna

in 2013. Although there is no record of it in the PSC meetings' reports, on 13 November 2015 IAEA asked UNDP to grant the third extension until 30 June 2016. The number of extensions (three), as well as doubling of the time initially envisaged for the project's implementation, shows that the project faced some serious management problems, namely that the management of the project did not respond adequately to the changing conditions in the project's implementation. To a certain extent, this problem also points to inadequate project preparation because the risks that this project was confronted with were not properly identified and adequate mitigation measures were not proposed.

The PSC meeting also served as coordination meeting. Although subjects discussed at the coordination meetings very often differ from those discussed at strategic meetings such as PSC, the decision to merge coordination and steering meetings may have been appropriate because, first, it was cost efficient and, second, because only one executing partner (IAEA) was involved in the project's implementation.

Adaptive management of the project is rated as **Moderately Satisfactory (MS)**.

3.2.2. Monitoring, evaluation and reporting

The GEF UNDP Terminal Evaluation Guidance requires that all projects should have "...a sound M&E plan to monitor results and track progress towards achieving project objectives". The PD describes every aspect of M&E procedures at great length. In fact, this aspect of the project is described in much more detail than any other aspect, including project components, outputs and activities.

The project document states that M&E will be conducted in accordance with established UNDP and GEF procedures and will be provided by designated IAEA project management staff with support from UNDP country office (it is not clear which office they refer to) and UNDP/GEF (presumably through UNDP RTA). The M&E Plan was presented in the PD in the form of a table, which is used as a standard in all GEF projects. Total cost of M&E activities was estimated at US\$ 118,800, which would be used to finance three activities: Inception Workshop, Terminal Evaluation and Final Project Meeting. This cost may be considered as acceptable (12% of the GEF grant and 6% of the cash component of the project). The PD mentions reports that should be regularly prepared by the project management to monitor the implementation of the project, namely: Inception Report, Annual Project Report, Project Implementation Review (PIR), Quarterly Progress Reports, Periodic Thematic Reports, Project Terminal Report, Technical Reports, and Project Publications. The PD gives description of each generic type of the report, as well as relatively detailed instructions on how M&E should be carried out, including M&E Work Plan and Budget. It is important to note that PD emphasises that the project will specifically aim at tracing the following two process indicators:

- Identification and adoption of a mechanism (specialist panel, GW specialist network) to sustain the inclusion of GW considerations in NBI processes; and
- Enhanced mainstreaming of GW consideration in national level water resource management.

An independent Mid-Term Evaluation was not envisaged, because this is the Medium Sized Project (MSP). However, considering the complexity and the problems in implementation of the project, a short term consultant was hired in October 2011, to revamp the structure of the project in light of the difficulties it has hitherto faced.

This independent Terminal Evaluation of the project was planned to be undertaken in early 2016, upon completion of the project. However, the project is still going on considering that an extension has been granted until June 2016 and, in this respect, the Terminal Evaluation is timely.

The SRF is insufficiently detailed. It contains indicators to monitor and measure the effectiveness of project implementation along with their corresponding means of verification. These indicators are only partially "Smart" (see above). However, the baseline situation was not determined and no target values were given against which the implementation of the project could be measured. Equally so, no assumptions and risks linked to the implementation of each component and output were defined.

The Project Inception Meeting - PIM (instead of Workshop as mentioned in the PD) took place Vienna (27-29 January 2009), but no Inception Report was prepared neither before nor after the PIM. However, the PIM Report was prepared and it may be considered as a partial substitute for the Inception Report. While this report contains the first annual workplan and budget, however, a more detailed narrative on the institutional roles, responsibilities, actions and feedback mechanisms, as required by the PD, are missing. As mentioned earlier, this report should also contain more elaborate description of the project activities, as well as better description of project's outputs and deliverables. Considering the fact that PD was very scarce on these subjects, the failure to do that during the Inception Phase may be considered as a serious shortcoming.

The TE was informed that PIRs were prepared regularly, and he was given 5 out of six PIRs (2012 PIR is missing). The PIRs follow the standard GEF procedure and format. Analysis of ratings over the period of 6 years shows that, as a rule, the Executing Agency rated the implementation of objectives and progress as satisfactory, while the Implementing Agency (represented by UNDP Country Office in Egypt and UNDP RTA), as a rule, rated its implementation one or two and sometimes even three marks lower.

There has been very little feedback or adaptive measures resulting from M&E activities. This has been particularly evident while analysing the PSC Meetings' Minutes. There is no evidence in PSC meeting's reports that the results, ratings and recommendations of PIRs were discussed. There was very little explicit concern expressed about the delays in the project and slow delivery of the project outputs. No QPRs were handed over to the TE, hence they could not be analysed.

The TE concludes that while the M&E plan, as presented in the PD, can be rated as **Moderately Satisfactory (MS)**, it was not fully implemented and he finds that implementation of M&E can be rated as **Moderately Unsatisfactory (MU)**.

3.2.3. Partnership arrangements

As stated earlier, no Stakeholder Involvement Plan was presented to the TE. It was not clear who was responsible for maintaining contacts with the stakeholders, as this task was not clearly pronounced in the PD, but one can assume that it fell within the project manager's TOR. However, because of the fact that project manager was located in Vienna, i.e. quite far from where most of the stakeholders were located, this task was inadequately performed.

During the interviews with national stakeholders it became obvious that only relatively narrow group of stakeholders, almost exclusively those that have been involved directly in the project's implementation or those that have been members of project management bodies, were well informed about the project.

The primary objective and activities related to awareness raising were under Outcome 4 (the delivery from this component is discussed below in the appropriate section on Project Results). One of the most important baseline premises of the project was that, before the project, most of the water management activities in the Nile River Basin were not including considerations of groundwater. On

the basis of that, incorporation of groundwater information into Nile Basin planning and management was supposed to be one of its most important outcomes. In doing so, establishment of partnership arrangements was very important. No formal partnership agreement was signed. If we take the OECD definition, which states that "...the concept of partnership connotes shared goals, common responsibility for outcomes, distinct accountabilities and reciprocal obligations", then we may say that the project's relation with NBI, which was the most closely related outside partner, does not fall completely under the definition of a partnership. However, NBI has been an active member of the PSC, and its contribution to the project was significant, even if its relations with Egypt, since 2010, were less than ideal.

Partnership arrangements are rated as **Moderately Satisfactory (MS)**.

3.2.4. Stakeholder participation during the implementation stage

As stated earlier, neither Stakeholders' Analysis nor Stakeholders Involvement Plan were prepared during the project formulation phase and project inception phase. Stakeholder involvement in the project implementation has been influenced by the nature of the project and its focus on technical aspects of understanding the role of groundwater in the Nile River Basin water system. True involvement was limited to government entities, research and technical entities operational in the basin, and much less on NGOs that have been active in the region. The information dissemination was mainly limited to partners in the project and not to wider communities. Skills, experiences and knowledge of NGOs was sought to a very limited extent during the design and implementation of the project. This is somehow understandable, considering that prior to the project (1) groundwater was not considered as an important factor in the water system of the Nile River basin; and (2) isotope hydrology was not practiced in most of the countries participating in the project. The Table 2 below summarizes the TE's views on the extent of participation in project implementation by key stakeholders.

Table 2: Summary of stakeholder involvement in project implementation

STAKEHOLDER	RELATIONSHIP WITH THE PROJECT	EXTENT OF INVOLVEMENT
Participating governments	Owner	Participation of nine governments has been relatively active. It was materialized through their respective technical departments, which have been involved in the project's activities. Six countries, which were participating in IAEA programmes prior to this project, have been participating from the beginning, while Burundi, Rwanda and Democratic Republic of Congo joined later. Countries have attended all PSC meetings.
UNDP/GEF	Implementing agency	RTA has been actively involved in the oversight of the project. Participated in most PSC meetings and gave critical comments in the PIR.
UNDP Country Office in Egypt (now in Jordan)	Implementing agency	Active. Involved in administrative and financial aspects of the project.
IAEA	Executing agency	Active in management of the project. Visits to the region were not that many. Communications with national counterparts inadequate at times, and encountering a number of challenges. Sometimes institutional continuity and transfer of institutional memory were not adequate.
NBI	Implementation partner	Active in the implementation of the project. Member of the PSC. Assisted awareness raising through its networks.
NGOs	Implementation	No record of involvement.

	partners	
Communities	Ultimate beneficiaries	No record of involvement.
Technical/research institutions	Partners for data and info	Involved in technical activities of the project.
Other related projects	Complementary partners	No record of involvement.

Involvement of stakeholders in project implementation has been very limited, with no record of communities' and NGOs' involvement. It is rated as **Moderately Unsatisfactory (MU)**.

3.2.5. ^[SEP] Financial Planning

The project's financial planning and management has been carried out according to the UNDP rules. The total amount allocated to the project (GEF grant and co-financing) is US\$ 3,890,800. This amount doesn't comprise the Indirect Support Cost (ISC) of 7%. The GEF grant amounts to US\$ 1,000,000, IAEA co-financing cash contribution is US\$ 1,000,000, while US\$ 1,809,800 of the in-kind co-financing is expected to be provided jointly by IAEA, and the Governments of Egypt, Ethiopia, Kenya, Sudan, Tanzania and Uganda. During the Inception Phase, no changes to the overall budget as well as to the annual budget allocations were made. The Table 3 shows the cash amounts (GEF and IAEA) allocated in the initial budget to each Component/Outcome.

Table 3: Original project financing by Components/Outcomes (in US\$) (from Project Document)

PROJECT COMPONENT/OUTCOME	GEF	IAEA	TOTAL
Outcome 1: Enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin	101,304	544,330	645,634
Outcome 2: Enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection	147,960	455,670	603,630
Outcome 3: Enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin	294,058		294,058
Outcome 4: Enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities	337,878		337,878
Outcome 5: Project components implemented effectively and efficiently accordingly; appropriate implementation of agreed monitoring and evaluation plan and subsequently completed evaluation of project based on project objectives and performance indicators	118,800		118,800
	1,000,000	1,000,000	2,000,000

Total cash allocations (GEF and IAEA) per project year are given in Table 4.

Table 4: Cash allocations per year (in US\$) (from PD)

YEAR	AMOUNT	% OF THE TOTAL
1 (2007)	66,200	3.3
2 (2008)	698,328	34.9

3 (2009)	766,460	38.3
4 (2010)	469,012	23.5
TOTAL	2,000,000	100.0

The PD envisages that 3.3% of the funds will be spent in the first year of the project's implementation, 34.9% in the second, 38.3% in the third, and 23.5% in the fourth year. The annual allocation of the grant funds seems logical, as more than 2/3 of the cash funds were planned to be spent in the second and third year of the project allocation. This was in line with the work plan because sampling and procurement of equipment for that purpose, where large amounts were to be spent, were planned to be implemented in that period.

The analysis of the actual utilisation of funds was made only for the GEF grant, because only those data (CDR) were made available to the TE. It was way behind the planned disbursement schedule. At the end of the fourth year of the project's implementation, i.e. actually when the project should be closing down, only 43.4% of the available funds were spent, while in reality it should be 100%. Even now, at the end of the actual project implementation period, and after 7 years of implementation, only 82.4% of the funds were spent. This may be considered as low for an MSP, which usually does not have large funds to spend. As Table 5 shows, the actual expenditures widely varied between years, sometimes the difference between 2 years being almost 4 times (such as in 2012 and 2013: USD 78,994.44 and USD 318,454.00 respectively). Finally, there are still about 18% of the funds that are not spent, even if the last extension period is soon to expire. The situation with the disbursement of IAEA cash contribution is not known to TE.

Table 5: Expenditure of GEF funds against planned budget (in US\$)

Year	Planned exp. (PD)	% of total plan.	Actual expenditure			% of spent against planned (E/B)
			Year	Amount (CDR)	% of total actually spent	
A	B	C	D	E	F	G
1 (2007)	43,200	4.3	2009	57,661.00	7.0	133.4
2 (2008)	422,928	42.3	2010	176,066.00	21.4	41.6
3 (2009)	342,360	34.2	2011	121,542.00	14.6	35.5
4 (2010)	191,512	19.2	2012	78,994.44	9.6	41.2
			2013	318,454.00	38.7	
			2014	42,460.00	5.2	
			2015	28,512.00	3.5	
TOTAL	1,000,000	100.0		823,789.44	100.0	82.4

The situation with co-financing is completely unclear. Co-financing in the PD is given only as a lump sum per country, without further breakdown. In addition, co-financing from Burundi, Rwanda and Democratic Republic of Congo was not presented. Co-financing should be reported in QPR and in PIR, but it was not

Close inspection of PIRs shows that, as a rule, no co-financing was reported so far (except in 2011 PIR, which was US\$ 544,700 but without justification and breakdown). Then again in 2013, the cumulative sum presented was only US\$ 748.00 (!), which can be just a *lapsus calami*. From the presented evidence, it can be concluded that co-financing reporting in PIR was inadequate. One can only assume that PM has not asked for co-financing reports from the countries and that the co-

financing amounts presented above are totally arbitrarily determined. Based on the above, the TE could not determine whether there were differences in the level of expected and actual co-financing, or how co-financing, in particular co-financing to be provided by countries, actually affected the project outcomes. Only the IAEA co-financing (cash and in-kind) could be assessed as positive, even if no data for actual expenditures were provided. It has to be stated that project management co-financing was fully provided by IAEA as in-kind contribution (US\$ 350,000).

Financial planning and management can be rated as **Moderately Satisfactory (MS)**, Disbursement process as **Moderately Unsatisfactory (MU)**, and co-financing as **Unsatisfactory (U)**.

3.2.6. Execution and implementation modalities

The project was implemented by UNDP and executed by IAEA. The PD does not elaborate on the role of UNDP in the project. It does, however, describe the authority of UNDP Country Office in Egypt, which would, through the Resident Representatives, perform tasks such as minor revisions of the Project Document. In addition, this office has performed backstopping duties, such as administrative and financial management tasks, and it has done that in a satisfactory manner. Recently, these duties have been transferred to the UNDP Office in Jordan. UNDP GEF Regional Office in Istanbul actively participated during the implementation of the project, in particular by identifying risks and proposed mitigation measures. The TE finds that annual reporting made by the RTA was realistic and adequately reflected the state of the project.

The executing partner (IAEA) has a contractual arrangement with UNDP to facilitate, support, administer and execute the project so as to achieve the stated objectives and outputs. As the project Executing Agency, IAEA has the overall responsibility and accountability for the delivery of all the technical, financial, operational and administrative services to achieve the stated outputs and objectives. Through the signed PD, IAEA is also accountable to the six (later nine) Governments for delivery of the services that should lead to the achievement of the Outcomes and Objectives.

Under the guidance and oversight of the PSC, IAEA as the Executing Agency, was responsible for the following functions:

- monitoring project activities, evaluating impacts, and reporting on progress in implementation to the PSC;
- appointing the Project Manager from its staff;
- coordinating the recruitment of project staff and consultants through competitive and transparent recruitment procedures;
- procuring non-expendable equipment and software;
- coordinating independent terminal evaluation of the project, under the oversight of UNDP;
- managing project accounts and reporting to the PSC on disbursements;
- coordinating the preparation of work plans, for approval by the PSC;
- arranging for expenditures in compliance with UN System procedures.

In the PD, the establishment of the project management unit was not envisaged. It only stated that the project will be managed by designated IAEA staff. To this purpose, the PD identified the sum of US\$ 350,000 as an in-kind contribution by IAEA to the project, as the amount for the project management and the technical guidance of the project. As stated earlier, this arrangement has been faced with a number of problems, which affected the implementation of the project. The most critical issue was the selection of the Project Manager. PM has always been an IAEA staff member. While their technical abilities are not questioned here, the fact that they have been required to leave IAEA after seven years in the agency significantly affected the project twice. UNDP wanted the

project manager to be recruited from outside of the agency and according to the standard UN rules, but IAEA refused. Having in mind that the project has changed PM four times, the latter solution would have certainly contributed to the continuity of the project's implementation. During the interviews, there were complaints that the project manager was slow in responding, and that it took long time for the samples to be analysed and to get results. However, it has to be stated that in a several countries, there were no resources to do the analysis, the areas of samplings were remote and it took time to get the samples, and recruitment of local consultants was a lengthy process. The Project Manager traveled, on average, twice a year to the region in addition to attending the regional meetings that were organised in the project region. The TE concludes that, even if specificities of the project are taken in consideration (such as vast geographic area where it was implemented; large number of countries involved; specific technical expertise required to carry out the project's activities, which was non existent in most of the countries in the region; and the relatively modest financial resources the project had at its disposal), that the execution modalities were less than ideal, and that it would have been better if the project manager (project management unit) was residing somewhere in the region and was hired on a permanent basis.

3.3. Results ^[T]_[SEP]

The departure point for an evaluation of results achieved is the Strategic Results Framework (SRF) in the Project Document. SRF is expected to provide the baseline, targets, and indicators of progress along the way. The baseline is a fundamental minimum requirement of GEF M&E Policy.

The project's SRF did not provide baselines and target values for indicators. The project inception report, when prepared, usually confirms or amends the SRF but the PIM Report, as a substitute for the project inception report, did not make amendments to the SDRF nor added the missing parts. It did, however, added the list of activities and, in doing so, changed the titles of some activities, without altering their meaning.

The next guide as to the SRF is the series of PIRs. It is not clear when the first PIR for the project was prepared. The first PIR in the possession of the TE is for 2010. In that PIR there is a column for 2008 and 2009 PIRs, but these reports were not made available to TE. The TE concludes that no PIRs were prepared for those two years and that the first PIR was prepared only in July 2010. It clearly identified the Outcomes and assigned each a cluster of Indicators, including their baseline and target values. These Indicators remained constant right up to the 2015 PIR. However, the PIRs from 2013 adopted a different format, which has been a little bit more difficult to follow than the previous ones.

For the assessment of progress towards the Objective and Outcomes this Terminal Evaluation has used the indicators that were used in PIRs. However, it has to be stated that the indicators shown in PIRs are not consistently carried over from one PIR to the other, or the same indicators were not always present in all the PIRs and, hence, it was very difficult to establish the course or the continuity of specific activities. The titles of the indicators in PIRs also differed somewhat from the titles of same indicators in the SRF. To conclude, the TE finds that it was very difficult to fully utilise PIRs for the evaluation of the achievement of objectives and outcomes of the project.

3.3.1. Attainment of Outcomes/Achievement of objectives ^[T]_[SEP]

The GEF CEO approved the project on 3 July 2007. The PD was signed subsequently by UNDP and other partners (no info was given on the exact date). The PD does not elaborate at length on the structure of the project, but it does present the SRF with objectives, outcomes and outputs. The PIM Report develops activities for the first three components/outcomes of the project and for component 5, while for the component 4 of the project activities were not developed. The

programmatic structure of the project, based on the abovementioned 2 documents, consists of 3 implementation levels, namely:

- Outcomes (5);
- Outputs (24); and
- Activities (70, but without activities developed for 7 outputs in Components 3 and 4).

The structure of the project is too detailed compared to the financial resources available. This makes the management of the project more difficult. One example is the activity 1.1.5: Shipment/Analysis of isotopes and hydrochemistry (see PIM Report) where one of the activities is "Shipping and analysis costs" (1.1.5.1.). This activity certainly does not require special mention, and it is not clear what was the motivation behind emphasising this activity. Furthermore, in no document (at least in those given to the TE) there was a description of the mentioned activity, which would justify its inclusion (description of no other activity was given in PIM Report either). If the objective of this activity was, for example, only to collect and send samples by post/courier and analyse them in the IAEA laboratory, and then calculate the cost of it (this might be inferred from the title of the input 1.1.5.1.), then it was really not necessary to have a special activity to do that.

The Implementing Agency was not satisfied with the progress of the project's implementation. Three years since the GEF CEO approved the project, i.e. in the year when the project was supposed to be closed down according to the original workplan (2011), only US\$ 87,000 was spent (see 2011 PSC meeting report). At the end of 2011, IA hired an outside consultant to review and revise the workplan. The consultant found, *inter alia*, that while the methodological approach was scientifically sound, the "sequential" nature of the activities (i.e. completion of one activity usually preceded the start of the implementation of the following activity) jeopardized planned implementation of the entire project, because the failure or delayed completion of any of the activities endangered timely delivery of the project's expected results. The TE considers the proposed revised logframe (Strategic Results Framework) quite coherent and simpler in its structure, while not at the same time changing the initial objectives and outcomes of the project. It consisted of 4 components, 4 outcomes, 6 outputs and 14 activities, with project management not being considered as a separate component of the project but as a cross-cutting activity. This proposal was less complicated than the original proposal and, hence, simpler to manage. Another important proposal of the consultant was to reduce the abovementioned "sequential" approach to the implementation of the projects activities, and to implement activities in parallel, making the implementation of activities "independent" whenever possible. However, based on the PIRs subsequently produced, the TE concludes that these proposals were not implemented and that the project continued its implementation following the original workplan.

Overall, the level of achievement of the results and the progress in the project's implementation has not been satisfactory. Not all the outputs have been produced on time or at all, in particular those envisaged in component 4 of the project. Some outputs are still in production and their finalisation is expected soon. The project's attainment of objectives has to be analysed taking in consideration the fact that its financing is relatively modest, in particular if compared to the ambitious objectives. The realization of the project experienced great delays. Main reasons for the delays are the following:

- Inadequate project management significantly reduced the efficiency of its implementation. Project manager changed 4 times. He/she was not always fully devoted to this project because as an IAEA staff member, paid from its co-financing contribution, the PM had to perform other duties, sometimes even manage several projects at the same time.
- Inadequate communication channels between project management and national coordinators and experts. During the interviews, it was frequently mentioned that the national inquiries were

left unanswered or that it took too long to get one. Also, communications with many participating countries proved to be a challenge for the PM because the response from several counterparts to the PM's inquiries was not always adequate.

- The project had a late start. It took more than a year to have the Project Inception Meeting.
- The Project Document and the PIM Report have not provided all the necessary explanations, in particular for the project outputs and activities.
- There was a halt in the project's implementation during the entire 2012, because of the coordination issues.
- The project was initially considered to be implemented in 6 countries, i.e. those that have already participated in IAEA activities. Later, 3 more countries were added (Democratic Republic of Congo, Rwanda and Burundi), which had almost no experience in isotope hydrology and GEF funds were not adequate to cover for these additional needs. However, at the end of 2015, i.e. more than 8 years since the project was approved by GEF CEO, there were still almost 18% of the GEF funds unused.

The analysis of the attainment of the outcomes will be focused on the deliverables and, where possible, on the analysis of outcomes and impacts that the project has produced. As the project's work plan has been amended and revised during the Inception Phase, the analysis will be based on the work plan presented in the PIM Report. The evaluation of Component 5 of the project (project management) will not be evaluated in this section because it has been evaluated in previous sections of the report through a number of aspects.

The Table 6 below describes the level of achievement of the overall project goals and its four objectives.

Table 6: Achievement of the project's goal and objectives

GOAL AND OBJECTIVES	INDICATORS	BASELINE LEVEL	END-OF-PROJECT TARGET (AS IN PIR)	STATUS OF DELIVERY	RATING AND TE COMMENTS
---------------------	------------	----------------	-----------------------------------	--------------------	------------------------

<p>Goal: To provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin.</p> <p>Objective A: Improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin</p> <p>Objective B: Enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle</p> <p>Objective C: Improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin as an input to water planning and management</p> <p>Objective D: Facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and ensure a common understanding of groundwater issues and analysis among the riparian countries</p>	<ol style="list-style-type: none"> 1. Identification and adoption of a mechanism (specialist panel, GW specialist network) to sustain the inclusion of GW considerations in NBI processes; 2. Enhanced mainstreaming of GW consideration in national level water resource management 	<p>Groundwater is overlooked in the regional water resource planning</p>	<p>Groundwater resources in the Nile River System are adequately assessed and integrated into water resource planning</p>	<p>Scientific knowledge based successfully completed and is of high quality. Security concerns prevented full completion of analytical work.</p> <p>Mainstreaming done only partially through active involvement of national experts and institutions in the project, but no networking mechanisms were put in place and no significant mainstreaming of Groundwater considerations in national level water resources management,</p>	<p>The TE considers that objectives of the project were partially met. The results present a very solid basis for the mainstreaming of the Groundwater in national water resources management, but that actual mainstreaming through networking, awareness raising and institutionalisation was not done. project is rated as Moderately Unsatisfactory (MU).</p>
--	--	--	---	---	--

The systematic analysis of achievement of outcomes and objectives of each component in tabular form was not possible because PIRs as a main source of information for this analysis, as mentioned earlier, were not prepared in a consistent manner, and because of that it was not possible to follow the progress on a yearly basis. To be more precise, even if the format of PIR has been changed during the course of the project, the table showing achievement of development objectives should always contain columns and rows bearing the same names, in order to allow inter-annual comparisons. Also, in the respective tables in PIRs there was no mention of the outputs, only of the outcomes and indicators. The indicators were not always placed in the same column. Thus, for example, the SRF in the PD for the Outcome 1 mentions the verifiable indicator “Continued investigation by national and regional institutions of groundwater using a combination of conventional and isotope hydrological methods to assess and monitor groundwater-surface water interaction”. In the 2010 and 2011 PIRs this indicator is placed in the column “Description of Indicators”, but in the 2013 and 2015 PIRs it is placed in the column “Target Level at end of project”. Several other verifiable indicators in SRF were also placed in the differently named columns. Because of that, the evaluation of all components/outcomes of the project will be given in textual form. The rating will be given for each component separately.

3.3.1.1. Component/Outcome 1: Assess groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection

According to the PD and the PIM Report, the Component 1 has 10 outputs and 52 activities. During the Inception Phase, the titles of several outputs were changed but with no change of their substance, and activities and inputs for those activities were added. These changes were recorded in PIM Report. The indicators were not changed. However, Baseline Levels and Target Levels at the End of Project, were added in PIRs and carried over consistently to the last PIR produced in 2015.

Efforts in the implementation of this component were focused on assessing groundwater-surface interactions in selected Nile basin lakes and rivers. The activities started from the premise that groundwater in the context of these sub elements of the Nile River Basin system were never studied before and that their role was never considered as important for the maintenance of the entire system. A large programme of water sampling was undertaken. More than 1000 samples were collected, and 875 samples were analysed in IAEA laboratory in Vienna. This undertaking was confronted with a number of problems, financial and logistical, such as delays in transporting samples from the field to the laboratory in Vienna or lack of financing for sampling and analysis in 3 countries that joined the project at a later stage. The isotope and conventional hydrogeological data for the region were analysed and national reports upgraded. The data were used to develop water balance models for several basins. Nine national, one Nile Sub-Basin groundwater report and one Summary Report were prepared. The last one presented conclusions and recommendations.

The quality of analytical work as well as of reports, particularly the work on modeling water flows confirmed by isotope hydrology application, is of a high quality. The results have proven that groundwater is an integral part of the surface water flows and that it has an important influence on the use of Nile water. However, the completion of the work in this component was delayed by 3 years. The reports were finalized only in early 2015. Some of this delay may be attributed to the security issues, in particular in South Sudan and Burundi, and to the fact that 3 countries (Democratic Republic of Congo, Burundi and Rwanda) joined the project later and were slower in preparing their reports. Several training courses on data interpretation and modelling were carried out. The interviewees particularly stressed the good results achieved at working sessions/technical workshops to compile, analyse and interpret the isotope and conventional hydrogeological data. They also stressed the positive impacts of capacity building, networking and training people in lab techniques.

Progress made towards achieving the objectives of the project through implementation of activities in Component 1 of the project has been of a good technical quality but implemented with a great delay. It is rated as **Moderately Satisfactory (MS)**.

3.3.1.2. Component/Outcome 2: Investigate the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection

According to the PD and PIM Report, the Component 2 has 3 outputs and 11 activities (activities for output 2.3. were not defined during the Inception Phase). The PIM Report states that the activities within this output are merged with output 1.10. (without further explanation).

Focus of this component was to establish the role of groundwater in sustaining wetlands in the Nile Basin and the quantification of the role wetlands play in regional atmospheric cycle. Two major wetlands areas were to be analysed: wetlands adjacent to selected rivers and larger lakes (output

2.1) and Sudd Swamps (outputs 2.2. and 2.3). While all the activities for output 2.1. were carried out, due to security concerns the outputs 2.2. and 2.3. could not be carried out. The Nile Sub Basin Groundwater Report has a section on Sudd Swamp, but it is based on the existing sources and not on the results of activities that were supposed to be carried out in this component.

The results of the study on Equatorial Lakes region show that swamps in that region are fed by groundwater. The Summary Report on the Nile River Basin states that wetland areas are an important component of the local/regional atmospheric water cycle and that management measures will have to be taken to determine equitable and appropriate water allocation. The report for output 2.1. is of good quality, while the same could not be stated for the report on Sudd Swamps because no analysis was done, because the security situation ("armed conflict") precluded any UN supported activities in the Sudd area for the duration of the project, which is the main reason why no analyses could be done. However, the Executing Agency is of the opinion that although there is no substantive report yet there is a good basis to start sampling at a later stage.

The capacity building activities were carried out within this component. According to PIRs, a 2-week training was organised in 2012 in hydrological water balance modeling. However, at some point there was a problem in francophone participating countries with the training expert who didn't know French, while the translation was not provided (even if it was provided, translation for training courses is highly unusual). This kind of situation should have been avoided at any cost.

Progress made towards achieving project's objectives within this component was only partial, because two out of three outputs were not completed. It is rated as **Unsatisfactory (U)**.

3.3.1.3. Component/Outcome 3: Synthesize data and information with water balance models for sub-basins, basins and the larger Nile basin

According to the PD and PIM Report, the Component 3 has 4 outputs. During the Inception Phase, and as reported in PIM Report, 4 activities (for output 3.1.) were defined only. No explanation was given in PIM Report why activities were not detailed for other outputs of this component.

The focus of this component is the integration of sub basins' water balance models into a more complex Nile River Basin model. The completed model was supposed to be integrated into a Decision Support System of NBI to be used for basin-wide water resources planning and management. Within this component, comprehensive training activities were planned with a view to enhancing the regional capacities for water resources planning and management.

The modeling work was completed, even if Sudd Swamp analysis, using the results of isotope analysis, was not completed (because of security concerns). Lack of the model based on analytical results was substituted by using alternative sources of information to build the model. The model results in two sub-basins were validated. The Synthesis report as well as 2015 PIR state that the model "...is intended to be integrated into the Nile Decision Support System hosted at the Nile Basin Initiative." However, the SRF in the Project Document states that one of Verifiable Indicators will be "Integration of assessment results in the DSS and water models of the NBI". Therefore, the difference in emphasis from "will be" to "intended to" is notable. To justify this it should be noted that the IAEA staff reported that the DSS software used by the NBI is inflexible and that the groundwater component could not be easily added. This was despite an NBI person spending 2 weeks in Vienna to work on this with IAEA staff.

The training activities within this component have been completed and, according to PIRs, one regional training workshop on water balance and several training courses were organised resulted

in about 100 national experts being trained.

The progress towards achieving project results within this component was largely but not fully made, if we consider that integration in NBI's DSS is something yet to be done, and not already done as envisaged by the PD. It is rated as **Moderately Satisfactory (MS)**.

3.3.1.4. Component/Outcome 4: Support the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework

According to the PD and PIM Report, the Component 4 has 4 outputs. During the Inception Phase, and as reported in PIM Report, no activities were defined. No explanation for this was given in the PIM Report.

This component may be considered as the "mainstreaming" component of the project. While the first three components were focused on creating the scientific knowledge base of an issue that was not previously considered in Nile Basin water planning and management, in this component the knowledge gained was supposed to be carried over to decision-makers, planners and users of water in the basin, with a view of increasing their awareness on the importance of groundwater in the Nile Basin water system. In doing so, the current structures, such as NBI, were considered as instrumental for achieving this objective. However, overall, the IAEA found that the envisaged role of the NBI in mainstreaming groundwater into their planning, despite the intensive assistance provided by the IAEA, was not adequate. For any future follow up project, this lack of performance by the NBI will need to be addressed.

Analysis of PIRs show that, apart from output 4.1. (national groundwater reports and regional groundwater report) very little was done. Speaking of output of 4.1. the groundwork was done within the previous three components and reporting in this context can be considered as little more than just editing work. These reports are now produced in their final form and, as stated earlier, they are of a good quality. The remaining outputs were not completed and there is no information on: (1) how groundwater considerations are reflected in on-going and planned projects; (2) recommendations for follow-up activities; (3) sub-regional training/awareness workshops; (4) Regional Nile Groundwater Network; etc. The TE concludes that these activities were not carried out. The statement in 2015 PIR that as of June 30 2015 there is "...active involvement of counterparts from all countries in all the aspects of the project including capacity building" is not correct in the context of this component, because this statement does not respond to the objectives and requirements set for this project component and, thus, cannot be taken as a proof that "mainstreaming", as initially envisaged, was actually realised.

The progress towards achieving project results within this component was largely insufficient. It is rated as **Highly Unsatisfactory (HU)**.

3.3.2. Relevance of the project's outcomes

Relevance may be defined as a measure of the extent to which the objectives and outcomes of a project are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies. In other words, relevance is evaluated taking in consideration whether the project does address the identified threats and their root causes.

The project addresses the root causes as identified in the PIF and confirmed with the project objectives and expected outcomes. The PIF establishes that groundwater is critical in sustaining

surface water flows and wetland water levels of the Nile River Basin. The project has proven that the linkage groundwater-surface water in the Basin exists and that it is critical for the maintenance of the Nile River basin water system. Equally so, the isotopic analysis and associated water balance models have proven to be useful tools, which have filled the gap caused by the lack of scientific knowledge on groundwater in the Nile River Basin.

The project is rated as **Relevant (R)**.

3.3.3. Effectiveness and efficiency

The cost-effectiveness is usually defined as the achievement of the project's objectives, outcomes and outputs in relation to the inputs such as cost and implementation time. The cost - effectiveness of this project has been enhanced by its building on existing knowledge, experience and expertise in respective technical subjects in IAEA, in particular in isotope hydrology, even if knowledge on the isotope hydrology and the role of groundwater in the beneficiary countries was minimal or non-existent. To a certain extent, the project has also built on and benefitted from the knowledge compiled and experience gained through several other related projects that are part of the Nile Basin Initiative (for example, GEF/WB/UNDP Nile Transboundary Environmental Action Project, Nile Water Resources Planning and Management Project).

At the administrative and governance level the project achieved savings by being embedded within IAEA, which provided technical, logistical and office support. However, the fact that PM simultaneously managed other projects, and that the project managers were changed 4 times during the implementation of the project has seriously undermined its effectiveness.

The project period was extended by more than 3 years, albeit on the basis of "no-cost" extension, which was approved by the PSC. The accumulated delays causing the extension reflected the slow starting of the project, delays in the Inception Phase, virtual halt of project's implementation for a year (2012), etc.

Inadequate financial and project planning also contributed to reduced efficiency of the project because, due to the lack of funds, activities in 3 countries could not be fully implemented. The lack of continuity in project's implementation has certainly contributed to demonstration impact of the project being less effective than expected. The co-financing committed to the project was three times the size as GEF grant. No leveraged contributions were reported. The actual co-financing realised was impossible to assess, because no financial audits were performed. Also, reporting on co-financing was largely inadequate. By the date of the Terminal Evaluation, which is close to the date when the project has to be formally closed), almost 18% of the funds were still to be disbursed.

Overall effectiveness of the project is shown in Table 7. The "End of Project Situation" column is a synthesis of the project's aims and targets as stipulated by the PD, while "Terminal Evaluator's Comments" column presents his conclusions on the extent to which these targets have been met.

Table 7: Achievement of "End of Project " situation

END OF PROJECT SITUATION	TERMINAL EVALUATOR'S COMMENTS
--------------------------	-------------------------------

Outcome 1: Enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin	Scientific knowledge on the Nile River Basin has increased, national capacities enhanced. Groundwater-surface water linkages clearly understood. Component implemented with great delay.
Outcome 2: Enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection	While the importance of groundwater for wetlands was clearly established, specific studies were partially realized, because the Sudd Swamp could not be analysed as planned due to security concerns. Training was carried out and capacities enhanced.
Outcome 3: Enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin	Modeling work was completed; sub-basins' and regional basin water balance models completed. Insufficient evidence that these models were integrated in the NBI DSS.
Outcome 4: Enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities	Awareness on the importance of groundwater raised among participants in the project and decision-makers. No evidence that groundwater considerations were mainstreamed into Nile River Basin planning and management.

Project can be rated as cost-effective in terms of impacts made compared the resources utilized, in particular the GEF Grant. However, its efficiency was greatly reduced because of significant delays in its implementation (the planned time almost doubled) and significant amount of yet unspent funds. The project's cost-effectiveness is rated as **Moderately Unsatisfactory (MU)**-

3.3.4. Mainstreaming

Project is of a strategic nature and is not directly addressing the local population's needs in participating countries. However, considering the fact that it is dealing with the most critical natural resource in most of the participating countries, in particular the downstream countries, and that it has significantly contributed to better understanding of the role of groundwater in the Nile River Basin Water System it may be concluded that a number of UNDP priorities such as poverty alleviation, improved governance, women's empowerment etc., were indirectly mainstreamed into the project's outcomes.

One of the most important objectives of the project was to mainstream the groundwater consideration into integrated management of Nile River basin. At the level of improved knowledge this objective has been achieved. However, no evidence was found that project results contributed to better water management in participating countries. The project's mainstreaming is rated as

Moderately Satisfactory (MS).

3.3.5. Sustainability

The ToRs for this TE define Sustainability as “...the extent to which benefits continue, within or outside the project domain, from a particular project or program after GEF assistance/external assistance has come to an end”. None of the basic project documents (PIF, PD, PIM Report) has even a limited discussion on sustainability and how it should be secured through project results. However, some elements that could strengthen the project’s sustainability could be inferred indirectly, such as: (1) project was designed in relatively close consultation with key stakeholders; (2) it had the support of the participating governments and other key stakeholders; (3) it is linked with major regional initiative - NBI; (4) project results were supposed to be mainstreamed into water planning and management; and (5) emphasis on developing institutional and individual capacity.

The elements of project's sustainability strengthening that were planned to be in place at the end of the project's implementation were only partially realised. However, the point 4 (Component/Outcome 4 of the project), which was considered to be one of the cornerstones of the project, was not satisfactorily realised. This has significantly reduced the chances for project's long-term sustainability. Also, no sustainability or replication strategies were envisaged.

Comprehensively addressing the issue of groundwater in the Nile River Basin is a major undertaking requiring substantial engagement of all stakeholders, in particular the decision-makers, and awareness programmes, and in this context the role of the project was intended to be catalytic. The outcomes and eventual impact of the project are highly dependent on continued financial investment, and the implementation of project's proposals acknowledges the need to mobilise resources at national, regional and international levels. All the participating countries belong to low-income countries, and their co-financing to the project so far was exclusively in-kind. Their reduced ability to contribute resources to the implementation of the project results in the future, in order to further develop the scientific knowledge on groundwater, may pose the main risk to financial sustainability of the project, particularly if the groundwater information will not be incorporated into Nile Basin planning and management. The financial sustainability of the project is rated as **Moderately Likely**.

Project implementation was affected by socio-political change in some countries and by serious security concerns. This type of change or uncertainty may continue to disrupt the work of agencies or organisations involved in water management in affected countries but also in the entire region and consequently delay onward progress. ^[1]_{SEP} The socio-political sustainability is rated as **Moderately Likely**.

The establishment of institutional framework and governance mechanisms was not the main focus of the project and its implementation relied on the current national structure or the regional structure such as NBI. Therefore, no new institutional mechanisms were planned to be established. Stakeholders' participation at national level was confined mainly to the operation of the PSC while the communication with local communities was not developed. The focus of the project was to strengthen the existing national capacities as well as NBI to mainstream groundwater information into water planning and management. This sustainability aspect has to be greatly improved, and it is currently rated as **Moderately Unlikely**.

The project itself set out to address the issue of groundwater that in itself does not represent a threat to the environmental resources of the affected countries, although the reduced availability caused by inappropriate management could pose an environmental risk. The project has managed to

address this issue but has not done enough to transform its findings into a viable management tool. This sustainability dimension is rated as **Moderately Likely**.

Overall, the sustainability of the project is rated as **Moderately Likely**. This means that moderate risks to the sustainability of the project's results exist.

3.3.6. Impact

Impacts are the long-term effects resulting from a project. For comparison, outputs are the immediate products of the project's activities, while outcomes are the short to medium term effects of the project's outputs and are expected to outlive the project. The SRF clearly depicts the strategy of project development towards impacts. The Outcomes 1 and 2 are of the foundational nature as they are aiming at creating a scientific knowledge base on the linkage of groundwater and surface water by using tools of isotope hydrology, something that has not been practiced in most of the participating countries prior to the project. The outcome was planned to be increased understanding on the role and importance of groundwater in Nile River Basin. Both outcomes were supposed to create basis for long-term activities in water planning and management. However, although their direct impacts are to be felt at national and regional levels, they are not quantitatively measurable. The impacts of Outcome 3, which aims at synthesizing the information gathered in Outcomes 1 and 2 to produce water balance models on Nile River sub-basins, also cannot be quantitatively measured. Evaluation of impacts also was not made easier because of the lack of baseline and target values for the project's indicators. Finally, the Outcome 4 should have long term impacts, again cannot be quantifiably defined, because it was supposed to be a demonstration of the actual implementation of results achieved in the first three outcomes.

The Outcomes 1, 2 and 3, as described earlier, have been implemented only partially. The planned activities have to be fully completed to result in impacts that could have been assessed during this evaluation, taking in consideration the Objectively Verifiable Indicators that were defined in the SRF. The Outcome 4 has been implemented only minimally.

Taking in consideration the level of fulfillment of project outcomes and outputs, the Impact of the project is rated as **Substantive**.

4. Conclusions and rating

The project “Mainstreaming Groundwater Considerations into the Integrated Management of the Nile River Basin” was approved in July 2007. Activities started in early 2009 with the Inception Phase and the establishment of the PMU at IAEA. The duration of the project was planned for 42 months (according to PIF). According to the workplan presented in the PIM Report, the project was to be implemented from March 2009 to December 2011. In fact, in early 2016 the project is still not finished yet, even if several no-cost extensions have been approved. This Terminal Evaluation started in January 2016 and will be completed in late April 2016.

The overall rating for this project based on the evaluation findings is **Moderately Unsatisfactory**. The ratings in Table 8 reflect consideration of the full set of issues affecting or characterising project performance and impact that are discussed in previous chapters of the report. Summary comments highlight aspects of the evaluation that best illustrate the rationale for the rating given.

Table 8: Project ratings

CRITERION	SUMMARY COMMENTS	RATING
PROJECT FORMULATION		
Project concept and design	The concept is logical but not so well structured because of the large number of outputs and activities. In addition, the Project Document itself does not elaborate enough on the contents of the project and does not define its activities.	Moderately Satisfactory
Stakeholder participation in formulation of the project	While the stakeholders were involved in the project preparation phase, the PD failed to elaborate on a number of issues that are important for efficient stakeholders' participation during the project's implementation. No Stakeholder Analysis and Stakeholder Involvement Plan prepared.	Moderately Unsatisfactory
Country ownership	Most of the countries involved have demonstrated their commitment to participate in the project. The PD itself does not elaborate on the relevance of the project's objectives to national plans and strategies.	Satisfactory
PROJECT IMPLEMENTATION		
Project governance	The role of Project Steering Committee is clear. It has not been meeting as regularly or as often as the course of the project's implementation required.	Moderately Satisfactory
Project administration and management	While, on one hand, it was practical to have the Project Manager stationed in IAEA in Vienna, on the other, this has proven to be impractical for managing the project so distant from the PMU.	Unsatisfactory

	PM changed 4 times. The proposed changes to streamline the project management were not implemented. Countries have shown dissatisfaction with the management performance.	
Implementation approach		
Use of the LogFrame and adaptive management	SRF presents the logic of the project, but was not developed enough. No baseline and target values defined for indicators. PIRs not fully following the structure of SRF.	Moderately Satisfactory
Partnerships	Good partnership arrangement realized with the Nile Basin Initiative.	Moderately Satisfactory
Stakeholder participation in implementation	Involvement of stakeholders in project implementation has been very limited, with no record of communities' and NGOs' involvement.	Moderately Unsatisfactory
Risk management	Risk management was not addressed properly in the PD and, it seems, that it was not addressed actively by the PMU or the EA either.	Unsatisfactory
Project finance		
Financial planning and management	Financial planning adequate and allocation among components balanced.	Moderately Satisfactory
Disbursement process	Disbursement very slow, and by the end of 2015 almost 18% of funds still not disbursed.	Moderately Unsatisfactory
Co-financing	From the patchy and inconsistent information available, co-funding appears to be ineffectively solicited and inadequately reported.	Unsatisfactory
Monitoring and Evaluation		
M&E design, plan and budget	Project uses standard GEF monitoring procedures and is well developed.	Satisfactory
Project monitoring	PIR was used effectively by UNDP for monitoring the project's progress. Reporting between PD and PIRs inconsistent. Discrepancy in ratings between PM and RTA. Very little feedback on M&E activities.	Moderately Unsatisfactory
PROJECT RESULTS		
Objective: The development objective of the project is to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an	Objectives of the project were partially met. The results present a very solid basis for the mainstreaming of the Groundwater in national water resources management, but actual mainstreaming through networking, awareness raising and institutionalisation was not fully realised.	Moderately Unsatisfactory

essential component of sustainable development of the Nile Basin		
Outcome 1: Enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin	The quality of analytical work as well as of reports, particularly the work on modeling water flows confirmed by isotope hydrology application, is of a high quality. The completion of the work in this component was delayed by 3 years.	Moderately Satisfactory
Outcome 2: Enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection	The report for output 2.1. is of good quality, while the same could not be stated for the report on Sudd Swamp because no analysis was done. However, the Executing Agency is of the opinion that although there is no substantive report there is a good basis to start sampling in Sudd Swamp at a later stage.	Unsatisfactory
Outcome 3: Enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin	The modeling work was completed, even if Sudd Swamp analysis on the basis of isotope hydrology was not completed because of security concerns. From the reports it is not clear whether integration of assessment results in the DSS and water models of the NBI has been done. The TE concludes that this activity of the project has not been completed.	Moderately Satisfactory
Outcome 4: Enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities	Analysis of PIRs show that, apart from output 4.1. (national groundwater reports and regional groundwater report) very little was done.	Highly Unsatisfactory
Relevance, Effectiveness and Sustainability		
Relevance	The project addresses the root causes as identified in the PIF and confirmed with the project objectives and expected outcomes.	Relevant
Effectiveness	Project can be rated as cost-effective in terms of impacts made compared the resources utilized, in particular the GEF Grant. However, its efficiency was greatly reduced because of significant delays in its implementation (the planned time almost doubled) and	Moderately Unsatisfactory

	significant amount of yet unspent funds.	
Financial sustainability	The outcomes and future impact of the project are highly dependent on continued financial investment and the implementation of project proposals acknowledges the need to mobilise resources at national, regional and international levels.	Moderately Likely
Socio-political sustainability	Project implementation was affected by political change in some countries and by serious security concerns. This type of change or uncertainty may continue to disrupt the work of agencies or organisations involved in water management in affected countries but also in the entire region and consequently delay onward progress.	Moderately Likely
Institutional framework and governance	No new institutional mechanisms were planned to be established. Stakeholders' participation at national level was confined mainly to the operation of the PSC while the communication with local communities was not developed. The focus of the project was to strengthen the existing national capacities as well as NBI to mainstream groundwater information into water planning and management.	Moderately Unlikely
Environmental sustainability	The project itself set out to address the issue of groundwater that in itself does not represent a threat to the environmental resources of the affected countries, although the reduced availability caused by inappropriate management could pose an environmental risk.	Moderately Likely
Mainstreaming	One of the most important objectives of the project was to mainstream the groundwater consideration into integrated management of Nile River basin. At the level of improved knowledge this objective has been achieved. However, no evidence was found that project results contributed to better water management in participating countries.	Moderately Satisfactory
Impact	The rating is given because project succeeded in making groundwater an	Substantive

	issue that decision makers are paying attention to, which could have a longer term impact if project results will be mainstreamed in the water planning and management.	
OVERALL PROJECT RATING	Project Design was generally appropriate and relevant to the needs of the participating counties as well as being a good fit within GEF's Operational Strategy. Administrative and managerial process was not very efficient. Planned project outcomes were not fully achieved. Project still has the potential to create solid basis for integration of groundwater considerations into water planning and management in Nile River Basin.	Moderately Unsatisfactory

5. Recommendations and lessons learned ^[1]_[SEP]

5.1. Recommendations ^[1]_[SEP]

The project is closing in June 2016. In addition to laying the foundation for future work in mainstreaming the groundwater considerations in Nile River Basin water planning and management, the project has also left some unfinished activities that need to be carried out in the remaining period until its closure. The recommendations are divided in two groups:

- Recommendations on transition phase and sustainability at national level and regional level; and
- Recommendations on designing future projects of a related nature.

Recommendations on transition phase and sustainability at national level and regional level are aimed at activities that follow until the closure of the project and immediately after that. They are of a relatively short nature and should be financed either by the unspent funds or through co-financing.

Recommendation 1: *UNDP should close the project operationally as planned in June 2016 and no new contracts will be signed, while the existing contracts will be honoured within the limits of their stipulations. UNDP should also initiate the financial closure of the project in collaboration with IAEA, for the purpose of GEF funds.*

Recommendation 2: *Establish procedures to complete the ongoing activities. The project management should also prepare briefs on lessons learned from the project, summaries of the project results, achievements and good practices, and on impacts of mainstreaming groundwater considerations in Nile River Basin water planning and management resulting from this project.*

Recommendations on designing future projects of a related nature are aimed at UNDP as well as IAEA and other executing partners and countries in the Nile River Basin that will be in a position to prepare new projects, either as a follow up to this project or complementary ones.

Recommendation 3: *It is recommended that the follow-on project be implemented by UNDP and executed by a partners who have extensive experience in project implementation and management. IAEA role should remain strongly focused on technical aspects of the new project.*

Recommendation 4: *It is recommended that the purpose and scope of the Follow-up project will be to do, among other, the following: filling the knowledge gap; conjunctive use of water resources assessment of the best combination of using the river flow and groundwater; supply and demand of water; water deficits; impacts of climate change; etc. Project should also consider providing necessary equipment and relevant training to countries in most need of it, continue with groundwater monitoring.*

Recommendation 5: *Strong consideration should be given to the possibility that the Project Management Unit be located in the Nile River Basin region, either with an existing regional organisation or as a separate unit. It is also recommended that a Project Manager be engaged by UNDP or, eventually, by the Executing Agency that will manage the Follow-up Project in close collaboration with the NBI Secretariat and with each of the National Coordinators in participating countries. Project Manager should be engaged full time and be better accountable to the*

implementing agency of the project.

Recommendation 6: *In designing Follow – up project, adequate time should be allowed in the Inception Phase for the establishment of project implementation arrangements and undertaking all necessary initiation and preparatory activities. Outputs and activities have to be defined more precisely and clearly described. Project proposals should have better financial planning in terms of better matching financial resources to activities, and better identification of risks and mitigation measures.*

Recommendation 7: *The GEF secretariat should consider supporting a follow-on project, which would be focused on mainstreaming groundwater considerations at the national level.*

5.2. Lessons learned

This evaluation has highlighted a number of good practices as well as problems encountered that provide potentially useful lessons for future projects implemented in the Nile River basin but also in other regions facing similar problems. The following paragraphs describe several examples of good and bad practices experienced in the project.

Building the knowledge base: The project succeeded in expanding the regional knowledge base on groundwater and in proving the case for its consideration in the Nile River Basin water planning and management. The reports prepared are of a good quality and can be used as the basis for future project planning. The project activities have involved large group of national experts, resulting in enhancing their capacity to manage groundwater resources as well as water resources in general.

Better project management: The project is an example of inadequate project management practice. It is essential that any future project have a full-time permanent project manager that will be fully committed to the project's implementation. The project manager has to be a person with good technical and communications skills. The Project Management Unit should be located closer to the region where project activities are taking place in order to facilitate communication between the project's stakeholders.

Better monitoring and adaptive management: The project has experienced extensive delays in the implementation of activities. In addition to better identification of risks, which should contain mitigation measures, better monitoring of the project's implementation should warn of possible risks, while the adaptive mechanism should allow for the immediate action.

Annexes

Annex 1: Evaluation TORs ^[L]_[SEP]

Terminal Evaluation of the UNDP/GEF Medium Sized Project: Mainstreaming Groundwater Considerations into the Integrated Management of the Nile River Basin (IAEA/UNDP/GEF) PIMS 3765

Introduction

In accordance with UNDP/GEF M&E policies and procedures, all regular and medium-sized projects supported by the GEF should undergo a final evaluation upon completion of implementation.

The Final Evaluation is intended to assess the relevance, performance and success of the project. It looks at signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global and national environmental goals. The Final Evaluation also identifies/documents lessons learned and makes recommendations that project partners and stakeholders might use to improve the design and implementation of other related projects and programs.

The evaluation is to be undertaken in accordance with the “GEF Monitoring and Evaluation Policy” (see http://www.thegef.org/gef/sites/thegef.org/files/documents/Policies_and_Guidelines-M_and_E_Policy-english.pdf).

This Final Evaluation aims to provide managers with a comprehensive overall assessment of the project and with a strategy for replicating the results. It also provides the basis for learning and accountability for managers and stakeholders.

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives: i) to monitor and evaluate results and impacts; ii) to provide a basis for decision making on necessary amendments and improvements; iii) to promote accountability for resource use; and iii) to document, provide feedback on, and disseminate lessons learned. A mix of tools is used to ensure effective project M&E. These might be applied continuously throughout the lifetime of the project – e.g. periodic monitoring of indicators -, or as specific time-bound exercises such as mid-term reviews, audit reports and independent evaluations.

Project Background

The role that groundwater plays in surface water systems (rivers, wetlands, lakes) has not been adequately considered in most transboundary river basin management initiatives, including the Nile basin, supported by the GEF and other donors. Groundwater supports perennial water supply to many wetlands and stream base flow, which is critical for providing refuge for fauna and maintaining biodiversity. In addition, large wetland areas, such as the Sudd swamp in Sudan, are an important component in the local/regional atmospheric water cycle. In the context of the Nile, the Sudd swamps presently considered to be fed by river water and therefore a source of large evaporative water losses. However, recent studies indicate that swamps in the Nile basin may in fact be fed by groundwater. Evaporation from the swamps may, therefore, play a less important role in the water budget of the rivers and lakes. Yet, evaporation from larger swamps such as the Sudd may be a significant source of moisture for regional precipitation such as in the Ethiopian Highlands. Substantial changes in wetland surface area may also impact the atmospheric water cycle and precipitation regime as a result of changes in soil wetness and land- atmosphere interactions. Thus,

information about the role of groundwater, in particular its contribution to water balances in lakes, rivers, and wetlands is crucial for determining equitable and appropriate water allocations and water resource management strategies.

The objective of this project was to begin to fill in this gap by enhancing national and regional capacity to add a “groundwater dimension” to joint management of the Nile basin. It has complemented two on-going projects that are part of the Nile Basin Initiative (GEF/WB/UNDP Nile Transboundary Environmental Action Project and the Nile Water Resources Planning and Management Project) and one on-going GEF water management project for Lake Victoria, that presently lack a groundwater dimension. A second but equally important objective was to define an approach to groundwater planning and management that can be instituted in the Nile and could also be replicated in other international river and lake basins. This would fulfill GEF targeted learning objectives for transfer to other GEF funded International Waters projects.

The long-term goal of the project was to provide the scientific basis and necessary institutional and policy support for incorporating a groundwater dimension into planning and management of the Nile basin ecosystem as an essential component of sustainable development of the Nile Basin. In support of the development objective there were four immediate objectives:

- a) improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin;
- b) enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle;
- c) improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin as an input to water planning and management;
- d) facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries.

A key element of this project was the building of national capacities to conduct groundwater assessments, assess new information and to incorporate it into current water management frameworks. Coordination meetings in the respective components in most cases included a training component (supported by IAEA co-funding.) National teams will thereafter be working to apply new learning in actual activities (sampling, data collection and analysis, networking, building policy linkages etc.) representing in part, a hands on learning by doing approach.

Proposed funding of the UNDP/GEF /IAEA MSP included:

GEF Grant	USD 1,000,000
IAEA	USD 1,350,000 (through TCF)
Governments (in-kind)	USD 1,540,800
TOTAL	USD 3,890,800

Project Objectives and Components

The objectives of the project were to:

1. Assess groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection;

2. Investigate the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection;
3. Synthesize data and information with water balance models for sub-basins, basins and the larger Nile basin;
4. Support the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework;

PROJECT COMPONENTS

Efforts to achieve the four objectives under this MSP I involved the implementation of activities through five components as follows:

Component 1: Assess groundwater-surface water interactions in selected Nile basin lakes and rivers and their implications for Nile Basin management and ecosystem protection.

This component essentially tried to achieve Objective 1, which is to a) improve the assessment of groundwater-surface water interactions towards strengthening protection of key ecosystem resources as well as the gains from and losses to groundwater on rivers and lakes in the Nile basin.

The outcome of this component will be Enhanced capacity in national and regional institutions to understand extent and impact of groundwater on selected rivers systems comprising the Nile basin.

Component 2: Investigate the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle and their implications for Nile Basin management and ecosystem protection.

This component was designed to achieve objective 2, enhance the characterization of the role of groundwater in wetlands and of the Sudd Swamps in the regional water cycle.

The outcome of this component will be an Enhanced capacity in national and regional institutions to assess the contribution of groundwater in sustaining wetlands in selected areas of the Nile basin, particularly where groundwater is important for ecosystem protection.

Component 3: Synthesize data and information with water balance models for sub-basins, basins and the larger Nile basin.

This component worked to achieve objective 3, improve the use of water balance models in estimating basin-wide annual and monthly water balances in the Nile basin as an input to water planning and management.

The outcome of this component will be an Enhanced capacity in national and regional institutions to use water balance models that incorporate physical, chemical and isotope data to estimate annual and monthly water balance information that is essential for sustained management of wetlands and lakes in the Nile basin.

Component 4: Support the incorporation of groundwater information into Nile basin planning and management including integration into Nile basin cooperation and institutional framework.

This component will work to achieve objective 4 which is to Facilitate the inclusion of groundwater considerations into integrated Nile basin water resources planning and management activities and to ensure a common understanding of groundwater issues and analysis among the riparian countries.

The outcome of this component will be Enhanced capacity on the part of national and regional institutions to integrate groundwater considerations into Nile basin planning and management activities.

Component 5: Project monitoring and evaluation

This component would address management issues necessary to support project implementation and hence would support the other components above as well as the four main objectives. The purpose of this component is to manage project implementation efficiently and effectively. The project management arrangements include the Project Steering Committee (PSC) with participation of the national focal institutions and the cooperating international agencies such as IAEA. The project monitoring and evaluation component has been designed based on concepts of adaptive management; it actually serves as both project management and project monitoring and evaluation to secure the linkages between the two processes and ensure that the findings of internal monitoring activities are taken up in the implementation approach of the project.

This project is unique because (i) the executing agency – IAEA – will provide the necessary managerial input and coordination to ensure project activities are implemented smoothly and project development objectives are delivered and (ii) building on the scientific outcomes of components 1, 2 and 3, it will integrate their findings into the policy and decision making processes of an on-going program – the Nile Basin Initiative (NBI)

The outcome of this component will be Project components implemented effectively and efficiently accordingly; appropriate implementation of agreed monitoring and evaluation plan and subsequently completed evaluation of project based on project objectives and performance indicators.

Terminal Evaluation Objectives

The evaluation should assess:

Project concept and design The evaluators will assess the project concept and design. He/she should review the problem addressed by the project and the project strategy, encompassing an assessment of the appropriateness of the objectives, planned outputs, activities and inputs as compared to cost-effective alternatives. The executing modality and managerial arrangements should also be judged. The evaluator will assess the achievement of indicators and review the work plan, planned duration and budget of the project.

Implementation The evaluation will assess the implementation of the project in terms of quality and timeliness of inputs and efficiency and effectiveness of activities carried out. Also, the effectiveness of management as well as the quality and timeliness of monitoring and backstopping by all parties to the project should be evaluated. In particular, the evaluation is to assess the Project team's use of adaptive management in project implementation.

Project outputs, outcomes and impact The evaluation will assess the outputs, outcomes and impact achieved by the project as well as the likely sustainability of project results. This should encompass an assessment of the achievement of the immediate objectives and the contribution to attaining the overall objective of the project. The evaluation should also assess the extent to which the implementation of the project has been inclusive of relevant stakeholders and to which it has been able to create collaboration between different partners. The evaluation will also examine if the

project has had significant unexpected effects, whether of beneficial or detrimental character.

The evaluation assessed the aspects as listed in evaluation report outline attached in Annexes 1 and 2.

The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation has been prepared by the IAEA as executing agency based on guidance from the Regional Coordinating Unit.

Scope of the Terminal Evaluation

The evaluation will comprise the following elements.

- (i) Assess whether the project design is clear, logical and commensurate with the time and resources available;
- (ii) A summary evaluation of the project and all of its major components undertaken to date and a determination of progress towards achievement of its overall objectives;
- (iii) An evaluation of project performance in relation to the indicators, assumptions and risks specified in the logical framework matrix and the Project Document;
- (iv) An assessment of the scope, quality and significance of the project outputs produced to date in relation to expected results;
- (v) An assessment of the functionality of the institutional structure established and the role of the Project Steering Committee (PSC);
- (vi) Identification and, to the extent possible, quantification of any additional outputs and outcomes beyond those specified in the Project Document;
- (vii) An evaluation of project coordination, management and administration provided by the PMU. This evaluation should include specific reference to:
 - Organizational/institutional arrangements for collaboration among the various agencies and institutions involved in project arrangements and execution;
 - The effectiveness of the monitoring mechanisms currently employed by the PMU in monitoring on a day to day basis, progress in project execution;
 - Administrative, operational and/or technical problems and constraints that influenced the effective implementation of the project and present recommendations for any necessary operational changes; and
 - Financial management of the project, including the balance between expenditures on administrative and overhead charges in relation to those on the achievement of substantive outputs.
- (viii) A prognosis of the degree to which the overall objectives and expected outcomes of the project have been (or are likely) to be met;
- (ix) An assessment of the M&E approach adopted by the project;
- (x) Progress towards sustainability and replication of project activities;
- (xi) Lessons learned during project implementation;

Evaluation Methodology

The Terminal Evaluation will be conducted in a participatory manner working on the basis that its essential objective is to assess the project implementation and impacts in order to provide basis for improvement in the implementation and other decisions.

The evaluation will start with a desk review of project documentation and also take the following

process:

- (i) Desk review of project document, outputs, monitoring reports (such as Project Inception Report, Minutes of Steering Committee meetings including other relevant meetings, Project Implementation Report (PIR/APR), quarterly progress reports, and other internal documents including consultant and financial reports);
- (ii) Review of specific products including datasets, management and action plans, publications and other material and reports .
- (iii) The evaluation will involve visits to a few selected project countries. A number of people that have been involved in project implementation will be interviewed during the evaluation. These will include staff of IAEA, UNDP and participating countries.
- (iv) Incorporation of any feedback and comments on the draft Terminal Evaluation Report.

Expertise/experience required by Evaluator

Selected independent experts will conduct the evaluation. The evaluator selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The consultant shall have prior experience in evaluating similar projects. Former cooperation with GEF is an advantage.

Qualifications:

- International/regional consultant with academic and/or professional background in natural resources management and extensive experience in coastal ecosystem, marine science and international water etc. A minimum of 15 years' relevant experience is required;
- Substantive experience in reviewing and evaluating similar technical assistance projects, preferably those involving UNDP/GEF or other United Nations development agencies and major donor;
- Understanding of the political, economic and institutional issues associated with transboundary water management;
- Excellent English writing and communication skills; demonstrated ability to assess complex situations in order to succinctly and clearly distill critical issues and draw forward-looking conclusions;
- An ability to assess the institutional capacity and incentives required;
- Familiarity with the GEF IW portfolio;
- Excellent in human relations, coordination, planning and teamwork.

Specifically, the international expert will perform the following tasks:

- Lead and manage the evaluation mission;
- Design the detailed evaluation scope and methodology (including the methods for data collection and analysis);
- Conduct an analysis of the outcome, outputs and partnership strategy (as per the scope of the evaluation described above);
- Draft related parts of the evaluation report; and
- Finalize the whole evaluation report.

The evaluation will be undertaken in-line with GEF principles¹:

- Independence

- Impartiality
- Transparency
- Disclosure
- Ethical
- Partnership
- Competencies and Capacities
- Credibility
- Utility

Proposed Schedule

The consultant would be expected to begin a desk review and telephone/email discussions with key project participants mid November 2015.

Deliverables

The expected output from this evaluation is a report (see Annexes 1 and 2 for guidance) including:

- (i) An executive summary, including findings and recommendations;
- (ii) A detailed evaluation report covering items presented above in the Scope of the Terminal Evaluation with attention to lessons learned and recommendations; and
- (iii) List of Annexes prepared by the consultants, which includes TORs, Itinerary, List of Persons Interviewed, Summary of Field Visits, List of Documents reviewed, Questionnaire used and Summary of results, Co-financing & Leveraged Resources (see Annex 3 for guidance) etc.

Payment Instructions

Payment will be based on satisfactory completion of the project deliverables as follows:

- 1st installment – 20% after completion of desk work with information on plans for completion of the evaluation through a brief inception report .
- 2nd installment – 40% upon the submission of draft report to the project unit and IAEA.
- 3rd installment – 40% upon the submission of final report and after review by IAEA Team and approval

The report together with the annexes, shall be written in English and shall be presented in electronic form in MS Word format to be submitted to the IAEA Technical Cooperation Programme through the official channels.

Estimated Input

The expected work (desk studies, missions and travel etc.) is anticipated to require about 20 person-days input.

- Draft Evaluation Report
- Field Missions to the Nile Basin Member Countries, as appropriate and feasible. The Nile Basin Countries, are Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda.
- Interviews via video/telephone conferencing to be arranged by the IAEA, where this is deemed feasible and most appropriate.

- Final Report

Rating Project Success

(See Annex 4)

The evaluation will rate the success of the project on a scale from 1 to 5, with 1 being the highest (most successful) rating and 5 being the lowest. The following items should be considered for rating purposes:

- Achievement of objectives and planned results
- Attainment of outputs and activities
- Cost-effectiveness
- Impact
- Sustainability
- Stakeholders participation
- Country ownership
- Implementation approach
- Financial planning
- Replicability
- Monitoring and evaluation

Each of the items should be rated separately with comments and then an overall rating given.

Submission of Reports

All reports are to be submitted to the Programme Management Officer/Project Manager at the Technical Cooperation Department of the IAEA. Unless otherwise agreed with the Programme Management Officer, the expected reports under this contract are:

- (i) Inception report: To be submitted one week from the start of the assignment.
- (ii) Draft report: Within two weeks from the end-date of the assignment period.
- (iii) Final Project report: Within 2 weeks after receiving comments from the Project Manager.

Annex 1 EVALUATION REPORT: SAMPLE OUTLINE Minimum GEF requirements

Executive summary

- Brief description of project
- Context and purpose of the evaluation
- Main conclusions, recommendations and lessons learned

Purpose of the evaluation

- Introduction
- Key issues addressed
- Methodology of the evaluation
- Structure of the evaluation

The project(s) and its development context

- Project start and its duration
- Problems that the project seek to address
- Immediate and development objectives of the project
- Main stakeholders

- Results expected

Findings and Conclusions

1. Project formulation

- Implementation approach (*) (i)
- Analysis of LFA (Project logic /strategy; Indicators)
- Lessons from other relevant projects (e.g., same focal area) incorporated into project implementation
- Country ownership/Driveness
- Stakeholder participation (*)
- Replication approach
- Cost-effectiveness
- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Management arrangements

2. Implementation

- Implementation approach
- The logical framework used during implementation as a management and M&E tool
- Effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region
- Feedback from M&E activities used for adaptive management
- Financial Planning
- Execution and implementation modalities
- Management by the UNDP country office
- Coordination and operational issues

3. Results

- Attainment of objectives (*)
- Sustainability (*)
- Contribution to upgrading skills of the national staff

4. Recommendations

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives

5. Lessons learned

- Best and worst practices in addressing issues relating to relevance, performance and success

6. Annexes

- TOR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Questionnaire used and summary of results

Annex 2 Explanation on Terminology Provided in the GEF Guidelines to Terminal Evaluations

Implementation Approach includes an analysis of the project's logical framework, adaptation to changing conditions (adaptive management), partnerships in implementation arrangements, changes in project design, and overall project management.

Some elements of an effective implementation approach may include:

- The logical framework used during implementation as a management and M&E tool
- Effective partnerships arrangements established for implementation of the project with relevant stakeholders involved in the country/region
- Lessons from other relevant projects (e.g., same focal area) incorporated into project implementation
- Feedback from M&E activities used for adaptive management.

Country Ownership/Driveness is the relevance of the project to national development and environmental agendas, recipient country commitment, and regional and international agreements where applicable. Project Concept has its origin within the national sectoral and development plans.

Some elements of effective country ownership/driveness may include:

- Project Concept has its origin within the national sectoral and development plans
- Outcomes (or potential outcomes) from the project have been incorporated into the national sectoral and development plans
- Relevant country representatives (e.g., governmental official, civil society, etc.) are actively involved in project identification, planning and/or implementation
- The recipient government has maintained financial commitment to the project
- The government has approved policies and/or modified regulatory frameworks in line with the project's objectives
- Project's collaboration with industry associations

Stakeholder Participation/Public Involvement consists of three related and often overlapping processes: information dissemination, consultation, and "stakeholder" participation. Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the GEF-financed project. The term also applies to those potentially adversely affected by a project.

Examples of effective public involvement include:

- Information dissemination
 - Implementation of appropriate outreach/public awareness campaigns
- Consultation
 - Consulting and making use of the skills, experiences and knowledge of NGOs, community and local groups, the private and public sectors, and academic institutions in the design, implementation, and evaluation of project activities
- Stakeholder participation
 - Project institutional networks well placed within the overall national or community organizational structures, for example, by building on the local decision making structures, incorporating local knowledge, and devolving project management responsibilities to the local organizations or communities as the project approaches closure
 - Building partnerships among different project stakeholders
 - Fulfilment of commitments to local stakeholders and stakeholders considered to be adequately involved.

Sustainability measures the extent to which benefits continue, within or outside the project domain, from a particular project or program after GEF assistance/external assistance has come to an end.

Relevant factors to improve the sustainability of project outcomes include:

- Development and implementation of a sustainability strategy.
- Establishment of the financial and economic instruments and mechanisms to ensure the ongoing flow of benefits once the GEF assistance ends (from the public and private sectors, income generating activities, and market transformations to promote the project's objectives).
- Development of suitable organizational arrangements by public and/or private sector.
- Development of policy and regulatory frameworks that further the project objectives.
- Incorporation of environmental and ecological factors affecting future flow of benefits.
- Development of appropriate institutional capacity (systems, structures, staff, expertise, etc.)
- Identification and involvement of champions (i.e. individuals in government and civil society who can promote sustainability of project outcomes).
- Achieving social sustainability, for example, by mainstreaming project activities into the economy or community production activities.
- Achieving stakeholders consensus regarding courses of action on project activities.

Replication approach, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources). Examples of replication approaches include:

- Knowledge transfer (i.e., dissemination of lessons through project result documents, training workshops, information exchange, a national and regional forum, etc).
- Expansion of demonstration projects.
- Capacity building and training of individuals, and institutions to expand the project's achievements in the country or other regions.
- Use of project-trained individuals, institutions or companies to replicate the project's outcomes in other regions.

Financial Planning includes actual project cost by activity, financial management (including disbursement issues), and co-financing. If a financial audit has been conducted the major findings should be presented in the TE.

Effective financial plans include:

- Identification of potential sources of co-financing as well as leveraged and associated
- Financing.
- Strong financial controls, including reporting, and planning that allow the project management to make informed decisions regarding the budget at any time, allows for a proper and timely flow of funds, and for the payment of satisfactory project deliverables
- Due diligence due diligence in the management of funds and financial audits.

Co financing includes: Grants, Loans/Concessional (compared to market rate), Credits, Equity investments, In-kind support, other contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries. Please refer to Council documents on co-financing for definitions, such as GEF/C.20/6.

Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector. Please briefly describe the resources the project has leveraged

since inception and indicate how these resources are contributing to the project's ultimate objective.

Cost-effectiveness assesses the achievement of the environmental and developmental objectives as well as the project's outputs in relation to the inputs, costs, and implementing time. It also examines the project's compliance with the application of the incremental cost concept. Cost-effective factors include:

- Compliance with the incremental cost criteria (e.g. GEF funds are used to finance a component of a project that would not have taken place without GEF funding.) and securing co-funding and associated funding.
- The project completed the planned activities and met or exceeded the expected outcomes in terms of achievement of Global Environmental and Development Objectives according to schedule, and as cost-effective as initially planned.
- The project used either a benchmark approach or a comparison approach (did not exceed the costs levels of similar projects in similar contexts)

Monitoring & Evaluation. Monitoring is the periodic oversight of a process, or the implementation of an activity, which seeks to establish the extent to which inputs, work schedules, other required actions and outputs are proceeding according to plan, so that timely action can be taken to correct the deficiencies detected. Evaluation is a process by which program inputs, activities and results are analyzed and judged explicitly against benchmarks or baseline conditions using performance indicators. This will allow project managers and planners to make decisions based on the evidence of information on the project implementation stage, performance indicators, level of funding still available, etc, building on the project's logical framework.

Monitoring and Evaluation includes activities to measure the project's achievements such as identification of performance indicators, measurement procedures, and determination of baseline conditions. Projects are required to implement plans for monitoring and evaluation with adequate funding and appropriate staff and include activities such as description of data sources and methods for data collection, collection of baseline data, and stakeholder participation. Given the long-term nature of many GEF projects, projects are also encouraged to include long-term monitoring plans that are sustainable after project completion.

Annex 2: Itinerary and persons interviewed [SEP]

Country	Date	Time	Stakeholder	Attendees
	9-10 January 2016	Travel from Split, Croatia to Entebbe, Uganda		
Uganda	11 January 2016	09:00-09:30	Directorate of Water Resources Management	Mr Nebert Wobusobozi, Commissionere
		09:30 – 12:00	Directorate of Water Resources Management	Dr Callist Tindimugaya, PSC Chair
		12:00 – 13:00	Laboratory	Ms Christine Mukwaya-Project Counterpart Mr. Etimu Simon, Head of the laboratory Mr. Steven Emor
		15:00 – 16:30	NBI	Mr John Rao Nyaoro, Executive Director, NBI
	12 January 2016	Travel from Entebbe, Uganda to Kigali, Rwanda		
Rwanda	13 January 2016	09:00-12:00	Rwanda Natural Resources Authority (RNRA)	Mr. Mukiza Odillo, Transboundary Water Programs Officer Mr. Mugunga Remy, Director of Water resources monitoring and development Mr. Mushinzimana Jean-marie Vianney, Watershed manager, Southern Province Mr. Habimana Venant, Watershed manager of Kigali
	14 January 2016	Travel from Kigali, Rwanda to Addis Ababa, Ethiopia		
Ethiopia	15 January 2016	10:00 – 12:00	Hotel Radisson Blue, Addis Ababa	Mr Tesfaye Tadesse Workneh, Ministry of Water and Energy
	16 January 2016	Travel from Addis Ababa, Ethiopia to Khartoum, Sudan		
Sudan	17 January 2016	09:00-10:00	Groundwater and Wadis Directorate; Ministry of Irrigation and Water Resources	Mr Osman Mustafa Ahmed Mohamed, Project Counterpart
		10:00-12:00	General Directorate of Nile Affairs and Dams	Mr Moetasem Alawed, Deputy Director Ms Asma Al Zain
	18 January 2016	Travel from Khartoum, Sudan to Cairo, Egypt		
Egypt	19 January 2016	10:00-12:00	Research Institute for Groundwater; National Water Research Center	Ms Nahed El Sayed El Arabi Abd El Aziz, Project Counterpart Mr Ahmed Rashad Khater Mr Mamdouh A. Antar Mr Taher M. Hassan
		12:00 – 13:00	Ministry of Water	Mr Tahar Mostafa Silaeb,

			Resources and Irrigation - Nile Water Sector	General Director
	20 January 2016	10:00 – 12:00	UNDP Country Office Egypt	Mr Mohamed Bayoumi, UNDP Programme Officer
	20 January 2016	Travel from Cairo, Egypt to Split, Croatia		

Country	Date	Time	Stakeholder	Attendees
	31 January 2016	Travel from Split, Croatia to Vienna, Austria		
Austria	1 February 2016	09:00-17:00	IAEA	Mr. Neil Jarvis Mr Chukwudi Anyanwu Mr B. Kumar
	2 February 2016	09:00-17:00	IAEA	Mr. Neil Jarvis Mr Chukwudi Anyanwu Mr B. Kumar Mr Andy Garner
	3 February	Travel from Vienna, Austria to Split, Croatia		

Annex 3: List of documents reviewed

- Project Document
- Burundi National Report
- Democratic Republic of Congo National Report
- Egypt-National Final Report
- Nile Summary- final report
- Nile Sub-Basin groundwater report
- Kenya National Report
- Sudan National Report
- Rwanda national Report
- Tanzania national Report
- Uganda National Report
- CDR Reports
- End of Mission Report_Leavesley_RAF8042-08-01
- End of Mission Report_Mr Callist Tindimugaya to Rwanda
- End of Mission Report_Mr J D Taupin_Feb 2010
- End of Mission Report_Mr J D Taupin_Sept 2010
- Mission report to IAEA- Tindimugaya and Kebede
- Project Implementation Reviews
- Project Inception Meeting Report
- Correspondence
- Recommendations for a Revised Workplan

Annex 4: Questionnaire used

1. To what extent the project is consistent with national and local policies and priorities and the needs of intended beneficiaries in your country?
2. How the project's intended results have been achieved through its implementation (Opinion of the stakeholders!)?
3. Assess the outputs, outcomes and impact achieved by the project. Is it a good value for money?
4. Were the relevant country representatives, from government and civil society, involved in the project preparation and execution?
5. Are the project's objectives and components clear, practicable and feasible within its timeframe?
6. Were the capacities of executing institution and counterparts properly considered when the project was designed?
7. Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
8. Has the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project design?
9. Were the project roles properly assigned during the project design?
10. Can the management arrangement model employed in the project be considered as an optimum model?
11. Were the management arrangements implemented and how efficient they are?
12. What is the quality of your communication with PMU?
13. Assess the role of UNDP.
14. Assess the role of IAEA.
15. Assess whether or not national and local stakeholders have participated in project management and decision-making.
16. Have you perceived problems in the execution of the project? If yes, what were they?
17. Has the project contributed to improved capacity mainstream groundwater concerns in integrated management of the Nile River Basin?
18. Has the project contributed to improved interaction and cooperation between central and local level with regard to groundwater management? If yes, how and to what extent?
19. Have results on output level contributed to the overall achievements of the project's objectives?

Annex 5: Co-financing table [1] [SEP]

Co-financing (type/source)	IAEA Own financing		Government		Other Sources		Total	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	1,000,000						1,000,000	
Loans/Concessions								
In-kind support	350,000		1,540,800				1,890,800	
Other								
TOTAL	1,350,000		1,540,800				2,890,800	544,700*

Note: All figures are in US\$

*Figures are taken from 2013 PIR, the only document made available to TE that has reported on the co-financing. No breakdown of co-financing was given.