



United Nations Environment Program

**Terminal Evaluation of the UNEP Project Adapting to Climate
Change Induced Water Stress
in the Nile River Basin**



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ACRONYMS AND ABBREVIATIONS

ACPC	African Climate Policy Centre
AMCOW	African Ministers Council on Water
CBO	Community Based Organization
CCAU	Climate Change Adaptation Unit
CCS	Climate Change Strategy
CWP	Country Water Partnership
DEPI	Division of Environmental Policy Implementation
DEWA	Division of Early Warning and Assessment
DHI	Danish Hydrological Institute
DSS	Decision Support System
DWRM	Directorate for Water Resource Management
EAC	East Africa Community
EbA	Ecosystem-based Adaptation
ENSAP	Eastern Nile Subsidiary Action Programme
ENTRO	Eastern Nile Technical Regional Office
FMO	Fund Management Officer
GAN	Global Adaptation Network
GEF	Global Environment Facility
GWP-EA	Global Water Partnership-East Africa
ICPAC	Intergovernmental Climate Prediction and Applications Centre
IGAD	Intergovernmental Authority on Development
ILRI	International Livestock Research Institute
IWRM	Integrated Water Resource Management
MDG	Millennium Development Goal
NAPA	National Adaptation Programmes of Action
NAPA	National Adaptation Programmes of Action
NBDC	Nile Basin Development Challenge
NBI	Nile Basin Initiative
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
NGO	Non-governmental Organization
Nile-COM	Nile Council of Ministers
Nile-TAC	Nile Basin Initiative Technical Advisory Committee
POW	Programme of Work
ROA	Regional Office for Africa
ROI	Review of Outcomes to Impacts
SARC	Sirinka Agricultural Research Centre
SIDA	Swedish International Development Agency
SWC	Soil and Water Conservation
TOC	Theory of Change
ToRs	Terms of Reference
UNEP	United Nations Environment Programme
UNFCCC	UN Framework Convention on Climate Change
WACDEP	Water, Climate and Development Programme for Africa

PROJECT IDENTIFICATION TABLE

Project ID	3814-3814M000 & 3C15 – 3814A001	IMIS number	CPL-3814 & CPL -3C15
Focal Area(s)	Climate Change		
Implementing Agency	UNEP/DEPI	Executing Agency	UNEP/DEPI
Approval date	1 st June, 2009		
Actual start date	4th December, 2009	Planned duration	36 months
Intended completion date	30 th May, 2013	Actual or Expected completion date	31 st May, 2013
Project Type	Internal	Total Cost	US\$3,500,000.00 (Approved) Actual funds received US\$ 3,337,984.99 (due to the exchange rate differences)
No. of Revisions	3	Date of last Revision	February 2014
Disbursement	NA	Date of financial closure	30 th November, 2013
Date of Completion	30 th September, 2013	Actual expenditures as at 28 February 2014	US\$ 3,329,436
Terminal Evaluation (actual date)	April 2014		

EXECUTIVE SUMMARY

A. Introduction

1. The project “Adapting to Climate Change Induced Water Stress in the Nile River Basin” was implemented by the United Nations Environment Programme (UNEP) Division of Environmental Policy Implementation (DEPI) Climate Change Adaptation Unit (CCAU) in collaboration with the UNEP Regional Office for Africa (ROA) and a number of partners. The participating countries were Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. Financial support of USD3,500,000 was provided by the Swedish International Development Agency (SIDA). The project duration was from December 2009 – May 2013, which included a no-cost extension of six months to facilitate project completion following initial delays.

2.

3. The water resources of the Nile Basin are particularly vulnerable to the adverse impacts of climate. Nevertheless, significant constraints to climate change adaptation persist, among which is the lack of capacity for climate change adaptation in key institutions and vulnerable communities. Thus, the Nile Basin project was designed to “to build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in ‘hotspots’ with technical, policy and financial interventions.”

4.

5. The major objective of the terminal evaluation was to assess project performance (in terms of relevance, effectiveness and efficiency), determine its outcomes and impacts as well as their sustainability, and to identify valuable lessons learnt.

B. Evaluation findings and conclusions

6. For the purposes of the evaluation, the original outcomes were re-formulated to better reflect the project’s intended outcomes. The following re-formulated outcomes were used in the Theory of Change (TOC) analysis:

1. Increase in scientific knowledge to enable improved science-based policy-setting and planning for adaptation to climate change induced water stress in the Nile River Basin countries;
2. Institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and local communities;
3. Improvement in the adaptive capacity of local communities to reduce their vulnerability to climate change induced water stress.

7. The TOC is based on the premise that increased scientific knowledge, awareness and capacity of key institutions and local communities will lead to improved policy-setting and planning for adaptation to climate change induced water stress in the basin countries, and ultimately to the increased resilience of vulnerable ecosystems and communities. Further, the acquired knowledge is expected to inform dialogue among the countries and promote collaboration in adaptation to climate change induced water stress in the region. Provided that certain assumptions hold, these drivers would catalyze change towards the project’s longterm impact: Ecosystems and dependent human communities more resilient to climate change induced water stress.

8. The project has remained relevant in view of the continuing and increasing evidence of climate change and its impacts on water resources in the Nile Basin and the need for the countries to adapt to these impacts, based on a sound scientific foundation. It is also in line with SIDA's mission to reduce poverty as well as with the environment and climate change thematic priority of the Swedish development aid programme. The project's intended results are also consistent with UNEP's programmatic objectives and expected accomplishments under its Climate Change and Ecosystem Management cross-cutting priorities of the Medium-term Strategy 2010–2013.

9. Overall, the outputs were satisfactorily achieved, despite initial problems with access to national data that was needed for Outputs 1 and 2. Output 1, led by UNEP Division of Early Warning and Assessment (DEWA), includes a comprehensive, policy-relevant scientific vulnerability assessment to improve the understanding of the likely impacts of climate change on the Nile water systems. Output 2, which was led by the Danish Hydraulic Institute (DHI), provides comprehensive assessments of flood and drought prone areas in the Nile Basin and contributes to the understanding of vulnerability in relation to climate change induced water stress in the Basin. Analytical tools were also provided under these two outputs and technical personnel from the countries trained in using them.

10. Difficulties were encountered in accessing the required national climate and hydrological datasets due to the political sensitivity of data sharing. Access was eventually facilitated by the signing of a Memorandum of Understanding between UNEP and NBI in the second year. The delays caused had knock-on effects on subsequent activities of other project partners.

11. The capacity building component (Output 3) was led by the Global Water Partnership-East Africa (GWP-EA) and NBI, although capacity building was also undertaken under Outputs 1 and 2. GWP-EA and NBI facilitated policy and capacity support for climate change adaptation in the Nile Basin countries, mainly through workshops and awareness-raising events. Public awareness materials were also produced. Delivery of this output was affected by delays in the completion of Outputs 1 and 2, of which some elements were needed to develop training and awareness-raising materials.

12. Evaluation of effectiveness is based on the extent to which the three re-formulated project outcomes were achieved. These outcomes are important catalysts for actions towards the long term impact of more resilient ecosystems and communities.

13. Outcome 1: Through the assessments undertaken, the project has succeeded in improving regional and local knowledge and information about climate change impacts in the basin, which provides a scientific basis for critical thinking and decision making for climate change adaptation. Importantly, the associated spatial-temporal variations in water availability and other parameters highlight the need for basin-wide cooperation in climate change adaptation.

14. Outcome 2. The project has helped to increase the capacity of regional/national centres and others to support adaptation actions through targeted training and direct involvement in execution of project activities. Involvement of technical experts from the Nile Basin countries in the assessments (Outcome 1) also helped to build capacity for conducting the assessments and for using the analytical tools developed.

15. Outcome 3. Demonstration projects, each with one year's duration, were implemented in Ethiopia (Kabe Watershed) and Uganda (Mpanga River Catchment) in collaboration with national institutions and local communities. Despite the duration of only one year, some early successes were evident and there are very good prospects for replication and sustainability. Important outcomes of the demonstration projects include increase in awareness and adaptive capacity of local institutions and communities as well as lessons and best practices to guide policy and planning for adaptation to climate change induced water stress. The strategic partnership arrangement established accounted in large part for the success of the demonstration projects.

16. The project outcomes were intended to catalyze action and change towards the long term impact. This is consistent with the TOC, which is based on the premise that increased knowledge, awareness and capacity will result in better planning, collaboration and improved ability to adapt to climate change induced water stress and ultimately to the resilience of vulnerable ecosystems and economies. Using the Review of Outcomes to Impact (ROtI) analysis and TOC, the overall likelihood that the long term impact will be achieved is rated on a six-point scale as ‘Moderately Likely’.

17. The current situation with respect to financial, socio-political, institutional and ecological factors is conducive to sustainability of the project outcomes, which is considered by the evaluators as ‘likely’. There are also good prospects for replication, as demonstrated by ongoing replication in other areas, albeit to a limited extent.

18. A number of measures to promote efficiency were adopted during implementation. But efficiency was reduced by delays related to obtaining national datasets and by failure of UNEP at the start to obtain endorsement of the project from the Nile Technical Advisory Committee, which delayed the start of implementation. Resolving these issues exacted a substantial cost in terms of time and effort on the part of UNEP and NBI. A no-cost extension was required to accommodate these delays and complete the project. Implementation approach and management was satisfactory, with no major issues encountered once the initial delays were addressed.

19. The overall rating for this project is Satisfactory. Despite low ratings on certain criteria, overall, the project satisfactorily achieved its outputs and outcomes despite the obstacles and constraints encountered.

C. Lessons learned

20. The following key lessons emerged in the implementation of the project:

i. Political processes: UNEP pitched the project at a technical level, not political. In a project dealing with transboundary issues, political issues and processes are particularly important even though the project is perceived as a technical project. Failure to recognize this or to underestimate its potential impacts and to engage from the start with the appropriate political level can potentially derail the project or lead to delays, as was experienced with the Nile-TAC. Further, sensitivities regarding the sharing of national climate and hydrological data cannot be ignored, as this can have potentially serious implications for achievement of project outcomes. The necessary consultations and negotiations should be concluded and data sharing protocols agreed among the concerned parties before the start of project implementation in order to avoid delays and tensions later on in the project.

ii. Partnerships and stakeholder engagement: Engagement with a wide cross-section of stakeholders at all levels, from regional and national stakeholders and decision-makers to local communities, is important in projects in which the achievement of the intended long term impact is highly dependent on their actions. Implementation and execution of the project by partner institutions that have the necessary competencies and experience ‘on the ground’ and by constituencies within the countries are very cost effective strategies both for successful project implementation and sustainability of outcomes. Further, in a complex project such as the Nile Basin project, a ‘tiered’ partnership arrangement, with different partners from the international and regional to national and local levels, each responsible for activities at the appropriate scale, is an effective mechanism for project implementation.

iii. Project design and implementation: Firstly, it was not realistic to expect that ecosystem and community resilience would be achieved in three years and with USD3.5 million. While the project realized a number of major achievements, there is a long way to go in building resilience, and even so, resilience can only be achieved up to a certain point. Secondly, this was a complex project with multiple approaches and diverse activities and partners. This was compounded by the sequential arrangement of the work packages, with some work packages dependent on the results of preceding

activities. This is not optimal in a project of short duration, as initial delays reverberate through the other components. Project design, particularly in climate change adaptation, needs to be realistic in terms of time and resources, especially in view of the number of factors and uncertainties that come into play.

iv. **Demonstration projects:** Development and conduct of the demonstration projects in only one year made no allowance for the time needed for conclusive results to be obtained, especially in view of the changes in growing seasons that are being experienced and intra-annual variability in climatic conditions within the Basin. Lack of a mechanism (as part of an exit strategy) for continued monitoring and support to the farmers can result in them abandoning the interventions. Introducing new technology to farmers and building their capacity for adaptation is insufficient if other important needs are not addressed (e.g., access to markets, improved infrastructure). Climate change adaptation must be part of a wider programme in integrated environmental/natural resources management at national and basin level. On the positive side, anchoring the demonstration projects in existing programmes (as was done under this project) helps to ensure sustainability and replication.

v. **Involvement of key beneficiaries:** One of the project's strengths was involving the local communities, who are among the most vulnerable to climate change impacts and key project beneficiaries, in the design and execution of the pilot adaptation actions. Ultimately, it is these communities who will be the main implementers of adaptation efforts on the ground. By involving them at an early stage, the project promoted acceptance of adaptation actions and increased the likelihood that outcomes will be sustained.

vi. **Building capacity through learning-by-doing:** A major approach to capacity building was learning-by-doing and demonstrations, by directly involving staff and practitioners (e.g., staff of universities, research facilities and district offices; extension workers; NGOs) in the design and execution of the demonstration projects. In addition, involvement of technical personnel in the scientific assessments helped to build technical capacity in the countries. This was a 'win-win' situation, as capacity was strengthened and a strong sense of buy-in and ownership achieved among executants, while working collectively towards the project's goals.

D. Recommendations

21. The following recommendations look ahead to the post-project period and the development and implementation of other UNEP projects and sustaining the results of the Nile Basin project. The recommendations are targeted to UNEP, NBI and the Nile Basin Governments:

i. The project has created a considerable amount of interest and momentum within the countries and the region for adaptation. It has produced valuable scientific knowledge and generated useful lessons and best practices in developing and implementing adaptation interventions. Nevertheless, follow-on activities are required for replicating and upscaling as well as for integration into policy and institutional frameworks. It is recommended that UNEP, in collaboration with the NBI, seek support from donors for a follow-on project (phase 2) as soon as possible.

ii. In planning the second phase, political processes should be given high priority. UNEP should ensure that the necessary consultations are conducted and endorsement obtained from the NBI TAC and other relevant Bodies at national and regional levels during project development and before approaching the donor(s). Further transboundary aspects should be given more attention in the follow up phase.

iii. In designing projects, UNEP should ensure that the log frame is robust and includes 'SMART' indicators, baselines and time bound targets. The log frame should also be used in monitoring and evaluation throughout project implementation.

iv. It is recommended that UNEP, NBI and GWP-EA increase efforts to transfer the substantial volume of knowledge generated by the project, including to other relevant ongoing and planned

projects. They should widely disseminate the reports and knowledge products through their respective networks and other means, which should be given high visibility at appropriate forums. The appropriate materials should be translated into local languages and made easily available to local communities and development agents. Additionally, the technical reports should be simplified as far as possible to facilitate their use by managers and decision-makers and for uptake into policy processes. Funds will need to be identified by UNEP for this activity.

v. It is recommended that the Nile Basin Governments strengthen efforts to improve monitoring and data collection in order to fill data gaps and address inconsistencies in climate and hydrological data. Appropriate mechanisms should be established for data sharing, as this is critical for the management of the transboundary Nile Basin. As improved and updated datasets become available, arrangements should be made by the countries to have these incorporated into the models to reduce uncertainty. In addition, further assessments in other sensitive areas within the Basin should be supported.

vi. Governments should provide support for upscaling and replication of project results in other locations, and identify appropriate sources of funding for these activities. At the same time, the Governments should integrate climate change adaptation into broader development programmes in which the needs of the most vulnerable communities are addressed.

vii. Nile Basin Governments, NBI and project partners should identify opportunities to continue the capacity building activities initiated by the project, including through graduate programmes in the region's universities. Capacity building should also address bridging the gap between science and policy in climate change adaptation. This should include application of the technical project outputs in policy setting and planning for adaptation to climate change induced water stress.

I. INTRODUCTION

1. The project “Adapting to Climate Change Induced Water Stress in the Nile River Basin” (Project Id: 3814-3814M000 & 3C15 – 3814A001) was implemented by the United Nations Environment Programme (UNEP) Division of Environmental Policy Implementation (DEPI) Climate Change Adaptation Unit (CCAU) in collaboration with the UNEP Regional Office for Africa (ROA). The objective was “to build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in ‘hotspots’¹ with technical, policy and financial interventions.”

2. Financial support of USD3,500,000 was provided by the Swedish International Development Agency (SIDA). The project duration was from December 2009 – May 2013 (including a no-cost extension of six months that was granted by SIDA to facilitate project completion following initial delays).

3. A number of partners collaborated with UNEP in the execution of the project: the Nile Basin Initiative Secretariat (NBI), which was the main implementing partner; the Danish Hydraulic Institute (DHI); UNEP Division of Early Warning and Assessment (DEWA); the Global Water Partnership-East Africa (GWP-EA); the International Livestock Research Institute (ILRI); Wollo University (Ethiopia); and PROTOS (a Belgium Government supported organization based in Western Uganda). Each partner was responsible for specific components or activities. In addition to scientific assessments and capacity building activities, demonstration projects were carried out in Ethiopia and Uganda.

¹ Hotspot –an area and/or ecosystem that is vulnerable and at risk of flooding or drought.

II. THE EVALUATION

Purpose

4. In line with the UNEP Evaluation Policy², the UNEP Programme Manual and the UNEP Evaluation Manual³ the terminal evaluation of the project is undertaken after its completion to assess project performance (in terms of relevance, effectiveness and efficiency) and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. Key evaluation principles and criteria are given in the evaluation Terms of Reference (ToRs) in Annex 1.

5. The main purpose of the terminal evaluation is:

- i. To provide evidence of results to meet accountability requirements; and
- ii. To promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and the executing partners. In this regard, the evaluation will identify lessons of operational relevance for future project formulation and implementation.

6. In line with the TORs, the project was assessed with respect to a minimum set of evaluation criteria grouped into four categories:

- i. Strategic Relevance, which looks at the alignment of project objectives with UNEP, donor, partner and country policies and strategies.
- ii. Attainment of objectives and planned results, which comprises the assessment of outputs achieved, relevance, effectiveness and efficiency and the review of outcomes towards impacts;
- iii. Sustainability and catalytic role, which focuses on financial, socio-political, institutional and ecological factors conditioning sustainability of project outcomes, and also assesses efforts and achievements in terms of replication and up-scaling of project lessons and good practices;
- iv. Factors and processes affecting attainment of project results, which covers project preparation and readiness, implementation approach and management, stakeholder participation and public awareness, country ownership/driven-ness, project finance, UNEP supervision and backstopping, and project monitoring and evaluation systems; and
- v. Complementarity with the UNEP strategies and programmes, which covers linkage to UNEP's Expected Accomplishments and POW 2010-2011, Alignment with the Bali Strategic Plan, gender, and South-South Cooperation.

7. In addition to the above, the quality of project design was assessed in the inception report. All evaluation criteria (except iv above) were rated on a six-point scale in accordance with standard UNEP assessment guidelines, which are given in the evaluation ToRs.

8. The evaluation was guided by a set of key questions, based on the project's intended outcomes:

- i. Has the project been successful in projecting the best-case, worst-case and intermediate-case scenarios of water scarcity?
- ii. Has the project been able to propose/design and help implement respective preventive interventions?
- iii. Has the project been able to identify likelihood and frequency of flood/drought risk and their potential impacts, and proposed/designed and helped to implement preventive measures building on existing programmes in the Nile Basin?

² <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPevaluationPolicy/tabid/3050/language/en-US/Default.aspx>

³ <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPevaluationManual/tabid/2314/language/en-US/Default.aspx>

- iv. Has information generated from the project been developed into guidelines that governments and stakeholders could use in their adaptation measures and interventions?
- v. Has the project been able to increase technical capacity of regional/national centres of excellence and research centres to support the adaptation action of governments and communities?

9. These questions were expanded by the evaluation consultants during the evaluation inception phase (see the Inception Report).

Evaluation approach

10. The evaluation was conducted by a team of two independent consultants⁴ between November 2013 and February 2014, under the overall responsibility and management of the UNEP Evaluation Office (Nairobi), and in consultation with UNEP/DEPI Office and the UNEP Project Manager. An inception mission was undertaken by the two consultants from 27th - 29th November 2013 in Nairobi, during which they met with the UNEP Evaluation Office as well as with the UNEP project manager and other individuals who were involved in the project. Annex 2 gives the evaluation timeline and itinerary.

11. Both quantitative and qualitative methods were used to evaluate project achievements against the expected outputs, outcomes and impacts, and consisted of:

- A desk review of key project documentation, reports produced by the project, and information on relevant websites, among others (Annex 3).

- Interviews

Face to face/telephone/Skype interviews with Project Management, Fund Management Officer, executing partners and stakeholders (Nile-Sec, GWP, NBI, DHI, UNEP/DEWA, PROTOS, ILRI, Wollo University, and others). A list of individuals interviewed is given in Annex 4.

- Country visits

The team leader visited Ethiopia, where she met with representatives of ILRI, Wollo University and other local partners. In Uganda, the supporting consultant interviewed representatives from the NBI Secretariat, PROTOS and local partners. Each consultant also visited the demonstration project site in the respective countries to interview key stakeholders and observe project interventions and achievements.

Limitations

12. The evaluation consultants did not have the opportunity to visit the other Nile Basin countries (apart from Ethiopia and Uganda), which placed constraints in obtaining information first hand from these countries. Attempts to remotely obtain information from these countries met with little success. The following factors created some difficulties during the conduct of the exercise:

- The short duration of the project, particularly the demonstration projects (conducted over a one-year period), was insufficient time for conclusive results to be obtained;
- Weakness in the project design with respect to the logical framework (log frame), with vague indicators and absence of baselines, targets and performance indicators;
- During implementation, changes were made in the outputs and outcomes, with two of the original outputs (labelled 4.1 and 5.1 in the log frame) moved to outcomes (as sub-outcomes

⁴The lead consultant was responsible for the overall evaluation and main report, and evaluation in Ethiopia. The supporting consultant was responsible for the evaluation in Uganda and the Uganda Country Report.

under outcome 3, and retaining the same numbering). This caused some initial confusion during the evaluation, as there was no documentation of the rationale behind this change, and required some time to sort out;

- Slow response from some of the project partners contributed to delays in timely completion of the evaluation.

III. THE PROJECT

A. Context

13. Africa was identified as one of the most vulnerable continents to climate variability and change in the Inter-governmental Panel on Climate Change Fourth Assessment Report (2007)⁵. Moreover, the most vulnerable sector is water, and the extreme water stress and related conflict risk are likely to affect most of northern and southern Africa whereas heavy rainfall with increased flooding is projected to affect eastern, central and western Africa. Threats from climate change impacts on water resources are increasing, and exacerbate the ‘multiple stressors’ of development, such as widespread poverty, limited access to capital and technology, poor infrastructure, ecosystem degradation, disasters and conflicts and the global financial crisis.

14. The Nile River Basin is the main source of water in the North Eastern region of Africa and represents one of the most important shared water basins on the continent. Communities within this basin have a high dependence on rain-fed and irrigation-based agriculture and natural resources for food security and daily livelihoods. Therefore, adequate and timely action to adapt to climate change induced water stress is of crucial importance for the Nile basin countries. But despite their high vulnerability to climate change impacts, these countries have limited capacity to adapt to the changing climate. Significant barriers and constraints to adaptation persist, including a lack of necessary finance and appropriate policies and technology.

15. Across the critical Nile Basin, there is need to help countries produce regional information, manage shared water resources and develop well-informed adaptation strategies. Detailed studies and assessments that link science and policy as regards climate change adaptation are needed to provide adequate information on water resources management within a changing climate, as is stronger institutional capacity for better adaptation. Climate change is likely to alter the development dynamics of this basin, and hence the capacity of both individuals and institutions needs to be strengthened to work within this changing climate. It was within this context that this project was developed by UNEP with the objective to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries.

16. There was no significant change in project context since its design. But continuing and increasing evidence of climate change and its impacts on water resources has strengthened the case for Nile Basin countries to adapt to climate change impacts, based on a sound scientific foundation.

B. Objectives and components

17. As stated in the Project Document, the objective of the project was “to build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in ‘hotspots’ with technical, policy and financial interventions.” The purpose of the project was to assist developing countries in the Nile Basin to enhance their adaptive capacity to climate change induced water problems. The project components and expected outcomes and outputs are given in Table 1.

18. During project implementation, Outputs 4.1 and 5.1 were moved to outcomes as sub-outcomes of Outcome 3, but the numbering was retained. The outcomes were re-formulated during the evaluation and used in the Theory of Change analysis (Section H). During the inception phase, the quality of the project design was assessed and the results included in the Inception Report (See Annex 5).

⁵IPCC 2007. Summary for Policy makers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK.

Table 1. Components and expected outcomes and outputs of the Nile River Basin project

(Note: Output numbers are as in the project document)

Project Components	Expected Outcomes	Expected Outputs
1. Comprehensive best-, worst- and intermediate-case scenarios of water scarcity mapped with respective proposed interventions and designed.	1. Comprehensive best-case, worst-case and intermediate-case scenarios of water scarcity mapped and respective preventive interventions proposed and designed.	1.1. Assessments of water availability for populations and ecosystems in the Nile Basin, including appropriate information on the projections of climate and water regime changes.
2. Mapped impact of potential flood risk and development of tools to help implement preventive measures.	2. Likelihood and frequency of flood risk and their potential impacts mapped and tools developed to propose/design and help implement preventive measures building on existing programmes in the Nile River Basin.	2.1. Information on climate-related stresses of too little and too much water in Nile River Basin through scenario analysis to contribute to designing and piloting adaptation actions that will contribute to disaster risk reduction, conflict prevention and the realization of the MDGs.
3. Institutional and technical capacity building to build on adaptation actions of governments and communities.	<p>3. Institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities.</p> <p>Sub-Outcome 4.1. ←</p> <p>Sub-Outcome 5.1. ←</p>	<p>3.1. Capacity for adaptation strengthened, built and increased within the NBI, EAC etc. and regional centres of excellence and research centres to provide technical support and capacity to governments and communities.</p> <p>4.1. Governments in the river basin supported and engaged in the integration of adaptation into relevant policies and institutional frameworks to support technical, financial and policy options for sustainable water resource management.</p> <p>5.1. Functional and replicable demonstration sites set and linked to NBI, EAC, research centers or facilities in selected Nile Basin countries, comprising of a flood prone basin, a drought prone basin and a basin with a mixture of both flood and drought.</p>

C. Target area/groups

19. The project area was defined as the geographical scope of the Nile Basin and included 10 countries (Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda) that share the Nile Basin. The demonstration projects were conducted in a dryland area in Ethiopia (Kabe Watershed) and a mountainous area in Rwenzori, Western Uganda (River Mpanga Catchment).

20. The target groups (beneficiaries) included regional organizations, regional and national research centers/facilities and centers of excellence, Governments of the Nile basin countries (Ministries, district offices, development agents, agricultural extension workers, UN Framework Convention on Climate Change [UNFCCC] country focal points) and other policy-makers and planners. Major target groups were farming communities who depend on agriculture and natural resources for their livelihoods and who have a lower capacity to adapt to climate induced water stress. These communities in the Kabe Watershed and River Mpanga Basin were directly involved in the execution of the demonstration projects.

D. Milestones/dates in project design and implementation

21. The major milestones and dates in project design and implementation are given in Table 2.

Table 2. Milestones and dates in project design and implementation

Milestone	Date
Approval date	1 st June, 2009
Actual start date	4 th December, 2009
Intended completion date	30 th May, 2013
Initial planned duration	36 months
Project inception workshop	25-26 March 2010
First planning meeting	August 2010
Signing of MOU between UNEP & NBI	August 2011
Date of completion	30 th September, 2013
Date of financial closure	30 th November, 2013
Terminal evaluation (completion)	April 2014

E. Implementation arrangements and partners

22. The Climate Change Adaptation Unit of DEPI was responsible for project implementation in close co-operation with ROA. DEPI provided both technical and administrative oversight for the project components. The implementing partner was the NBI, with GWP-EA, DHI, DEWA, PROTOS and ILRI the main executing partners (Table 3). Legal agreements were signed by UNEP with each partner and the relevant finances disbursed as per these contractual agreements. An advisory group (Steering Committee) consisting of representatives from each of the key partners was established during the inception period.

23. At the local level, other agencies were sub-contracted by the main partners for development and execution of the demonstration projects (Table 3).

24. Activities were arranged under four work packages, each of which was led by specific partners:

- Work package 1: Comprehensive Assessments (DHI and DEWA)
- Work package 2: Policy support and Capacity building (GWP-EA and NBI)
- Work package 3: Demonstration at field/site level (ILRI and PROTOS)
- Work package 4: Communication, awareness and media (UNEP and NBI)

25. These work packages were inter-related and were to be conducted in a sequential manner, with results from some activities feeding into the others. The scope of the work packages and corresponding partner(s) are given in Table 3.

26. In addition to these partners, a number of other national and local partners collaborated in the execution of the project (e.g. Government Ministries, local Government Offices and development agents, and local communities).

Table 3. Partners and roles in project implementation and execution

Partners, type of agreement and financial allocation (USD)	Scope / Purpose (WP: work package)
UNEP/DEPI	DEPI was the lead for this project and provided both technical and administrative oversight for the project components and work packages. WP 4.
NBI (Small scale funding agreement, \$200,000)	Main implementing partner with UNEP on the project. NBI signed an MOU with UNEP to facilitate both political and technical processes for the Nile Basin Project and to assist the other partners in accessing relevant climate information for the project. WP: 2 and 4
DHI (Project Cooperation Agreement, \$735,230 and Small scale funding agreement, \$32,952)	Conduct of comprehensive assessments of flood and drought prone areas and development of projections of climate change and water demand in order to assess projected changes in water stress, related both to too much and too little water in the Nile basin. WP:1
UNEP DEWA (Internal Cooperation Agreement, \$450,000)	Conduct of vulnerability assessment, which highlights areas of environmental change in the Nile basin and analyses and demonstrates how climate change is affecting the water resources of the basin. DEWA developed an assessment framework for selecting hotspots and linked to scenario development. WP:1
GWP-EA (Project Cooperation Agreement, \$374,000)	Training, capacity building, institutional and policy support. WP:2
ILRI (Small Scale Funding Agreement, \$180,000)	Execution of the demonstration project in Ethiopia WP: 3
PROTOS (Small Scale Funding Agreement, \$200,000)	Execution of the demonstration project in Uganda WP:3
Research and academic Institutions (Wollo University, SARC, Mountain of the Moon University, others) (Note: These partners were sub-contracted by ILRI and PROTOS)	Execution of the demonstration project in Ethiopia and Uganda WP:3

F. Financing

27. Financial support of USD3,500,000 (actual amount was USD3,337,985 due to exchange rate difference) was provided by SIDA (with total expenditure of USD3,329,436). Allocations to the main partners are given in Table 3. Although no counterpart co-financing was reported in the project document and annual budgets, some level of co-financing was contributed by UNEP and the partners, for example, through staff time, expertise and office space. However, no estimates of co-finance were available to the evaluation consultants, but this was likely to be very substantial.

G. Changes in design during implementation

28. An important change occurred in project design during implementation. As mentioned in Part III.B, two of the original outputs (labeled 4.1 and 5.1 in the log frame) were moved to outcomes (as sub-outcomes under outcome 3). There was no documentation or explanation by the project manager of the rationale for this change. Furthermore, as described above, four work packages were introduced

and the activities arranged accordingly. Another change was the reduction in the number of demonstration sites. Originally, the intention was to have three such sites (a flood prone basin, a drought prone basin and a basin with a mixture of both flood and drought), but the third site was omitted and the funds (USD200,000) allocated to NBI. The final selected sites were a dryland area in Ethiopia and a mountain area in western Uganda.

29. Another change was in the planned sequential progression of some activities. This was mainly linked to a rescheduling of the activities conducted by DEWA and DHI, due to delays caused by the initial constraints in data availability (Part IV.B). The results of these activities were to feed into the work of other partners. As a consequence of the initial delays, UNEP was forced to take adaptive management measures and postpone a number of activities. As a consequence, UNEP requested a six months no-cost extension from the donor in October 2012 to enable completion of the planned activities.

H. Reconstructed theory of change

30. UNEP evaluations require a Theory of Change (TOC) analysis and Review of Outcomes to Impacts (ROtI) in order to identify the sequence of conditions and factors deemed necessary for project-specified outcomes to yield impact and to assess the current status of and future prospects for results.

31. As noted in the Evaluation Inception Report, the first two expected outcomes (as stated in the project document) are considered as project outputs and not outcomes. Also, the two sub-outcomes of the original outcome 3 are more appropriately considered as activities rather than outcomes. Therefore, for the purposes of the TOC and ROtI analysis, the original project expected outcomes were re-formulated as follows:

1. Increase in scientific knowledge to enable improved science-based policy-setting and planning for adaptation to climate change induced water stress in the Nile River Basin countries (Original Outcomes 1 and 2).
2. Institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities (Original sub-outcome 4.1 of Outcome 3).
3. Improvement in the adaptive capacity of local communities to reduce their vulnerability to climate change induced water stress (Original sub-outcome 5.1 of Outcome 3).

32. The methodology for the TOC and ROtI analysis is presented in Annex 5 of the ToRs. This exercise attempts to identify “intermediate states”, which are the transitional conditions between the project’s immediate outcomes and the intended impact and are necessary conditions for the achievement of the intended impacts. UNEP defines ‘impact’ as changes in environmental benefits and how these affect human living conditions⁶. Therefore, for the purpose of this evaluation, the long term impact of the project is considered to be “*Ecosystems and dependent human communities more resilient to climate change induced water stress*”. It should be noted, however, that “resilience” to climate change is not seen as a static condition, but the ability to continuously adapt to a changing climate, especially given the uncertainties in climate change scenarios and in the potential impacts on human communities and ecosystems.

33. The analysis also determines the Impact Drivers (the significant external factors that if present are expected to contribute to the realization of the intended impact and can be influenced by the

⁶ UNEP Programme Manual. May 2013.

project and its partners) and the Assumptions (the significant external factors that if valid are expected to contribute to (or at least not to hamper) the realization of the intended impacts but are largely beyond the control of the project). Based on this analysis it should be possible to recognize if a project has produced sufficient changes and to identify the intermediate states, that is, whether what the project has put in place will bring about the long term changes and have a lasting impact.

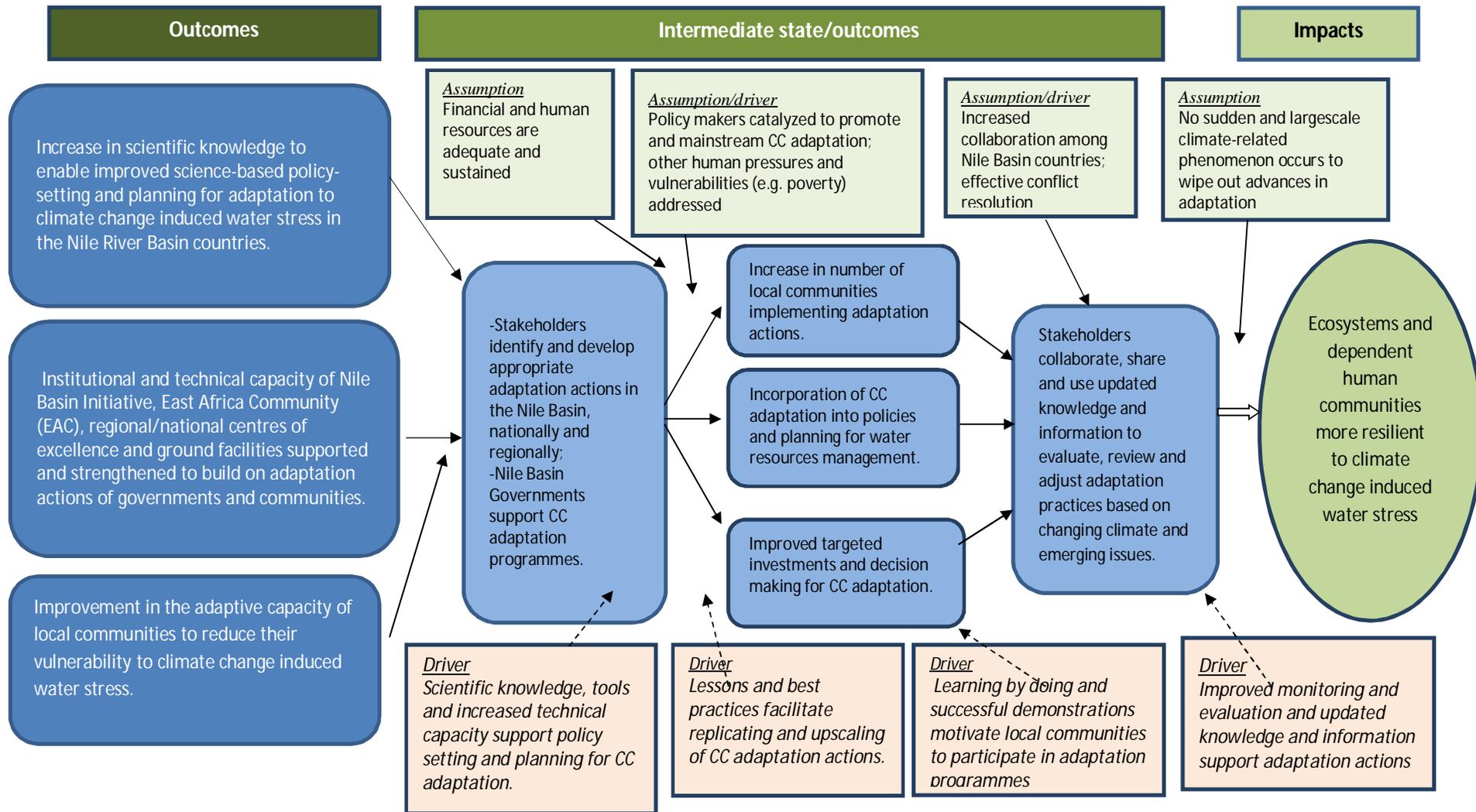
34. The overall TOC analysis for the project is presented in Figure 1. It is based on the premise that increased scientific knowledge, awareness and institutional capacity will lead to improved policy-setting and planning for adaptation to climate change induced water stress in the basin countries and ultimately to the resilience of vulnerable ecosystems and economies. Further, the acquired knowledge is expected to inform dialogue among the countries and promote collaboration in adaptation to climate change induced water stress in the Nile Basin.

35. The project results (improved knowledge and information, analytical tools, best practices, strengthened institutional capacity for adaptation, and increased willingness of the Governments to mainstream climate change adaptation into policy and decision-making and overall river basin development strategies) have started to catalyze change towards the intermediate state (which should ultimately lead to the desired, long term impact), as observed during the site visits and interviews with partners (Figure 1). An important driver is the willingness of the Nile Basin countries to collaborate among themselves and to look beyond their own borders to address climate change issues in this transboundary basin. But success in building resilience to climate change impacts is likely to be discernible only on the longer term and if a number of assumptions (over which the project has little or no control) hold, including the availability of adequate human and financial resources for replicating and upscaling adaptation actions and addressing other human vulnerabilities that can undermine adaptation. Another key assumption is that no sudden, large scale climate related phenomenon occurs that has devastating impacts on the communities and ecosystems, which is also beyond the project's control.

36. Unintended effects along other causal pathways that could stem from the use of project outputs by other potential user groups are likely. For example, successes with new farming techniques, crops and livestock (adaptation actions) encourage adoption and expansion by other farmers, who may not adhere to sustainable soil and water management practices. This can undermine efforts in adaptation to climate change impacts within the river basin and ultimately reduce the resilience of the ecosystem and dependent human communities.

37. The ROTI analysis is given in Part IV.C.

Figure 1: Draft Theory of Change diagram



IV. EVALUATION FINDINGS

A. Strategic relevance

38. The project's objective is highly consistent with the challenges imposed on the Nile Basin region by climate change induced water stress. As mentioned in Part III. A, African countries are among the most vulnerable to climate change impacts but have low adaptive capacity. Events demonstrative of extreme weather patterns are now common phenomena, for example, prolonged droughts in parts of Ethiopia, Kenya, and Tanzania and devastating floods in parts of Kenya, Tanzania, and Uganda. Such events can severely disrupt socio-economic development and achievement of the Millennium Development Goals (MDGs), numbers 1 and 7, to which the countries aspire. Climate change will have far-reaching consequences for poor and marginalized groups, the majority of whom depend on rain-fed agriculture for their livelihoods and have a lower capacity to adapt. Therefore, the countries have little recourse but to implement appropriate climate change adaptation measures.

39. The consistency of the project with international goals such as the MDGs and alignment with the obligations of the countries as Parties to the UNFCCC is obvious. Seven of the ten Nile Basin countries have existing National Adaptation Programmes of Action (NAPAs)⁷ and National Communications and therefore are committed to having adaptation high on their agendas. Furthermore, adaptation with regards to water resources has been identified as a priority by the countries.

40. The project is also in line with SIDA's mission to reduce poverty in the world. SIDA works to implement the Swedish development policy that will enable poor people to improve their lives. In the context of the Nile Basin project, SIDA support contributed to designing interventions to help reduce poverty of vulnerable local communities by building resilience to climate change. This is consistent with one of the three thematic priorities of Swedish development aid - environment and climate change.

41. Climate change adaptation has been recognized as a priority within UNEP's Climate Change Strategy with a focus on building resilience of ecosystems and economies. UNEP's priority is to promote adaptation measures in Africa and other developing regions particularly in addressing climate change induced water stress related to both water scarcity and flooding. The project's intended results are consistent with UNEP's programmatic objectives and expected accomplishments under its Climate Change and Ecosystem Management cross-cutting priorities of the Medium-term Strategy 2010–2013. Complementarities with UNEP's strategies and work programme are discussed further in Part IV. G.

42. The overall rating on relevance is **highly satisfactory**.

B. Achievement of outputs

OUTPUT 1

Assessment of water availability for populations and ecosystems in the Nile Basin, including appropriate information on the projections of climate and water regime changes

⁷ NAPAs (under the UNFCCC) provide a process for Least Developed Countries to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage.

43. This output consists of a comprehensive, scientific vulnerability assessment produced by DEWA⁸ (available online at <http://ebaflagship.org/resources/publications/reports/386-nile-river-basins-reports>). Scientific tools such as scenario analyses and modelling were used to improve the understanding of the likely impacts of climate change on the Nile water systems. Information for the assessment was culled from a variety of sources, and past and present satellite data, maps, and other illustrations were used to highlight areas of environmental change in the Nile basin. This work was undertaken in close collaboration with the modelling work carried out by DHI (Output 2).

44. The report describes, analyzes and demonstrates how climate change is affecting the water resources of the Nile Basin. It provides a rich synthesis of qualitative and quantitative policy and scientific data in one document, and proposes options and strategies for adaptation to climate change, including by country. Ground water, which is a politically sensitive issue and not discussed much in earlier assessments, receives special attention. The uncertainties related to the impacts of climate change in the Nile basin are highlighted in the report. It is clear that such uncertainties can have a strong influence on water resources planning and development in the future. However, these should not paralyze policy makers and water managers and prevent them from rethinking and re-evaluating current policies. In any case, adaptation should not be based solely on climate models, which are inherently fraught with uncertainty.

45. DEWA not only completed the vulnerability assessment, but also helped to strengthen capacity in the process. By engaging with national experts and institutions and convening a training workshop for national focal institutions (Cairo, January 2011), capacity in the use of satellite imagery and development of scenarios and models was enhanced. The evaluator learned, however, that in some cases the persons attending the workshop were not the most appropriate. The methodology for using satellite remote sensing is also described in DEWA's vulnerability report and is available to the Nile Basin countries. Engaging with experts from the countries also helped to ensure technical credibility of the assessment and a strong policy interface.

46. Producing Output 1, nevertheless, was not without challenges. A major constraint was related to data gaps and the lack of consistent datasets and heterogeneity of data quality and quantity across the Nile Basin countries. These gaps and data issues are clearly highlighted in the assessment. DEWA used secondary data and case studies to extrapolate where data was lacking. The dearth of data on groundwater was of particular concern, especially in view of the fact that 70% of the basin population depends on groundwater and the potential of this resource to support adaptation measures. Additionally, there was a paucity of data on land-use change in some countries, and satellite data was used. However, this data needed to be verified on the ground, but the required data was either limited or the datasets inconsistent. There is clearly an urgent need for reliable and consistent data so as to manage the Nile Basin water resources based on sound knowledge and information. Efforts should be increased to address data gaps and data quality at national and regional levels.

47. Another challenge arose from the delay in completion of Output 2 by DHI due to issues with access to national data (see Output 2 below). DHI modelling results were to feed into DEWA's analysis but this was delayed as a consequence of delays in Output 2. Input from other components was required by DEWA to identify hotspots, but due to delays other criteria had to be used to select the pilot sites. Moreover, certain political sensitivities also had to be addressed. For instance, because of the politically sensitive contents, the NBI and countries had to be consulted before the report was made public, and this process required some time. Further, some countries also objected to using regional and global datasets from external sources such as FAO and the World Bank, and DEWA turned to NBI to help validate some of these datasets.

48. Despite the challenges, Output 1 was satisfactorily achieved in projecting the best-case, worst-case and intermediate-case scenarios of water scarcity. It provides a scientific basis for identification

⁸ UNEP 2013. Adaptation to Climate Change Induced Water Stress in the Nile Basin: A Vulnerability Assessment Report. UNEP, Nairobi.

of hotspots and the development of adaptation strategies based on past and projected climatic and hydrological trends in the Nile Basin. A simplified version of this highly technical report would increase its utility by managers and decision-makers. Achievement of the scientific output was not all. The evaluator learned from the DEWA respondent that as a result of their engagement in this component, countries have started to ‘look beyond their borders’ and have acknowledged the importance of sharing data. This achievement has important implications for management of the transboundary Nile Basin. One Nile Basin country (Rwanda) has already approached DEWA to conduct a national level vulnerability assessment for which funding is being sought.

OUTPUT 2

Information on climate-related stresses of too little and too much water in Nile River Basin through scenario analysis to contribute to designing and piloting adaptation actions that will contribute to disaster risk reduction, conflict prevention and the realization of the MDGs.

49. This output was satisfactorily completed by DHI, in collaboration with the UK Met Office and the NBI. The report⁹ (available online at <http://ebaflagship.org/resources/publications/reports/386-nile-river-basins-reports>) provides comprehensive assessments of flood and drought prone areas in the Nile Basin and has enhanced understanding of climate vulnerability in the Nile in relation to water stress (high and low flows) and provides a number of vulnerability indicators. This Output includes a number of important findings in relation to state-of-the-art regional climate and regional hydrological modelling results made available to all Nile Basin countries for application at the regional or national level; and improved understanding of the key climatic processes and the predictive ability of regional versus global climate models. As for Output 1, uncertainties are highlighted and attempts were made at both reducing and quantifying some of the largest sources of uncertainty.

50. Data sources included publicly available climate and hydrological data (including satellite data) as well as national datasets from the countries themselves. The overall approach was to develop and apply a regional scale operational framework, which consisted of combining regional scale climate modelling with distributed hydrological modelling to both assess the impacts of climate change on the water resources and provide the capability to evaluate adaptation measures at the regional scale. This approach involved key innovations, for example, downscaling of global models to the regional level and combining climate and hydrological modelling for the first time for this basin. A number of important modelling tools that were previously lacking have been developed to assess climate adaptation at the regional scale. In addition, a complete, new set of regional climate model projections were provided to the project without additional cost by DHI/UK Met Office, which represents considerable added value to the project. However, this required additional processing and analysis.

51. Producing Output 2 also included an element of capacity building. Two workshops were convened at NBI-Sec, Entebbe—a technical workshop in April 2013 to present the methodology, key findings and perspectives for combined climate change and water resources modelling (participants from 10 Nile Basin countries, including from Ministries responsible for water, environment or natural resources), and a technical modelling workshop conducted by the UK Met Office in May 2013 (participants from Nile-Sec; ENTRO, Addis Ababa; and NELSAP-CU, Kigali). Both DEWA and DHI have indicated to the evaluator their willingness to continue the training started under the project.

52. A number of challenges were encountered related to data availability, notable of which was gaining access to the national datasets due to the political sensitivity of such data. Access was eventually facilitated by the signing of an MOU between UNEP and NBI, but well into the second year of the project. This resulted in delays in the modelling work by DHI and had knock-on effects on subsequent activities, such as the work of DEWA and GWP’s activities on policy support and capacity building.

⁹ DHI 2013. Nile Basin Adaptation to Water Stress-Comprehensive Assessment of Flood and Drought Prone Areas.

53. UNEP and partners should have been aware of the political sensitivities surrounding national climate and hydrological data, especially considering their experience working in the region, and should have done the necessary ground work during project development. In so doing, they would have avoided the data issues encountered and the resulting delays on completion of this Output, which reverberated through other project components. An important lesson is derived for the proposed second phase of this project and other projects that require politically sensitive data.

54. The acquisition of complete and consistent datasets for calibration and simulation of the hydrological models was also problematic. For example, an important limitation in the hydrological modelling work was the lack of data to support the formulation and calibration of sub-basin models. In the context of sparse data coverage satellite based remote sensing was used instead, but the time period covered by the satellite data and the discharge measurements were different. Future effort could be devoted to collecting the most recent discharge data to evaluate the value of satellite data for hydrological modelling. Another example was the provision of rainfall data from Ethiopia as monthly means, whereas daily data was required by DHI for modelling. This required that the monthly data be disaggregated, which was not optimal. Further, a number of national datasets obtained under confidentiality agreements could not be used because of certain inconsistencies (e.g., in the temporal and spatial resolution). Additional data was required for the Lake Victoria region in order to provide acceptable hydrological modelling of this important area.

55. The sparse data availability increased the effort by DHI for utilizing public domain data and pushed the time demand for this task above budget. Considerable resources have been expended both in developing and processing the new regional climate simulations and in the collections, checking of new data and the development and evaluation of appropriate methodologies. A key recommendation to the Nile Basin countries is that efforts should be strengthened to fill data gaps with good quality observation data and to improve the data basis and spatial coverage used for modelling, including for the Ethiopian Highlands. This is an important source region and highly sensitive to changes in precipitation and evapo-transpiration.

56. Another report¹⁰ was produced under this work package, under the responsibility of the CCAU. It identified key stakeholders and partners at continental, sub-regional, basin, national and local levels, with a particular focus on a wide range of actors such as intergovernmental institutions, regional economic commissions, government agencies, development partners, non-state actors, and research institutions working in the pursuit for adaptation solutions in the Nile Basin. The report can be used to inform the project, policy makers, politicians and practitioners on gathering further examples of good practice as regards past ecosystem based adaptation activities in the basin and support them in effective decision-making. This report also fed into Output 3.

OUTPUT 3

Capacity for adaptation strengthened, built and increased within the NBI, EAC, etc. and regional centers of excellence and research centers to provide technical support and capacity to governments and local communities.

57. It is undeniable that strengthening capacity for climate change adaptation in the Nile basin is not an easy undertaking. The project had to adopt a very strategic approach in view of the capacity gaps identified as well as the limited budget and timeframe. Therefore, a multi-pronged approach was implemented and included: direct involvement of national and local stakeholders and regional and national centers in project execution, conduct of seminars and workshops, improvement in the scientific knowledge base, production and dissemination of training and awareness materials, and practical field demonstrations.

¹⁰ UNEP 2013. Stock-taking of Adaptation Activities in the Nile River Basin. UNEP, Nairobi.

58. Evaluating the achievement of Output 3 was not as straightforward as for Outputs 1 and 2, which were concrete deliverables. Moreover, the lack of clear indicators, targets and baselines in the log frame was compounded by omission of the outputs in the annual progress reports (which only discussed progress on the Outcomes). To minimize potential confusion, this section focuses on the activities undertaken by the NBI and GWP-EA to strengthen the adaptation capacity of stakeholders and provide support to the Governments (related to Outcome 4.1). With their existing constituencies and networks in the countries, both these partners were well-placed to engage with and provide support to the Governments. NBI facilitated political and technical processes and provided relevant climate information, while GWP-EA provided training, information management and dissemination and awareness.

59. An initial capacity needs assessment¹¹ was conducted at basin, sub-basin and national level, by a consultant under the supervision of DEPI/CCAU. Climate modelling, awareness creation, and development of adaptation scenarios and strategies were among the top priority needs identified. Regional training on IWRM and climate change adaptation was based on the capacity needs assessment. However, due to limitation of resources and time, the priority capacity needs identified were not covered under the project. Furthermore, the capacity building strategy developed by GWP-EA was to create a core team of trained individuals in each country to expand the capacity building process to national and sub-national levels, but this was not implemented due to resources and time limitations.

60. GWP-EA and NBI used their extensive national networks and experience to facilitate policy and capacity support for climate change adaptation in the Nile Basin countries. Almost all the Nile Basin countries have a GWP Country Water Partnership (CWP) that functions as multi-stakeholder platforms bringing together government departments, research institutions, non-state actors and technical agencies for water resources management. In countries without CWPs, the NBI focal points and TAC members were used to facilitate activities at the country level. These platforms were utilized to promote climate change adaptation and the synergistic benefits of transboundary action.

61. Several awareness-raising activities were held, including workshops and meetings, some of which were attended by high levels within Governments and other Bodies. In November 2011, GWP-EA organized an induction workshop in Entebbe for the CWPs, who were instrumental in disseminating information from the project at the national level. At the regional level, GWP introduced the project at the Nile Council of Ministers (Nile-COM)/ Nile-TAC Meetings in July 2011.

62. Another workshop¹² was held in Nairobi in March 2012 that brought together high level decision-makers from Government Departments from all Nile member states for the first time in five years. The 60 participants represented eight African countries, including members of the Nile-TAC, Regional Climate Research Institutions, UNFCCC Country Focal Points, Country Water Partnership Chairs and civil society, among others. GWP used the opportunity to give presentations at the Nile-TAC and Nile-COM meetings and at the Nile Parliamentarians Conference (July 2012 in Kigali, Rwanda), and expanded its engagement to parliamentarians. NBI prepared publicity materials, including 'Colours of the Nile', which are five brief reports on issues related to water security and climate adaptation, and conducted awareness raising sessions for Nile-TAC/Senior Management and Key Stakeholders at the Fourth Africa Water Week and the African Ministers Council on Water (AMCOW) Meeting in Cairo in May 2012).

63. While awaiting the results from the earlier activities, GWP-EA (through the CWPs and other national bodies) initiated a review of climate resilience frameworks and adaptation measures in place

¹¹ UNEP 2013. Climate Change Adaptation Capacities in the Nile River Basin. UNEP, Nairobi.

¹² NBI/GWP-EA/UNEP 2012. Report of Workshop on 'Basinwide cooperation for climate resilience in the Nile'. 27-28 March 2012, Nairobi, Kenya.

in the Nile Basin countries¹³. The report contains valuable information on each Nile Basin country to assist them in developing their respective climate change adaptation plans and policies. The evaluator learned that the report was very well received by stakeholders. In interviews with GWP personnel it was revealed that this report was not yet published, as GWP is awaiting permission from UNEP. The evaluator urges UNEP and partners to ensure that all reports are published and widely disseminated as soon as possible. Another report¹⁴ produced also contributes to the knowledge base on climate change impacts and adaptation options, and helps to increase institutional and technical capacity to further test, replicate and scale up at the basin level.

64. Despite the achievements, some problems were encountered in delivering this output. The original workplan was organized such that results from earlier activities were to be used by GWP-EA and NBI in developing training and awareness materials. However, delays in the completion of these activities (Part IV.B, Outputs 1 and 2) presented a major obstacle for GWP-EA and NBI in preparation of training materials. Moreover, according to the GWP-EA respondent, the project raised the expectations of the countries but in the end budget and time limitations severely impacted GWP-EA's ability to support the country teams to influence transboundary level activities.

65. Activities under Outputs 1 and 2 also helped to build capacity, not only in providing data and information on climate change and multi-dimensional tools, but also in engaging with national and regional scientists and institutions in the conduct of scientific studies and targeted training in workshops (Part IV.B, Outputs 1 and 2). Capacity building was also facilitated under the demonstration projects (Part IV.C, Outcome 5.1.), whose beneficiaries included national and local government departments, extension workers and research centers.

66. The final project workshop took place in Nairobi on 27 – 28 May 2013. This workshop, which was presided over by the Kenya Cabinet Secretary for the Ministry of Environment, Water and Natural Resources, brought together all the Nile Basin Countries (represented by the Nile-TAC members) as well as Civil Society and other stakeholders to learn about the project results.

67. Achievement of outputs is rated as **moderately satisfactory**.

C. Effectiveness

68. Effectiveness is based on the three re-formulated project outcomes. Attempts were made to use the log frame indicators to evaluate achievement of outcomes, but these were found to be of limited utility as no baselines, targets and performance indicators were given and the indicators were generally vague and not easily quantified.

69. The project outcomes were intended to catalyze action and change (the intended purpose). This is consistent with the TOC, which is based on the premise that increased knowledge, awareness and capacity will result in better planning, collaboration and improved ability to adapt to climate change induced water stress and ultimately to the resilience of vulnerable ecosystems and economies (see Part III.H).

Achievement of outcomes

OUTCOME 1

70. *Increase in scientific knowledge to enable improved science-based policy-setting and planning for adaptation to climate change induced water stress in the Nile River Basin countries. (Indicators:*

¹³ NBI/GWP-EA/UNEP 2013. Towards water security and climate resilience in the Nile Basin - Review of National Climate Resilience Frameworks of the Nile Basin Countries.

¹⁴ UNEP 2013. Review of Adaptation Best Practice Examples in the Nile River Basin Region. UNEP, Nairobi.

Scenarios developed, and integrated into national development plans and water resources management policies; Availability of continuous and reliable predictions on flood and other potential risks and impacts).

71. As discussed in Section H (TOC analysis), this re-formulated outcome includes the original Outcomes 1 and 2 in the project document. In order to address the many challenges of adaptation to climate change induced water stress, managers and decision-makers require scientific knowledge and analytical tools to support their decisions. The assessments conducted by DEWA and DHI make a significant contribution to the scientific knowledge base to support and inform water resources management under a changing climate and the evaluation of alternative climate change adaptation measures at the regional level. Involving technical experts from the Nile Basin countries in these studies also helped to build capacity for conducting the assessments and using the tools developed.

72. The DEWA (Part IV.B) report provides a rich synthesis of qualitative and quantitative policy and scientific data. It describes, analyses and demonstrates how climate change is affecting the water resources of the Nile Basin and proposes options and strategies that may assist in reducing vulnerability to climate change induced water stress in the Basin. The assessment framework includes tools, criteria and indicators for selecting hotspots linked to scenario development. With respect to the indicator, it was not realistic to expect that integration of the scenarios would occur to any significant extent during the life of the project, in view of the inherent challenges in this process at the national level, let alone at the transboundary level. What the project achieved was to lay some building blocks to pave the way for integration in future.

73. The DHI study has contributed knowledge of present and projected vulnerability in the Nile in relation to water stress (high and low flows). By linking these assessments to climate change adaptation science and policy, this study provides appropriate information to inform decision-making for water resources management under a changing climate. More specifically, it provides a number of important findings in relation to state-of-the-art regional climate modelling results, which is available to all Nile Basin countries for application at the regional or national level. Modelling tools were also developed (a regional scale hydrological tool and a regional water resource tool) and made available to the countries. With respect to the indicator, the study has provided predictions on flood and other risks and impacts, and attempted to reduce uncertainty as much as possible.

74. This outcome is an important catalyst for actions towards the intermediate state and the ultimate impact of resilient ecosystems and communities. The project has contributed to improving the scientific knowledge and information base about climate change impacts in the basin, which provides a scientific basis for critical thinking, policy setting and planning regarding climate change adaptation. Importantly, the spatial-temporal variations across the basin in water availability, withdrawal, flow and utilization (due to climate change and impact signals) highlight the need for basin-wide cooperation in climate change adaptation.

OUTCOME 2

75. Institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities. (Re-formulated)

[SUB-OUTCOME 4.1¹⁵: *Governments in the river basin supported and engaged in the integration of adaptation into relevant policies and institutional frameworks to support technical, financial and policy options for sustainable water resource management (Indicators: Knowledge platform becomes a basis for better sharing of information and for provision of advisory service; Countries in the basin discussing adaptation options particularly with regards to transboundary water resources management)*].

¹⁵ This numbering is retained as it is used in the progress reports and final project report.

76. In producing Output 3, a number of activities were undertaken by GWP-EA and NBI in efforts to support and engage the Governments in integration of adaptation into relevant policies and frameworks. For example, the March 2012 workshop convened by GWP provided a platform to discuss how the outputs and recommendations from the project can be integrated into regional and national climate policies, strategies and implementation plans. Through the multi-stakeholders platforms, GWP-EA and NBI succeeded in bringing diverse Ministries such as Finance and Energy Ministries together to consider the integration of climate change adaptation into their respective sectors. While dialogue on integration was improved during the course of the project, integration is a slow process and the extent of integration will be determined on the longer term.

77. It was expected that the project results will be used in development of the Nile Basin Climate Change Strategy (CCS)¹⁶ and the technical information produced integrated into NBI's Decision Support System (DSS). The evaluator learned that since the end of this project, its results are being used in relevant programmes in other African basins, for example, by GWP in the implementation of the Water, Climate and Development Programme for Africa (WACDEP¹⁷) of AMCOW. WACDEP's goal is to promote water as a key part of sustainable regional and national development and contribute to climate change adaptation for economic growth and human security.

78. Apart from the work by GWP-EA and NBI, the other project components also identified several policy areas and recommendations for policy actions (Outputs 1 and 2). Under the demonstration projects, a number of policy-related activities were accomplished (Part IV.B, Output 5). For example, in Uganda, adaptation considerations were integrated in the Catchment Management Plan for the Mpanga Catchment, while in Ethiopia, the project helped stakeholders to integrate climate change adaptation into the Government initiatives on soil and water conservation (SWC) and natural resources management. Attempts to obtain information on the impacts of the demonstration projects on policy in the other countries met with the general response was that it was too early to identify any such impacts and further, that attribution to this project alone will be problematic as there are several past and ongoing climate change projects in the region.

79. The project has increased the technical capacity of regional/national centres of excellence and research centres to support the adaptation action of governments and communities. Regional and national centres that benefitted were NBI, GWP-EA, Wollo University, SARC, ENTRO, PROTOS, Mountains of the Moon University as well as the Ministry of Water and/or Environment whose staff participated in various training workshops and execution of different project activities. Capacity strengthening was also extended to the local level where local government agents and extension workers as well as local communities received training and hands-on experience in developing and implementing adaptation actions.

80. In addition to the support provided during the project, the knowledge products, lessons and experiences derived from the project represent an important resource for continuing support to the Nile Basin Governments in integrating climate change adaptation into their policies and frameworks. But the knowledge platform for better sharing of information and for provision of advisory services (one of the indicators for this outcome), which was to be set up by GWP-EA, was not established. The evaluator was informed by the UNEP project manager that dissemination of the project's results were to be anchored in the Africa Hub of the UNEP-facilitated Global Adaptation Network (GAN), which was a wise decision. A central function of the GAN is mobilization of knowledge by improving its availability, accessibility and usability for user-communities. The evaluator reviewed the website of GAN Africa (www.aaknet.org) but found no reference to the Nile Basin project or its results. UNEP is

¹⁶ The overall goal of the CCS is to strengthen basin-wide resilience to climate change and ensure climate compatible water resource management and development. It identifies gaps and future threats and consequently defines requirements and constituents of climate change resilience basin-wide, sets out proper strategic objectives and outputs, introduces effective mitigation and adaptation measures, and describes appropriate institutional set-ups (www.Nilebasin.org).

¹⁷ <http://www.gwp.org/WACDEP>

urged to ensure that the project results are disseminated through this and other avenues as soon as possible to facilitate sharing and exchanging of knowledge, lessons and best practices.

OUTCOME 3

81. *Improvement in the adaptive capacity of local communities to reduce vulnerability to climate change induced water stress. (Re-formulated).*

82. [SUB-OUTCOME 5.1¹⁸. Functional and replicable demonstration sites set and linked to research centers or facilities in selected Nile Basin countries, comprising of a flood prone basin, a drought prone basin and a basin with a mixture of both flood and drought.]

83. The main outcome of the demonstration projects is represented by improvement in the adaptive capacity of local institutions and communities, through lessons and best practices to guide adaptation to climate change induced water stress in the Nile Basin.

84. According to the project document, demonstration sites were to be established in three areas (flood-prone, drought-prone and a mixture of both) to test and demonstrate adaptation actions that are suited to each type of condition, and in so doing enhance the climate change adaptive capacity of the local human communities that are dependent on the ecosystems and their goods and services. However, during project implementation, only two sites were selected as representative of “hotspot” ecosystems – a dryland area in Ethiopia and mountain area in Uganda.

85. Selection of the specific sites was based on the existence of previous or ongoing projects of the respective Governments and/or donors and the presence of appropriate potential partners and stakeholders in the respective countries. This was an effective strategy and meant that the Nile Basin project was not starting ‘from scratch’ and could benefit from and contribute to already ongoing initiatives and effort. This also promoted acceptance and buy-in from the national and local stakeholders and importantly, will facilitate uptake of the results in national policies and programmes.

86. However, a shortcoming in the selection of sites was that no transboundary sites were selected. Since the Nile Basin is transboundary, conducting a demonstration project in a transboundary area would have yielded valuable lessons in transboundary approaches for adaptation and upscaling across the basin.

Ethiopia

87. ILRI led this demonstration project, which was located in the Kabe Watershed, Worreilu District (part of the Jemma sub-basin of the Blue Nile, Amhara Region). The pilot project was carried out from October 2011 to February 2013. Partners from the Kabe region who already had experience in the area were selected by ILRI: Wollo University, which was responsible for technical studies and advice; SARC, responsible for providing agricultural materials such as seeds and seedlings; and Worreilu Wereda Administration Office of Agriculture and the Kabi Kebele Administration, responsible for mobilizing the local communities. Employing a local community facilitator was also very strategic in helping to engage with the farmers in the watershed in carrying out the adaptation interventions. An officer from UNEP/DEPI who was responsible for drylands provided advice and technical backstopping. The design of the pilots was a collaborative and consultative process among these partners and the local communities.

88. Ongoing efforts at the time included the Ethiopian Government’s initiatives in integrated water resources management/natural resources management/SWC, through which pilot projects were set up throughout the country. ILRI, in consultation with the district administration, linked one of these

¹⁸ This numbering is retained as it is used in the progress reports and final project report.

Government projects to the UNEP demonstration site. Through this collaborative effort, farmers themselves voluntarily contributed labour, for example, to create terraces on hillsides for SWC. Another supporting initiative was the Nile Basin Development Challenge (NBDC), which was implemented by a consortium comprising, among others, ILRI and NBI, both key partners in the Nile Basin project. Kabe was included as the 4th NBDC site and the Nile Basin project benefited from NBDC in terms of producing digital stories and organizing training and workshop activities and use of its webpage to post its activities and findings.

89. This strategic partnership arrangement, involving partners from the international to local levels and including partners who already had a presence and on-the-ground experience in the countries, was found to be very effective and accounted in large part for the success of the demonstration project. In fact, the strengthened partnership was considered by respondents (from ILRI, Wollo University and SARC) to be one of the major achievements of the project to date.

90. The evaluation consultant visited the demonstration site on 4th December 2013, accompanied by individuals from ILRI, Wollo University, SARC and the Worreilu Wereda Administration Office of Agriculture. Focus group discussions were held with farmers (25 from the Kabe watershed and one from an adjacent watershed) with the help of a translator (ILRI staff member), following which the consultant was shown the pilot adaptation interventions. These included spring water development, shallow wells, introduction of drought resistant and early maturing crop varieties, improved sheep breeds and home-garden high value fruit and vegetable plants. A report of the pilot project¹⁹ is available (<http://ebaflagship.org/resources/publications/reports/386-nile-river-basins-reports>).

- Despite the duration of about only one year, some early successes were clearly evident during the consultant's visit. Among these (seen entirely or in part by the consultant) were:
- Building capacity of 160 farmers and 120 extension workers through training and site visits;
- More than 80 lambs produced by local ewes and introduced improved rams;
- Improvement to two springs, providing drinking water for more than 60 beneficiaries;
- Three hand dug wells and one water harvesting dam constructed at household level;
- Introduction of forage plants on the banks and terraces that aided SWC and increased soil productivity;
- Introduction of fodder 'cut and carry' system that improved livestock productivity (one female livestock farmer reported that she was now obtaining enough cow's milk to be able to sell to her neighbours);
- Introduction and acceptance by livestock farmers of a policy on 'zero free-grazing', which was developed into a local by-law;
- Vegetable gardens and fruit trees established and productive;
- Physical SWC conservation measures and introduction of niche compatible tree species;
- Incorporating climate change adaptation into SWC and natural resources management for the first time; and
- Assembly of knowledge on factors influencing adoption of adaptation strategies.

¹⁹Mekonnen, K., A. Duncan, D. Kefyalew, T. Bekele and A. Wubet. Enhancing communities' adaptive capacity to Climate Change in drought-prone hotspots of the Blue Nile Basin in Ethiopia. UNEP/SIDA/NBI. 32 pgs.



Ethiopia demonstration site: Some project beneficiaries and examples of project achievements .
(Photos: S. Heileman, Dec 2013)

91. It could be argued that some of the pilot adaptation interventions were no different from a typical rural poverty reduction programme. But, as stated in the project document, the project was expected to contribute to poverty reduction in the basin countries as defined in their national poverty reduction strategies and national development plans. This is in line with the recognition that poverty exacerbates the potential negative impacts of climate change by limiting the capacity of the poor to manage climate risks.

92. One year after the start of the pilot project, farmers were already benefitting from an improved natural resource base (food, water), increased income and improved livelihoods as a result of the project intervention in the Kabe watershed. Creation of a demand for research and development, production of baseline information and enhancing awareness about climate change impacts were also among the achievements. Feedback from the farmers and local development agents was very positive and a strong sense of ownership and buy-in at all levels was evident to the evaluator.

93. In February 2013, a workshop was convened in Addis Ababa by ILRI to present the lessons and success stories from the demonstration project (Lessons and success stories from a pilot project on climate change adaptation interventions in Kabe watershed, South Wollo, Ethiopia- see <http://nilebdc.wikispaces.com/n6finalworkshop>). Participants represented project partners and a range of other stakeholders. Based on the report of this workshop on the website, it is obvious that many valuable lessons were learned and that participants were appreciative of the project's contribution. Additionally, a number of concrete recommendations and suggestions were made regarding scaling up and addressing outstanding gaps and constraints.

94. The reports of this workshop and of the demonstration project are an important contribution to knowledge and information for climate change adaptation by vulnerable communities. However, in the focus group discussion with the evaluation consultant, farmers and extension workers revealed

that they have limited or no access to the results and training material. It is important that these be made available and accessible in the Amharic language as soon as possible.

95. An important consideration in the evaluation of a pilot project is the potential for sustainability of results and replication and upscaling of lessons and best practices, for which the evaluation found there was very good prospects, as demonstrated by:

- Training manuals, reports, information materials and digital stories that are important tools to advocate and up scale the lessons from the project activities and increase capacity of Government agencies and local communities;
- Forging of excellent collaborative partnerships;
- Showcasing the results during a field day at the site and a 2-day workshop²⁰, with very encouraging feedback and interest in continuation of the project by the participants;
- Farmers who were involved in the pilot are sharing experiences, lending their rams for breeding and sharing fruit/vegetable seeds and seedlings with farmers from adjacent watersheds;
- Wollo University, SARC and the Wareda Agriculture Office are using the site as a demonstration and research site;
- The Agriculture Office is integrating some of the results into IWRM efforts;
- Results are being taken up in other projects by SARC, the Water and Land Resource Centre and in other smaller districts (“*Kabeles*”²¹) through the Agriculture Office;
- Ethiopia has developed a strategy ‘Climate Change Resilient Green Economy’, through which integration of project results into different sectors can be facilitated;
- Wollo University is using some of the scientific results of this project in modelling of sedimentation in Lake Hayq (northern Ethiopia);
- Continuation of monitoring (albeit sporadically) at the site by Wollo, SARC and the Agriculture Office (on their own), although no plan was put in place for monitoring and evaluation.
- NGOs (e.g., Mekaneyesus and Menschen für Menschen) are replicating some of the interventions in other sites.

96. Among the constraints encountered in the implementation of the pilot project in Ethiopia were the short time frame of one year (pilot was evaluated for only one season, whereas a longer time is needed especially with regards to climate change impacts), initial difficulty convincing farmers to be involved in adaptation interventions, and limited resources for M & E. The project, in collaboration with the Government agencies, should have ensured that mechanisms were in place for monitoring of the interventions. Since the end of the project, executants from Wollo University and SARC have taken it upon themselves to monitor the interventions, but they are constrained by limited financial resources.

97. A number of barriers to adaptation persist, including data and information gaps (e.g., baseline data on groundwater and water flows) and support to farmers. There is need for access to markets for their produce and market information; infrastructure such as roads; availability of seeds and farm equipment; improved stoves; access to electricity; and capacity to deal with plant and animal health issues, among other needs. In addition, poverty continues to plague the communities who are faced with a number of issues such as poor access to human health care, etc. These are all related to the wellbeing of the community and their ability to build resilience to climate change impacts, and should form part of an integrated approach to socio-economic development and climate change adaptation.

²⁰“Lessons and success stories from a pilot project on climate change adaptation interventions in Kabe watershed, south Wollo, Ethiopia”, which was organized by ILRI in collaboration with UNEP, Wollo University, SARC and Worreilu Office of Agriculture from 11-12 February 2013 at ILRI campus and attended by 49 participants. <http://nilebdc.wikispaces.com/n6finalworkshop>

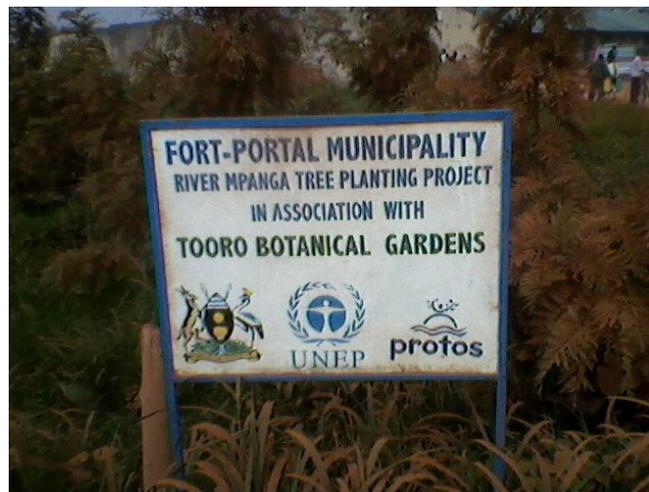
²¹ The smallest governmental district or denomination.

98. The lessons and best practices from this demonstration project should be scaled up, but at the same time existing barriers to adaptation need to be also addressed.

Uganda

99. The Uganda demonstration project was executed by PROTOS, in partnership with the Ugandan Ministry of Water and Environment (DWRM) and UNEP, from the end of 2011 until end of 2012. The selected site was the Mpanga River Catchment in the upper Nile Basin. In Uganda, WWF had carried out a pilot project in two sub-catchments (Mubuku/Nyamwamba and Lamia/Lower Semuliki sub-catchments) of the Semuliki Catchment at the same time that PROTOS implemented a series of interventions in a third sub-catchment along the River Mpanga. A Nile-TAC member for Uganda recommended that a demonstration project be implemented in Uganda through PROTOS. Together with the initial work by WWF in the Mubuku/Nyamwamba and Lamia/Lower Semuliki sub-catchments, this demonstration resulted in three primary sub-catchments in the Semuliki Catchment being covered.

100. The project focused on improved water management as a tool for climate change adaptation and was based on an existing National IWRM pilot led by PROTOS and the DWRM. This IWRM pilot had been set up since 2006 and used as an input in the National Policy on Catchment Based Water Resource Management. With the support of the Nile Basin project, aspects of adaptation were integrated in the ongoing pilot. Field activities were identified, planned and implemented with the involvement of local stakeholders (such as local leaders) and with support of other local implementing partners (NGOs and CBOs). A number of pilot interventions were implemented in various districts surrounding Fort Portal and Kamwenge as well as the Rwenzori Mountains using Government district departments and municipal councils, with supervision and technical backstopping from PROTOS and contracted partners. Local communities were sensitized and supported in preparing a long-term climate change and IWRM action plan to enhance their adaptive capacity to climate change and integrate improved water management in the Mpanga Catchment.



(Photo: Drake Rukundo, 2013)

101. A number of meetings were held with key stakeholder representatives, especially local government. Training sessions were also organized on climate change adaptation and tools developed for different stakeholders including local government. These sessions were organized by PROTOS and facilitated by consultants. Wide scale sensitization efforts were also carried out using a mobile video that was put together for mass awareness campaign among communities, and brochures and handbooks that were given out at various levels (villages, schools, local Government structures, and National platforms). A specific programme on sensitization in schools was developed and executed.

102. The demonstration project allowed testing the inclusion of climate change adaption efforts within the IWRM planning policies that were being piloted. As a result, the Catchment Management Plan was revised based on the outputs of this demonstration. In addition, new tools were developed to improve bottom-up planning processes, and experience was gained in articulation of the roles of the Districts in the roll out of climate change adaptation action plans. At the same time, the capacities of key stakeholders were strengthened.

103. PROTOS is currently still active with the IWRM programme within the catchment in collaboration with the DWRM and with support from the Belgium Government. As a result of this project, PROTOS has strengthened its working collaboration with the district (local governments and municipal council of Kabarole), which has increased local ownership and political support. PROTOS has other projects funded by the Belgian DGD with emphasis on local IWRM and access to drinking water and sanitation and the Uganda office also oversees implementation of similar projects in the neighboring Democratic Republic of Congo. Within the context of this long term cooperation between PROTOS and the DWRM, the outcomes of the demonstration can be monitored and opportunities sought to further roll out the adaptation actions within the catchment.

104. Further details on the Uganda demonstration project are given in the final report²² of this demonstration and in the Uganda Country Report (Annex 7).

Direct outcomes from reconstructed TOC

105. While the expected outcomes were realistically achievable within the project's timeframe, building resilience of Nile Basin countries to climate change induced water stress requires a much longer timeframe, and even so adaptation will help only up to a certain point. It was unrealistic to expect that resilience would be achieved within the basin in three years and with the available financial resources. Respondents expressed the view that it was too early to tell if the project had any influence on national and regional policies. As well, throughout the basin there are numerous ongoing and planned projects and programmes in climate change adaptation at national, sub-regional and regional levels. Therefore, it is difficult to attribute progress in climate change adaptation to any one particular intervention.

106. Nevertheless, the project has laid a solid foundation for building resilience by strengthening capacity at local, national and regional levels within the Nile Basin region for adaptation to climate induced water stress through:

- Improving the scientific knowledge base required for improved policy and planning and to identify, develop and implement appropriate adaptation interventions at national and regional levels;
- Availability of analytical tools and methodologies that can be applied to replicate the scientific assessments, and strengthening technical capacity in the countries to use these tools and methodologies;
- Demonstrating that feasible solutions exist, and generating lessons and best practices for replication and upscaling through testing and demonstration of pilot adaptation interventions, and building the adaptive capacity of local communities;
- Highlighting the need for dialogue among the countries and for further research;
- Strengthening collaboration among countries in sharing of information and climate change adaptation.

²² PROTOS 2013. Enhancing the adaptive capacity of communities to climate change through IWRM, Mpanga Catchment of the Nile Basin in Uganda.

107. These achievements are among the drivers that can potentially catalyze change towards the intended impact (see TOC, Part III.H). According to the project document, it was expected that the improved capacity, knowledge and information will facilitate policy setting and planning within the basin countries and promote dialogue on adaptation for transboundary water resources management in the basin countries; that partners will cooperate in data collection and dissemination to support governments; and increased knowledge and awareness will lead to positive attitude towards adaptation options among stakeholders. As discussed in Part IV.B and D, these processes have already begun, both during the project implementation phase and in the short time period since the project ended.

108. But realization of the project impact requires, *inter alia*, replication and up-scaling of the lessons and best practices derived in the two demonstration projects in other sub-basins within the Nile Basin, mainstreaming of climate change adaptation into all sectors and development programmes, consideration of transboundary issues including upstream/downstream interactions and collaboration among the countries, improvement in monitoring and availability of reliable and updated data and information, expansion of capacity building to include other stakeholders, and support to vulnerable communities to implement and upscale adaptation actions. An underlying requirement that cuts across these factors is the availability of adequate financial resources (see Part IV.D). These conditions were also identified by project executants and respondents during the conduct of the evaluation.

109. While many of these conditions are under the control of the project partners, particularly NBI, GWP-EA and the Governments, achievement of impact also depends on a number of assumptions or factors that are largely beyond the control of the project and its partners (see TOC, Part III.H).

Likelihood of impact

110. The likelihood of achievement of project impact (Ecosystems and dependent human communities more resilient to climate change induced water stress) is examined using the ROTI analysis and TOC. A summary of the results and ratings of the ROTI are given in Table 4.

111. The overall likelihood that the long term impact will be achieved is rated on a six-point scale as 'Moderately Likely' (BC). This rating is based on the following observations:

(i). The project's intended outcomes were delivered and were designed to feed into continuing processes such as the Africa Adaptation Network and the Nile Basin Climate Change Strategy. Partners such as NBI and GWP-EA are well placed to facilitate uptake of project outcomes into these processes. However, no provisions were made within the project for allocation of responsibilities after project funding. In fact, there was no exit strategy and as was observed during the site visits, local partners have taken it upon themselves to continue with some activities despite limited or no funding (Rating B);

(ii). Measures designed to move towards intermediate states needed for eventual impact are evident in the momentum that the project has created towards climate change adaptation within the Nile Basin countries and regional Bodies. The measures have started, but have not yet produced results, which will be evident on the longer term (Rating C).

Table 4. Results and ratings of Review of Outcome to Impact Analysis

Project objective: To build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.							
Outputs	Outcomes (Re-formulated)	Rating (D-A)	Intermediary	Rating (D-A)	Impact	Rating (+)	Overall
<p>1. Assessments of water availability for populations and ecosystems in the Nile Basin, including appropriate information on the projections of climate and water regime changes.</p> <p>2. Information on climate-related stresses of too little and too much water in Nile River Basin through scenario analysis to contribute to designing and piloting adaptation actions that will contribute to disaster risk reduction, conflict prevention and the realization of the MDGs;</p> <p>3. Capacity for adaptation built in and increased within regional centres of excellence and research centres to provide technical support and capacity to governments and communities.</p>	<p>1. Increase in scientific knowledge to enable improved science-based policy-setting and planning for adaptation to climate change induced water stress in the Nile River Basin countries.</p> <p>2. Institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities.</p> <p>3. Improvement in the adaptive capacity of local communities to reduce vulnerability to climate change induced water stress.</p>	B	<p>Stakeholders identify and develop appropriate adaptation actions in the Nile Basin, nationally and regionally.</p> <p>Nile Basin Governments support CC adaptation programmes.</p> <p>Increase in number of communities implementing adaptation actions.</p> <p>Incorporation of CC adaptation into policies and planning for water resources management.</p> <p>Improved targeted investments and decision making for CC adaptation.</p> <p>Stakeholders collaborate, share and use updated knowledge and information to evaluate, review and adjust adaptation practices based on changing</p>	C	Ecosystems and dependent human communities more resilient to climate change induced water stress		BB

			climate and emerging issues.				
	<p>Rating justification: B The B rating indicates that the project's intended outcomes were delivered, and were designed to feed into a continuing process (e.g., Africa Adaptation Network), but with no prior allocation of responsibilities after project funding.</p>		<p>Rating justification: C The C rating reflects that the measures designed to move towards intermediate states have started, but have not yet produced results.</p>		<p>Rating justification: The BC rating corresponds to 'Moderately Likely' that the impacts will be achieved.</p>		

Achievement of project goal and planned objective

112. As stated in the project document, the purpose of the project was to assist developing countries in the Nile Basin to enhance their adaptive capacity to climate change induced water problems. The overall goal of the project was stated as ‘to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.’

113. The project has achieved its purpose to assist countries to enhance their adaptive capacity. But it is acknowledged that the objective to build the resilience of ecosystems and vulnerable economies to climate induced water stress can only be achieved on the longer term and with a number of conditions and requirements in place. Additionally, the vast number of ongoing and planned projects and programmes in the region makes it difficult to attribute progress towards building climate change resilience to any one intervention. Nevertheless, the project’s legacy and achievements provide a very strong foundation on which to continue to build such resilience.

114. The overall rating on Effectiveness is **satisfactory**.

D. Sustainability and replication

115. This discussion focuses on financial, socio-political, institutional and ecological factors conditioning sustainability of project outcomes. It also assesses efforts and achievements in terms of replication and up-scaling of project lessons and good practices.

Financial factors

116. According to a UNEP/AMCEN report²³, adaptation costs for Africa are estimated at USD 7-15 billion per year by the year 2020 (under a 2°C warming scenario), with no agreed programme to meet this cost. A sustained increase in funding will be needed well beyond the 2020s. In order to fully meet adaptation costs in Africa beyond the 2020s, adaptation funding should increase further by about 7% per year from the 2020s to the 2050s, assuming funding levels by 2020 already meet the costs. In Sub-Saharan Africa, the highest adaptation costs are projected to be needed in water supply, agriculture sector, coastal zone protection and infrastructure.

117. Respondents expressed concern about the lack of adequate financial resources for sustaining project outcomes. Financial sustainability will depend to a large extent on funding from national budgets and initiatives of external donors and regional institutions (see institutional framework below), as the project design did not propose specific strategies for self-financing in the post-project period, although a second donor-funded phase was envisaged to scale up the first phase approach. It is important that this second phase is implemented as soon as possible before the momentum built by the first phase is lost.

118. At the local level, improving farmers’ livelihoods and incomes arising from the project results (as demonstrated during the site visit) are expected to promote sustainability of outcomes as lessons and best practices are up-scaled and replicated. In Ethiopia, the Government is helping to sustain outcomes by providing some support to farmers such as distribution of vegetable seeds. At the broader scale, Africa is receiving considerable attention from bilateral and multi-lateral donors in relation to climate change

²³UNEP/AMCEN (2013). Africa Adaptation Gap Technical Report: Climate-change impacts, adaptation challenges and costs for Africa.

impacts, which presents good prospects for financial sustainability of project outcomes. There are a number of ongoing and planned climate change adaptation projects and programmes in the region and in the countries that are being funded from national budgets or by external donors, including UNEP projects (e.g., “Ecosystem Based Adaptation in Mountain Ecosystems”²⁴, sponsored by Germany in three countries one of which is Uganda; and the proposed second phase of the Nile Basin project) and the Adaptation Fund²⁵. Under the latter, Nile Basin countries are already beneficiaries, with ongoing projects in Egypt, Eritrea and Tanzania²⁶ and a proposal for a project in Kenya. In some of the Nile Basin countries, the Ministries responsible for water are receiving insufficient government funds to implement adaptation. Without support from external sources, adaptation at the national level will vary from country to country.

119. NBI has developed a new 5-year programme—*Nile Climate Resilient Growth Programme*— which commenced in January 2013 with financing by Cooperation in International Waters in Africa/Nile Basin Trust Fund. Potential opportunities for financial sustainability of project outcomes also exist through the investment programmes of the NBI—the Nile Equatorial Lakes Subsidiary Action Program (NELSAP)²⁷ and the Eastern Nile Subsidiary Action Programme (ENSAP)—and initiatives on mainstreaming climate adaptation into investment programmes. In addition, climate change adaptation is being incorporated into national development programmes and economic sectors, which will contribute to sustaining project outcomes.

120. The prospects for financial sustainability can be considered **moderately likely**.

Socio-political factors

121. From the outset the project engaged with stakeholders at all levels, from local communities and academic and research institutions to government ministries and departments and regional institutions. Not only did this increase awareness and capacity for adaptation, but also promoted community and political buy-in and ownership of the project. Among the political factors contributing to sustainability was the involvement in the project of the NBI and Nile Basin Governments, providing policy support to Governments, facilitating dialogue among high level decision-makers and building technical capacity as well as linking the demonstration projects with Government efforts in the two pilot countries (Part IV.B, Outputs 3-5).

122. There is a high level of awareness and recognition of the actual and potential impact of climate variability and change in Africa and the momentum towards climate change adaptation is rapidly increasing across the continent. Therefore, the environment is very conducive to sustaining the project outcomes.

123. In transboundary basins, collaboration among the countries in management of the basin and its shared resources is critical. In the Nile Basin, collaboration is facilitated by Bodies such as the NBI and GWP, which were key partners in the project. At the transboundary level, a number of factors could help to sustain project outcomes, for example, uptake in the Nile Basin Climate Change Strategy and incorporation of the regional hydrological model into the Nile Basin Decision Support System (DSS), to allow the NBI countries to evaluate adaptation interventions using the same models and data. The project

²⁵ Established to finance concrete adaptation projects and programmes in developing countries that are parties to the Kyoto Protocol and are particularly vulnerable to the adverse effects of climate change; <https://adaptation-fund.org/about>

²⁶ https://adaptation-fund.org/funded_projects/interactive

²⁷ For example, NELSAP KfW project on mainstreaming climate adaptation into regional water infrastructure- In 2010, NELSAP concluded an agreement with KfW to develop criteria for mainstreaming climate adaptation into investment projects.

also strengthened collaboration among the countries, including in sharing of data. As one respondent mentioned, the project encouraged the countries to ‘look beyond their borders’ and to realize the importance of sharing data for the management of this transboundary river basin. There is a diverse range of other regional and sub-regional initiatives and programmes through which the project results can be sustained.

124. Sustainability can be undermined, however, by potential socio-political conflicts between the countries. Such conflicts can minimize the capacity to cope with climate change, which in itself can lead to conflicts caused, for example, by increased competition over diminishing natural resources such as water and arable land.

125. At the national level, climate change adaptation is on the national development agendas, as demonstrated, for example, in the recognition in the NAPAs that social and economic development is strongly linked to climate change and adaptation in particular. The project’s objective is consistent with the national poverty reduction strategies (under the MDGs) of the basin countries. An important factor at the national level is participation in the UNFCCC, to which all the Nile basin countries are Parties. Uptake of some of the project results in Government programmes and policies shows good prospects for sustainability. But achieving this depends in part on the political will of the Nile Basin Governments to mainstream project results into policies and plans and to look ahead beyond their terms in office.

126. At the local level, engaging with communities that are most vulnerable to climate change (farmers) and their direct involvement in the interventions, which were relevant to their needs, are important sustainability factors. Through the demonstration activities, the project showed concrete benefits to the farming communities in the Kabe Watershed and Mpanga Catchment. During the site visits and interviews with farmers and local development agents, it was clear that the project had made a significant impact on the local communities in terms of enhancing their capacity for climate change adaptation. Some of the farmers were continuing with certain adaptation actions and were keen to continue the work started by the project, but additional resources and support are needed.

127. Based on interviews with partners and Ethiopian farmers, and the consultant’s own observations during the site visit, other issues such as access to markets and improved road and water infrastructure, plant and animal disease control need to be addressed as part of climate change adaptation programmes. Without this, farmers are likely to abandon their climate change adaptation efforts and the ensuing failure to adapt is likely to result in environmentally induced migration.

128. There is need for improved policy coordination and integration of climate change adaptation into policy and planning. Progress is being made, but the pace is slow in the face of the urgency with which countries need to adapt.

129. Socio-political sustainability is rated as **highly likely**.

Institutional factors

130. In the Nile Basin region, the institutional framework from regional to national and local levels is highly conducive to sustaining the project outcomes. The project forged strong partnerships with a number of institutions (NBI, Government Ministries, district agricultural offices, academic institutions and research centres, NGOs and CBOs) by engaging them in various project activities and/or strengthening their capacity for adaptation and raising awareness about climate induced water stress (see Part III.E and Part IV.B).

131. According to the African Climate Policy Centre, a major obstacle to integrating climate issues into development activities in Africa has been lack of appropriate institutions to facilitate incorporating science into policy. The project has contributed to strengthening the science-policy interface in the Nile Basin region. For example, the scientific knowledge and analytical tools provided by DEWA and DHI can be used to support decision-making for climate adaptation at the national and regional scale. The DEWA study also proposes options and strategies that will assist in reducing vulnerability to climate change induced water stress. In addition, GWP-EA and NBI provided policy support to the Governments for integration of climate change adaptation into relevant policies and institutional frameworks.

132. Relevant institutional frameworks exist in all the countries (e.g. Ministries responsible for Water and Environment, UNFCCC focal points, local and international NGOs and CSOs engaged in climate change projects and advocacy (e.g., the Climate Action Network in Uganda). At the sub-regional and regional levels a host of structures exist, such as the NBI, GWP-EA, Africa Adaptation Knowledge Network (facilitated by UNEP under the umbrella of the GAN), Intergovernmental Authority on Development (IGAD), Climate Prediction and Applications Centre (ICPAC) and African Climate Policy Centre (ACPC), to name a few. This plethora of institutions at all levels underscores the need for effective coordination and collaboration among them as well as with the appropriate international organizations.

133. Despite the large number of existing institutions and excellent work being done, the institutional framework needs further strengthening, including with respect to adequate human and financial resources, availability of data and technical expertise, and clear definition of roles and mandates.

134. Institutional sustainability is rated as **likely**.

Environmental factors

135. One of the project's aims was to build the resilience of ecosystems that are most vulnerable to climate change impacts. Therefore, ecological sustainability is implicit in the progress towards project impact. In the long term, and as illustrated by the ROTI analysis, the project outcomes are expected to lead to an increase in the resilience of ecosystems to climate change induced water stress. Water is vital for the health of ecosystems and measures to alleviate water stress on ecosystems will ultimately lead to sustainability of this goal. A number of achievements attributed to the project are expected to promote environmental sustainability such as SWC and IWRM, and planting of climate resistant species (see Part IV.C).

136. Nevertheless, sudden large scale climatic events could obliterate any ecological gains derived from the project. The issue of scale is important, considering the geographic scale of the adaptation interventions in relation to the larger scale of climate change impacts. Further, the rate and intensity of climate change and unexpected and emerging issues can surpass the rate at which ecological resilience is built. There is still uncertainty about how ecosystems will respond to climate change. A variable climate has always been a fundamental driver of ecological processes and change, and adaptation can help only up to a certain point.

137. Human pressures can also undermine ecological sustainability, such as the spread of the alien invasive eucalyptus through agroforestry in the Ethiopia highlands. A study by ILRI suggested that increase in eucalyptus cover had accelerated declines in water availability. This species also releases a chemical into the surrounding soil, which kills native competitors. This is only one example of where human pressures on ecosystems can undermine ecosystem resilience. This highlights the fact that climate change adaptation must be part of a wider programme in integrated environmental/natural resources management at national and basin level.

138. A relatively new approach to adaptation that is being promoted by UNEP—Ecosystem-based Adaptation (EbA)—uses biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change at local, national, regional and global levels. This project was aligned with ecosystem-based adaptation approaches and was implemented through UNEP’s Flagship EbA Programme, in which UNEP works to develop effective EbA approaches and helps vulnerable communities adapt to climate change through good ecosystem management practices and their integration into climate change strategies and action plans.²⁸

139. The rating on environmental sustainability is **likely**.

140. The overall rating for sustainability based on the four factors is **moderately likely**.

Replication

141. There are high prospects for replication based on the project outputs and results – scientific knowledge, information and analytical tools (e.g., climate and hydrological modelling, vulnerability assessments); improved institutional and individual capacity for climate change adaptation; training manuals and tool kits; and lessons and best practices for adaptation interventions. The project has also created awareness at all levels and catalyzed action to integrate climate change adaptation into natural resources management, policies and frameworks.

142. During the visit to the Kabe site, farmers showed great enthusiasm about replicating the lessons from the demonstration projects and some of them had already shared experiences and planting material with farmers in adjacent sub-watersheds (Part IV.B, Output 5). But additional support is required by the communities for replication and upscaling. As mentioned in Part IV.C, Wollo University and SARC continue to use the Kabe area as a demonstration site and lessons are already being applied in other areas in Ethiopia.

143. The achievements of the demonstration projects do not mean that the adaptation lessons and best practices can easily be transferred elsewhere, as there are many challenges in adapting to climate change²⁹. Among these are the high variability of environmental conditions throughout the basin; fragile ecosystems; weak infrastructure and economies; poor agricultural performance; dependence of food security on rainfall; high reliance on climate-sensitive resources for livelihood; severe poverty and deteriorating livelihoods; and lack of policy coordination. Further, farmers are highly risk averse, which further limits their ability to accept adaptation measures such as changing crop varieties and planting patterns. They often prefer strategies with less risk but lower yields.

144. The scientific assessments carried out by DEWA and DHI can also be repeated using the methodologies and tools developed. The evaluation consultant learned that DEWA has already received a request from one of the countries (Rwanda) for a national assessment and that project results are already being used in other African basins, for example, by GWP in the implementation of AMCOW’s WACDEP in the transboundary Kigera River (Rwanda and Burundi) as well as in other regions (Mekong Basin).

²⁸ <http://www.unep.org/climatechange/adaptation/EcosystemBasedAdaptation/tabid/29583/Default.aspx>

²⁹ Waithaka et al (eds). 2013. East African Agriculture and Climate Change: A Comprehensive Analysis. IFPRI, Wash. DC.

145. The above illustrates the high potential for replication of the project outcomes. Nevertheless, for any significant impact to be realized, the lessons must be replicated and upscaled over sufficiently large areas, considering the geographic scale at which climate change impacts are likely to be experienced and of the basin itself. Material produced by the project should be made easily available, including to local communities in their own languages, and capacity building extended to other stakeholders.

146. The rating on replication is **satisfactory**.

E. Efficiency

147. A number of measures to promote efficiency were identified in the project document and adopted during implementation:

- Partnerships: Harnessing the comparative advantage of the partners and establishment of strategic partnerships with key organizations and academic and research institutions who already had a strong track record of experience in the Nile Basin region and/or constituencies in the countries;
- Site selection: Demonstration sites were selected in areas where potential partners and the Governments were already conducting relevant projects and programmes;
- Engaging local communities: In the two demos, local communities were involved in developing and executing the adaptation interventions. These communities are among the most vulnerable and are among the ultimate implementers and beneficiaries of adaptation interventions;
- Building on the past and ongoing programmes of partners and utilization of existing information and data sets.

148. These cost-efficient measures contributed to the successful completion of the project within budget. The Nile Basin project can be compared with other climate resilience projects such as the Global Environment Facility (GEF) Coastal Resilience Project (GEF ID 9092/ GFL/2328 - 2712 – 4913), which aimed to build ecosystem resilience to climate change. This project received USD975,000 from GEF (and USD1.25 million in co-financing) and was conducted over 36 months in three countries (Cameroon, Tanzania and Fiji). The Nile Basin project was a regional project with activities in 10 countries, including demonstration projects in two countries, and a wider range of activities including at the political level.

149. As discussed in Part IV.F, efficiency was reduced in the early stages caused by delays in obtaining endorsement for the project from the TAC and in obtaining data from the countries. Resolving these issues placed a major burden on UNEP and NBI and exacted a substantial cost in terms of time and effort. These actual costs have not been estimated, but the UNEP FMO stated that it was ‘a major drain on UNEP’ to address the political issues.

Timeliness of Execution

150. The project was approved in June 2009 and scheduled to start in December 2009 with a duration of 36 months. The inception meeting was held in March 2010 and the first planning meeting in August. However, it was not until August the following year that the MOU between UNEP and NBI was signed, which allowed implementation to move forward. Because of initial delays, a no-cost extension of 6 months was requested by UNEP and approved by SIDA, which pushed the completion date to September 2013.

151. The overall rating on efficiency is **moderately satisfactory**, based on reduced efficiency due to delays in implementation caused by the issues with Nile-TAC endorsement and data accessibility.

F. Factors affecting performance

Preparation and readiness

152. The project's purpose (as stated in the project document) to assist developing countries in the Nile Basin to enhance their adaptive capacity to climate change induced water stress was realistic within the timeframe and available budget. It sought to achieve this through scientific assessments for policy setting and planning, capacity building, as well as demonstration activities to provide support to climate change adaptation actions to be taken by governments, communities and development partners. This strategy was realistic and appropriate to achieve the stated outputs and outcomes. However, achieving resilience within the project's timeframe was not realistic.

153. Project stakeholders at all levels (regional, national and local) were adequately identified in the project document. It was acknowledged that the most vulnerable communities are those who are highly dependent on ecological resources for food security and livelihoods and the urgency to build their resilience to climate induced water stress recognized. Therefore, in planning and implementing adaptation activities, the project focused on some of the most vulnerable communities in the two countries (farmers). See stakeholder participation below.

154. The project took account of previous and ongoing work and initiatives in the Nile Basin and built on this foundation. The choice of implementing and executing partners, based on their respective competencies, contributed to the successful implementation of the project. The lead implementing agency (UNEP/DEPI in collaboration with ROA), the lead implementing partner (NBI) and executing partners as well as implementation and institutional arrangements are briefly described in the project document. Other executing partners were identified during the inception phase (DEWA, DHI, ILRI, PROTOS) by UNEP/DEPI in consultation with ROA. NBI and GWP-EA already had constituencies in the countries, which served as an excellent entry point to engage with the countries. Local partners for the demonstration projects were identified in consultation with the relevant Government Ministries and local executants.

155. Preparation and negotiation of the legal instruments for the implementing partners was very time-consuming because of the stringent conditions, which required careful scrutiny and discussions between UNEP/DEPI and the partners. The process of trying to get an MOU signed between UNEP and the NBI took nearly two years of negotiation. Finally, the NILE-Com (Ministers of the Nile Basin countries) cleared the proposed MoU in July 2011 and the document was signed in August.

156. During the inception phase, a major obstacle was encountered that threatened to derail the project. In mid-2010, UNEP received communication from the NBI indicating that the Nile-TAC was not aware of the project and as a result did not endorse it. According to the inception phase report to SIDA, this situation arose from a gap in communication as the NBI Secretariat was responsible for communication with the TAC. In September 2010, a new NBI Executive Director was appointed and the process of inducting a new official further slowed communication between UNEP and NBI and other implementing partners. According to the project manager, UNEP had pitched the project at a technical level, not political, and had expected that the NBI Secretariat would present the project to the TAC. As a consequence, the project was delayed by two to three months.

157. To address this matter, UNEP held bilateral consultations with Nile TAC members. In addition, discussions were held between UNEP and NBI, including at high levels with the intervention of the Executive Directors of both UNEP and NBI. Based on interviews with UNEP staff who were involved in the project and on the progress reports, addressing this situation required a significant amount of time and effort on the part of UNEP before the project could move forward. According to the FMO, addressing the political issues had a high cost in terms of time and resources.

158. It was surprising to the evaluation team that the Nile TAC had not initially endorsed the project and furthermore, that UNEP had not ensured that the TAC was consulted during project preparation. The Nile TAC is composed of technical representatives (mostly from the Ministries of Water/ Environment/Natural Resources) of the NBI member states and offers technical support and advice to the Nile Council of Ministers on matters related to the management and development of the Nile waters. Therefore, TAC's support was critical for the implementation and success of the project and the two implementing partners (UNEP and NBI) should have ensured that it was on board from the start. Later on, during a DHI workshop, countries also expressed that they should have been consulted during project development. The failure to anticipate this situation and take the necessary measures at the start was a major shortcoming that could have derailed the project.

159. The project design did not take account of potential risks to the project arising from political sensitivities in relation to sharing of national level climate and hydrological data by the Nile Basin countries. As discussed in Part IV.B, this led to delays in implementation and caused knock-on effects on the other components (see also Implementation approach below). After many deliberations, UNEP and NBI signed an MOU that provided a framework of cooperation and collaboration between them, including for access to data from Nile Basin countries. The failure of the implementing partners to take the necessary action to ensure that arrangements for data sharing were in place during the project design reveals another shortcoming.

160. While these issues were eventually resolved, they resulted in inefficiency at the start of the project and delays in project progress, and contributed to the need for a no-cost extension. They also extracted 'hidden' costs to UNEP in terms of the significant time and effort needed to resolve them.

161. Environmental and social safeguards were not explicitly considered when the project was designed. It appeared that no systematic screening was undertaken for maladaptive processes or environmental and social impacts in designing the pilot projects.

162. The rating on preparation and readiness is **moderately unsatisfactory**.

Implementation approach and management

163. The project was signed in June 2009 with an expected start date in December of the same year. But it was not until March and August 2010 that the inception meeting (which brought together 52 participants from the 10 Nile Basin countries) and first planning meeting, respectively, were held. An advisory group (Steering Committee) composed of UNEP and the implementing partners was established and annual meetings were held.

164. UNEP/DEPI assigned a project task manager, who was also previously involved in the design of the project. This was an excellent strategy to have a task manager who understood the project and who had already established working relationships with the donor and the various partners. The evaluation team concluded that project management was effective and efficient, with no major problems reported by executing partners. When obstacles related to data availability and support from the TAC were encountered, UNEP took effective mitigatory measures to ensure that these issues were addressed.

Annual work plans were reviewed and adjusted as needed in consultation with partners to ensure that all activities were completed and outputs achieved. Activities were well-managed, with fiscal responsibility and transparency at all levels.

165. At the national level the institutional arrangements for the demonstration projects also functioned effectively and efficiently. In each of the two countries, a competent organization with experience in the respective countries (ILRI in Ethiopia and PROTOS in Uganda) led the demonstration projects. Each demonstration was executed in collaboration with national and local Government Departments as well as research and academic institutions with appropriate experience in the countries and/or the project sites. Each of these actors had a specific role in the execution of the demonstration projects that was consistent with their respective experience and competencies. The demonstration project in Ethiopia also benefited from the involvement of one of UNEP's drylands specialists, who provided guidance in its development and execution. A UNEP representative also visited the Uganda demonstration site when the pilots were being rolled out. Project partners were very appreciative of the assistance provided by these officers.

166. Major factors that contributed to the success of the demonstration projects included linking the interventions with ongoing initiatives and the involvement of local farming communities—the ultimate beneficiaries—in the development and execution of the interventions. In fact, the evaluation consultant learned that the farmers had provided voluntary manpower for certain activities in the Ethiopia demonstration (e.g. terracing of hillsides and digging of wells). During the visit to the Ethiopia site, it was obvious that the partnership forged among these stakeholders within the country was a major achievement and that this was helping to foster sustainability of project outcomes.

167. Project activities were organized under four work packages (Part III.E) and the appropriate partner(s) were assigned to lead each work package and for delivery of specific outputs. These four work packages were to be implemented in a sequential manner, with outputs from one feeding into the other. The time frame was obviously too short to accommodate the delays and the planned sequence of activities, which eventually resulted in the need for a no-cost extension of six months for completion of the project.

168. One executing partner was of the view that this project was relatively small in terms of the available funding, but very demanding in terms of the administrative procedures on the part of UNEP. This required a significant amount of staff time that was not compensated for by the project. While the evaluators appreciate the need for certain administrative procedures, these should be simplified as far as possible to avoid placing undue burden on the partners.

169. In general, the working relationship among partners was excellent, although towards the end of the project some tension arose between UNEP and ILRI. Under the Small Scale Funding Agreement, the latter was provided with USD180,000 for execution of the demonstration project in Ethiopia, with an additional USD20,000 expected under the no-cost extension. Disbursement of this latter sum required a new contract or amendment of the existing one, but because of the imminent end of the project, this was not done. Meanwhile, ILRI, in expectation of the additional funds, had carried out the activities that these funds were to cover, using funds from other programmes. This expenditure was never recovered from the project. In its financial report, ILRI included these expenditures, but was asked by UNEP to revise the report to reflect an expenditure of only USD180,000. During the interviews, UNEP staff expressed regret that this situation had occurred but stressed that the short remaining time prevented any further action on the contract. In future, such situations should be avoided as they tend to undermine confidence and good working relationships among partners.

170. The rating on implementation approach and management is **satisfactory**.

Stakeholder participation and public awareness

171. Participation of stakeholders at all levels from international and regional to national and local was high, and the partners are commended for this achievement. In particular, involvement of the NBI and the countries ensured that the project's aims and objectives were consistent with their needs and facilitated ownership and buy-in. The project inception workshop (25-26 March 2010 in Nairobi, Kenya) brought together 52 participants from the 10 Nile Basin countries (Governments and partner organizations) to update them on this initiative and to discuss the proposed workplan and deliverables. But, as previously discussed, the lack of initial engagement with a major stakeholder, the Nile TAC, stalled progress for three to four months and required high level intervention and major effort on the part of UNEP and NBI to be resolved.

172. GWP utilized its CWP to engage with stakeholders in the Nile Basin countries. GWP and NBI also facilitated the engagement of high-level policy makers through various activities and forums (Part IV.B). Further, the direct involvement of specific stakeholder institutions (e.g., research centres, universities and local development agencies) contributed to building adaptation capacity within them. Technical experts from the Nile basin countries were also engaged in the scientific components and received training in the analytical methodologies. However, during one of the technical workshops, it was expressed that the countries should have been consulted during project development. The importance of such consultations must not be overlooked by UNEP in developing the next phase of the project.

173. The project design recognized the benefit of adopting a participatory approach involving local communities in project activities. As mentioned, in all the Nile Basin countries, these communities are heavily dependent on ecosystem services for food security and livelihoods and are themselves very vulnerable to climate change impacts, particularly on water resources. Engagement of local communities helped to ensure that their needs were taken into consideration in the development of the adaptation interventions and ensured ownership and buy-in.

174. Significant effort went into raising public awareness, with one sub-work package devoted to communication and public awareness (led by GWP-EA and NBI). A range of communication material was prepared and public awareness events convened by GWP-EA, NBI and the demonstration projects executing agencies and collaborators. A summary for decision-makers containing a description of the main project results was also published.

175. Towards the end of the project, workshops were held including by DEWA, DHI and ILRI to present the results to a diverse range of stakeholders and a field day was organized by ILRI and partners in the Kabe watershed to showcase the results of the demonstration. A final workshop was held in May 2013 to present the project results to a range of stakeholders from the regional and national level. Feedback from these workshops was very positive.

176. The combination of partners was effective and efficient, with each partner making important contributions towards different project components and outputs. Based on interviews and examination of the progress reports and project accomplishments, it was clear that there was reasonably good collaboration among the partners and engagement with stakeholders throughout the duration of the project.

177. The overall rating on stakeholder engagement during the project is **satisfactory**.

Country Ownership and Drivenness

178. The project's focus on the Nile Basin countries is made explicit in the project objective and is clearly described in the project document, which elaborates on the project's consistency with national development priorities and plans. Once the initial constraints regarding data availability and support from the TAC were addressed, the environment became more conducive to promoting country ownership and drivenness.

179. A high level of country ownership and drivenness was demonstrated at various levels, and could be attributed to a number of factors. At the regional level, the NBI was the main project implementing partner alongside UNEP. NBI's involvement was critical as its highest decision-making body –the Nile-COM—is composed of ten Ministers in charge of Water Affairs in the NBI Member States. An MOU was signed between the NBI Secretariat and UNEP in order to facilitate both political and technical processes for the project and to assist the other partners in accessing relevant climate information. In addition, NBI carried out a range of activities under Work Packages 2 (Policy support and Capacity Building) and 4 (Communication, awareness and media) in collaboration with GWP and UNEP.

180. The use of national data and the involvement of national technical experts in the scientific work also promoted country ownership. The Governments of Ethiopia and Uganda (both at the national and local levels) provided substantial support for the execution of the demonstration projects. The relevant Government Ministries advised on the selection of local partners for the demonstration projects and facilitated the participation of government agencies (SARC and the Worreilu Agriculture Office in Ethiopia and the DWRM in Uganda) in execution of the demonstration projects. This, and building the demonstration projects on ongoing Government programmes in the two countries as well as the strong collaborative partnerships were major factors that contributed to the success of the demonstration projects. The project's contribution to ongoing and planned programmes in the countries also helped to foster a sense of ownership at the national level. Cognizant that success depended on the involvement and commitment of affected communities, the project also engaged local communities in planning and execution, which promoted a sense of ownership among them.

181. Country drivenness was evident in the alignment of the project's objective with national needs and priorities of the Nile basin countries as expressed in, for example, NAPAs, their aspiration towards achievement of the MDGs, etc. It was obvious to the evaluators that the Governments were fully supportive of the project during its implementation and are committed to incorporating the results in national programmes. In fact, all national level stakeholders interviewed expressed interest in a second phase. This interest was also expressed at the final workshops where the project results were presented.

182. The rating on country ownership and drivenness is **satisfactory**.

Financial Planning and Management

183. Financial planning and management were consistent with UNEP's procedures. Project funds were allocated to various partners for the execution of specific activities. Three budget revisions were carried out, including to meet the request for USD200,000 for NBI (originally no budget was allocated to NBI) and to accommodate the no-cost extension.

184. The statement of expenditure as at 28 February 2014 shows a total expenditure of USD3,329,436 with a net excess of income over expenditure of USD8,549 (Annex 6). Financial records were maintained

by a Fund Management Officer (FMO) who also provided oversight on the SIDA funds administration. According to the FMO, this project was ‘uneventful’ in terms of the financial aspects, indicating that there were no irregularities and problems.

185. Financial planning and management is rated as **highly satisfactory**.

UNEP Supervision and Backstopping

186. The project document stated that the project would be managed by UNEP from its headquarters in Nairobi through DEPI and laid out the responsibilities of UNEP as the implementing agency. A project manager was designated from UNEP/DEPI to provide oversight and accountability during the life of the project. This officer was also involved in the design of the project.

187. As part of its supervision and backstopping role, UNEP closely monitored project progress and regularly communicated with the main implementing and executing partners to provide guidance and ensure that any problems were addressed. UNEP, through the project manager and other appropriate staff members (e.g. Head, Climate Change Unit, UNEP; ROA officer; Drylands expert; DEWA) also participated in annual review meetings with SIDA. Contracted partners were responsible for providing periodic progress and financial reports to UNEP. In turn, UNEP was responsible for preparing and submitting annual progress reports to SIDA, three of which were submitted during the project. At one of the review meetings, the SIDA representative commented that the annual review report was very detailed in terms of the activities discussed and was too technical. The evaluation consultant concurred with this observation following review of the progress reports, and is of the view that the reports should have been more analytical regarding implementation.

188. UNEP was instrumental in addressing the two major issues that threatened to derail or stall the project—gaining Nile TAC’s support for the project and establishing the agreement with NBI to facilitate sharing of data—although these issues should have been better anticipated by UNEP during the project design phase.

189. In interviews with the partners, they agreed that the UNEP provided effective supervision and backstopping and that no major issues in project implementation and execution were encountered. The project manager attended all the events and was on hand to support the project from Nairobi. Furthermore, the local partners greatly appreciated the involvement of the UNEP drylands expert who assisted with development and implementation of the Ethiopian demonstration project. This expert visited the demonstration sites and participated in planning meetings and in the final workshop held in Addis Ababa to present the results of the Ethiopia demonstration project. Similarly in Uganda, respondents expressed satisfaction with the project management and mentioned that all requests (administrative, financial and technical) were handled by UNEP in an expeditious and professional manner.

190. The rating on UNEP supervision and backstopping is **satisfactory**.

Monitoring and evaluation

Monitoring and evaluation design

191. The project log frame is a major planning and monitoring tool and is included in the project document. As discussed in the evaluation inception report and Part II, some weaknesses are evident in the

log frame and monitoring design. For example, indicators for Outcomes 2 and 3 are vague and not easily quantified (not SMART³⁰); no indicator(s) are given for the objective and outputs; and no baselines and time-bound targets are identified.

192. The project document makes provision for an independent evaluation to be conducted towards the end of the project. The revised budget for the evaluation was adequate. But there was no provision for an independent mid-term review during the course of the project. Periodic monitoring of progress was limited to the annual review meetings and annual progress review reports required by SIDA. No provisions were made for monitoring of the demonstration projects. This is considered to be an important omission and mechanisms should have been put in place to monitor the progress of the demonstration projects following the end of the project.

193. In accordance with UNEP terminal reporting requirements, a project final report is required to be submitted by the CCAU to the Chief of UNEP/Corporate Services Section and Chief of UNEP/Administrative Services Center within 60 days of the completion of the project (as stated in the project document). Project expenditures were required to be reported annually in line with the standard UNEP and SIDA requirements.

194. The rating on M & E design and arrangements is **moderately unsatisfactory**.

M & E Implementation

195. Amendments were made to the log frame during project implementation (Part II), but the rationale for these changes was not documented nor was the project manager able to provide any details to the evaluators. There was no evidence that the log frame was used to monitor progress (i.e., no reference was made to the log frame and its indicators in the annual progress review reports). Three annual progress review reports (2010, 2011, 2012) were prepared and submitted to SIDA. The reviews, however, did not consider progress in achieving the outputs, and focused on the work packages and outcomes. Three review meetings were held during the course of the project. Following the end of the project a final project report was prepared— this was made available to the evaluators on 3rd February 2013. In some instances the final report does not provide updated information as some activities are reported as still ongoing.

196. As previously mentioned, no monitoring of the demonstration projects has been conducted since the project ended, except through voluntary and sporadic visits by the local executives.

197. The rating on M & E implementation is **moderately satisfactory**.

G. Complementarities with the UNEP medium term strategy and programme of work

Linkage to UNEP's Expected Accomplishments and Programmes of Work

198. The project was formulated prior to the completion of the UNEP Medium Term Strategy 2010-2013 and related Programmes of Work (POW). Nevertheless there are complementarities with the expected accomplishments outlined in the Strategy. The intended results are consistent with UNEP's programmatic objectives and expected accomplishments under two cross-cutting priorities of its Medium-term Strategy 2010–2013: Climate Change, the objective of which is to strengthen the ability of countries,

³⁰ An indicator should be **s**pecific, **m**easurable, **a**tttributable, **r**elevant for the programme, and **t**ime-bound.

in particular developing countries, to integrate climate change responses into national development processes; and Ecosystem Management, one of the expected accomplishments of which is that countries and regions have the capacity to utilize ecosystem management tools. In addition, the objectives and expected accomplishments focus on providing environmental leadership in the four areas prominent in the international response to climate change: adaptation, mitigation, technology and finance, and their interlinkages. Project outcomes contribute to UNEP's aim to help developing countries to reduce vulnerabilities and build resilience to the impacts of climate change, to build and strengthen national institutional capacities for adaptation, and support national efforts to integrate climate change adaptation measures into development planning and ecosystem management practices.

199. The project is also consistent with UNEP's POW 2010-2011 and 2012-2013, within the framework of the Climate Change and Ecosystem Management priorities of its 2010-2013 Medium Term Strategy.

Alignment with the Bali Strategic Plan

200. The project's focus on capacity building is consistent with the Bali Strategic Plan for Technology Support and Capacity-building which aims at, *inter alia*, a more coherent, coordinated and effective delivery of environmental capacity-building and technical support at all levels and by all actors, in response to country priorities and needs. The project's objective is highly relevant to a number of the objectives of the Plan, which is targeted towards developing countries and countries in transition.

Gender

201. The focus on water has an important gender dimension, as women are responsible for securing water and other natural resources such as firewood and food in the Nile Basin countries. The project recognized the dependence of women on the environment and natural resources within the Nile Basin, and intended to promote the role of women in adapting to climate change. During the Ethiopia site visit, five of the 26 participants in the focus group discussion were women. In response to the question from the evaluator of how they benefited from the project, they mentioned the increase in milk production from their cows (through the introduction of the 'cut and carry' system and availability of fodder, which increased the animal's health and productivity), and improved availability and accessibility of water through the establishment of springs and wells, which made their lives easier and allowed more time for other activities. In Uganda, gender issues were mainstreamed in the project baseline and throughout the project. More women than men were engaged in tree planting, water resource protection and community meetings during the interventions in the River Mpanga Basin.

South-South Cooperation

202. The project document did not explicitly mention South-South cooperation. Nevertheless, South-South cooperation was strongly implemented at the regional level through a number of avenues, including provisioning of national climate and hydrological data for regional-scale modelling, regional workshops, etc. Demonstration activities conducted in the countries, primarily by experts from the two countries, generated lessons and best practices that will benefit the other Nile Basin countries and developing countries in other regions in climate change adaptation programmes.

V. CONCLUSIONS

203. The major objective of the terminal evaluation is to assess project performance (in terms of relevance, effectiveness and efficiency); determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability; and promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and the executing partners.

204. While the project's outputs and outcomes were amended during implementation, its purpose, objective and scope remained unchanged. The Nile Basin project was designed with the overall purpose to assist developing countries in the Nile Basin to enhance their adaptive capacity to climate change induced water problems. The objective was to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries through building key adaptive capacity and piloting adaptation in hotspots with technical, policy and financial interventions. The objective and implementation approach have remained relevant in the context of the high vulnerability of the Nile Basin countries to climate change induced water stress and the need to build the resilience of vulnerable ecosystems and communities by strengthening adaptive capacity.

205. The project was a complex one, with a diverse network of partners and range of activities geared towards the overall goal of increasing the capacity for climate change adaptation in the Nile Basin countries. This could ultimately result in the desired impact of more resilient ecosystems and communities. It is acknowledged, however, that building resilience to climate change requires a much longer timescale than allowed under the project, and in this regard the stated objective was not realistic.

206. Nevertheless, considering the realities under which the project was implemented in terms of the complexity, short time frame and available budget, the project has realized a number of important achievements that contribute to attainment of its intended purpose, as stated above. Through its scientific assessments, capacity strengthening efforts and pilot adaptation interventions, the project has laid a strong foundation for building resilience. It has strengthened institutional, technical and individual capacity at local, national and regional levels by directly involving key stakeholders in execution of activities and providing training, making available improved scientific knowledge and analytical tools as well as policy-relevant lessons and best practices in climate change adaptation.

207. Moreover, the project has promoted dialogue at high political levels and fostered collaboration at the technical level and in sharing of data and information among the countries, which are critical requirements for climate change adaptation within this transboundary basin. These are all key drivers towards the intermediate state. Based on the ROtI analysis, the overall likelihood that the intended impact will be achieved is rated on a six-point scale as 'likely'.

208. The time frame was inadequate for systematic monitoring of the demonstration projects, which ran for only one year. A longer time period is required to obtain conclusive results about the success of some of the interventions and for any significant uptake of the lessons in policy and planning as well as for upscaling and replication. Also, the planned capacity building strategy to create a core team of people in each country to expand the capacity building process to national and sub-national levels was not fully implemented due to financial limitations. Since the project ended, however, there have been some promising developments, with project results being applied in other areas within the demonstration countries and other Nile basin countries. In the post-project period, use of the project results in achieving the intermediate state can be greatly increased by making the results and knowledge products more widely disseminated and easily available in the appropriate formats to stakeholders at all levels, from regional bodies and Nile Basin Governments to local communities and others. Effective use of the project results for the intended purpose will also require increasing the capacity building efforts at the national and sub-national levels.

209. Long term impacts will more likely accrue if climate change adaptation forms part of a wider framework for socio-economic development in general and water resources management in particular. There are many challenges that limit climate change adaptation, not the least of which is the highly risk averse nature of farmers, who are both the ultimate implementers as well as beneficiaries of adaptation interventions. The early successes of the demonstration projects showcase the project’s concrete, on-the-ground achievements, which will be instrumental in promoting further stakeholder buy-in and acceptance by farmers of climate change adaptation actions.

210. Prospects for sustainability are moderate to high with respect to the four factors (financial, socio-political, institutional and ecological) conditioning sustainability of project outcomes. The availability of adequate financial resources was seen as a major constraining factor by the majority of the respondents, but the plethora of ongoing and planned initiatives in climate change adaptation supported by both the Governments themselves and bilateral donors provide excellent opportunities for sustaining project outcomes through uptake in some of them. Additionally, the socio-political situation and institutional frameworks are currently very conducive to sustaining project outcomes. Unsustainable human pressures can undermine ecological sustainability, which underscores the fact that these pressures also need to be considered in building ecological resilience.

211. Overall, project implementation was cost-effective, owing to a number of factors, including establishing strategic partnerships, selection of demonstration sites in areas with ongoing projects and programmes, involving local communities in developing and executing adaptation interventions, and utilization of existing information and datasets. Efficiency, however, was reduced by initial delays caused by failure to secure TAC endorsement at the start and in obtaining data from the countries. Resolving these political issues exacted a substantial cost in terms of time and effort on the part of UNEP and NBI. Furthermore, these delays had knock-on effects on other activities later on, and a no-cost extension was required to ensure completion. Taking these political issues into consideration before the start of project implementation and indeed during project development would have resulted in greater efficiency.

212. In addition to the stated project outputs and outcomes, the partnerships forged and high stakeholder participation were considered by the respondents and evaluators alike to be some of the greatest achievements. Engagement of national stakeholders at all levels and alignment of the project goals with national and regional priorities and needs with respect to climate change adaptation was instrumental in promoting a high level of country ownership and drivenness.

213. The ratings for the individual criteria are given in Table 5. The overall rating for this project is **Satisfactory**. Although certain criteria are given low ratings, overall the project satisfactorily achieved its outputs and outcomes, despite the limited time frame and budget as well as the political issues encountered at the start and ensuing delays.

Table 5. Summary assessment and ratings by evaluation criterion

Criterion	Summary Assessment	Rating
A. Strategic relevance	The project’s objective is highly consistent with the challenges imposed on the Nile Basin region by climate change induced water stress, the needs of the countries to build adaptation capacity and their being Parties to the UNFCCC. It is also relevant to UNEP’s programmatic objectives and expected accomplishments under the Climate Change and Ecosystem Management cross-cutting priorities of its Medium-term Strategy 2010–2013 and the Bali Strategic Plan for Technology Support and Capacity-building.	Highly Satisfactory

B. Achievement of outputs	Outputs 1 and 2 were satisfactorily achieved and the technical outputs were of a very high scientific quality. Output 3 on capacity building was not fully achieved as planned due to initial delays and limited time and financial resources.	Moderately Satisfactory
C. Effectiveness: Attainment of project objectives and results	The project's intended outcomes were achieved, and represent key drivers towards the intermediate state. It was not realistic however to expect that the objective to build resilience could be achieved in three years. The purpose to assist countries to build adaptive capacity was achieved.	Satisfactory
D. Sustainability and replication		Moderately Likely
Financial factors	There are reasonably good prospects for continued financial support by national governments, regional institutions, bilateral and multilateral donors and others for initiatives incorporating climate change adaptation.	Moderately Likely
Socio-political factors	The project garnered considerable social and political support at all levels, from regional and national to local communities. The socio-political environment is very conducive to sustaining the project outcomes.	Highly Likely
Institutional factors	The project forged strong partnerships with a number of institutions (NBI, Government Ministries, district agricultural offices, academic institutions and research centres, NGOs and CBOs) by engaging them in various project activities and/or strengthening their capacity for adaptation. Relevant institutional frameworks exist at all levels (regional to local) and are increasingly incorporating climate change adaptation into their work programmes. There is need for improved coordination among institutions.	Likely
Environmental factors	One of the project's aims was to build the resilience of vulnerable ecosystems. Upscaling and replicating some of the adaptation actions will promote ecological sustainability. But human and natural pressures could potentially undermine ecological sustainability.	Likely
Replication	The project has produced a number of lessons and best practices as well as methodologies and tools that will facilitate replication. Examples of replication are already evident, but greater support and financial resources are required for scaling up.	Satisfactory
E. Efficiency	A number of cost efficient measures were adopted during implementation. Efficiency was reduced in the early stages caused by delays in obtaining TAC endorsement and in obtaining national datasets. These delays reverberated to other project components and resulted in the need for a no-cost extension.	Moderately Unsatisfactory
F. Factor affecting performance		
Preparation and readiness	Preparation and readiness were affected by failure to obtain the endorsement of the TAC and to take account of potential risks arising from political sensitivities related to sharing of national level data.	Moderately Unsatisfactory
Project implementation and management	Implementation went fairly smoothly once the impacts of the initial delays were mitigated. Adaptive management measures were taken when needed to ensure that the project remained on track.	Satisfactory
Stakeholder participation and public awareness	A wide range of stakeholders, from local communities to governments and others were involved in project execution or were targeted for capacity building. Considerable effort went into public awareness-raising.	Satisfactory
Country ownership/drivenness	The project responded to the needs of the countries for increased capacity for climate change adaptation and there was a high level of country ownership and drivenness. This was also promoted by	Satisfactory

	consistency with national development priorities and plans.	
Financial planning and management	Financial planning and management was in accordance with UNEP's requirements. There were no irregularities and problems.	Highly Satisfactory
UNEP supervision and backstopping	UNEP provided effective supervision and backstopping and no major issues in project implementation and execution were encountered.	Satisfactory
Monitoring and Evaluation	The overall rating on M & E is based on rating for M&E Implementation.	Moderately Satisfactory
- M & E Design	Some weaknesses were evident in the log frame and M & E design. There was no provision for an independent evaluation during the course of the project and for monitoring of the demonstration projects.	Moderately Unsatisfactory
- M & E Implementation	Amendments were made to the log frame during project implementation, but the rationale for these changes was not documented. Annual review reports were prepared but there was no evidence that the log frame was used for M & E and progress on outputs was not monitored.	Moderately Satisfactory
OVERALL RATING		SATISFACTORY

VI. LESSONS LEARNED

The following key lessons learned emerged in the implementation of the project (not arranged in any order of priority):

- i. Political processes: UNEP pitched the project at a technical level, not political. In a project dealing with transboundary issues, political issues and processes are particularly important even though the project is perceived as a technical project. Failure to recognize this or to underestimate its potential impacts and to engage from the start with the appropriate political level can potentially derail the project or lead to delays, as was experienced with the Nile-TAC. Further, sensitivities regarding the sharing of national climate and hydrological data cannot be ignored, as this can have potentially serious implications for achievement of project outcomes. The necessary consultations and negotiations should be concluded and data sharing protocols agreed among the concerned parties before the start of project implementation in order to avoid delays and tensions later on in the project.
- ii. Partnerships and stakeholder engagement: Engagement with a wide cross-section of stakeholders at all levels, from regional and national stakeholders and decision-makers to local communities, is important in projects in which the achievement of the intended long term impact is highly dependent on their actions. Implementation and execution of the project by partner institutions that have the necessary competencies and experience ‘on the ground’ and constituencies within the countries are very cost effective strategies both for successful project implementation and sustainability of outcomes. Further, in a complex project such as the Nile Basin project, a ‘tiered’ partnership arrangement, with different partners from the international and regional to national and local levels, each responsible for activities at the appropriate scale, is an effective mechanism for project implementation.
- iii. Project design and implementation: Firstly, it was not realistic to expect that ecosystem and community resilience would be achieved in three years and with USD3.5 million. While the project realized a number of major achievements, there is a long way to go in building resilience, and even so, resilience can only be achieved up to a certain point. Secondly, this was a complex project with multiple approaches and diverse activities and partners. This was compounded by the sequential arrangement of the work packages, with some work packages dependent on the results of preceding activities. This is not optimal in a project of short duration, as initial delays reverberate through the other components. Project design, particularly in climate change adaptation, needs to be realistic in terms of time and resources, especially in view of the number of factors and uncertainties that come into play.
- iv. Demonstration projects: Development and conduct of the demonstration projects in only one year made no allowance for the time needed for conclusive results to be obtained, especially in view of the changes in growing seasons that are being experienced and intra-annual variability in climatic conditions within the Basin. Lack of a mechanism (as part of an exit strategy) for continued monitoring and support to the farmers can result in them abandoning the interventions. Introducing new technology to farmers and building their capacity for adaptation is insufficient if other important needs are not addressed (e.g., access to markets, improved infrastructure). Climate change adaptation must be part of a wider programme in integrated environmental/natural resources management at national and basin level. On the positive side, anchoring the demonstration projects in existing programmes (as was done under this project) helps to ensure sustainability and replication.
- v. Involvement of key beneficiaries: One of the project’s strengths was involving the local communities, who are among the most vulnerable to climate change impacts and key project beneficiaries, in the design and execution of the pilot adaptation actions. Ultimately, it is these communities who will be the main implementers of adaptation efforts on the ground. By involving them

at an early stage, the project promoted acceptance of adaptation actions and increased the likelihood that outcomes will be sustained.

vi. Building capacity through learning-by-doing: A major approach to capacity building was learning-by-doing and demonstrations, by directly involving staff and practitioners (e.g., staff of universities, research facilities and district offices; extension workers; NGOs) in the design and execution of the demonstration projects. In addition, involvement of technical personnel in the scientific assessments helped to build technical capacity in the countries. This was a ‘win-win’ situation, as capacity was strengthened and a strong sense of buy-in and ownership achieved among executives, while working collectively towards the project’s goals.

VII. RECOMMENDATIONS

The following recommendations look ahead to the post-project period and development and implementation of other UNEP projects and sustaining the results of the Nile Basin project. The recommendations are targeted to UNEP, NBI and Nile Basin Governments:

- i. The project has created a considerable amount of interest and momentum within the countries and the region for adaptation. It has produced valuable scientific knowledge and generated useful lessons and best practices in developing and implementing adaptation interventions. Nevertheless, follow-on activities are required for replicating and upscaling as well as for integration into policy and institutional frameworks. It is recommended that UNEP, in collaboration with the NBI, seek support from donors for a follow-on project (phase 2) as soon as possible.
- ii. In planning the second phase, political processes should be given high priority. UNEP should ensure that the necessary consultations are conducted and endorsement obtained from the NBI TAC and other relevant Bodies at national and regional levels during project development and before approaching the donor(s). Further transboundary aspects should be given more attention in the follow up phase.
- iii. In designing projects, UNEP should ensure that the log frame is robust and includes ‘SMART’ indicators, baselines and time bound targets. The log frame should also be used in monitoring and evaluation throughout project implementation.
- iv. It is recommended that UNEP, NBI and GWP-EA increase efforts to transfer the substantial volume of knowledge generated by the project, including to other relevant ongoing and planned projects. They should widely disseminate the reports and knowledge products through their respective networks and other means, which should be given high visibility at appropriate forums. The appropriate materials should be translated into local languages and made easily available to local communities and development agents. Additionally, the technical reports should be simplified as far as possible to facilitate their use by managers and decision-makers and for uptake into policy processes. Funds will need to be identified by UNEP for this activity.
- v. It is recommended that the Nile Basin Governments strengthen efforts to improve monitoring and data collection in order to fill data gaps and address inconsistencies in climate and hydrological data. Appropriate mechanisms should be established for data sharing, as this is critical for the management of the transboundary Nile Basin. As improved and updated datasets become available, arrangements should be made by the countries to have these incorporated into the models to reduce uncertainty. In addition, further assessments in other sensitive areas within the Basin should be supported.
- vi. Governments should provide support for upscaling and replication of project results in other locations, and identify appropriate sources of funding for these activities. At the same time, the Governments should integrate climate change adaptation into broader development programmes in which the needs of the most vulnerable communities are addressed.
- vii. Nile Basin Governments, NBI and project partners should identify opportunities to continue the capacity building activities initiated by the project, including through graduate programmes in the region’s universities. Capacity building should also address bridging the gap between science and policy in climate change adaptation. This should include application of the technical project outputs in policy setting and planning for adaptation to climate change induced water stress.

Annex 1. Evaluation Terms of Reference

1. Objective and Scope of the Evaluation

In line with the UNEP Evaluation Policy³¹, the UNEP Programme Manual and the UNEP Evaluation Manual³² the Terminal Evaluation of the Project “**Adapting to Climate Change Induced Water Stress in the Nile River Basin**” is undertaken after completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, and the executing partners – the Nile Basin Initiative Secretariat (Nile-Sec), the Global Water Partnership (GWP), DHI and Divisions of Environmental Policy Implementation (DEPI) and Early Warning and Assessment (DEWA) in Nairobi Office, in particular. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation. It will focus on the following sets of **key questions**, based on the project’s intended outcomes, which may be expanded by the consultants as deemed appropriate:

- Has the project been successful in projecting the best-case, worst-case and intermediate-case scenarios of water scarcity?
- Has the project been able to propose/design and help implement respective preventive interventions?
- Has the project been able to identify likelihood and frequency of flood/drought risk and their potential impacts, and proposed/designed and helped to implement preventive measures building on existing programmes in the Nile Basin?
- Has information generated from the project been developed into guidelines that governments and stakeholders could use in their adaptation measures and interventions?
- Has the project been able to increase technical capacity of regional/national centres of excellence and research centres to support the adaptation action of governments and communities?

2. Overall Approach and Methods

The Terminal Evaluation of the Project “**Adapting to Climate Change Induced Water Stress in the Nile River Basin**” will be conducted by independent consultant(s) under the overall responsibility and management of the UNEP Evaluation Office (Nairobi), in consultation with UNEP/DEPI Office (Nairobi), and the UNEP Project Manager at UNEP/DEPI, Nairobi Office.

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

The findings of the evaluation will be based on the following:

Desk review of project documents and others including, but not limited to:

³¹ <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx>

³² <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationManual/tabid/2314/language/en-US/Default.aspx>

- Relevant background documentation, inter alia UNEP policies, strategies and programmes pertaining to adaptive capacity to climate change induced interventions;
- Project design documents; Annual Work Plans and Budgets or equivalent, revisions to the logical framework and project financing;
- Project reports such as progress and financial reports from the executing partners to the Project Management Unit (PMU) and from the PMU to UNEP; Steering Group meeting minutes; annual Project Implementation Reviews;
- Documentation related to project outputs;
- Relevant published materials by project teams

Interviews with:

The Consultants shall determine whether to seek additional information and opinions from representatives of donor agencies and other organizations.

- Face to face/telephone/Skype interviews with Project Management, members of project advisory group and executing partners (Nile-Sec, GWP, NBI, DHI, PROTOS, ILRI, etc.)
- Face to face/telephone/Skype interviews with the stakeholders involved in this project including national governments and their sector ministries. As appropriate, these interviews could be combined with an email questionnaire.
- UNEP Project Manager and Fund Management Officer (Nairobi);
- Other project partners including ILRI, Global Water Partnership, DHI, etc. ; and
- Representatives of other multilateral agencies and other relevant organisations.

Country visits. The evaluation team will visit Uganda and Ethiopia where project has been implemented to interview key stakeholders - and observe project achievements during this first phase. In Uganda the evaluation team will also speak with the NBI Secretariat the main partner of this project with which UNEP has a Memorandum of Understanding.

3. Key Evaluation principles

Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned. Analysis leading to evaluative judgements should always be clearly spelled out.

The evaluation will assess the project with respect to **a minimum set of evaluation criteria** grouped in four categories: (1) Attainment of objectives and planned results, which comprises the assessment of outputs achieved, relevance, effectiveness and efficiency and the review of outcomes towards impacts; (2) Sustainability and catalytic role, which focuses on financial, socio-political, institutional and ecological factors conditioning sustainability of project outcomes, and also assesses efforts and achievements in terms of replication and up-scaling of project lessons and good practices; (3) Processes affecting attainment of project results, which covers project preparation and readiness, implementation approach and management, stakeholder participation and public awareness, country ownership/driven-ness, project finance, UNEP supervision and backstopping, and project monitoring and evaluation systems; and (4) Complementarity with the UNEP strategies and programmes. The evaluation consultants can propose other evaluation criteria as deemed appropriate.

Ratings. All evaluation criteria will be rated on a six-point scale. However, complementarity of the project with the UNEP strategies and programmes is not rated. Annex 3 provides detailed guidance on

how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories.

In attempting to attribute any outcomes and impacts to the project, the evaluator(s) should consider the difference between *what has happened with and what would have happened without the project*. This implies that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. This also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions and trends is lacking. In such cases this should be clearly highlighted by the evaluator(s), along with any simplifying assumptions that were taken to enable the evaluator(s) to make informed judgements about project performance.

As this is a terminal evaluation, particular attention should be given to learning from the experience. Therefore, the “**Why?**” question should be at front of the consultants’ minds all through the evaluation exercise. This means that the consultant(s) needs to go beyond the assessment of “*what*” the project performance was, and make a serious effort to provide a deeper understanding of “*why*” the performance was as it was, i.e. of processes affecting attainment of project results (criteria under category 3). This should provide the basis for the lessons that can be drawn from the project. In fact, the usefulness of the evaluation will be determined to a large extent by the capacity of the consultants to explain “*why things happened*” as they happened and are likely to evolve in this or that direction, which goes well beyond the mere review of “*where things stand*” today. Since the second phase of the project will follow on from the first, the evaluation will aim to make suggestions and recommendations to improve project efficiency and effectiveness.

4. Evaluation criteria

A. Strategic relevance

The evaluation will assess, in retrospect, whether the project’s objectives and implementation strategies were consistent with: i) Sub-regional environmental issues and needs; and ii) the UNEP mandate and policies at the time of design and implementation. It will also assess whether the project objectives were realistic, given the time and budget allocated to the project, the baseline situation and the institutional context in which the project was to operate.

B. Achievement of Outputs

The evaluation will assess, for each component, the project’s success in producing the programmed results as presented in Table 2 above, both in quantity and quality, as well as their usefulness and timeliness. Briefly explain the degree of success of the project in achieving its different outputs, cross-referencing as needed to more detailed explanations provided under Section F (which covers the processes affecting attainment of project objectives). The achievements under the regional and national demonstration projects will receive particular attention.

C. Effectiveness: Attainment of Objectives and Planned Results

The evaluation will assess the extent to which the project’s objectives were effectively achieved or are expected to be achieved.

The evaluation will reconstruct the Theory of Change (ToC) of the project based on a review of project documentation and stakeholder interviews. The ToC of a project depicts the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (changes in environmental benefits and living conditions). The ToC will also depict any **intermediate changes or stages** required between

project outcomes and impact, called intermediate states. The ToC further defines the external factors that influence change along the pathways, whether one result can lead to the next. **These external factors are either drivers (when the project has a certain level of control) or assumptions (when the project has no control).**

The assessment of effectiveness will be structured in three sub-sections:

- Evaluation of the **achievement of direct outcomes as defined in the reconstructed ToC**. These are the first-level outcomes expected to be achieved as an immediate result of project outputs.
- Assessment of the **likelihood of impact** using a *Review of Outcomes to Impacts* (ROtI) approach as summarized in Annex 5 of the TORs. Appreciate to what extent the project has to date contributed, and is likely in the future to further contribute to changes in stakeholder behaviour as a result of the project's direct outcomes, and the likelihood of those changes in turn leading to changes in the natural resource base, benefits derived from the environment and human living conditions.
- Evaluation of the **achievement of the formal project overall objective, overall purpose, goals and component outcomes** using the project's own results statements as presented in original logframe (see Table 2 above) and any later versions of the logframe. This sub-section will refer back where applicable to sub-sections (a) and (b) to avoid repetition in the report. To measure achievement, the evaluation will use as much as appropriate the indicators for achievement proposed in the Logical Framework Matrix (Logframe) of the project, adding other relevant indicators as appropriate. Briefly explain what factors affected the project's success in achieving its objectives, cross-referencing as needed to more detailed explanations provided under Section F.

There are some effectiveness questions of specific interest which the evaluation should certainly consider:

- Achievement of key goal: Effectiveness of the project in building key adaptive capacity and piloting adaptation in 'hotspots' with technical, policy and financial interventions, etc.
- Outreach: How effectively were project lessons and guidelines for enhancing adaptive capacity to climate change induced water problems in developing countries in the Nile Basin disseminated across these countries?

D. Sustainability and replication

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

Four aspects of sustainability will be addressed:

Socio-political sustainability. Are there any social or political factors that may influence positively or negatively the sustenance of project results and progress towards impacts? Is the level of ownership by the main national and regional stakeholders sufficient to allow for the project results to be sustained? Are there sufficient government and stakeholder awareness, interests,

commitment and incentives to execute, enforce and pursue the programmes, plans, agreements, monitoring systems, etc. prepared and agreed upon under the project?

Financial resources. To what extent are the continuation of project results and the eventual impact of the project dependent on continued financial support? What is the likelihood that adequate financial resources³³ will be or will become available to implement the programmes, plans, agreements, monitoring systems, etc. prepared and agreed upon under the project? Are there any financial risks that may jeopardize sustenance of project results and onward progress towards impact?

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

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

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

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

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

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

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

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

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

Replication, in the context of UNEP projects, is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different geographic areas) or scaled up (experiences are repeated and lessons applied in the same geographic area but on a much larger scale and funded by other sources). The evaluation will assess the approach adopted by the project to

³³ Those resources can be from multiple sources, such as the public and private sectors, income generating activities, other development projects etc.

promote replication effects and appreciate to what extent actual replication has already occurred or is likely to occur in the near future. What are the factors that may influence replication and scaling up of project experiences and lessons?

E. Efficiency

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

F. Factors and processes affecting project performance

Preparation and readiness. This criterion focusses on the quality of project design and preparation. Were project stakeholders³⁴ adequately identified? Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing agencies properly considered when the project was designed? Was the project document clear and realistic to enable effective and efficient implementation? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities) and enabling legislation assured? Were adequate project management arrangements in place? Were lessons from other relevant projects properly incorporated in the project design? What factors influenced the quality-at-entry of the project design, choice of partners, allocation of financial resources etc.? Were environmental and social safeguards considered when the project was designed³⁵?

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

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been followed and were effective in delivering project outputs and outcomes. Were pertinent adaptations made to the approaches originally proposed?
- Evaluate the effectiveness and efficiency of project management by DEPI and Nile-Sec and how well the management was able to adapt to changes during the life of the project.
- Assess the role and performance of the units and committees established and the project execution arrangements at all levels.
- Assess the extent to which project management as well as national governments responded to direction and guidance provided by the Advisory Group and UNEP supervision recommendations.

³⁴ Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the project. The term also applies to those potentially adversely affected by the project.

³⁵ <http://www.thegef.org/gef/node/4562>

Identify operational and political / institutional problems and constraints that influenced the effective implementation of the project, and how the project partners tried to overcome these problems. How did the relationship between the project management team (DEPI) and the local executing agencies (above all, the Nile-Sec develop)?

Assess the extent to which the project implementation met environmental and social safeguards requirements.

Stakeholder participation and public awareness. The term stakeholder should be considered in the broadest sense, encompassing project partners, government institutions, private interest groups, local communities, etc. The TOC analysis should assist the evaluator(s) in identifying the key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathway from activities to achievement of outputs and outcomes to impact. The assessment will look at three related and often overlapping processes: (1) information dissemination between stakeholders, (2) consultation between stakeholders, and (3) active engagement of stakeholders in project decision making and activities. The evaluation will specifically assess:

the approach(es) used to identify and engage stakeholders in project design and implementation.

What were the strengths and weaknesses of these approaches with respect to the project's objectives and the stakeholders' motivations and capacities? What was the achieved degree and effectiveness of collaboration and interactions between the various project partners and stakeholders during design and implementation of the project?

the degree and effectiveness of any public awareness activities that were undertaken during the course of implementation of the project; or that are built into the assessment methods so that public awareness can be raised at the time the assessments will be conducted;

how the results of the project (strategic programmes and plans, monitoring and management systems, sub-regional agreements, etc.) promote participation of stakeholders, including users, in decision making in the transport sector.

Country ownership and driven-ness. The evaluation will assess the performance of national government agencies involved in the project, as relevant:

How far has the Government assumed responsibility for the project and provided adequate support to project execution, including the degree of cooperation received from the various public institutions involved in the project and the timeliness of provision of counter-part funding to project activities?

To what extent have the political and institutional frameworks of Uganda and Ethiopia been conducive to project performance?

How responsive were the government partners Nile-Sec coordination and guidance, and to UNEP supervision?

Financial planning and management. Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. The assessment will look at actual project costs by activities compared to budget (variances), financial management (including disbursement issues). The evaluation will:

Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners;

Appreciate other administrative processes such as recruitment of staff, procurement of goods and services (including consultants), preparation and negotiation of cooperation agreements, etc. to the extent that these might have influenced project performance;

Present to what extent financing has materialized as expected at project approval (see Table 4). Report partner co-financing to the project overall, and to support project activities at the

national level in particular. The evaluation will provide a breakdown of final actual costs and co-financing for the different project components.

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

Analyze the effects on project performance of any irregularities in procurement, use of financial resources and human resource management, and the measures taken by Nile-Sec or UNEP to prevent such irregularities in the future. Appreciate whether the measures taken were adequate.

UNEP supervision and backstopping. The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/institutional substantive issues in which UNEP has a major contribution to make. The evaluator(s) should assess the effectiveness of supervision and administrative and financial support provided by UNEP including:

- The adequacy of project supervision plans, inputs and processes;
- The emphasis given to outcome monitoring (results-based project management);
- The realism and candour of project reporting and ratings (i.e. are PIR ratings an accurate reflection of the project realities and risks);
- The quality of documentation of project supervision activities; and
- Financial, administrative and other fiduciary aspects of project implementation supervision.

Monitoring and evaluation. The evaluation will include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will appreciate how information generated by the M&E system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:

M&E Design. Projects should have sound M&E plans to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART indicators and data analysis systems, and evaluation studies at specific times to assess results. The timeframe for various M&E activities and standards for outputs should have been specified. The evaluators should use the following questions to help assess the M&E design aspects:

- Quality of the project logframe (original and possible updates) as a planning and monitoring instrument; analyse, compare and verify correspondence between the original logframe in the Project Document, possible revised logframes and the logframe used in Project Implementation Review reports to report progress towards achieving project objectives;
- SMART-ness of indicators: Are there specific indicators in the logframe for each of the project objectives? Are the indicators measurable, attainable (realistic) and relevant to the objectives? Are the indicators time-bound?

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

M&E Plan Implementation. The evaluation will verify that:

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

G. Complementarities with UNEP strategies and programmes

The evaluation should present a brief narrative on the following issues:

Linkage to UNEP's Expected Accomplishments and POW 2010-2011. The UNEP MTS specifies desired results in six thematic focal areas. The desired results are termed Expected Accomplishments. Using the completed ToC/ROTI analysis, the evaluation should comment on whether the project makes a tangible contribution to any of the Expected Accomplishments specified in the UNEP MTS. The magnitude and extent of any contributions and the causal linkages should be fully described. Whilst it is recognised that UNEP Internal projects designed prior to the production of the UNEP Medium Term Strategy 2010-2013 (MTS)³⁶ would not necessarily be aligned with the Expected Accomplishments articulated in those documents, complementarities may still exist and it is still useful to know whether these projects remain aligned to the current MTS.

*Alignment with the Bali Strategic Plan (BSP)*³⁷. The outcomes and achievements of the project should be briefly discussed in relation to the objectives of the UNEP BSP.

Gender. Ascertain to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to and the control over natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation. Appreciate whether the intervention is likely to have any lasting differential impacts on gender equality and the

³⁶ <http://www.unep.org/PDF/FinalMTSGCSS-X-8.pdf>

³⁷ <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

relationship between women and the environment. To what extent do unresolved gender inequalities affect sustainability of project benefits?

South-South Cooperation. This is regarded as the exchange of resources, technology, and knowledge between developing countries. Briefly describe any aspects of the project that could be considered as examples of South-South Cooperation.

5. The Consultants' Team

For this evaluation, the evaluation team will consist of one team leader and one supporting consultant. Both consultants should have experience in project evaluation, planning and management of water bodies and climate change, and be fluent in English. The Team Leader will coordinate data collection and analysis, and the preparation of the main report for the evaluation, with substantive contributions by the supporting consultant. Both consultants will ensure together that all evaluation criteria are adequately covered.

By undersigning the service contract with UNEP/UNON, the consultants certify that they have not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests (within six months after completion of the contract) with the project's executing or implementing units.

6. Evaluation Deliverables and Review Procedures

The evaluation team will prepare an **inception report** (see Annex 2(a) of TORs for Inception Report outline) containing a thorough review of the project context, project design quality, a draft reconstructed Theory of Change of the project, the **evaluation framework** and a tentative evaluation schedule.

The review of design quality will cover the following aspects (see Annex 9 for the detailed project design assessment matrix):

- Strategic relevance of the project
- Preparation and readiness (see paragraph 46);
- Financial planning (see paragraph 50);
- M&E design (see paragraph 53 (a));
- Complementarities with UNEP strategies and programmes (see paragraph 54);
- Sustainability considerations and measures planned to promote replication and upscaling (see paragraph 41).

The inception report will also present a draft, desk-based reconstructed Theory of Change of the project. It is vital to reconstruct the ToC *before* the most of the data collection (review of reports, in-depth interviews, observations on the ground, etc.) is done, because the ToC will define which direct outcomes, drivers and assumptions of the project need to be assessed and measured to allow adequate data collection for the evaluation of project effectiveness, likelihood of impact and sustainability.

The **evaluation framework** will present in further detail the evaluation questions under each criterion with their respective indicators and data sources. The evaluation framework should summarize the information available from project documentation against each of the main evaluation parameters. Any gaps in information should be identified and methods for additional data collection, verification and analysis should be specified.

The inception report will also present a tentative schedule for the overall evaluation process, including a draft programme for the country visit and tentative list of people/institutions to be interviewed.

The inception report will be submitted for review and approval by the Evaluation Office before the evaluation team travels to Indonesia.

The main evaluation report should be brief (no longer than 35 pages – excluding the executive summary and annexes), to the point and written in plain English. The evaluation team will deliver a high quality report in English by the end of the assignment. The team will also provide the executive summary and the conclusions, lessons learned and recommendations section. The report will follow the annotated Table of Contents outlined in Annex 1. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The report will present evidence-based and balanced findings, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other. The report should be presented in a way that makes the information accessible and comprehensible. Any dissident views in response to evaluation findings will be appended in footnote or annex as appropriate. To avoid repetitions in the report, the authors will use numbered paragraphs and make cross-references where possible.

Review of the draft evaluation report. The evaluation team will submit the zero draft report latest two weeks after the country visit has been completed to the UNEP EO and revise the draft following the comments and suggestions made by the EO. Once a draft of adequate quality has been accepted, the EO will share this first draft report with the UNEP Project Manager, who will ensure that the report does not contain any blatant factual errors. The UNEP Project Manager will then forward the first draft report to the other project stakeholders, in particular Nile-Sec and WWF for review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. It is also very important that stakeholders provide feedback on the proposed recommendations and lessons. Comments would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to the UNEP EO for collation. The EO will provide the comments to the evaluation team for consideration in preparing the final draft report.

The evaluation team will submit the final draft report no later than 2 weeks after reception of stakeholder comments. The team will prepare a **response to comments**, listing those comments not or only partially accepted by them that could therefore not or only partially be accommodated in the final report. They will explain why those comments have not or only partially been accepted, providing evidence as required. This response to comments will be shared by the EO with the interested stakeholders to ensure full transparency.

Submission of the final Terminal Evaluation report. The final report shall be submitted by Email to the Head of the Evaluation Office, who will share the report with the Director and the UNEP/DEPI project Manager.

The final evaluation report will be published on the UNEP Evaluation Office web-site www.unep.org/eou.

As per usual practice, the UNEP EO will prepare a **quality assessment** of the zero draft and final draft report, which is a tool for providing structured feedback to the evaluation consultants. The quality of the report will be assessed and rated against both UNEP criteria as presented in Annex 2.

The UNEP Evaluation Office will also prepare a **commentary** on the final evaluation report, which presents the EO ratings of the project based on a careful review of the evidence collated by the evaluation consultant and the internal consistency of the report.

7. Logistical arrangement

This Terminal Evaluation will be undertaken by independent evaluation consultant(s) contracted by the UNEP Evaluation Office. The consultant(s) will work under the overall responsibility of the UNEP Evaluation Office and will consult with the EO on any procedural and methodological matters related to the evaluation. It is, however, the consultants' individual responsibility to arrange for their travel visa, obtain documentary evidence, plan meetings with stakeholders, organize field visits, and any other logistical matters related to the assignment. The UNEP project manager and Nile-Sec will, where possible, provide logistical support (introduction letters, meetings, transport, etc.) for the country visits, allowing the consultants to conduct the evaluation as efficiently and independently as possible.

Annex 2. Evaluation timeline

Activity	Date
Start of contract	18 November 2013
Inception mission – UNEP Nairobi	27-29 November 2013
Ethiopia visit (ILRI and site visit)	30 November - 6 December 2013
Christmas holidays	22 December – 5 January 2014
Draft inception report to EO	14 January 2014
EO's comments on inception report	22 January
Final inception report to EO	24 January
Zero draft evaluation report to EO	18 February
EO's comments on zero draft evaluation report	21 February
First draft evaluation report	20 April
First draft evaluation report circulated to stakeholders for comments	
Consolidated comments to consultants	8 September
Final evaluation report	29 September 2014

Annex 3. Documents reviewed

Project documentation

- Project document and logical framework.
- Inception Workshop Proceedings.
- Annual Progress Review Report 2010.
- Annual Progress Review Report 2011.
- Annual Progress Review Report 2012.
- Minutes: 1st Annual Review Meeting, November 2010.
- Minutes: Annual Review Meeting, November 2011.
- Minutes: Annual Review Meeting, December 2012.
- Workplan 2011 -2012.
- Updated budget for SIDA, 2012-2013.
- Expenditure report as at 31st Dec 2013.
- Report, Project planning meeting, Entebbe, August 2010.
- Presentations, Final Project Workshop, May 2013.
- Final Report for the “Adapting to climate change induced water stress in the Nile River Basin” Project.
- DHI 2013. Nile Basin Adaptation to Water Stress-Comprehensive Assessment of Flood and Drought Prone Areas.
- ILRI 2013. Lessons and success stories from a pilot project on climate change adaptation interventions in Kabe watershed, south Wollo, Ethiopia. Report of workshop, organized by ILRI in collaboration with UNEP, Wollo University, SARC and Worreilu Office of Agriculture, February 2013, ILRI campus, Addis Ababa. <http://nilebdc.wikispaces.com/n6finalworkshop>
- Mekonnen,K., A.Duncan, D.Kefyalew, T.Bekele and A.Wubet. 2013. Enhancing communities’adaptive capacity to Climate Change in drought-prone hotspots of the Blue Nile Basin in Ethiopia. UNEP/SIDA/NBI.
- NBI/GWP-EA/UNEP 2012. Report of Workshop on ‘Basinwide cooperation for climate resilience in the Nile’. 27-28 March 2012, Nairobi, Kenya.
- NBI/GWP-EA/UNEP 2013. Towards water security and climate resilience in the Nile Basin - Review of National Climate Resilience Frameworks of the Nile Basin Countries.
- NBI/GWP-EA/UNEP 2013. Summary of Results of implementing Component II: policy support and capacity building.
- PROTOS 2013. Involving local communities in preparing a long term CC and IWRM action plan to enhance their adaptive capacity to CC, and integrate improved water management in the Mpanga Catchment of the Nile Basin in Uganda. Final Report of the Uganda Demonstration project.
- PROTOS 2013. Enhancing the adaptive capacity of communities to climate change through IWRM, Mpanga Catchment of the Nile Basin in Uganda.
- UNEP/DEWA 2013. Adaptation to Climate Change Induced Water Stress in the Nile Basin: A Vulnerability Assessment Report.
- UNEP 2013. Stock-taking of Adaptation Activities in the Nile River Basin.
- UNEP 2013. Climate Change Adaptation Capacities in the Nile River Basin.
- UNEP 2013. Review of Adaptation Best Practice Examples in the Nile River Basin Region.
- UNEP 2013. Adaptation to climate change induced water stress in the Nile Basin. Summary for Decision makers.

Other documents reviewed

- UNEP Medium Term Strategy 2010-2013 and Programme of Work.
- IPCC 2007. Summary for Policymakers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK.
- UNEP/AMCEN 2013. Africa Adaptation Gap Technical Report: Climate-change impacts, adaptation challenges and costs for Africa.
- Waithaka et al (eds). 2013. East African Agriculture and Climate Change: A Comprehensive Analysis. IFPRI, Wash. DC.

Annex 4. Persons consulted

Name	Affiliation
*UNEP	
Sylvana King	UNEP Evaluation Office
Michael Spilsbury	UNEP Evaluation Office
Musonda Mumba	UNEP project manager
Keith Alversen	UNEP/DEPI
Richard Munang	UNEP/ROA
Didier Salzmann	Fund Management Officer, UNEP/DEPI
Elizabeth Migongo-Bake	UNEP/DEPI
Charles Sebukeera (by telephone)	UNEP/DEWA
PROJECT PARTNERS AND STAKEHOLDERS	
Peter Koefoed Bjornsen	DHI, Denmark
Kindu Mekonnen	ILRI, Addis Ababa
Wubalem Dejene	ILRI, Addis Ababa
Asmare Dejene	Wollo University, Ethiopia
Mezgebu Mewded	Wollo University, Ethiopia
Asmare Wubet	Sirinka Agricultural Research Center, Ethiopia
Getachew Yimam Ali	Woreilu Wereda Office of Agriculture, Ethiopia
Farmers (26)	Kabe Watershed, Ethiopia
Emerita Mugorewicyeza	Nile Basin Initiative, Uganda
Lieven Peeters	PROTOS, Uganda
Patrick Safari	GWP-EA, Uganda
Kidanemariam Jembere	GWP-EA, Uganda
Mugisha Shilling	Ministry of Water and Environment. Technical Advisory Committee Member for Uganda
Callist Tindimugaya	Water Resources Regulation, Directorate of Water Development, Nile Technical Advisory Committee Member for Uganda
Tom Wakko Baguma	Nile Basin Initiative, Uganda
Farmers	Uganda project site

Annex 5. Summary of assessment of the quality of project design

Criterion		Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
Relevance			
Are the intended results likely to contribute to UNEP's Expected Accomplishments and programmatic objectives?		The intended results are consistent with UNEP's programmatic objectives and Expected accomplishments under its Climate Change and Ecosystem Management cross-cutting priorities of its Medium-term Strategy 2010–2013. Climate change adaptation has been recognised as priority within UNEP's Climate Change Strategy with a focus on building resilience of ecosystems and economies. The project contributes to UNEP's Programme of Work (2010-2011) subprogramme 1: Climate Change: <i>To strengthen the ability of countries, in particular developing countries, to integrate climate change responses into national development processes.</i>	Section 1.8 para 3; section 2.2 para 1
Does the project form a coherent part of a UNEP-approved programme framework?		The project forms a coherent part of UNEP approved programme framework related to climate change and ecosystem management (medium term strategy 2010-2013) and Programme of Work (2010-2011) subprogramme 1 (see above).	Section 2.2 para 1
Is there complementarity with other UNEP projects, planned and ongoing, including those implemented under the GEF.		There is complementarity with other UNEP (and GEF) projects related to climate change impacts and adaptation. The project is expected to build on/ add to other UNEP projects and initiatives. It is also relevant to the GEF Climate Change and International Waters focal areas.	Section 1.8, para 2; section 3.1.1 para 2
Are the project's objectives and implementation strategies consistent with:	i) Sub-regional environmental issues and needs?	Africa is highly vulnerable to the effects of climate change, with the most vulnerable sector being water. The need to address climate change at the level of river basins was identified as a priority by the countries. Seven of the ten Nile Basin countries have existing National Adaptation Programmes of Action (NAPAs) and National Communications and are committed to having adaptation high on the agenda.	Section 2.1. para 1 and 4, section 3.1.1.
	ii) UNEP mandate and policies at the time of design and implementation?	The project is consistent with the mandate of UNEP's climate change (adaptation) activities, which was established at the 22nd session of UNEP's Governing Council (2003). UNEP's niche in climate change adaptation in the UN system has been defined as <i>adapting by building resilience of ecosystems and economies.</i>	Section 2.2 para 1; section 3.1.6 para 1 and 2
	iii) the relevant GEF focal areas, strategic priorities and operational programme(s)? (if appropriate)	NA	

Criterion		Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
	iv) Stakeholder priorities and needs?	The need to address climate change at the level of river basins was identified as a priority by the countries. The Nile Basin countries are committed to having adaptation high on the agenda as demonstrated by existing NAPAs and National Communications. Further, this project is expected to contribute to poverty reduction in the basin countries as defined in their respective national poverty reduction strategies and national development plans.	Section 2.1. para 1 and 4; sections 3.1.1. and 3.1.2.
Overall rating for Relevance		Highly satisfactory: The project is closely aligned with the objectives and strategies of UNEP and with regional and national stakeholder priorities and needs with respect to climate change adaptation in the water sector.	
Intended Results and Causality			
Are the objectives realistic? (Objective: To build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.)		The project’s intent to build key adaptive capacity of stakeholders and pilot adaptation actions in certain hotspots is realistic. However, building resilience to climate change induced water stress requires a much longer timeframe and is contingent on a number of conditions that are not within the control of the project and its partners. Further, resilience is not a static condition as climate change is a dynamic phenomenon and with many uncertainties.	Section 3.1.5; Logical framework matrix
Are the causal pathways from project outputs [goods and services] through outcomes [changes in stakeholder behaviour] towards impacts clearly and convincingly described? Is there a clearly presented Theory of Change or intervention logic for the project?		The causal pathways and intervention logic are adequately described. The project goal is based on the premise that strengthened capacity and increased knowledge and information and their use in policy setting and planning will contribute to building the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries.	Section 3.1.5; Logical framework matrix
Is the timeframe realistic? What is the likelihood that the anticipated project outcomes can be achieved within the stated duration of the project?		The timeframe for the three anticipated outcomes were realistic (barring any unforeseen events that would delay implementation). But certain climate change adaptation strategies may require a longer timeframe to have any discernible impacts and to generate results for replication. The planned second two-year phase (2013-2014) will entail scaling up of the first phase approach, including lessons learnt, to additional river and sub-basins with concrete implementation on the ground.	Project summary; sections 3.1.5.1 and 3.1.5.2
Are the activities designed within the project likely to produce their intended results		The activities are in general likely to produce their intended results (outputs and outcomes), barring any unforeseen circumstances and if other conditions are present. However, integration into national policy setting and planning may not be realistic	Logical framework matrix

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
	within the timeframe.	
Are activities appropriate to produce outputs?	Activities are appropriate to produce the expected outputs	Logical framework matrix
Are activities appropriate to drive change along the intended causal pathway(s)	Activities are appropriate to drive change (based on the premise that other required conditions would be present).	Logical framework matrix
Are impact drivers, assumptions and the roles and capacities of key actors and stakeholders clearly described for each key causal pathway?	Impact drivers, assumptions, roles and capacities of key actors along key causal pathways are not explicitly described, but are implicit in the pro doc.	
Overall rating for Intended Results and causality	Moderately Satisfactory: Building adaptive capacity of stakeholders and piloting adaptation actions in certain hotspots is realistic, but there is uncertainty as to whether this capacity will be used for adaptation. Further, building resilience to climate change induced water stress requires a longer timeframe and is contingent on a number of external conditions.	
Efficiency		
Are any cost- or time-saving measures proposed to bring the project to a successful conclusion within its programmed budget and timeframe?	A number of cost- and time-saving measures were adopted (e.g. building on existing agencies from global to local, projects and programmes; using the comparative advantage of partners; and involvement of multiple stakeholder groups including local communities)	Section 3.1.1. para 5 and 6 ;
Does the project intend to make use of /build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency?	The project built on pre-existing institutions, agreements and partnerships and relevant ongoing initiatives (e.g. Nile Basin Initiative, DHI, ILRI, PROTOS).	Section 3.1.1. para 5 and 6 ; Sections 3.1.3, 3.1.4, 3.3, 3.4
Overall rating for Efficiency	Satisfactory: The project is closely linked with existing institutions actively involved in relevant activities and builds on existing data sources, projects and programmes.	
Sustainability / Replication and Catalytic effects		
Does the project design present a strategy / approach to sustaining outcomes / benefits?	Strategies to sustain outcomes and benefits include linking the project activities closely with the development of the Global Climate Change Adaptation Network (Africa), building institutional adaptive capacity, and integration of results into national development processes including national water resources management policies and associated legislative frameworks, and using the United Nations Development Assistance Framework (UNDAF) to mainstream climate change adaptation issues and	Section 3.1.3; Inception progress report to SIDA (2010)

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
	<p>the project outputs.</p> <p>Measures to sustain project outcomes are discussed in detail in the inception progress report to SIDA (2010). Bilateral discussions were reportedly held with NBI to explore further sustainability issues for the project beyond 2012.</p>	
<p>Does the design identify the social or political factors that may influence positively or negatively the sustenance of project results and progress towards impacts? Does the design foresee sufficient activities to promote government and stakeholder awareness, interests, commitment and incentives to execute, enforce and pursue the programmes, plans, agreements, monitoring systems etc. prepared and agreed upon under the project?</p>	<p>The design recognizes social factors such as potential for conflict over water resources, migration of people due to water scarcity, poverty alleviation and promoting the role of women in adapting to climate change. The need for transboundary collaboration at the basin level is also recognized and promoted through collaboration with regional bodies such as the Nile Basin Initiative.</p> <p>The project is expected to be driven by the specific demands and needs of the involved governments, communities and development partners. Activities to engage with and raise stakeholder awareness are included in the project design.</p>	<p>Section 3.1.3, 3.1.4, 3.2, 3.3, 3.4; logical framework</p>
<p>If funding is required to sustain project outcomes and benefits, does the design propose adequate measures / mechanisms to secure this funding?</p>	<p>A strategy for financing is not explicitly addressed in the project document, but a second phase of the project is anticipated to scale up the first phase approach to additional river and sub-basins with concrete implementation on the ground.</p>	<p>Section 3.1.5.2, para 6</p>
<p>Are there any financial risks that may jeopardize sustenance of project results and onward progress towards impact?</p>	<p>Sustainability is highly dependent on linkage with other programmes and initiatives, replication and upscaling, and uptake in water resources policies, etc., all of which imply availability of funds. The project also aims to build key adaptive capacity and pilot adaptation, including with financial interventions. There are certain financial risks associated with these approaches. The threat of corruption is also recognized.</p>	<p>3.1.3, 3.1.4, 3.1.5; Inception progress report to SIDA 2010</p>
<p>Does the project design adequately describe the institutional frameworks, governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. required to sustain project results?</p>	<p>The institutional frameworks, governance structures, etc. are described. Linkage with specific agencies and institutions is described, as a strategy to sustain project results.</p>	<p>Sections 3.1.3. and 3.1.4; Inception progress report to SIDA 2010</p>
<p>Does the project design identify environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or</p>	<p>The design does not explicitly identify these environmental factors but recognizes that even if the most stringent mitigation measures were put in place today, the impact of climate change on water resources would continue beyond this Century. Climate change could have severe and large scale impacts that could wipe out project benefits.</p>	<p>Section 2.1 para 3; 3.1.1. para 5;</p>

Criterion		Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits?		Further, the project recognizes the inherent uncertainty as regards precipitation, river flow and the implications for ecosystems and livelihoods.	
Does the project design foresee adequate measures to catalyze behavioural changes in terms of use and application by the relevant stakeholders of (e.g.):	i) technologies and approaches show-cased by the demonstration projects;	The project includes pilot demonstration projects in adaptation to climate induced water stress in Ethiopia and Uganda, with the involvement of local communities (farmers) and organizations. Increased knowledge and awareness are expected to lead to positive attitude towards adaptation options among stakeholders.	Log frame
	ii) strategic programmes and plans developed	Among the project's activities are developing site-(sub-basin) and country-specific adaptation packages linked to water resources management and national development policies.	Log frame
	iii) assessment, monitoring and management systems established at a national and sub-regional level	The project aims to build institutional capacity for adaptation, which presumably includes for assessment, monitoring and management (although not explicit in the project document). One of the assumptions is that partners will cooperate in data collection and dissemination to support governments.	Log frame
Does the project design foresee adequate measures to contribute to institutional changes?		Measures include: Strengthened institutional and technical capacity of Nile Basin Initiative, East Africa Community (EAC), regional/national centres of excellence and ground facilities for adaptation, establishment of knowledge platform, and supporting and engaging governments in the integration of adaptation into relevant policies and institutional frameworks for sustainable water resource management.	Sections 3.1.5.1 and 3.1.5.2; log frame
Does the project design foresee adequate measures to contribute to policy changes (on paper and in implementation of policy)?		It is envisaged that the information produced will be used in policy setting and planning within the basin countries and that governments will be supported to integrate adaptation into relevant policies. However, policy changes may require a longer timeframe than the duration of the project, especially when dealing with transboundary water resources.	Log frame
Does the project design foresee adequate measures to contribute to sustain follow-on financing (catalytic financing) from Governments, the GEF or other donors?		The design does not explicitly address measures for catalytic financing from Nile Basin governments, but a second phase is anticipated with financing from external donor(s).	Section 3.1.5.2 para 6
Does the project design foresee adequate measures to create opportunities for particular individuals or institutions		The project design identifies a number of strategic partners who are potentially champions, including the Nile Basin Initiative, Lake Victoria Basin Commission and regional centres of excellence. Their involvement is expected to catalyze change.	Sections 3.1.4, 3.3 and 3.4

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
("champions") to catalyze change (without which the project would not achieve all of its results)?		
Are the planned activities likely to generate the level of ownership by the main national and regional stakeholders necessary to allow for the project results to be sustained?	Involvement of local, national and regional stakeholders in the project; development of adaptation strategies that consider the needs of governments and local communities, among others; and building capacity based on the capacity needs of stakeholders are among the measures that are expected to generate ownership by the main stakeholders.	Sections 3.1.3 and 3.1.4; Log frame
Overall rating for Sustainability / Replication and Catalytic effects	Moderately Satisfactory: Prospects for sustainability and replication are based on a number of premises, including establishing linkages with other planned and on-going initiatives and key regional and national institutions. Financial sustainability would depend to a large extent on external funding and national and regional initiatives. Availability of lessons and experiences from the pilot projects, strengthened institutional capacity and increased awareness should catalyze uptake of results in adaptation programmes.	
Risk Identification, Social Safeguards and Unintended Effects		
Are critical risks appropriately addressed?	A detailed risks analysis is not included in the project document, but the inception progress report to SIDA (2010) includes a risk identification and mitigation matrix (required by SIDA). Other risk factors are not considered (such as uncertainties in climate change scenarios and implications for adaptation; local communities do not accept adaptation options; and potential for transboundary conflicts over water resources).	Inception progress report to SIDA (2010)
Are assumptions properly specified as factors affecting achievement of project results that are beyond the control of the project?	Assumptions are mentioned in the log frame but not specified as factors affecting achievement of project results that are beyond the project's control.	Log frame
Does project design mention any possible unintended or indirect effects of the intervention? Are potentially negative environmental, economic, and social impacts of project identified? Does the project design propose adequate measures to deal with negative impacts?	Potentially negative environmental, economic and social impacts are not identified (perhaps because the project is not expected to have negative impacts?).	-
Overall rating for risk identification and social safeguards	Moderately Unsatisfactory: The project design does not include a detailed risk analysis. Social safeguards in project execution are not discussed.	

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
Governance and Supervision Arrangements		
Is the project governance model comprehensive, clear and appropriate?	Clearly described, appropriate for a project of this nature (global and regional levels)	Sections 3.1.6 and 6
Are roles and responsibilities clearly defined?	Roles and responsibilities are clearly defined	Section 6
Are supervision / oversight arrangements clear and appropriate?	Supervision / oversight arrangements are clear and appropriate	Sections 3.1.6 and 6
Overall rating for Governance and Supervision Arrangements	Satisfactory: The governance and supervision arrangements are considered adequate	
Management, Execution and Partnership Arrangements		
Have the capacities of partners been adequately assessed?	Partners are selected based on their particular expertise and comparative advantage.	Section 3.3; Inception progress report to SIDA (2010)
Are the execution arrangements clear?	The execution arrangements are clear	Section 6
Are the roles and responsibilities of internal and external partners properly specified?	The roles and responsibilities of internal and external partners are properly specified in the project document and the inception progress report to SIDA (2010)	Sections 3.1.4, 3.3, and 6.1; Inception progress report to SIDA (2010)
Overall rating for Management, Execution and Partnership Arrangements	Highly Satisfactory: The management, execution and partnership arrangements described are satisfactory, taking into account all levels from global to local, which is appropriate for a project of this nature.	
Financial Planning / budgeting		
Are there any obvious deficiencies in the budgets / financial planning	No specific deficiencies in financial planning were identified. Only one co-financing source was identified at the time of project design (\$245,000 from UNEP). The budget appears adequate (provisions made for a second phase).	
Cost effectiveness of proposed resource utilization as described in project budgets and viability in respect of resource mobilization potential	Proposed resource utilization satisfactory	Log frame and project budget
Financial and administrative arrangements including flows of funds are clearly described	Financial and administrative arrangements, and flow of funds are described in the project document; and in the Inception progress report to SIDA (2010)	Sections 7.2 and 7.3; project budget; Inception Progress report to SIDA (2010)

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
Overall rating for Financial Planning / budgeting	Satisfactory: An adequate financing plan and detailed instructions for financial reporting and budgeting are presented	
Monitoring		
<p>Does the logical framework:</p> <ul style="list-style-type: none"> • capture the key elements in the Theory of Change for the project? • have ‘SMART’ indicators for outcomes and objectives? • have appropriate 'means of verification' • adequately identify assumptions 	<ul style="list-style-type: none"> • In general the log frame captures some key elements in the project’s TOC (increased scientific knowledge, information and capacity will lead to improved policy setting and planning within the basin countries and positive attitudes towards adaptation) but does not indicate how these are expected to ultimately result in increased resilience. Outcomes 1 and 2 are stated like concrete outputs, rather than outcomes. • No indicator(s) given for objectives. No baselines and targets are identified. Indicators for Outcomes 2 and 3 are vague and difficult to quantify. Means of verification (MoV): additional MoV are needed (e.g. for integration into national development plans; institutional and technical capacity). • The log frame includes assumptions, but there are other important assumptions/risks such as availability of financial resources for upscaling/replicating and absence of conflict over water resources. 	Log frame
Are the milestones and performance indicators appropriate and sufficient to foster management towards outcomes and higher level objectives?	Specific milestones and performance indicators are not included in the project document (to be developed in the work packages, but only WP 1 was available to the evaluators).	Log frame
Is there baseline information in relation to key performance indicators?	There are no quantitative baselines.	-
Has the method for the baseline data collection been explained?	No explanation given for collecting baseline data.	-
Has the desired level of achievement (targets) been specified for indicators of Outcomes and are targets based on a reasoned estimate of baseline?	No specific targets are given.	Log frame
Has the time frame for monitoring activities been specified?	The time frame for progress reporting and monitoring is specified.	Section 7
Are the organisational arrangements for project level progress monitoring clearly specified	The organisational arrangements for project level progress monitoring are specified.	Section 7

Criterion	Evaluation Comments	Project Document Reference (SIDA progress report where relevant)
Has a budget been allocated for monitoring project progress in implementation against outputs and outcomes?	No budget allocated for monitoring project implementation progress.	-
Overall, is the approach to monitoring progress and performance within the project adequate?	In general, the approach follows the standard requirements of UNEP and SIDA, but no baselines, targets and performance indicators are given.	-
Overall rating for Monitoring	Moderately Unsatisfactory: Some weaknesses are evident in the log frame and monitoring design.	
Evaluation		
Is there an adequate plan for evaluation?	The project document makes provision for an independent evaluation to be done towards the end of the project, but none during the course of the project.	Section 8
Has the time frame for Evaluation activities been specified?	Yes, end of project	Section 8
Is there an explicit budget provision for midterm review and terminal evaluation?	Yes, for terminal evaluation (no mid-term review was conducted)	
Is the budget sufficient?	Budget for evaluation (in the original project budget) considered inadequate (\$20,000). But this was subsequently increased.	
Overall rating for Evaluation	Moderately Satisfactory: There is provision for the terminal evaluation, but budget considered insufficient. The budget determines the evaluation quality to a large extent. In addition, there is no provision for independent evaluation during the course of the project.	

Annex 6. Statement of expenditure

Project Cost Item	Cost (United States Dollars)
Project personnel	598,282
Consultants	233,812
Administrative support	40,327
Travel	224,476
Sub-contracts	1,521,382
Training, meetings and conferences	264,365
Equipment and premises	3,283
Reporting Costs	99,164
Evaluation	41,669
Programme support cost	302,676
Total expenditure	3,329,436
Total contribution (SIDA)	3,337,985
Net excess income over expenditure	8,549

Annex 7. Brief profile of Consultants

SHERRY HEILEMAN, PhD – Lead Consultant

Educational qualifications include a PhD in Marine Biology and Fisheries (University of Miami Rosenstiel School of Marine & Atmospheric Science). Her technical expertise includes fish stock assessment and management, integrated marine and coastal ecological/environmental assessments (including Small Island Developing States), project development and evaluation, transboundary diagnostic analysis, and integrated natural resources management.

Work experience at regional and international levels (Caribbean, Latin America, Africa, Southeast Asia). Since 2003, she has been working as an independent consultant mainly with international organizations (FAO, UNDP, UNEP, UNESCO, UNIDO and others) and has over 10 years experience with donor-funded regional and global environmental projects (project design, evaluation, coordination, technical studies, etc). Among these projects were the Canary Current Large Marine Ecosystem (LME) Project (mid-term evaluation); Bay of Bengal LME Project (mid-term evaluation); Coastal resilience to climate change project (terminal evaluation); COAST Project (terminal evaluation); Caribbean Sea LME Project; Artibonito River Basin Project; and Gulf of Mexico LME Project. She is currently the coordinator of the LMEs component of the GEF-funded full size Transboundary Waters Assessment Project (as a consultant with UNESCO Intergovernmental Oceanographic Commission). She has authored a number of peer reviewed publications in international journals as well as book chapters.

She is a citizen of Trinidad and Tobago

Drake Rukundo – Supporting Consultant

Drake Rukundo is a 35 year old Ugandan development economist with a decade's experience in development evaluation in the Africa region. He has just concluded a contract as the national consultant on the review of Uganda's National Development Plan (NDP). Drake has also served as socio-economist for Global Water Partnership (GWP) on the formative evaluation of five River Basin Organizations (RBOs) in Africa. Drake initially started his consulting career as a researcher in policy analysis including reviews of Uganda's National Population Policy in 2004, the National Water Sector reviews in 2005. He later worked on a series of evaluations and mid-term reviews for public and non-government entities and institutions, leading him towards a career path in monitoring and evaluation including works on: evaluation of 8th EU Country Program in Uganda, 5th UNFPA Country Program in Uganda, Citizen Report Card for NUSAF 2 Project in Uganda and Ethiopia's Country Capacity Building Program in 2009. He in 2011 served as a consultant on the independent evaluation of World Bank managed Nile Basin Trust Fund (NBTF) which was set up by about 10 development partners to support the Nile Basin Initiative. Drake has been a national consultant on design of Uganda Partnership Policy in 2011; national review of Fiscal Decentralization Strategy (FDS) in Uganda in 2012 and implementation of Uganda's National M&E policy in 2013. Drake is conversant with working on specialized baseline, mid-line and end-line surveys. Drake has worked on contracts mainly related to reviews of programs implemented by: Rwanda Development Board, East Africa Community Secretariat, USAID, UNDP, DFID World Bank, Save the Children, UNFPA, AfDB and AGRA among others.

Annex 8. Uganda Country Report

**Evaluation of the Project ‘Adaptation to Climate Change
Induced Water Stress in the Nile River Basin’**

UGANDA COUNTRY REPORT

Drake Rukundo

September 2014

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Abbreviations

AfDB	Africa Development Bank
AGRA	Alliance for a Green Revolution in Africa
BSP	Bali Strategic Plan
CCA	Climate Change Adaptation
CCAU	Climate Change Adaptation Unit
CFA	Comprehensive Framework Agreement
CSOs	Civil Society Organizations
CWPs	Country Water Partnerships
DEPI	Division of Environmental Policy Implementation
DEWA	Division of Early Warning Assessments
DFID	UK Department for International Development
DHI	Danish Hydrological Institute
DRC	Democratic Republic of Congo
DSA	Daily Subsistence Allowance
DSS	Decision Support System
EAC	East African Community
FDS	Fiscal Decentralization Strategy
GCM	Global Climate Modelling Comparison Studies
GEF	Global Environmental Facility
GWP EA	Global Water Partner East Africa
GWP	Global Water Partnership
IGAD	Inter-Governmental Authority for Development
IWRM	Integrated Water Resources Management
LGs	Local Governments
LVBC	Lake Victoria Basin Commission
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MoU	Memorandum of Understanding
MoWE	Ministry of Water and Environment
MTS	Medium Term Strategy
NBI	Nile Basin Initiative
NDP	National Development Plan
NGOs	Non-Governmental Organization
Nile Sec	Nile Basin Initiative Secretariat in Entebbe
Nile TAC	Nile Basin Initiative Technical Advisory Committee
Nile-COM	Nile Council of Ministers
NWSC	National Water Sewerage Corporation
ROtI	Review of Outcomes to Impacts
SIDA	Swedish International Development Agency
SMART	Short Measureable Attainable Realistic and Time Bound Indicators
SSA	Special Services Agreement
ToC	Theory of Change
UN	United Nations
UNDP	United Nations Development Program

UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	United States Dollars
WB	World Bank
WHYCOS	World Hydrological Cycle Observing System
WP	Work Package
WWF	World Wide Fund for Nature

Executive Summary

- A1.** This report is part of the broader terminal evaluation report of the UNEP project entitled ‘adaptation to climate change induced water stress in the Nile Basin’ (hereafter referred to as ‘the project’) which was implemented between late 2009 and 2013 with a purpose ‘to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin’. While this report covers the evaluation of the implementation done under the project in Uganda the broader evaluation report includes results of the evaluation done for Ethiopia where demonstration projects were also implemented. This terminal evaluation was commissioned by UNEP in November 2013 with an objective to assess project performance (in terms of relevance, effectiveness and efficiency). In addition, the evaluation was to determine outcomes and impacts (actual and potential) stemming from the project implementation as well the assessment of its sustainability and replicability in the future.
- A2.** The project was implemented in line with aspirations of Uganda’s National Development Plan (NDP 2010-2015) and Uganda’s Vision 2040 which call for strengthening of the public administrative systems that supports efforts to address climate change. The project was also relevant to Uganda’s aim to meet the Millennium Development Goal (MDG 7) on environmental sustainability. The project contributed high quality hydrological data provided by DHI and approved by the NBI governance structures. DHI’s modelling provided scenario setting information and simulations that are key to design of prospective interventions especially in vulnerable and potential water stresses in low and high lands. The project supported the technical officials of the Ministry of Water and Environment (MoWE) especially the Directorate of Water Resource Management (DRWM) including two representatives of Uganda on the Nile Technical Advisory Committee (Nile TAC) who participated in various capacity building activities organized by the Global Water Partnership East Africa (GWP-EA) and Nile Basin Initiative –Secretariat (Nile-Sec) during the project. At the sub-national level the project implemented demonstration activities in the Albertine region in the River Mpanga catchment in Western Uganda through PROTOS (a Belgian NGO with a Regional HQ in Kigali and country office in Fort Portal) in collaboration with district local governments and communities within the river basin.
- A3.** The project faced a delayed start. In the design phase, UNEP did not seek the approval of the Nile Basin Initiative (NBI) governance structure - the Nile Council of Ministers (Nile Com), which should have been done before the project’s start. When it became apparent that this was required, it took time for UNEP to obtain this approval from the Nile-TAC. In addition, the project experienced some other delays during technical discussions between UNEP and the Egypt Ministry of Water Resources and Irrigation over regional climate change modeling of the Nile basin, especially the preparation of climate change scenario outputs of assessment of the impact on water resources in the basin. Once this was concluded successfully, DHI’s technical work as well as other tasks (organized under various work packages) went on smoothly. To make up for the lost time, the project management sought a no-cost extension of the project to conclude all aspects of the project as initially planned. It is important to note that this was a ‘catalytic project’ with a design to provide cutting-edge modeling simulations and data that would shape policy and intervention design for climate

change adaptation in the NBI countries. As such, capacity built through various training workshops was aimed at raising competences that would inform the design of interventions and policy actions towards building resilience to climate change induced stress in the Nile basin. The theory of change and the project logic in this regard made assumptions that as a result of the project other interventions by various development partners within the Nile Basin would sustain project outcomes, which is difficult to measure project outcomes in the short run.

- A4.** The project was cost-effective by working with organizations and institutions that already possessed a wealth of expertise in implementing projects within the Nile Basin (e.g. GWP, UNEP and the NBI). This enabled it to elicit technical interest and lean on already existing human and logistical capacity rather than ‘starting everything from scratch’. Nonetheless, the project invested most of the \$3.5m investment in providing critical data that itself will be a reference point for further works in the Nile Basin in the next few decades. As a catalytic project its impact will ultimately be a function of how the data is used by policy makers and technocrats alike to design concrete intervention that make a difference in ecosystems and resilience of communities in climate change induced water stress locations. By providing ‘the science’ from the modelling data and simulations, there are now projects of worse, intermediate and best-case scenarios within which more technical project designs can be made.
- A5.** It was prudent that within its limited scope (in terms of time and resources) that the project was able to implement demonstration activities in Western Uganda. Through PROTOS, the project used tools of Integrated Water Resource Management (IWRM) and climate change adaptation to increase resilience of the local communities in Fort Portal Municipality and in rural areas in the districts of Kabalore, Kamwenge and Kyenjojo that all have parts in the Mpanga River catchment area. The project sensitized over 6,500 people with mobile cinema approach using a tool developed by a local research institute. The project also produces handbooks for school sensitization reaching 20 schools and over 2,000 pupils. A challenge noted from this project is that the time was limited to see the impact of the planned activities since, for instance, some projects such as reforestation of riverbanks require a few growing seasons to be able to see any significant impact. Undertaking a pre-project assessment and designing various interventions, bringing local leaders on board as well as mobilizing communities to take up the project was all difficult to undertake in less than one year and half duration.
- A6.** This report presents lessons learned and recommendations for the follow-up phase which relate to mainly three (3) aspects: First, data sharing has over the last decade and half been a contentious issue and it was an oversight for UNEP to expect countries to ‘surrender’ their data to DHI. It is always important to take note of the political processes that govern the Nile Basin and to seek approval and buy-in from the NBI governance structures to achieve success in implementing Basin-wide interventions. Secondly, it is important to note that climate change adaptation takes time. This project had a very short span and a lot of activities had to be done either simultaneously or in a rush. It is important that in the future projects are designed to span not less than five (5) – seven (7) years so that there is time for all beneficiaries (especially at the community level) to get to play a more sustained role

since local community mobilization is a slow undertaking. While it may be easy to organize a high level technical dialogue conference, mobilizing districts and community members to plant trees along river banks will require more time. Related to this, it is normally *difficult to secure institutional and individual commitment from partners who feel the project is only for a short time*. According such a project sufficient time gives room for a mid-term evaluation, review follow-ups, and inter-partner stakeholder engagement as well as an exit strategy which this project did not have. Lastly, climate change adaptation is most effective if there is uptake of the technical capacity provided by national level policy makers. In Uganda, the issues of climate change have not short high onto the development agenda to a level that elicit increase in budgetary allocation which remains below 1% of the national budget. Key respondents to this evaluation wished that Uganda and sister Nile-basin states take more responsibility in implementing projects that protect the environment and embark on a path that sees them gradually become less dependent on support from development partners.



Uganda demonstration site: Both in the Municipality (urban area) and in the rural countryside, communities were engaged in protecting and preserving water sources (Photo: Drake Rukundo, 2013).

I. INTRODUCTION

1. This is an Evaluation Report for the Uganda demonstration site, as part of the broader independent evaluation of the project “Adapting to climate change induced water stress in the Nile River Basin” that was commissioned by UNEP in November 2013. The project was implemented in collaboration with the Nile Basin Initiative (NBI). This report focuses on the demonstration project that was implemented in Uganda as part of the broader project, which also included another demonstration project in Ethiopia.
2. The project was financed by the Swedish International Development Agency (SIDA) and was approved on 1st June 2009 but activities actually commenced on 4th December 2009. The project came to a close in 30 May 2013 however, a six month no-cost extension period had been allowed in order for the project to accommodate the delays in conclusion of some activities under a series of work packages. Effectively, the project ended after a financial closure on December 31, 2013.
3. The Project Cost was \$ 3,500,000 but actual expenditure as at the financial closure was \$3,337,985 by December 2013.
4. The Project Implementation was undertaken by the Climate Change Adaptation Unit (CCAU) of Division of Environmental Policy Implementation (DEPI) in close co-operation with the Regional Office for Africa and relevant UNEP Divisions, and in association with sister UN agencies, national and international civil society institutions and consultants. Particularly significant partners include The Nile Basin Initiative Secretariat (Nile-Sec), The IGAD Climate Prediction and Applications Centre (ICPAC), The Lake Victoria Basin Commission (LVBC), governments and research institutions.

Table 1: Project Summary

Title of Sub-Programme	Division: Environmental Policy Implementation Theme: Climate Change Sub theme: Climate Change Adaptation
Title of Project	Adapting to Climate Change Induced Water Stress in the Nile River Basin
Project No.	3800 – 1132A016
Geographical Scope	The Nile River Basin (Burundi, DRC, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda)
Implementation	The work was undertaken by the Climate Change Adaptation Unit (CCAU) of DEPI in close co-operation with the Regional Office for Africa and relevant UNEP Divisions, and other UN agencies, national and international civil society institutions and consultants. Particularly significant partners include The Nile Basin Initiative Secretariat, The World Wildlife Fund for Nature, The IGAD Climate Prediction and Applications Centre (ICPAC), The Lake Victoria Basin Commission, governments and research institutions.
Duration	Start date: 4 th December 2009 Official Launch in March 2010 End date: 30 May 2013
Cost of Project	Phase 1: (2009-2012): USD 3,500,000 (Actual expenditure as at 31 December 2013 USD 3,337,985)

II. THE EVALUATION

5. In line with the UNEP Evaluation Policy the Terminal Evaluation of the Project “Adapting to Climate Change Induced Water Stress in the Nile River Basin” this is the report of an evaluation that was undertaken after completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency). This evaluation has also determined outcomes and impacts (actual and potential) stemming from the project implementation as well as the assessment of its sustainability and replicability.

Objectives of the Evaluation

6. This report provides information satisfying the initial objectives of the evaluation which were mainly: provision of evidence of results of project overall performance in order to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, and the executing partners. These include:
- i. Nile Basin Initiative Secretariat (Nile-Sec),
 - ii. Global Water Partnership (GWP),
 - iii. DHI (Danish Hydrological Institute)
 - iv. Divisions of Environmental Policy Implementation (DEPI); and the Department of Early Warning and Assessment (DEWA), in Nairobi.
7. Specifically the evaluation has aimed at identification of lessons of operational relevance for future project formulation and implementation. The evaluation was guided by the following set of key questions, based on the project’s intended outcomes, which were expanded by the consultants as deemed appropriate:
- i. Has the project been successful in projecting the best-case, worst-case and intermediate-case scenarios of water scarcity?
 - ii. Has the project been able to propose/design and help implement respective preventive interventions?
 - iii. Has the project been able to identify likelihood and frequency of flood/drought risk and their potential impacts, and proposed/designed and helped to implement preventive measures building on existing programmes in the Nile Basin?
 - iv. Has information generated from the project been developed into guidelines that governments and stakeholders could use in their adaptation measures and interventions?
 - v. Has the project been able to increase technical capacity of regional/national centres of excellence and research centres to support the adaptation action of governments and communities?

Evaluation Approach

8. The approach adopted for this evaluation has four (4) main dimensions:
- i. Consultants first undertook a desk review of project documentation pertaining to project implementation and to UNEP policies, strategies and programmes. These documents included:
 - Project Design Documents
 - Annual Work Plans

- Budgets and project financing reports
 - Project reports such as progress and financial reports from executing partners and minutes of the Steering Group meeting as well as project implementation reviews
 - Publications of the Project and other published materials by the project teams.
- ii. An inception report was produced after a consultative mission in Nairobi between November 27th and 29th 2013 which elaborated the evaluation approach. During the mission, the consultants discussed the Project Theory of Change; the review of the project design and the dates for field consultations.
 - iii. The Consultants also undertook country visits to Uganda and Ethiopia where the project was implemented to interview key stakeholders. The intention was to observe project achievements during the project's first phase. In Uganda, the Ugandan Consultant spoke with officials at the NBI Secretariat, the main project partner with whom UNEP signed a Memorandum of Understanding.
 - iv. After the consultative activities above, this draft report was produced.

Limitations of the Evaluation

9. The evaluation has not had serious limitations other than three (3) minor limitations below:
 - i. Owing to the fact that the project came to a close in May 2013, some officials who served on the project up to that time have since moved on to other assignments making it difficult to trace or obtain their attention;
 - ii. There are many projects that are implemented almost simultaneously by the NBI. Owing to this reality attribution of certain outcomes of the NBI to this UNEP project has been difficult. For instance, output from Component 3 to strengthen capacity for adaptation within the NBI and EAC as regional centres of excellence and to support governments and communities has been contributed to by various interventions over the last 9 years.
 - iii. Evaluation of the achievement of impact has its own limitation since some assumptions needed to achieve results may not be in place or the drivers of achievement of the impact may be outside the project's sphere of influence. For this project, adaptation is a huge intangible aspect that various stakeholders have contributed to in a manner/magnitude out of the project control. Evaluating such a project has a limitation because impact often occurs in the long run and depends on conditions outside the project control.

III. THE PROJECT

A The Project Context

10. Over 210 million people live within the Nile Basin and benefit from its rich natural resource endowments and a centuries old rich cultural heritage. However, this life is increasingly threatened by multiple stresses including: civil conflict, high levels of poverty, high disease burden and a low adaptive capacity to mitigate climate change and its adverse effects. The United Nations Environment Program (UNEP) over decades has been at the forefront of designing, piloting and implementing science-informed interventions to support other efforts to address these challenges brought about by climate change. Such was the project ‘adaptation to climate change induced water stress in the Nile Basin project’. This is a terminal evaluation report of the project that was implemented between 2009 and 2013 with a purpose to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions. This project aimed to build on past work and incorporate adaptation issues as they relate to water stress within the Nile Basin.

B Objectives and components

11. The “Adapting to climate change induced water stress in the Nile River Basin” project was launched in March 2010 as a partnership between UNEP and the NBI, as well as DHI and GWP, funded by SIDA. The overall project goal was to build the resilience of ecosystems and economies that are most vulnerable to climate change induced water stress in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions. Specifically, the project aimed at minimizing the projected stress of too little and too much water for conflict prevention and disaster reduction, through knowledge-based adaptation policy interventions, technology transfer and investment in key infrastructure.

C Target area/groups

12. The Project had six major target groups:
- a) Officials of the Government of Uganda in the water and natural resources sector who ultimately make decision instrumental in utilizing data to inform design and implementation of climate change adaptation interventions during and after the project;
 - b) Local Government leaders in the water stressed areas who are instrumental in ensuring communities are mobilized to absorb technical guidance on how to protect River Mpanga catchment in western Uganda;
 - c) UNFCCC Country Focal Point persons in Uganda who are driving the climate change agenda in Uganda;
 - d) Other development partners who contribute to efforts to sharpen interventions to mitigate climate change (especially who are already engaged in frameworks that support the NBI) including UNEP, GWP and UNDP;

- e) CSOs in various fields who have been key players and needed to be reached with information on how to design appropriate interventions to address adverse effects of climate change;
- f) Community members in various river basin catchment and vulnerable areas to adverse effects of climate change.

D Milestones/dates in Project Design and Implementation

Outputs	Time Lines at Project Design
Output 1.1	
1.1.1 Develop projections of water availability/accessibility and of water demand (base year is proposed to be 2005 with projections for the years 2020 and 2050), taking into account flood risks and of potential for technology interventions and investment opportunities in the Nile Basin.	1 st Quarter of 2012
1.1.2 Support policy studies for IWRM in the context of projected climate change impacts within the Nile Basin.	2 nd Quarter 2012
1.1.3 Identification of key adaptation options for the river basin and developing options for policy integration.	2 nd Quarter 2012
Output 2.1	
2.1.1 Comparison and analysis of different scenarios and integration of these scenarios into national development processes including national water resources management policies and associated legislative frameworks such as disaster risk reduction and capacity support.	2 nd Quarter 2012
2.1.2 Identification of key “hot spots” within the river basin linked to climate related stresses.	3 rd Quarter 2012
2.1.3 Piloting of adaptation starting at sub-basin level	3 rd Quarter 2010
Output 3.1	
3.1.1 Undertake capacity needs assessment for the respective institutions and organizations to help identify their activities, interests, institutional capacities and their representativeness within the Nile River Basin. Based on outcomes of the needs assessments identify capacity building and training needs.	3 rd Quarter 2010
3.1.2 Develop a public awareness campaign to sensitize citizens in the respective countries to their responsibilities in relation to climate change adaptation.	1 st Quarter 2011
Output 4.1	
4.1.1 Undertake assessments for technical, financial and policy options for adaptation at sub-basin and basin levels.	1 st Quarter 2011
4.1.2 Assess and design packages linked to water resources management and national development policies – for adaptation options.	1 st Quarter 2011
4.1.3 Develop site- (sub-basin) and country-specific adaptation packages.	1 st Quarter 2012
Output 5.1	
5.1.1 Following hotspot mapping, identify demonstration sites and link to ground/research facilities or centres	1 st Quarter 2011

5.1.2 Develop a database and repository as part of knowledge management and link to the Africa Adaptation Network for lesson learning and sharing.

1st Quarter 2012

E Implementation Arrangements and Partners

13. **Donor Agency** was Swedish International Development Agency SIDA who extended financial support for the project implementation. UNEP, NBI and implementing institutions also made in-kind contribution in terms of office space, time and technical input.
14. **Organization and Management** Implementation of this project was led by the UNEP Climate Change Adaptation Unit in close co-operation with the UNEP Regional Office for Africa. Following the signing of an MOU between NBI and UNEP, the project partners were eventually able to receive all requested climate data from the project countries. UNEP conducted works to revise all legal agreements with the project partners to have the data out and reports documented. The NBI reported annually on progress made through documentation of annual reports highlighting key activities undertaken. PROTOS which implemented a series of interventions in western Uganda reported through progress reports to UNEP.

Activity Implementation

15. The project was operational at the transboundary level and working closely with partners in Uganda, Ethiopia and outside of the region (DHI, DEWA). Activities were organized under four work packages (WP):
 - i. **Work Package One:** focusing on data analysis, comprehensive assessments, stocktaking of existing climate change adaptation (CCA) activities: A draft report was later shared at the planning meeting in Oct. 2011 (Kigali) showing DHI – responsible for the hydrological modelling work and linked to assessments/scenarios work. DEWA was also involved in WP1
 - ii. **Work Package Two:** focusing on policy support and capacity building; GWP/NBI: This work package commenced in January 2012 building on already existing work undertaken by GWP in the respective countries and working closely with NBI. This work built on what had been accomplished in WP1 and WP3.
 - iii. **Work Package Three:** demonstration of CCA tools in Uganda and activities in this pilot will focus on linking IWRM to adaptive capacity of communities in a mountainous ecosystem in Rwenzori with activities implemented by a Belgian organization PROTOS. The other pilot project was implemented in Ethiopia.
 - iv. **Work Package Four:** focusing on awareness raising through communication products and training. This WP focused on communication, awareness creation and use of media and was jointly led by NBI and UNEP.
16. The main partner in implementation of the project was NBI with whom a Memorandum of Understanding (MoU) was signed by UNEP. In Uganda on-the ground implementation of one of the two demonstration projects was undertaken by PROTOS, a Belgium Government funded Organization which undertook activities in the River Mpanga sub catchment in the

Albertine region in Western Uganda. Other partners included LVBC, DHI, and GWP as shown in the table below;

Partner	Justification
UNEP – DEPI (Division of Environmental Policy Implementation)	DEPI was the lead for this project and therefore provided both technical and logistical oversight for the project components and work packages.
UNEP – DEWA (Division of Early Warning & Assessments)	DEWA based on its extensive experience led the scenario development of the WP1, worked in close collaboration with DHI and GWP. Information generated from this work fed into policy and capacity building components of WPs. DEWA developed an assessment framework which involved the themes, tools, criteria and indicators for selecting hotspots and linked to scenario development.
DHI (Danish Hydrological Institute)	DHI was the leading partner on the work for the Nile Basin Decision Support System (DSS) and it is on this basis that their expertise was employed to lead the modelling work of WP1 which will also feed into the scenario development. DHI (link to http://www.dhigroup.com/) supported the implementation of the project by undertaking comprehensive assessments identifying flood and drought prone areas, developing criteria for the identification of “hot-spots”, and downscaling global climate models.
GWP East Africa (Global Water Partnership)	Global Water Partnership (GWP) (link to http://www.gwp.org/) took the lead on the institutional support, policy support, and training components. GWP’s extensive engagement as regards IWRM and transboundary water resources at policy level made them an obvious partner to support WP2 of the project. Most of their work was hugely dependent on the outcomes of WP1 which was useful for informing adaptation policy options and capacity building.
NBI (Nile Basin Initiative)	NBI (www.nbi.com) signed a legal agreement and MOU with UNEP in order to facilitate both political and technical processes for the Nile Basin Project and to assist the other partners in accessing relevant climate information for the objectives of the project.
PROTOS	PROTOS interventions involved working with local communities in preparing a long term CC and IWRM action plan to enhance their adaptive capacity to CC, and integrate improved water management in the Mpanga Catchment of the Nile Basin in Uganda. In addition, the organization involved district local leadership in incorporating catchment protection as a key aspect their department workplans as a result of awareness that was created.
Government of Uganda	The project was implemented in a partnership between UNEP, the Ministry of Uganda for Water and Environment whose officials recommended PROTOS as a suitable implementing Partner for UNEP interventions in the Albertine region. Uganda has two Nile-TAC members as well
District Local Governments (including Fort Portal Municipal Council)	The project was implemented in a partnership with the district department leaders in Western Uganda under their water and natural resources department as part of under Uganda’s decentralization framework.
Local urban and rural	Under this project the local population was mobilized and encouraged

Partner	Justification
Communities	to cooperate and to find solutions for their water-related problems themselves, providing capacity building where needed. The project purposed that nobody was excluded, and that services are provided and managed in a social, sustainable and participatory way.

Reporting

17 All reporting pertaining to this project was made to the UNEP Climate Change Adaptation Unit in Nairobi.

Monitoring and Evaluation

18 The Project had guidelines that stated that within 60 days of conclusion of each output, each project task holder was to provide a report to the Chief, CSS, UNEP and Chief of UNEP/ASC a project final report, in accordance with UNEP terminal reporting requirements. Annual reviews were undertaken for all the four Work Packages. This is an independent terminal evaluation of the project.

F Financing

19. SIDA funding of USD 3,500,000 was obtained for the implementation of the project from 1 November 2009 to 31 October 2012. Due to delays at the beginning of the project, activities had not been concluded by the stipulated close date. Consequently a no cost extension was requested to wind up the project. It finally concluded in September 2013. Below is a breakdown of how finances were utilized during the project's duration.

Project Cost Item	Cost (United States Dollars)
Staff and other Personnel costs	514,714
Consultants	233,812
Travel	117,081
Contractual Services	1,894,771
Meeting and Conferences	205,291
Acquisitions	3,283
Reporting Costs	13,579
Evaluation	41,635
Project No Cost Extension	0
Programme Support Costs Total	3,326,582
Net Excess Income Expenditure	11,403
Gross Total	3,337,985

N.B. The total project cost US\$3,500,000 and the outstanding balance was due to changes in the exchange rate over the project period

20. As seen from the table, the total amount was \$3,337,985 and the difference from \$3,500,000 due to exchange rate differences between transactions. Most of the financing as seen in (b) was allocated to hydrometric studies modelling works undertaken by DHI (as well as consultancy works related to the best-case, intermediate and worst case scenario setting). This constituted about 61% of the entire budget.

G Changes in design during implementation

21. The Project had a logical framework which was twice adjusted to suit technical and organizational needs for successfully executing works under various Work Packages. The logical framework was sound with but lacked clarity in definition of input and output indicators. What was presented as outcomes (for instance ‘*data on comprehensive best, worst and intermediate case scenarios of water scarcity*’ under component 1) should have been presented as project outputs and use of data to inform policy decision as an outcome (more on this is presented in the sub-section H below). Adjustments made to the logical framework were in part to align the project with the realities on the ground. For instance, delays related to acquiring climate modelling data from the Riparian countries impacted on all work packages under the three components, necessitating some adjustments (albeit minor) to the log-frame. Eventually the risk of not completing the project within the stipulated time was later addressed during implementation. As a mitigation measure, a no-cost extension was granted by SIDA which allowed the project to continue until the end of September 2013.

H Reconstructed Theory of Change

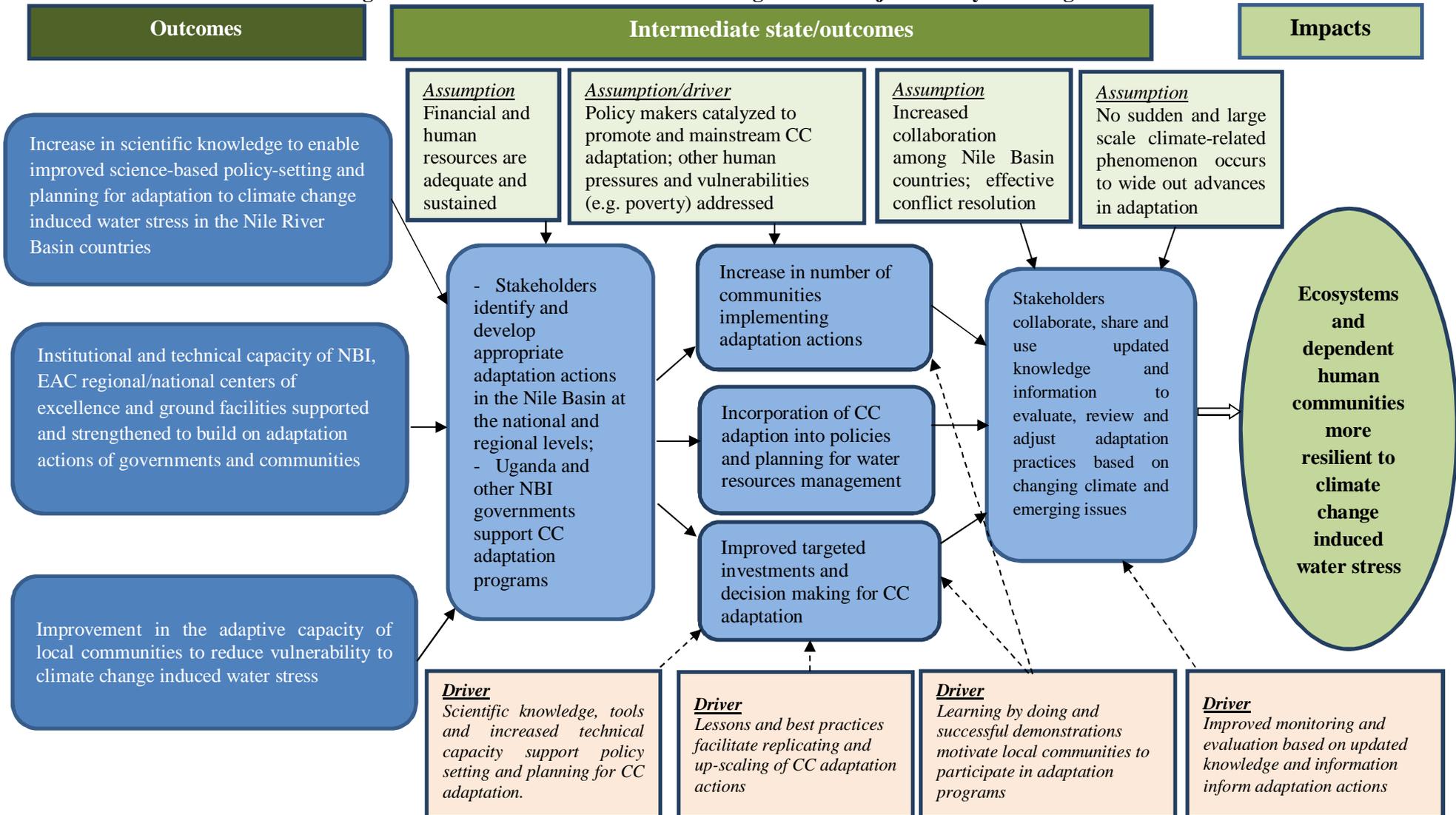
22. The project by nature was designed as a catalytic intervention that provided high quality hydrometric data upon which CCA projects will be designed over the next few decades. The focus therefore was on generating this critical output which was delivered by DHI. Initially the financial input (that amounted to \$3,500,000) from SIDA and the technical works by various experts under the NBI were other critical inputs (which constituted in-kind contribution).

Fig 1 below shows a reconstructed theory of change. On the left are project outcomes/achievements (which are outputs that the project had influence over) that were designed to lead to both a desired intermediate and long term state.

23. Reaching this desired state means that a number of assumptions have to hold and success of translation of outcomes to real impact is dependent on action of other players (a situation over which the project has no influence). What is projected is that after the closure of the project some critical follow-up is undertaken, for instance: i) Stakeholders replicate and upscale adaptation actions in the Nile Basin and ii) that Policy makers/managers mainstream climate change adaptation into policy and planning and IWRM. The project in so doing would have driven a process where:
 - i. There are increased number of communities that are implementing climate change adaptation projects in their localities;
 - ii. There is increased ecosystem area more tolerant to climate change induced water stress;
 - iii. There are improved target investments and decision making for climate change adaptation.

This intermediate state would then generate a desired future where Ecosystems and dependent human communities are more resilient to climate change induced water stress.

Figure 1: Consultants' Reconstruction Changes to the Project Theory of Change



IV. EVALUATION FINDINGS

A *Strategic Relevance, Alignment and Realism*

Relevance

24. The Proposal Document (2009) sent to SIDA prior to the project highlighted the strategic direction that the project would take, showing the problem context and relevance to the efforts towards advancement of climate change adaptation in the Nile Basin. Three important aspects are noted by this evaluation that shows the relevance of this project to Uganda:
- i. Climate change adaptation is a high priority for UNEP and this project would continue the prior scientific work that over the last few decades had been conducted by UNEP to provide data to better understand climate change but now with a specific focus on the Nile Basin. In so doing the project through DHI and DEWA provided world class hydrological data that will provide a basis for technical designs of climate change adaptation interventions in Uganda in the medium term.
 - ii. Uganda's National Development Plan (NDP 2010-15 pg.27) notes strategic bottlenecks that the country needs to address and first of these is strengthening public sector management and administration which includes better management of interventions to address climate change. The capacity built under this project by GWP (and other technical support through the NBI) has contributed to more awareness of the climate change challenges and have guided policy makers on how to implement the recently concluded IWRM policy.

Alignment

25. Uganda is a member of the United Nations Framework Convention on Climate Change and under its obligations is supposed to implement national and subnational initiatives to address the adverse effects of climate change. As one of the institutional changes, the Directorate of Water Resources Management (DWRM) has put in place a national IWRM Policy with a focus on roll out pilot of projects in various catchments in the country. WWF had begun this process in the Semuliki Catchment in Western Uganda but due to limitations in financing the pilot was undertaken in two out of three sub-catchments namely: Mubuku/Nyamwamba and Lamia/Lower Semuliki sub-catchments. When UNEP approached the ministry, the third sub-catchment River Mpanga was recommended (and linked to PROTOS – an organization that already had a long track of expertise from working within this catchment) which completed coverage of the entire Semuliki catchment. The UNEP project was highly relevant, and in alignment and realism of the challenges and needs of the time.

Realism

26. From our assessment and based on what has been pointed out in 4.1.1 and 4.1.2 above, the Project was highly relevant to the need for strengthened capacity for climate change adaptation through (not only provision of data and undertaking work on demonstration sites in Western Uganda) contributing to building the needed capacity. The project however had a challenge that delayed its start that was related to the need to integrate itself into the organizational structures of the NBI and the requirement to obtain the approval of the project by the structures. It was not realistic for instance to expect countries to share data with DHI

and DEWA before approval of the governing bodies of the Nile TAC and Nile Com. Once this was resolved, the project progresses smoothly thereafter.

27. The overall rating of relevance, is **Highly Satisfactory**

B Achievement of Outputs

The “Adapting to climate change induced water stress in the Nile River Basin” project was implemented under the work packages as shown below:

OUTPUT 1: Assessments of water availability for populations and ecosystems in the Nile Basin, including appropriate information on the projections of climate and water regime changes

28. In summary most of the output included: Analysis of climate simulations to understand key climatic processes for the Nile; Large scale analysis relating climate change to runoff changes; Existing data sets of climate vulnerability indicators; GCM Comparison studies; Review of flood drought vulnerability indicators; Formulation of climate change based scenario for 2020 & 2040; Derivation of water development scenarios; Development and analysis of new downscaling methods (bias-, variance-correction); and Development of comprehensive set of perturbed climate time series. As part of this process Uganda was part of the workshops that were organized for the presentation of results and also participated in Water Resources Training in the Nile Basin.
29. Other works included provision of Remotely sensed data: MODIS, Landsat images Compiled Climatic/weather data sets (for water balance); Merged satellite data and station data Identified “hot-spots”, potential impacts of climate change variability risk of climate and human driven changes on freshwater resources. Uganda was part of the stakeholder workshops for vulnerability mapping linked to scenario development that disseminated results to policy makers. In addition, a stocktaking paper of key players in Nile Basin at National and regional levels was developed and shared with NBI and TAC members for Uganda in 2011.

OUTPUT 2: Information on climate-related stresses of too little and too much water in Nile River Basin through scenario analysis to contribute to designing and piloting adaptation actions that will contribute to disaster risk reduction, conflict prevention and the realization of the MDGs

30. A major breakthrough for the project was in July 2011 at the Nile Council of Ministers/ Nile TAC Meetings, where GWP introduced the project and its requirements. Nile TAC is the principal technical Advisory Committee of the Council of Ministers of Water through which the project and the extensive activities and project outputs from the work packages were introduced to the countries. A consultancy was finalized that undertook a Capacity needs assessment at basin, sub-basin and national level; a mapping of the institutional landscape and a strategy for policy and institutional support. In November 2011 there was a GWP-EA organized induction workshop in Uganda (Entebbe) for key representatives of the Country Water Partnerships (CWPs) who were instrumental in disseminating the products of the project. Uganda was in July 2012 part of the GWP-EA workshop that focused on

achievements and challenges of transboundary cooperation in a changing climate at the Nile TAC and Nile COM.

31. DEWA also carried out comprehensive assessments identifying “hot-spots” based on developed criteria, including assessment of potential impacts of climate change variability risk of climate and human driven changes on freshwater resources in the Nile river basin ecosystem. To disseminate these results, officials from NBI Secretariat, and the Uganda Ministry of Water and Environment as well as few from the civil society took part in a series of workshops that were conducted to appraise relevant stakeholders on the findings of the assessments.
32. With representatives from the National Water and Sewerage Corporation (NWSC) Uganda was represented in the Young Water Professional Conference held in Kigali 9-12 December 2012 that presented the Nile climate adaptation program. Similarly Uganda was part of the 3rd Nile-DSS release (final) launched in 20th Nile-COM meeting in Kigali, Rwanda on 5 July 2012. As host to the NBI Secretariat, Uganda is best positioned to benefit first hand from the NBI library that has been enriched with new hydrologic, Metrologic, and topographic data that has been generated by this project. NBI collected relevant data from the member states that are relevant to Water Resources Management and Development (WRM&D) as well as climate change adaptation and mitigation in the Nile Basin. All data sets were shared with the Project partners according to an MoU between NBI and UNEP

OUTPUT 3: Capacity for adaptation built in and increased within regional centres of excellence and research centres to provide technical support and capacity to governments and communities

33. A major undertaking of the study was implementation/demonstration of community adaptation practices or sub-basin level in Uganda. PROTOS was identified in Uganda and legal agreement with this organization signed in Nov 2011. As part of the activities design a strategy and action plan for enhancing the adaptive capacity of the population to climate change impacts in Mpanga catchment was developed. The table below shows what was achieved by the project demonstration site under PROTOS.

District	Achievements registered
Fort Portal Municipal Council	<ul style="list-style-type: none"> - 5,030 indigenous trees were planted to stabilize sensitive riverbanks. - 2 waste traps were installed into the river in order to trap floating waste. - A pilot on waste selection (glass separation by installation of 14 metal bins for glass waste) was done in order to build experience for further upgrade and to improve efficiency at the existing composting plant. - An old washing bay was taken out of use and was relocated to a new site where the project supported restoration of the old site and the Municipal Council invested in the new site.
Kyenjojo	<ul style="list-style-type: none"> - One wetland (Bihehe) was restocked with 20.000 fingerlings of mudfish to preserve this important water buffer benefiting 60 households - In the same area a pilot with wild coffee seedlings (3000) was initiated. The coffee plants were intercropped with Prunus Africana (2000). The

District	Achievements registered
	community was trained to set up a nursery to expand the pilot and received seeds (10 kg maesopsis seeds).
Kabarole	<ul style="list-style-type: none"> - 6800 indigenous trees have been planted in the source area (on private land of 102 households) in an effort to diversify the land-use and restore the local ecosystem (especially riverbank). - The community urged for restoration of a traditional footpath that caused a lot of erosion in seasons of heavy rains. Their concern was not only related to the siltation but also to increasing safety. The footpath was restored using local labour. - In the same area farmers were trained on terracing techniques and the land of 26 families was terraced using different methods. - Farmer groups were formed and were provided with equipment. In this training effort local leaders were involved.
Kamwenge	<ul style="list-style-type: none"> - 29,090 trees were planted in Nyabani Sub County, of which 7,455 fruit trees and 21,635 indigenous trees. 154 households and 3 schools benefitted from this. - In Nyabani 3 villages were trained on establishing germination beds and planted 9,000 indigenous trees. - 13,127 fruit trees were planted in Mahyoro Sub County of which 4,700 were planted near landing sites (also 3 women groups were trained here on grafting fruit trees). 3,110 Indigenous trees were planted on the private land of interested households. In Mahyoro 495 households and 5 schools benefitted. - In Kanara Sub County 2680 fruit trees were planted and 5,465 indigenous trees. 78 households and 3 schools benefitted. - In Kamwenge District a sensitive zone near the Mpanga riverbank was demarcated as a no-go zone and 5,000 fruit trees were planted around this zone.

Source: PROTON, 2013

In addition to the above achievements, the Project carried out activities related to capacity building, advocacy and assessments in the catchment area. Some highlights are given in the following table.

Area	Description of achievements registered
Capacity Building	PROTON supported training for key stakeholders including Districts, NGOs, private sector, and Mountains of the Moon University. Training on climate change adaptation tools was held for 26 representatives and a toolkit designed based on this training. Over 20 local environment committees within the project area were put in place in government structures to enhance local representation but also future ownership of the project by the

Area	Description of achievements registered
	<p>local authorities.</p> <p>As part of the integrated planning process, 20 zones were selected and over 636 community members trained to map climate change risks. The zones developed micro-catchment plans which were incorporated into the overall catchment management plan.</p> <p>It is important to note that each of the districts had an implementation committee in addition to one for Fort Portal Municipal Council to follow-up on the project. This was also critical for ownership of the project by the local district authorities.</p> <p>PROTOS under the project designed three (3) handbooks as modules for primary schools in partnership with UNEP and Ministry of Water and Environment Directorate of Water Resource Management titled:</p> <ul style="list-style-type: none"> a) Understanding and monitoring rivers; b) Keeping our school and home environment clean c) Understanding weather and climate. <p>These modules were developed based on lessons taught in class and are tailored to elevate the understanding of water resources management among the young people.</p>
Advocacy and Sensitization drives	<p>PROTOS undertook sensitization campaigns on improved water management and climate change adaptation through various mechanisms. First was a mobile cinema approach where a recorded documentary film was shown in various communities with testimonies of water users in an attempt to increase awareness and sensitize the masses on water management and adverse effects of climate change. In addition a school sensitization program was implemented in 20 schools involving about 2000 pupils. Different meetings were held with key stakeholders for planning and management of the planned interventions at the same time widening the sensitization among district and community leaders.</p>
Assessments on climate change adaptation	<p>An assessment was conducted within the catchment 8 specific hotspots identified by work done jointly by Mountains of the Moon University with capacity support and coordination by PROTOS. UNEP representatives were taken around the catchment to do site visits and meet with other partner organizations involved in the program.</p>

34. Uganda is recipient of a lot of promotional/public awareness materials prepared and reviewed by NBI over the project life. This material will continue to support communication and outreach material events/meetings. In addition basin-wide governance and key stakeholders awareness and publicity forum was conducted that disseminated these materials.

35. In addition to these recorded achievements there were additional outputs contributed by GWP EA that included the following:

- i. Participation and contribution to Young Water Professional Conference that was held in Kigali between 9th and 12th Dec 2012. GWP EA made a presentation at the workshop on Nile climate adaptation program. The conference was attended by 400 young water professionals from 15 African Countries and beyond;
- ii. Citizens sensitization on climate change adaption issues through e-communications and print media outlet. Under this item various publications were provided to various stakeholders including *Colours of the Nile*: Five short reports on issues related to water security and climate adaptation;
- iii. Hosted a second High-level regional policy roundtable (to share and discuss products and draft adaptation packages). This high level roundtable involved decision makers and top ministry officers, donors and climate negotiators to discuss draft adaptation packages Technical, financial and policy options (linked to IWRM) for adaption assessed and prioritized at sub-basin and basin levels;
- iv. Assessed, designed and developed site (sub-basin) and country specific adaptation packages related to IWRM as an input to the high level regional policy roundtable mentioned in (iii) above.

36. Achievements of outputs is rated as **moderately satisfactory**

C Effectiveness: Attainment of Project Objectives and Results

Evaluation of the achievement of direct outcomes

37. As shown in the reconstructed ToC (sub section 3.9) of this report, the project, (being largely output oriented) achieved and finalized most of its first-level outcomes expected to be achieved as an immediate result of project outputs as shown below:

OUTPUT 1: Increase in Scientific knowledge to enable improved science-based policy setting and planning for adaptation to climate change induced water stress in the Nile River countries.

38. UNEP/DHI was able to achieve a significant breakthrough in securing approval of the NBI to study, analyse and use their hydrological expertise to generate cutting-edge information on case-scenarios. This has now provided information and tools that provided regional scale modelling results– which was previously missing. In addition, the data provided four pieces of critical information:
- New methodology for selecting Regional Climate Modeling (RCM) ensemble members which will give a better representation of uncertainty in the climate modeling
 - New land surface scheme describing the exchange of water between the atmosphere and the land surface
 - Investigation of an improved treatment of the climate of Lake Victoria based on Sea K-Surface Temperatures
 - Extension of the climate simulations beyond 2050 to the end of the century (2100)

39. Providing this information was very critical and the efficiency in obtaining it was leveraging the expertise of DHI and working through the NBI (although not initially- leading to delays linked to follow-up discussions of DHI and UK Met Office with Egypt on release of data) to ensure that resulting data is acceptable and appreciated by policy makers in Uganda in particular and other countries on the Nile as well. It is also important to note that as an indirect outcome, Uganda in 2013 finalized its first ever National Climate Change Policy.

OUTPUT 2: Institutional and technical capacity of NBI, EAC, regional/national centers of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities (re-formulated)

40. Focusing policy support and capacity building was effective in utilizing and building on already existing work undertaken by GWPEA in the respective countries and working closely with NBI. As a result, the UNEP was able to work within GWPEA contracts to reach various government and non-governmental institutions through various workshops which was cost-saving and efficient. Uganda was part of the March 2012 high level decision makers workshop in Nairobi that included Government Departments from all Nile member states who were brought *for the first time in five years* met in the workshop convened by GWP. Top management from government ministries; lead members of Nile Technical Advisory Committee, Regional Climate Research Institutions; Swedish Development Cooperation; UNFCCC Country Focal Points; Country Water Partnership Chairs; and civil society met to deliberate on vulnerability facing their countries and propose measures different parties should make to enhance basin wide resilience to adverse climate change impacts.
41. In addition to the above, two workshops were convened at NBI-Sec, Entebbe—a technical workshop in April 2013 to present the methodology, key findings and perspectives for combined climate change and water resources modelling (participants from 10 Nile Basin countries, including from Ministries responsible for water, environment or natural resources), and a technical modelling workshop conducted by the UK Met Office in May 2013 (participants from Nile-Sec; ENTRO, Addis Ababa; and NELSAP-CU, Kigali). Both DEWA and DHI have indicated to the evaluator their willingness to continue the training started under the project.

OUTPUT 3: Improvement in the adaptive capacity of local communities to reduce vulnerability to climate change induced water stress (re-formulated)

42. It was an effective strategy for UNEP to identify a very credible locally based Organization like PROTOS to carry out demonstration of CCA tools in Uganda and activities in this pilot will focus on linking IWRM to adaptive capacity of communities in mountain ecosystem in Rwenzori. This Belgium supported organization had already been working for over 5 years in the Rwenzori region and the neighbouring DRC and possessed the capacity to conduct activities in the River Mpanga catchment. Another important aspect that PROTOS collaborated with district and urban council leadership³⁸ in implementing this demonstration

³⁸ Districts have limited financing from the central government. Working with Protos for them was a big opportunity

project – something that unleashed their enthusiasm and provided an opportunity for them to engage communities on the issues of river catchment protection. The aim of these implementation sites is to demonstrate adaptation work at a site level within the Nile River Basin and share findings of the overall project at local basis and region-wide. However, the project faced some delays. For a one year project, three months delay in the start of the demonstration hindered project performance. Undertaking a bottom up identification and planning phase takes time. This meant that most of the sites could not be covered as comprehensively as had been planned and caused time restraints for the rest of the period.

43. Climate change adaptation depends most on the level of awareness and appreciation of the challenges at hand and the need to address the adverse effects of climate change. UNEP worked with NBI and GWPEA on awareness rising through the production of communication products and workshops that included key stakeholders ranging from policy makers to young professionals. It was also effective in reaching the public with study materials and brochures (most in high quality print booklets) as well as use of media. PROTOS, for instance, produced short videos (with translation into the local language) as well as short 10-page handbooks to pass on the message to communities and schools respectively on the importance of the Mpanga River to their livelihoods. These communication modes (especially videos) had the capacity of reaching the public faster and communicated the messages effectively.

Achievement of Key Goal

44. Overall the Project was effective in building key adaptive capacity and piloting adaptation in ‘hotspots’ in Western Uganda through the provision of critical data (that will help decision makers at the national and basin-wide levels); influence policy implementation which requires in part that financial resources are assignment to implement activities reverse the adverse impacts of climate change. Since the project lasted only two (2) years and eight (8) months, it is early to point to its impact. But it was designed to be a catalyst for further work on climate change adaptation and in so doing achieved the key goal of providing a foundation where future work would ensure that ecosystems and dependent human communities are able to become more resilient to climate change induced water stress.

Assessment of Outreach

45. This evaluation deduced that securing approval by the NBI governing structure and specifically after the successful meetings the Egypt, the roll out of the hydrological data became pivotal to the entire process. With modelling data available and disseminated, the project was able to proceed faster on other WPs including printing of related data reports that were a highlight of key workshops and dialogue that were held. By working with already established institutions in this regard (NBI, GWPEA, DEPI and DHI as well as local organizations like PROTOS in Uganda), the project was able to pass on lessons and guidelines for enhancing adaptive capacity to climate change induced water stress in Uganda in particular but also other Nile Basin countries as a whole.

Direct Outcomes from Reconstructed ToC

46. The design of the initial theory of change was driven by a clear and definitive assessment of UNEP aspirations to implement basin-wide climate change adaptation initiatives with a focus to provide critical hydrological data to support the process. Following this would be a series of sub-projects not just to increase awareness but to build capacity within Uganda and other Nile Basin states to design more appropriate and more strategic actions that would cushion populations in ‘hot-spots’ of climate change induced water stress.
47. As a consequence, the ToC was more focused on delivery of catalytic outputs than driving towards real on-the-ground impact with realization that impact would be realized by interventions of other non-UNEP stakeholders. Therefore arriving at a desired state where ecosystems and communities would be more resilient to climate change induced water stress would be a function of a host of risks and assumptions including:
 - i. Providing (adequately and sustainably) a level of financial and human resources at the national level that will continue the process of advocacy, legislation, and implementation of initiatives on the ground;
 - ii. Support to policy makers to play their catalytic role to promote and support climate change adaptation, for instance in addressing other human pressures and vulnerabilities (e.g. poverty) that have a direct impact on performance; and
 - iii. While data has been provided to increase the knowledge base on climate change scenarios, effort to address the challenges caused by climate change at the country level are much within the limits of certainty and realization of consequences if no action is taken. However, it remains uncertain if the Ugandan Government can match the availability of this data with budgetary allocation to the water and environment sector to ensure it reaps the benefits from climate change adaptation programs.

Likelihood of impact using RoTI and based on reconstructed TOC

48. In as much as data provided by DHI on best-case, intermediate-case and worse-case scenarios increased the knowledge and appreciation of the need for countries facing water stress scenarios to act more concretely on the ground, the project had little to influence actions on the ground that would generate the desired impact. To appreciate the likelihood of impact, the re-constructed ToC and RoTI proposed a set of drivers that would make this movement from intent to impact possible as noted in the points below:
 - i. Most respondents felt that while the data are important, there ought to be a movement from ‘the academic’ to the ‘practice’ so that various technical, political and community actors appreciate and apply the knowledge, tools and capacity for climate change adaptation. What can help in this regard is for ‘best practices’ to be identified, adopted, and replicated, for instance the work done by PROTOS in River Mpanga.
 - ii. Secondly, the focus should not just be on water stressed areas alone. There are areas that may look vulnerable but not currently water stressed. So improvement in knowledge as a result of the project should provide lessons and best practices that should widely be disseminated in all areas.
 - iii. There also needs to be improved monitoring and evaluation systems to provide supportive updated data from the system to inform adaptation actions. The pursuit of

more evidences and occurrence of other events should serve to reinforce the already existing data to scale-up the issue and the need to act today!

49. With new cutting-edge data, information on the likelihood of impact would be realized but, as mentioned above, it takes decades to see the actual impact on climate change induced water stress locations.

Results and ratings of Review of Outcome to Impact Analysis

Project objective: To build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.							
Outputs	Outcomes	Rating (D-A)	Intermediary	Rating (D-A)	Impact	Rating (+)	Overall
<p>1. Assessments of water availability for populations and ecosystems in the Nile Basin, including appropriate information on the projections of climate and water regime changes.</p> <p>2. Information on climate-related stresses of too little and too much water in Nile River Basin through scenario analysis to contribute to designing and piloting adaptation actions that will contribute to disaster risk reduction, conflict prevention and the realization of the MDGs;</p>	<p>1. Increase in scientific knowledge to enable improved science-based policy setting and planning for adaptation to climate change induced water stress in the Nile Basin Countries.</p> <p>2. Institutional and technical capacity of the NBI, EAC, and regional centers of excellence and ground facilities supported and strengthened to build on adaptation actions of governments and communities.</p>	B	<p>Stakeholders including Government officials have used this knowledge in the roll out of the implementation of catchment management plans across various basins now underway with financing of the World Bank</p> <p>Uganda Policy makers mainstream CC adaptation into policy and planning and IWRM. It is also important to note that the NBI has had positive influence that has</p>	C	Ecosystems and dependent human communities in the Mpage river basin more resilient to climate change induced water stress		BB

Project objective: To build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.

Outputs	Outcomes	Rating (D-A)	Intermediary	Rating (D-A)	Impact	Rating (+)	Overall
3. Capacity for adaptation built in and increased within regional centres of excellence and research centres to provide technical support and capacity to governments and communities	<p>Sub-Outcome</p> <p>Governments in the river basin supported and engaged in the integration of adaptation into relevant policies and institutional frameworks to support technical, financial and policy options for sustainable water resource management</p> <p>3. Improvement in the adaptive capacity of local communities to reduce vulnerability to climate change induced water stress.</p> <p>Sub Outcome</p> <p>Functional and replicable demonstration sites set and linked to research centers or facilities in selected Nile Basin countries, comprising of a flood</p>		<p>led to the elaboration of Uganda’s National Climate Change Policy of 2013</p> <p>Increase in ecosystems area where CC adaptation actions implemented</p> <p>Improved targeted investments and decision making for CC adaptation</p> <p>Stakeholders are now able to collaborate, share and use updated knowledge and information to</p>				

Project objective: To build the resilience of ecosystems and economies that are most vulnerable to climate change in the Nile Basin countries through building key adaptive capacity and piloting adaptation in “hotspots” with technical, policy and financial interventions.

Outputs	Outcomes	Rating (D-A)	Intermediary	Rating (D-A)	Impact	Rating (+)	Overall
	prone basin, a drought prone basin and a basin with a mixture of both flood and drought		<p>evaluate, review and adjust adaptation practices based on changing climate and emerging issues.</p> <p>Increase in number of communities implementing adaptation actions</p>				
	<p>Rating justification: B The B rating indicates that the project’s intended outcomes were delivered, and were designed to feed into a continuing process (e.g., Africa Adaptation Network), but with no prior allocation of responsibilities after project funding.</p>		<p>Rating justification: C The C rating reflects that the measures designed to move towards intermediate states have started, but have not yet produced results.</p>		<p>Rating justification: The BC rating corresponds to ‘Moderately Likely’ that the impacts will be achieved.</p>		

Achievement of Project Goal and Planned Objectives

The project to enhance the adaptive capacity of communities to climate change through IWRM in the Mpanga Catchment of the Nile Basin in Uganda was able to demonstrate successes in creating significant added value for climate change adaptation and IWRM. Four major factors contributed to the effectiveness of the project:

50. The project took time to support a process of development of 20 zone catchment management plans that fed into a broad River Mpanga catchment management plan – a process that facilitated implementation, was tailored to local needs and participatory. In addition, the project developed a capacity assessment tool, which was critical in program preparations and identification of early gaps to be tackled as the project evolved.
51. The combination of advocacy and sensitization while at the same time implementing activities on the ground paved the way for results-based advocacy as communities engaged with the project could see first-hand the tree planting and bank-protection activities and other initiatives (and not just rhetoric). Cognizant of the fact that the impact of climate change is a long term phenomenon, planting both indigenous and fruit trees (like mangos) was done to generate a medium term benefit to inspire future participation in adaptation activities.
52. For effectiveness it was vital for the project to engage district and municipal council leaders as well as the water ministry department staff in the execution of the project. This engagement made it possible for the Mpanga Catchment Management Plan to be approved in the short time of the project due to effectiveness of the process and the modular approach adopted. While the partnership between PROTOS and DRWM previously existed, this project made this partnership even stronger. The success of this partnership has highlighted the fact that piloting climate change adaptation activities within a broader IWRM framework can also be used to achieve a broader framework linking both IWRM and CCA interventions as was the case in this project. It was also important to utilize a local University since students from this University may be engaged in similar work after graduation.
53. The project, however, would have been more efficient with more preparatory time and financial resources. One year is too short for a bottom-up planning, interventions preparation, execution and oversight. However, within the context of sustainability, the outcomes of this project can be further supported through the long term cooperation between PROTOS and the DWRM as well as support from the Municipality and District Local Governments in the area.
54. The overall rating for Effectiveness is **Satisfactory**.

D Sustainability and Replication

Strategy

55. The project did not have an exit strategy document much as it had designed the project in a manner that allows for follow-up works to be undertaken under NBI, GWP EA and within its platform as UNEP. While there was no exit strategy the project was implemented in a manner that presented an opportunity/catalyst for the NBI and its partners to carry on with data informing policy and project designs in years to come. Nonetheless, the evaluation deduces that having an exit strategy would have been very critical input for the design of successor interventions and a smooth phase out as it prepares for Phase 2. Work under the second phase therefore will dwell on review reports and this evaluation report in as far as uptake of lessons learned is concerned.

Likelihood of Sustainability of Interventions

56. During consultation with officials at the NBI and Uganda Ministry of Water and Environment, it became clear that there are development partners like SIDA, WWF and World Bank that are currently financing various projects on the Nile Basin (either through the Lake Victoria Basin Commission as SIDA is doing or directly to country ministries) that could sustain this effort and achievements of this project. UNEP and its partners should continue to identify financial needs for climate change adaptation. One of the avenues is ensuring that investment projects planned on the Nile in future co-finance a mechanism for water resource protection as part of low carbon growth paths under MoUs either with UNEP or with NBI countries themselves. For instance, in the Semuliki Catchment in Western Uganda (where implementation was done on the River Mpanga Sub-catchment), WWF has been able to design MoUs with local mini-hydropower stations to co-finance water catchment protection projects with communities with the realization that healthy rivers guarantee the water volumes needed to generate the electricity they sell to the national grid.

Key factors that will affect Sustainability and Replication

57. Four factors have been noted that are key to sustainability of this project:
- i. Natural resource dependency by communities, particularly water, is also likely to present potentially severe problems for the region in adapting to the challenges of climate change. It is noteworthy that livelihoods will be affected by climate change especially for communities in rural areas and hence the challenges posed by climate change are also likely to result in environmentally induced migration. There is need therefore for policy considerations within the basin countries that will take migration issues into account, as this is likely to be one of the most profound expressions of adaptation or failure to adapt.
 - ii. There remains a low level of political commitment to increase budgetary allocation to water and natural resource sector in Uganda. Climate Change Adaptation is not a core focus for Uganda's development agenda. In the medium term, Uganda will rely on external financing to implement projects in catchment conservation and ecosystem protection especially in climate change induced water stress areas.
 - iii. Ultimately, the work for climate change adaptation has to be undertaken by district and local communities most at risk. It is the communities who are the ultimate target and whose actions ultimately make the difference. It is important for sustainability that data

translates into local knowledge that is essential for a receptive population that goes further to implement designed on-the-ground interventions.

- iv. Lastly, as regards financial sustainability, it is important to note that Uganda will in the medium term rely on development partners to supplement its national budget for the water and environment sector. We understand from consultations with UNEP that a second donor-funded phase was envisaged to scale up the first phase approach. If implemented this will help Uganda to participate in benchmarking on work done in the first phase to ensure sustainability of this project.

58. Overall, sustainability and replicability are rated as **likely**.

E Efficiency

59. Financial reporting provided to this evaluation to assess the level of cost efficiency of this project indicates that most of the resources were dedicated to technical works under Work Package 1 on Comprehensive assessments work done by UNEP/DHI and DEWA. The whole project was premised on the success of the first Work Package. When the data phase was finalized, a key meeting on ‘climate change and its implications for sustainable development and cooperation in the Nile Basin’ was held between 26th and 28th October 2011 in Kigali. The NBI governance structures notably the Nile TAC and Nile Com endorsed the project and the Nile Basin Development Forum expressed support for the project. UNEP then rolled out interventions under other packages (unfortunately had by then been impacted on in terms of delays to start) and in 2012 most of the projects were in full execution mode.
60. Key factors contributing to efficiency were that:
- i. UNEP sought the expertise of institutions that already operated with a long track record in the Nile Basin i.e. the NBI and GWPEA (at the regional level), government ministry of water and environment (at the national level) and PROTOs (at the district level). This meant that resources were saved in the alternative of ‘going it alone’. This elicited participation and in-kind contribution from these institutions including staff time, logistics and knowledge.
 - ii. The project by design was meant to be a catalyst for institutions, governments and all other climate change adaptation stakeholders to benefit from the data from the modelling simulations and other data to design follow-up interventions. In as much the project was implemented at demonstration sites, ‘it cushioned itself, by design, from being the initiator and implementer’ but instead set the pace for other successor interventions. This made it focused in scope and selected to undertake demonstration projects in two of the 10 Nile countries.
61. Overall, the rating for Project efficiency is **moderately satisfactory**.

F Factors that Affected Project Performance

‘Political factors’ not anticipated at Project Design that caused delays

62. Prior to the start of the project, it was inappropriate for UNEP and DHI to imagine that they could implement the project without approval of the NBI governance structures. Reversing to have the project approved caused delay especially with negotiations with the Egypt water ministry and convening of the Nile TAC meetings. Historically, hydrological data has always been a contentious issue politically for the NBI. For the current Decision Support System (DSS) to operate, the NBI had to undergo a lot of political dialogue on how data from the system would be used. Countries would not surrender data to the UNEP or DHI. It was only after resolving this hold-up that the project moved on.

Project Implementation and Backstopping

63. As previously mentioned, it is always both efficient and effective to implement basin wide projects through partners who already possess a long track record of experience on the

ground. However technical backstopping from UNEP was always needed to align works by various partners to intended target. Technical backstopping from the NBI was sufficient in playing this role although more could have been achieved if UNEP organized an inter-stakeholder forum that could have spurred inter-institutional technical exchange and collaborative learning.

64. Overall, rating for UNEP management and backstopping is **satisfactory**.

A short time allocated for Project implementation

65. There was a concern from most of the implementing partners that time allotted to this project became limited (in part due to delays at start caused by the political challenges of embedding the project into the NBI governance structures). When the project is very short and staff realizes the end is eminent, *'they tend to put their minds elsewhere'*. Climate change needs sustained interventions that cannot be realized in three (3) years. The proposal given by some respondents is that projects of this nature be phased over a longer time period so that there is time for intended targets to absorb the benefits especially at community level. For instance, now that data is available, successor project phase should focus more on its use by policy makers and allowing further community work among schools, prisons, and community based organizations as was the case in Western Uganda. In addition to this, time limitations could not allow a mid-term evaluation for the project to be undertaken much as there were annual reports that informed review of logical framework. In light of time limitations, it was wise for the project management to seek a no cost extension to allow time for smooth conclusion of the final activities which culminated in the closure workshop in Nairobi in September 2013 and formally ended the project.

Exit Strategy

66. It is always important for any project to be mindful of the sustainability strategy so that implementing partners are provided the needed capacity to keep activities running long after UNEP support. Often projects elaborate an exit strategy to prepare a hand-over phase or bridging phase to a successor project. There was no exit strategy for this project and this now means that after the project closed, more time will have to be dedicated on design work for Phase 2.

G Complementarity with UNEP strategies and programmes

67. Through the provision of critical hydrometric modelling data and other technical works related to simulations of climate change scenarios, this project was in line with the UNEP Bali Strategic Plan and South to South Cooperation that include the need to exchange resources, technologies and knowledge between developing countries. Uganda benefited from the implementation of projects in the River Mpanga (which has populations vulnerable to flooding and soil erosion) in the Albertine region and this is in line with the implementation of the new National Water Resource Management Policy. This is in tandem with the aspiration of Uganda's national development plan (NDP 2010/11-2014/15) and the Millennium Development Goal (7).

69. Overall, rating for Complementarity with UNEP strategies is **satisfactory**.

V. CONCLUSIONS

70. **Relevance:** The project in its design and implementation was able to reinforce the effort towards realization of (and is in line with) the NBI shared vision “*to achieve sustainable socio-economic development through the equitable utilization of and benefit from the common Nile Basin water resources*”. The project through the provision of critical hydrometric modelling data is in line with the *UNEP Bali Strategic Plan* and *South to South Cooperation* that include the need to exchange resources, technologies and knowledge between developing countries. Uganda benefited from the implementation of projects in the River Mpanga (which has populations vulnerable to flooding and soil erosion) in the Albertine region and this is in line with the implementation of the new National Water Resource Management Policy. This is in tandem with the aspiration of Uganda’s national development plan (NDP 2010/11-2014/15) and the Millennium Development Goal (7) of environmental protection and sustainable development.
71. **Achievement of Outputs:** By the end of the project there was in place a report on land cover, rainfall and evapotranspiration regimes in the Nile Basin from 2001-2010 based on satellite data-derived products and demonstrates the usefulness of the satellite data in areas of the Nile Basin. In addition, through DHI, there was data shared on flood drought vulnerability indicators reviewed and formulation of climate change based scenario methods for 2020 & 2040. In Uganda UNEP through PROTOS a Belgium supported partner organization in the Albertine region has implemented a demonstration site with a focus on catchment protection around River Mpanga that was finalized early in 2013. As a result of the project NBI is able to receive data of monthly water balance which through the model in place has provided input into the hotspot analysis and overall vulnerability assessment in the basin.
72. **Effectiveness in Attainment of Objectives and Planned Results:** The Project was successful in attaining planned activities although it would have been more effective if it did not face delays at the project start. While it took long to get the project approved to be implemented after undergoing approval through the NBI governance structures, more challenges arose around the issue of data sharing among countries - something that the project had either not foreseen or had underestimated.
73. **Under Component 1:** DEWA also carried out comprehensive assessments identifying “hot-spots” based on a developed criteria, including assessment of potential impacts of climate change variability risk of climate and human driven changes on freshwater resources in the Nile river basin ecosystem. A series of workshops were conducted to appraise relevant stakeholders on the findings of the assessments.
74. **Under Component 2:** The project was effective in developing partnerships with key implementing institutions - mainly the NBI which provided an institutional framework for working with and within NBI countries. In Uganda particularly, the NBI had already a strong collaborative partnership with GWP (and shared premises) as well as with the Ministry of Water and Environment (MoWE) (also a block away from the NBI offices) which made communication easy. MoWE officials recommended PROTOS as a suitable partner

organization with whom to implement the demonstration sites which eventually provided an efficient implementation on the project in Western Uganda.

75. **Under Component 3:** the project was effective in utilizing UNEP's well respected role in transboundary water resources to drive the process for climate change adaptation strategy for the NBI through collaborative works with the IGAD Climate Prediction and Applications Center, Lake Victoria Basin Commission and WWF. However, due to shortfalls in resources and scope the engagement was less than might have been desired but nonetheless the project was able establish strategic partnerships that will facilitate more collaborative efforts in the future. It would have been more effective if the project instituted an inter-parties forum to sustain the engagement even after the project's end.
76. **Efficiency:** Implementing various parts of activities outlined in the Project logical framework through various implementing institutions like PROTOS in Western Uganda, WWF and LVBC was cost-effective since these partners already had on-the-ground expertise that UNEP tapped into. There was therefore a lot to benefit from 'in-kind' contribution (of staff time, vehicles, local connections with communities, office logistics and space) which made the project cost-efficient in most aspects. The emphasis on provision of data was critical since provision of data that is there today will support other project designs that will also generate multiplicative benefits to the Nile Basin and its users.
77. **Sustainability and Replication:** Foremost the current socio-political situation in the NBI remains clouded by the 'uncertainty' around the Comprehensive Framework Agreement on Nile Cooperation (the CFA). The NBI, as a consequence, remains without a legal status (for instance, the Lake Victoria Basin Commission that dwells on the support of EAC Partner States). Issues of data sharing are expected to persist although progress in this regard was registered by this project. Secondly, replication of project results and the financial requirement will depend mainly on the level of uptake of knowledge provided by the hydrometric modelling at State level. It remains unclear how this will unfold since the project lacked a robust exit strategy. Thirdly, the project's purpose to channel implementation through the NBI provides a bright prospect of expedited implementation of successor projects since there is already buy-in and ownership of the Nile TAC and Nile COM who form the governance structure of the NBI. It is not possible to provide an evaluative conclusion on environmental sustainability after only three (3) years of implementation. Nonetheless, it is important to note that the data available has forecasts of up to 2050 which provides a much more sustainable information premise in the long term for projects designed to mitigate climate change effects in water stress areas in the Nile Basin.

VI. Lessons Learned

78. **On Project Design:** Implementation of interventions (more-so of a transboundary nature) in the Nile Basin required (not only involvement but also) approval by the Nile TAC who under the NBI structures are critical players as they provide advisory input for the Nile COM – the supreme governing body of the NBI. Part of the delays in kick-off of the Work Packages (WPs) and activities under various components was due to initial oversight on the part of UNEP to involve the Nile TAC in the project design and early enough.
79. Secondly, the project did not anticipate that the sensitivities around data sharing in the NBI had been a bone of contention for years and that that would affect this particular project. Eventually, the project was able to resolve the issue of how much data will be shared and actual flow data was used but not shown but this had caused significant delays in the process. In the long run the project was able to demonstrate that awareness of the needs for transboundary data sharing is beneficial to NBI countries since interventions like adaptation for food security being planned will in medium and long terms benefit from mutual data sharing.
80. **The Theory of Change** for the project did not adequately provide the linkage between inputs, expected outputs and outcomes in a manner that would generate a pointer to an end result – or the ultimate impact. Understandably, this was a short three-year project that faced about eight months delay and therefore it is not possible to point at impacts at this stage. Nonetheless provision of best-case, intermediate-case and worse-case scenarios from the data increased the knowledge and appreciation of the need for countries facing water stress scenarios to act more concretely on the ground, but the project had little to influence actions on the ground that would generate the desired impact.
81. **On Project Backstopping and Management:** Once the issue of data sharing that had delayed the effort of DHI was resolved, the project management was able to move up to speed with the rest of the implementation. To a positive benefit for UNEP all parties had agreements and were guided on how to implement various aspects of the work package. However, it would have been desirable if the project had constituted an inter-parties forum that would meet regularly to exchange lessons learned and seek inter-party collaborative mechanisms as it is with other projects under GEF. Much as this was not to an unmanageable extent, one of the lessons was that ultimately, working with fewer partners achieves more focus and reduces the possibility of dealing with a lot of activities in the logical framework and the temptation of trying to do too much in a short time which reduces impact and increases overhead costs.

VII. Recommendations

82. **On Project Design:** It is recommended therefore that successor projects in the Nile Basin are planned in a manner that the design process itself is embedded in the programming and is part of the planning apparatus within the NBI governance structures. This would provide ownership and buy-in by key NBI country stakeholders and avert the prospect of delays in project kick-off as was the case with this project.
83. As a project playing ‘a role of a catalyst’ it would have been better to design the theory of change as thus but provide avenues where country level players and other development partners to contribute to efforts to foster climate change adaptation practices in the Nile basin. It is important to expedite a platform within the NBI (preferably constituted by a technical persons committee of NBI ministries) to better understand the science of the shared river, the threats it faces and various types of national and transboundary interventions that are possible in the medium and long term. It was important that the project noted that from the on-set adaptation is an aspect that bears a huge financial cost. It was very important for the project to push for a ‘*regional approach*’ with realization while climate change is no respecter of boundaries, each country has its own national climate change strategy but willing to work within a transboundary platform to share the risk and minimize the cost of implementing projects in isolation of other countries in the Nile basin.
84. **On Project Implementation:** Throughout this evaluation, respondents at the Uganda’s Ministry of Water and Environment appreciate the depth and the detail of the data provided but recommended that more follow-up capacity building be provided for technical officers at the ministerial level to use the data in design of policy briefs and review of national level strategies. As echoed by Dr. Jacqueline Alder, Head of the Freshwater and Marine Ecosystems Branch of UNEP ‘*Africa faces a severe impact from climate change, but lacks not only the capacity but also the adequate infrastructure to adapt. It is critical that actions themselves take place at the national and local levels*’
85. Secondly, one of the key results achieved is that the project has (most critically) left a firm footprint on the future workings on climate change adaption (through the provision of critical data from DHI’s comprehensive hydrological modelling). One of the key tasks is demonstrating using the same data how results shown by the modelling will help design of projects on the ground and how the data can help increase the focus on reducing vulnerabilities of people living in water stressed localities. The project has been able to show that this data needs to be put to maximum use by the Nile countries themselves. A lot remains to be done to support technical level officers to utilize the data for shaping country level interventions for climate change adaptation. It is recommended that the effort in the future be ‘*less technical and academic*’ and move towards ‘*examples of adaptation*’ practices that can be piloted in water stressed locations.
86. **On Sustainability:** There are development partners like SIDA, WWF and World Bank that are currently financing various projects on the Nile Basin (either through the Lake Victoria Basin Commission as SIDA is doing or directly to country ministries) that could sustain this effort and achievements of this project. UNEP and its partners should continue to identify

financial needs for climate change adaptation. One of the avenues is ensuring that investment projects planned on the Nile in future *co-finance a mechanism*, for water resource protection as part of low carbon growth paths under MoUs either with UNEP or with NBI countries themselves.

Below is a summary assessment of the rating of the project by this evaluation.

Criterion	Summary Assessment	Rating
A. Strategic relevance	The project's objective are in line with Uganda's National Development Plan and its Vision 2020 that which call for action to address the adverse effects of climate change. Uganda as a host to the NBI Secretariat and being party to the UNFCCC find this relevant for her engagement with other countries on climate change agenda. The project is also in line with UNEP's programmatic objectives and the Bali Strategic Plan for Technology Support and Capacity-building.	Highly Satisfactory
B. Achievement of outputs	While most outputs were achieved, the delay at the start could not allow implementation of the demo project by PROTOS according to the initial planning, which ordinarily requires a lot of preparation time. While other activities were also affected by this delay, the request made to allow a no-cost extension of the project ensured that it was possible to achieve most of the outputs and meet most of the targets.	Moderately Satisfactory
C. Effectiveness: Attainment of project objectives and results	By the end of the project most outputs were delivered but as a catalyst for other successor project, results in terms of impact will be seen in the years to come. The outputs generated by the project are in that case key drivers towards the intermediate state as well as the desired impact as shown in the revised ToC	Satisfactory
D. Sustainability and replication	World Class modelling and emergent data was delivered by the project. Demonstration projects were implemented to help both national and local governments understand how to implement 'actions on the ground' that will ultimately make a difference. The onus now is on Uganda as a Country: to take-up these outputs; use the data and support implementation of projects in the water-stress areas. Our analysis indicates that issues of climate change are still not high on the country's development agenda making the evaluation rate sustainability and replication only likely but not highly likely	Likely

Criterion	Summary Assessment	Rating
E. Efficiency	The project could have been more efficient if it had anticipated the need to obtain the political buy-in of the Nile governance structures notably the Nile Com and Nile TAC without which it suffered a lot of delays in obtaining this approval. Once that was resolved the project managed to produce high class data that will serve the Nile Basin for two decades to come and become a point of reference for policy makers in planning for interventions in the water stressed places in Uganda in particular and the basin as a whole.	Moderately Satisfactory
F. Factor affecting performance: Preparation and readiness	Preparation and readiness were affected by failure to obtain the endorsement of the TAC and to take account of potential risks arising from political sensitivities related to sharing of national level data.	Moderately Un-satisfactory
Project management	Implementation went fairly smoothly once the impacts of the initial delays were mitigated. Adaptive management measures were taken when needed to ensure that the project remained on track.	Satisfactory
Stakeholder participation	Uganda ministry officials, CSOs and the private sector were involved in a series of workshops by GWP EA and other implementing partners. This enabled technical exchanges and an opportunity to share the benefit of the possession of critical data to aid decision making now and in the future and how each stakeholder can play part.	Highly Satisfactory
UNEP supervision and backstopping	Respondents to this evaluation appreciated the efforts made by UNEP office in Nairobi in ensuring that all activities are undertaken as timely as possible. All concerns raised by the implementing partners were to a maximum extent possible responded to in a manner described as ‘professional’.	Satisfactory
Monitoring and Evaluation	Limitations in time could not allow for a mid-term review to be undertaken although some respondents to this evaluation thought time would have been allowed for that. The project bring output oriented lacked to logical links between component input, output and how that linked to intermediate state outcomes	Moderately Un satisfactory
OVERALL RATING		Satisfactory

Annex I: Bibliography

1. Project document
2. Logical framework
3. Inception workshop report
4. Inception phase progress report to SIDA (2010)
5. Annual progress reports to SIDA (2011, 2012)
6. Annual work plans
7. Technical and other reports produced under the project
8. MOUs with partners
9. Monitoring and evaluation plan
10. Budget and financial reports
11. Review meetings reports
12. UNEP medium term strategy and programme of work
13. Final workshop Power-point presentations

Annex II: Schedule of the evaluation and list of Individuals Consulted

Name	Affiliation
UNEP	
Sylvana King	UNEP Evaluation Office
Michael Spilsbury	UNEP Evaluation Office
Musonda Mumba	UNEP project manager
Keith Alversen	UNEP/DEPI
Richard Munang	UNEP/ROA
Didier Salzmann	Fund Management Officer, UNEP/DEPI
Elizabeth Migongo-Bake	UNEP/DEPI
NILE BASIN INTIATIVE	
Emerita Mugorewicyeza	Nile Basin Initiative, Uganda and UNEP Focal Point Person
Tom Wakko Baguma	Project Officer, NBI
GOVERNMENT OF UGANDA	
Eng. Mugisha Shilling	Director Water Resource Management Ministry of Water and Environment. Technical Advisory Committee Member for Uganda
Callist Tindimugaya	Commissioner, Water Resources Regulation, Directorate of Water Development, Nile Technical Advisory Committee Member for Uganda
Mr.Ruyonga Godfrey	Kabalore District Head of Natural Resource Department
IMPLEMENTING PARTER	
Lieven Peeters	Head of PROTOS, Uganda and DRC

Annex III: Brief CV of the Evaluator

Name **Drake Rukundo**

PROFESSION **Socio Economist and M&E Consultant**

NATIONALITY **Ugandan**

SUMMARY

Drake Rukundo is a 35 year old Ugandan development economist with a decade's experience in development evaluation in the Africa region. He has just concluded a contract as the national consultant on the review of Uganda's National Development Plan (NDP). Drake has also served as socio-economist for Global Water Partnership (GWP) on the formative evaluation of five River Basin Organizations (RBOs) in Africa. Drake initially started his consulting career as a researcher in policy analysis including reviews of Uganda's National Population Policy in 2004, the National Water Sector reviews in 2005. He later worked on a series of evaluations and mid-term reviews for public and non-government entities and institutions, leading him towards a career path in monitoring and evaluation including works on: evaluation of 8th EU Country Program in Uganda, 5th UNFPA Country Program in Uganda, Citizen Report Card for NUSAF 2 Project in Uganda and Ethiopia's Country Capacity Building Program in 2009. He in 2011 served as a consultant on the independent evaluation of World Bank managed Nile Basin Trust Fund (NBTF) which was set up by about 10 development partners to support the Nile Basin Initiative. Drake has been a national consultant on design of Uganda Partnership Policy in 2011; national review of Fiscal Decentralization Strategy (FDS) in Uganda in 2012 and implementation of Uganda's National M&E policy in 2013. Drake is conversant with working on specialized baseline, mid-line and end-line surveys. Drake has worked on contracts mainly related to reviews of programs implemented by: Rwanda Development Board, East Africa Community Secretariat, USAID, UNDP, DFID World Bank, Save the Children, UNFPA, AfDB and AGRA among others.

COUNTRY EXPERIENCE

Uganda, Kenya, Tanzania, Rwanda Burundi, Ethiopia, Malawi, Senegal, and South Africa

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

MA Economics, Makerere University, Uganda (2003-07)

BA Social Sciences, Makerere University, Uganda (1998-02)

OTHER TRAINING

Innovation Systems and Clusters Certificate, SIDA SAREC and Makerere University, (2005)

M&E, Poverty Reduction Impact Appraisal Tool Certificate Grade A, GIZ Germany (2006)

M&E GIZ Evaluation Capacity Development (ECD) Training for Trainees Certificate (2013)

LANGUAGES

English

Annex IV: Summary Co-Finance Information- Statement of Project Expenditure

#	Description	Approved Total Budget 2011	Expenditure to date	Requested New Total Budget	
10	Project personnel component				
	1100	Project Personnel Title Grade w/m	255,000	158,469	263,500
	1200	Consultants (Description of activity/service) w/m	180,000	155,412	194,412
	1300	Administrative support Title Grade w/m	25,000	8,384	33,000
	1600	Staff, consultancy & partners travel on business	70,000	25,250	39,089
20	Subcontract component				
	2100	Sub-contracts (MOUs/for cooperating agencies)	200,000		200,000
	2200	Sub-contracts (MOUs for supporting partners)	1,978,000	1,257,283	1,959,230
30	Training component				
	3200	Group training	159,500		161,163
	3300	Meetings/conferences (Title)	210,500	60,279	115,279
40	Equipment and premises component				
	4200	Non-expendable equipment	11,000	1,351	1,351
	4300	Premises (rent)	11,000		11,000
50	Miscellaneous component				
	5200	Communications and Reporting Costs	56,000		31,508
	5300	Sundry	6,818		
	5500	Monitoring and Evaluation	20,000		25,000
99	Direct costs, total				
	Programme support cost (10%)		318,182	166,643	303,453
	GRAND TOTAL		3,501,000	1,833,071	3,337,985

Source: UNEP (December, 2013)