AFB/PPRC.16/7
19 March 2015

Adaptation Fund Board
Project and Programme Review Committee
Sixteenth Meeting
Bonn, Germany, 7-8 April 2015

Agenda Item 6 c)

PROPOSAL FOR UGANDA

Background

1. The Operational Policies and Guidelines (OPG) for Parties to Access Resources from the Adaptation Fund (the Fund), adopted by the Adaptation Fund Board (the Board), state in paragraph 45 that regular adaptation project and programme proposals, i.e. those that request funding exceeding US$ 1 million, would undergo either a one-step, or a two-step approval process. In case of the one-step process, the proponent would directly submit a fully-developed project proposal. In the two-step process, the proponent would first submit a brief project concept, which would be reviewed by the Project and Programme Review Committee (PPRC) and would have to receive the endorsement of the Board. In the second step, the fully-developed project/programme document would be reviewed by the PPRC, and would ultimately require the Board's approval.

2. The Templates approved by the Board (OPG, Annex 4) do not include a separate template for project and programme concepts but provide that these are to be submitted using the project and programme proposal template. The section on Adaptation Fund Project Review Criteria states:

> *For regular projects using the two-step approval process, only the first four criteria will be applied when reviewing the 1st step for regular project concept. In addition, the information provided in the 1st step approval process with respect to the review criteria for the regular project concept could be less detailed than the information in the request for approval template submitted at the 2nd step approval process. Furthermore, a final project document is required for regular projects for the 2nd step approval, in addition to the approval template.*

3. The first four criteria mentioned above are:
   1. Country Eligibility,
   2. Project Eligibility,
   3. Resource Availability, and
   4. Eligibility of NIE/MIE.

4. The fifth criterion, applied when reviewing a fully-developed project document, is:
   5. Implementation Arrangements.

5. It is worth noting that since the twenty-second Board meeting, the Environmental and Social (E&S) Policy of the Fund was approved and consequently compliance with the Policy has been included in the review criteria both for concept documents and fully-developed project documents. The proposals template was revised as well, to include sections requesting demonstration of compliance of the project/programme with the E&S Policy.

6. In its seventeenth meeting, the Board decided (Decision B.17/7) to approve "Instructions for preparing a request for project or programme funding from the Adaptation Fund", contained in the Annex to document AFB/PPRC.8/4, which further outlines applicable review criteria for both concepts and fully-developed proposals. The latest version of this document was launched in conjunction with the revision of the Operational Policies and Guidelines in November 2013.

7. Based on the Board Decision B.9/2, the first call for project and programme proposals was issued and an invitation letter to eligible Parties to submit project and programme proposals to the Fund was sent out on April 8, 2010.

8. According to the Board Decision B.12/10, a project or programme proposal needs to be received by the secretariat no less than nine weeks before a Board meeting, in order to be considered by the Board in that meeting.

9. The following project concept titled “Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda” was submitted by the Sahara and Sahel Observatory (OSS), which is a Regional Implementing Entity of the Adaptation Fund. This is the first submission of the project.

10. The submission was received by the secretariat in time to be considered in the twenty-fifth Board meeting. The secretariat carried out a technical review of the project proposal, assigned it the diary number UGA/RIE/Water/2015/1, and completed a review sheet.

11. In accordance with a request to the secretariat made by the Board in its 10th meeting, the secretariat shared this review sheet with OSS, and offered it the opportunity of providing responses before the review sheet was sent to the PPRC.

12. The secretariat received, on 16 February 2015, comments on the initial submission of the proposal, from Mr. Justine Mwanje, Forestry Consultant. The secretariat considered the comments in the technical review as reference and, as required by the Board decision B.18/24 (b), made them publicly available on the Adaptation Fund website, after confirming with Mr. Mwanje that he did not object to doing so. The secretariat also submitted the comments to the proponent for its consideration. As further required by the same Board decision, these comments from the civil society are annexed to the current project document.

13. The secretariat is submitting to the PPRC the summary and, pursuant to decision B.17/15, the final technical review of the project, both prepared by the secretariat, along with the final submission of the proposal in the following section.

Project Summary

Uganda – Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda

Implementing Entity: *OSS*
Project/Programme Execution Cost: USD 480,000
Total Project/Programme Cost: USD 7,004,000
Implementing Fee: USD 490,280
Financing Requested: USD 7,494,280

Project Background and Context:

The proposed project seeks to strengthen Ugandan communities' resilience to the impact of climate change through promoting catchment based integrated, equitable and sustainable management of land and water resources and the establishment of local flood early warning systems, in order to improve resilience to climate change, and increase adaptation capacity while enhancing food security.

The project is expected to contribute towards addressing the critical challenges related to natural resources management and sustainable socio-economic development while protecting the environment which is the major source of income for many livelihoods. The holistic approach of the proposed project is designed as a more integrated way to support communities in Awoja, Aswa and Maziba catchments in their efforts to increase their resilience to the impacts changing climate and to increase their adaptation capacity to observe the onset and be better prepared to respond to the impacts of climate change.

Component 1: Supporting communities to identify and implement water security and climate adaptation actions (USD 3,855,000)

The first component would support the implementation of catchment-based climate adaptation actions, and is described by the proponent as the most important component of the project as it is expected to directly strengthen resilience and adaptation capacity of Awoja, Aswa and Maziba communities to climate change impacts and to increase the resilience of the watersheds to climate changes. The activities focus on training communities on, and demonstrating climate responsive agricultural practices which on the one hand address the risk of drought (introduction of drought resistant crops, introduction of irrigation schemes, water harvesting schemes etc.) and on the other hand address the risk of floods.

Component 2: Establishment of water resources monitoring networks for use in flood early warning systems and for testing the quality of water (USD 1,080,000)

This component would aim at improving communities' preparedness to the risk of flood and their ability to take envisaged response measures upon timely information. This would involve strengthening the communities' local early warning, flood management, and environmental quality systems, establishing water resources monitoring networks (surface water, groundwater and water quality) which would be the basis for the flood early warning systems, and setting up water quality testing equipment for use during flood periods. This component would also sensitize and engage stakeholders in the catchments in identifying threats, response measures, and taking local actions.

Component 3: Establishing functioning management structures for Awoja, Aswa and Maziba catchments (USD 940,000)

The objective of this component is to improve water and climate governance through stakeholder empowerment and participation, including women and youth, which would reduce conflicts over resource use, restore degraded land and improve food security & household incomes. Practical activities would include assessing water and other natural resources potential of the three catchment areas (including groundwater) to provide basis for developing integrated plans. The component would also prepare a catchment based IWRM and climate adaptation plan for Awoja, Aswa and Maziba catchments including groundwater resources aspects. It would also strengthen or establish catchment management institutional structures in Awoja, Aswa and Maziba. Finally, the component would establish and operationalize multi-stakeholder platforms as part of catchment management structures.

Component 4: Strengthening capacities of stakeholders (USD 344,000)

The objective of this component is to capacitate key stakeholders to facilitate implementation of Integrated Water Resources Management (IWRM) and climate adaptation actions on the ground, and to support Uganda in reviewing its national and sector development plans and strategies to integrate water security and climate resilience issues. The activities would include a capacity building initiative for key stakeholders (extensions services, local governance) at catchment level to facilitate implementation of adaptation action; awareness raising workshops and other events on climate change, its impacts and adaptation strategies related to water organized for Awoja, Aswa and Maziba communities, local authorities and local stakeholders; trainings on IWRM as a tool for climate change adaptation organized for key institutions at national and District levels; and awareness raising workshops at national level to sensitize key Government sectors on importance of integrating issues of water security and climate resilience into national and sectoral development plans.

Component 5: Knowledge management (USD 305,000)

This component would document processes and lessons from implementing the project, develop case studies, and prepare and disseminate learning materials. It would also organize learning trips to successful projects in Africa.

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: **Uganda**
Project Title: **Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda**
AF Project ID: **UGA/RIE/Water/2015/1**
IE Project ID:
Requested Financing from Adaptation Fund (US Dollars): **7,494,280**
Reviewer and contact person: **Mikko Ollikainen**
Co-reviewer(s): **Astrid Hillers**
IE Contact Person: **Nikola Rass, Sadok El Amri**

Review Criteria	Questions	Comments on 24 February 2015	Comments on 16 March 2015
Country Eligibility	1. Is the country party to the Kyoto Protocol?	Yes.	
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	Yes.	
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	Yes (endorsement letter dated 16 January 2015).	

	2. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	Requires clarification. An overall comment: when referring to studies, publications etc., please make sure to include complete literature reference. The linkage between anticipated climate changes and the project activities is not adequately elaborated, and the baseline for the project interventions is not clear. The project includes activities for water management, and for addressing both flood and drought risk issues. However, the anticipated climate changes described in section I.A are mostly related to increased, not decreased, precipitation. **CR1:** Please provide specific references to most up-to-date climate projections for Uganda in terms of drought risk, and quantified information on the reduction of total available water. Please also provide quantified projections for increased floods. The proposal suggests activities in three dispersed areas in Uganda. It is unclear why these areas were selected, and how measures would have been developed for the specific locations or respond to the specific local needs. **CR2:** Please clarify the criteria for selection of the target areas. Please explain how the measures would be developed for the specific locations and respond to the specific local needs.	**CR1:** Partly addressed. As a recent study the proposal refers to USAID Uganda Climate Change Vulnerability Assessment Report (2013). That report does not, however, anticipate increased droughts. Based on that report, while annual rainfall is expected to remain largely unchanged, water stress for crops might result from increased temperatures. No figures on availability of water or on floods have been provided. **CR2:** Partly addressed. The selection of the target areas has been explained through vulnerability of the sites, their diversity (learning and demonstration impact), and synergies with other initiatives. However, there is no explanation on how the proposed interventions would be targeting the specific vulnerabilities of the individual target areas.

		The proposal describes, in section I.A, some socio-economic and physical conditions and mechanisms that have rendered the target areas vulnerable for climate change. However, it is somewhat unclear what reasons have prohibited sustainable land/water management in the past, and what the drivers of unsustainable practices have been. It is also unclear how the project would effectively address those factors and drivers. The summary on pp. 11-12 refers both to such factors that could be influenced by a project such as this (e.g. awareness of better farming practices), and to others that it could not (apparently) effectively target (e.g. population pressure) but it is not very clear which factors belong to the project scope and for those that don't, why. Another example of a case where the proposed activities are not well linked to an analysis of root causes include the call for local flood warning systems which appears to be equated with increased resilience and capacity to respond – yet flood warning is a necessary but not sufficient condition for disaster preparedness. Also, the call for more climate resilient livestock does not take into account the possible need to change grazing practices in sustainable land management; open/free grazing often being a key driver of land degradation. Another unclear point is how the project balances on-farm (livelihood strengthening) and off-farm (communal management) measures and how well this is rooted in local needs and customs.	

		CR3: Please elaborate on the reasons that have prohibited sustainable land/water management in the past, and on the drivers of unsustainable practices. Please explain how the project would specifically address those impediments and drivers. Please include such reasoning for each of the component descriptions and, where possible, activity descriptions. In addition to the need of analysis on existing drivers and bottlenecks/barriers, most of the activities described are presented with no clear baseline of the current situation. There have been and are ongoing several interventions targeting the same sector and same regions but complementarity is not well elaborated. **CR4:** Please explain clearly the baseline / status quo for each of the project components, or outputs where possible. Though exact baseline can be *verified* through studies in the beginning of project implementation, understanding the baseline is imperative for review of the proposal. Given that the proposal is considered a concept, detailed budget analysis is not conducted at this point of review. However, at the component level, it is not clear what the community-based catchment management "structures" are. If these are only institutional arrangements, the component budget allocation appears high. **CR5:** Please clarify the deliverables of Component 3 and if necessary, reconsider its budget.	**CR3:** Partly addressed. The table on pp. 16-18 is useful for understanding the intervention logic with regard to the various impediments and drivers. However, it is not evident how some types of activities presented in that table, e.g. related to livestock and zero grazing are reflected in activities under Component 1. **CR4:** Mostly addressed. However, the baseline analysis does not elaborate on the relation between the existing draft catchment management plans and what the project would hope to achieve at the community level. **CR5:** Addressed sufficiently to the concept stage. Detailed budget analysis may be conducted at the full proposal stage.

	3. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy of the Fund?	The project has potential to provide economic, social and environmental benefits but it is unclear how efficiently and appropriately these are delivered, and further analysis is needed. **CR6:** As with project deliverables, please explain the baseline situation in terms of the economic, social and environmental benefits, rather than just stating the increase. **CR7:** Please explain how the beneficiaries for the project (stated on p. 20 to represent 10% of the population) will be selected. Please explain, whether any other vulnerable groups apart from women and children have been identified. The proposal states that "gender aspects will be fully considered". **CR8:** Please elaborate on any gender analysis that has taken place in preparation of the project.	**CR6:** Addressed. **CR7:** Addressed sufficiently to the concept stage. **CR8:** Addressed sufficiently to the concept stage. Additional analysis will be needed for the fully developed project document.
	4. Is the project / programme cost effective?	Requires clarification. As noted above, it is not clear how the project activities would address existing impediments to development and drivers of degradation, and how the project deliverables would be vis a vis baseline. Detailed analysis of project budget is beyond this concept-level review. **CR9:** Please clarify the scope of stakeholders whose awareness would be raised under component 4: currently it seems that it is limited to "key government officials" which seems rather narrow.	**CR9:** Addressed sufficiently to the concept stage.

	5. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	Requires clarification. Section II.D explains the development of IWRM in Uganda, and mentions the recently developed draft catchment management plans for the three proposed project watersheds as well as government actions in the watersheds. However, from the component descriptions it is not clear how the project would align with these draft plans and help develop them further (as the interventions in the current draft plans are said to have been inadequate). **CR10:** Please explain, how the project activities would be aligned with the existing draft catchment management plans and, if applicable, would help to develop them further. **CR11:** Please explain how the project would build on and support on-going decentralization efforts such as catchment management committees strengthening. The link with the 'costed climate change implementation strategy' should be elaborated in more detail in terms of specifics on locations/watershed and measures.	**CR10:** Addressed. **CR11:** Addressed, though part of the reasoning provided in an informal response sheet has not been included in the proposal.

	6. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund??	Requires clarification. The proposal states that it will meet and respect national standards on environmental impact assessment (though p. 25 refers to more information on EIA in section III.b and III.c, where such information, however, is not found). It is not clear, whether the project activities are expected to require EIAs or develop Environmental and Social Management Frameworks (ESMFs) under national regulations and if yes, what the plans are for conducting such assessments and frameworks before submission of fully-developed project document, including the necessary community consultations. **CR12:** Please clarify whether EIAs are expected under national regulations for the activities proposed to be funded by the project. If yes, please elaborate on the plan on developing the assessments before submission of the fully-developed project document (to be included annexed to that document), including the necessary stakeholder consultations.	**CR12:** Addressed sufficiently to the concept stage.

	7. Is there duplication of project / programme with other funding sources?	Requires clarification. The proposal states that the proposed activities are not funded by other projects. However, as the proposed activities would fit into the catchment management plans, under which there will also be other activities, including larger scale investments, it should be explained how the proposed activities would complement those other activities, particularly from the point of view of improving catchment management function. **CR13:** Please explain how the proposed activities would practically improve the catchment management in the context of the catchment management plans by complementing the plans and other investments within those plans. **CR14:** Please explain whether there is or would be a coordination platform that would allow coordination between the proposed project and the other activities under the catchment management plans. There is surprisingly no link drawn to NELSAP or its Kagera program, to LVEMP II (with regard to Maziba catchment) or discussion of nexus/benefits from watershed management measures on downstream natural or built infrastructure. **CR15:** Please provide a more comprehensive baseline of ongoing efforts to lay out synergies and avoid overlaps.	**CR13:** Addressed. **CR14:** Addressed. **CR15:** Addressed sufficiently to the concept stage, though part of the reasoning provided in an informal response sheet has not been included in the proposal. The fully-developed proposal should have a more comprehensive take on activities financed by bilateral and multilateral donors.

	8. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	There is a component on knowledge management. However, the way the proposed activities are described is vague, and the same issues as with other proposed activities, related to baseline, existing bottlenecks etc. should be addressed. It is not entirely clear though why out of country study tours have been decided at this point and deemed essential. **CR16:** Please clarify the need for study tours abroad and if necessary, reconsider inclusion.	**CR16:** Addressed sufficiently to the concept stage.

	9. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations?	A consultative process has taken place but it has mostly involved institutional stakeholders and apparently engaged community representatives only in a very limited way ("some members of the local community"). As the project is planned to be community focused, it is important that communities be consulted early in proposal development. **CR17:** Please elaborate on what has been learned through community consultations about community views on and the general acceptance of the project among communities in the three target areas. If necessary, please carry out further community consultations in these areas, taking into account vulnerable groups and gender considerations. **CR18:** Please clarify on which kind of community commitment, analysis or prior local examples the following statement (p. 30) is based on: "Communities are expected to contribute about 10% of component I of the project through free labour and supply of local materials." The main investment component 1 of the proposed project lists expected activities to be implemented under this component with rather quantified targets. On the other hand, the proposal states (p. 22): "Activities of the project will be developed in a community-based participatory process. This will result in developing socially accepted project interventions by communities. This will again contribute to managing conflicts between communities related to access to and use of natural resources."	**CR17:** Addressed sufficiently to the concept stage. **CR18:** Addressed.

		CR19: Please explain, what kind of decision-making process would be used to reconcile meeting the stated targets and following a community-based process. For instance, how much flexibility/freedom can be granted to the communities to select activities based on their priorities? Please explain in developing the community level management structures, what is the current baseline and what additional would be achieved.	**CR19:** Addressed sufficiently to the concept stage.
	10. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Requires clarification. As noted above, the case made for drought resilience is not very compelling as the projections rather point at expected increased levels and duration of precipitation, and this reasoning should be checked. Also, as noted above, questions on existing drivers and bottlenecks, and baselines, should be addressed.	
	11. Is the project / program aligned with AF's results framework?	Yes, the project is broadly aligned with AF's results framework.	
	12. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Requires clarification. As stated above, the relationship of the proposed activities with past/existing impediments and bottlenecks to development/adaptation should be clarified. The proposal refers in more than one instance to the setup of revolving funds but these have not been elaborated. **CR20:** Please explain whether there exists earlier experience of the use of revolving funds in such settings in these parts of Uganda, and how the success of such	**CR20:** Addressed sufficiently to the concept stage.

		funds can be ensured.	
	13. Does the project / programme provide an overview of environmental and social impacts / risks identified?	Yes, a checklist is provided. For principles 4 (human rights) and 6 (core labour rights), the proposal states that they are "not applicable". These findings are not substantiated. Please also note that in accordance with the guidance document on the AF Environmental and Social Policy (ESP), those two principles, as well as the one on compliance with the law, always apply. **CAR1:** Please revise selections on principles 4 and 6. For all the other principles it is stated that no further assessment is required. This is unlikely to be the case. The proposal document does not allow to conclude that the environmental and social risks associated with the project have been identified and assessed. For instance: 2: Access and Equity, 3: Marginalized and Vulnerable Groups, 5: Gender Equity and Women's Empowerment, 7: Indigenous Peoples, 8: Involuntary Resettlement, 9: Protection of Natural Habitats, 10: Conservation of Biological Diversity, 13: Public Health and 15: Lands and Soil Conservation. **CR21:** Please re-assess areas of potential E&S impacts and as necessary revise the checklist. Please include a short justification for each ESP standard, explaining either why it does not apply, or what the steps to be taken to address it	**CAR1:** Addressed. **CR21:** Addressed. Given the identified ESP risks, and the unidentified sub-projects, the project requires an Environmental and Social Management Plan (ESMP). The Environmental and Social Management Framework (ESMF) described on p. 43 would be a component of the overall project ESMP. On specific risks in line with ESP principles, it should be noted: a. Involuntary resettlement does not just refer to resettlement of communities. b. Public health: please consider the

		are, e.g. assessments to be conducted between the concept stage and the full proposal stage. Note: when addressing requirements of the ESP, please feel free to peruse the draft "Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy" that has been shared with Implementing Entities. Also, please note that the risks that are listed under heading C. on p. 37 are general project implementation risks of environmental and social nature, not environmental and social impacts risks in the sense that ESP considers them. Please also consider whether the participation of 'the authorities responsible for the environmental standards' (p. 25) in project design and implementation could represent a conflict of interest if these authorities also must enforce compliance with these standards. **CAR2:** Please categorize the project in terms of environmental and social as required by the ESP.	risk of vector-borne diseases like malaria and trypanosomiasis. **CAR2:** Partly addressed. Project categorization as 'C' is not in line with (i) the environmental and social risks that have been identified and (ii) the fact that, given the incompletely identified sub-projects and activities, adequate risk screening or impacts assessment is not possible. In line with ESP, and as impacts cannot be excluded, this would be a category B project. (Note: It is stated on p. 43 that "*most of the components/activities of the proposed project do not fall within the First Category of projects that require full EIA*". It should be noted that in principle, the 'worst' component or activity determines the need for environmental and social safeguarding for the whole project. In most cases, and certainly for AF ESP compliance, categorization and the need for environmental and social safeguarding is determined for the project as a whole, not differentiated for its components or activities.)
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	Yes.	
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the	Yes.	

	fee?		
	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget?	Yes. A detailed review of the budget is not done at the concept stage. However, for future reference it is noted that costs typically included as execution costs, i.e. project team salaries, office space, and transportation seem not to be included in the budget.	
Eligibility of IE	4. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	Yes. A review of management arrangements is not done at the concept stage. However, it is noted for future reference that there is ambiguity in terminology in the proposal. "Implementation" and "execution" have distinct definitions in the Adaptation Fund, and "implementation" should not be used for other organizations than the Implementing Entity.	
Implementation Arrangements	1. Is there adequate arrangement for project / programme management?	n/a For future reference, As this is an entirely national activity and working at local scale, it is not immediately evident what the role and comparative advantage of the execution with the assistance of an international network is, compared to working directly through the relevant Uganda government entities at national, WMZ, and local levels. It would appear that project design should aim to more fully involve the local governments beyond "facilitating project implementation'. Integrating/aligning and housing project implementation units in the local administration for example could enhance sustainability post project closure.	

	2. Are there measures for financial and project/programme risk management?	n/a. For future reference, it would be highly recommendable to forge good relationships between project partners during the project design period before submission of eventual fully-developed project document, in order to avoid a risk such as “inadequate participation of implementing partners” (p. 36).	
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy of the Fund? Proponents are encouraged to refer to the draft Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy, for details.	n/a. For future reference, among other things, it would be necessary to state how the environmental and social management system of the OSS would be used to oversee the management of environmental and social risk. Also, it would be necessary to describe the grievance mechanism, which is accessible by employees and affected communities. The mechanism should be designed to receive and facilitate grievances in a transparent manner and will be scaled to the severity of the risks.	
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a	
	5. Is an explanation and a breakdown of the execution costs included?	n/a	

	6. Is a detailed budget including budget notes included?	n/a	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators?	n/a	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a	
	10. Is a disbursement schedule with time-bound milestones included?	n/a	

Technical	The overall goal of the project is to strengthen Ugandan communities' resilience to the impact of climate change

Summary	through promoting catchment based integrated, equitable and sustainable management of land and water resources and the establishment of local flood early warning systems, in order to improve resilience to climate change, and increase adaptation capacity while enhancing food security. The project is expected to contribute towards addressing the critical challenges related to natural resources management and sustainable socio-economic development while protecting the environment which is the major source of income for many livelihoods. The holistic approach of the proposed project is designed as a more integrated way to support communities in Awoja, Aswa and Maziba catchments in their efforts to increase their resilience to the impacts changing climate and to increase their adaptation capacity to observe the onset and be better prepared to respond to the impacts of climate change. The initial technical review made two corrective action requests: **CAR1:** Please revise selections on ESP principles 4 and 6. **CAR2:** Please categorize the project in terms of environmental and social as required by the ESP. The review also made a number of clarification requests: **CR1:** Please provide specific references to most up-to-date climate projections for Uganda in terms of drought risk, and quantified information on the reduction of total available water. Please also provide quantified projections for increased floods. **CR2:** Please clarify the criteria for selection of the target areas. Please explain how the measures would be developed for the specific locations and respond to the specific local needs. **CR3:** Please elaborate on the reasons that have prohibited sustainable land/water management in the past, and on the drivers of unsustainable practices. Please explain how the project would specifically address those impediments and drivers. Please include such reasoning for each of the component descriptions and, where possible, activity descriptions. **CR4:** Please explain clearly the baseline / status quo for each of the project components, or outputs where possible. Though exact baseline can be *verified* through studies in the beginning of project implementation, understanding the baseline is imperative for review of the proposal. **CR5:** Please clarify the deliverables of Component 3 and if necessary, reconsider its budget. **CR6:** As with project deliverables, please explain the baseline situation in terms of the economic, social and environmental benefits, rather than just stating the increase. **CR7:** Please explain how the beneficiaries for the project (stated on p. 20 to represent 10% of the population) will be selected. Please explain, whether any other vulnerable groups apart from women and children have been identified. **CR8:** Please elaborate on any gender analysis that has taken place in preparation of the project. **CR9:** Please clarify the scope of stakeholders whose awareness would be raised under component 4: currently it seems that it is limited to “key government officials” which seems rather narrow.

	CR10: Please explain, how the project activities would be aligned with the existing draft catchment management plans and, if applicable, would help to develop them further. **CR11:** Please explain how the project would build on and support on-going decentralization efforts such as catchment management committees strengthening. The link with the 'costed climate change implementation strategy' should be elaborated in more detail in terms of specifics on locations/watershed and measures. **CR12:** Please clarify whether EIAs are expected under national regulations for the activities proposed to be funded by the project. If yes, please elaborate on the plan on developing the assessments before submission of the fully-developed project document (to be included annexed to that document), including the necessary stakeholder consultations. **CR13:** Please explain how the proposed activities would practically improve the catchment management in the context of the catchment management plans by complementing the plans and other investments within those plans. **CR14:** Please explain whether there is or would be a coordination platform that would allow coordination between the proposed project and the other activities under the catchment management plans. **CR15:** Please provide a more comprehensive baseline of ongoing efforts to lay out synergies and avoid overlaps **CR16:** Please clarify the need for study tours abroad and if necessary, reconsider inclusion. **CR17:** Please elaborate on what has been learned through community consultations about community views on and the general acceptance of the project among communities in the three target areas. If necessary, please carry out further community consultations in these areas, taking into account vulnerable groups and gender considerations. **CR18:** Please clarify on which kind of community commitment, analysis or prior local examples the following statement (p. 30) is based on: "Communities are expected to contribute about 10% of component I of the project through free labour and supply of local materials." **CR19:** Please explain, what kind of decision-making process would be used to reconcile meeting the stated targets and following a community-based process. For instance, how much flexibility/freedom can be granted to the communities to select activities based on their priorities? Please explain in developing the community level management structures, what is the current baseline and what additional would be achieved. **CR20:** Please explain whether there exists earlier experience of the use of revolving funds in such settings in these parts of Uganda, and how the success of such funds can be ensured. **CR21:** Please re-assess areas of potential E&S impacts and as necessary revise the checklist. Please include a short justification for each ESP standard, explaining either why it does not apply, or what the steps to be taken to address it are, e.g. assessments to be conducted between the concept stage and the full proposal stage. Note: when addressing requirements of the ESP, please feel free to peruse the draft "Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy" that has been shared with Implementing Entities. The proponent submitted a revised proposal. The final technical review finds that a fully-developed project

	document should particular attention to the following issues: - Provide more specific information on the expected climate changes proposed to be addressed by the project on how the proposed interventions would be targeting the specific vulnerabilities of the individual target areas. - Analyse further the identified factors that have prohibited sustainable land/water management in the past, and the drivers of unsustainable practices, and ensure that the proposed interventions correspond to those impediments and drivers. - Elaborate the relationship between the existing draft catchment management plans and the proposed planning interventions at the community level. - Given the described risks, and as adequate risk screening or impacts assessment is not possible for the incompletely identified sub-projects and activities, the project should be seen as belonging to Category B, and an overall project Environmental and Social Management Plan (ESMP) developed. In developing the ESMP, it should be noted that: a. Involuntary resettlement does not only refer to resettlement of communities. b. The risk of vector-borne diseases like malaria and trypanosomiasis should be considered
Date:	16 March 2015

ADAPTATION FUND

PROJECT PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project Category:	Regular
Country:	Uganda
Title of Project:	ENHANCING RESILIENCE OF COMMUNITIES TO CLIMATE CHANGE THROUGH CATCHMENT BASED INTEGRATED MANAGEMENT OF WATER AND RELATED RESOURCES IN UGANDA
Type of Implementing Entity:	Regional Implementing Entity
Implementing Entity:	SAHARA AND SAHEL OBSERVATORY
Executing Entities:	MINISTRY OF WATER AND ENVIRONMENT, UGANDA IN PARTNERSHIP WITH GLOBAL WATER PARTNERSHIP EASTERN AFRICA
Amount of Financing Requested:	7,494,280 US Dollars

A. Project Background and Context

Uganda occupies a total area of 241,038 square km, most of which is suitable for agriculture. Despite the sustained economic growth in the last 25 years, the Gross National Income (GNI) of Uganda is still low and stands at 1,124 US$ per capita (2011, measured in PPP$). Even though the human development index has seen a steady rise since the early 1990s, in 2012 still an estimated 29% of the population lives on less than 1.25 US$ per day (UNDP 2012) and the poverty rate remains high (31 % in 2006, 24.5 % in 2010). With a contribution of 52 % of growth (2008) compared to 32% in 1992 services are the main driver of growth (Uganda WAS). However, agriculture remains a fundamental part of Ugandan economy, employing about 66% of the working population in 2009/10 and contributing about 22% to total GDP in the year 2012 (UBOS, 2013). Seventy-one percent of Uganda's working population is engaged in subsistence agriculture as their main occupation and 68 percent of households depend on it for their livelihoods.[1]

[1] UNDP/NEMA/UNEP Poverty Environment Initiative, Uganda (2009) Enhancing the Contribution of Weather, Climate and Climate Change to Growth, Employment and Prosperity.

The country's population grew by 3.7 percent between 2009 and 2010 (to a total of 32 million people) and is expected to reach 103.2 million in 2050 (assuming growth declines to 2.9 percent per annum between 2040 and 2050). In spite of rapid urbanization, the population remains predominantly rural (85 percent in 2010). Although Uganda's Vision 2040 is targeting a 60% urban population by 2040 it is more likely that, most of Uganda's population - some 79% - will still live in rural areas by 2030. Major symptoms of climate change in Uganda include an increase in the frequency and intensity of disasters such as droughts, floods and landslides; variability and unpredictability of rainfall patterns; and increase in temperature. This has a severe impact on agriculture and food security of the country.

The combined effect of population increase and climate change will put an unprecedented pressure on land and water resources and if not supported by sustainable management practices will lead to degradation of natural resources. For example the total demand for water is expected to increase from 408 million cubic meters a year (MCM/y) in 2010 to 3963 MCM/y in 2050. Under the different climate change scenarios total unmet demand in 2050 could raise from 3 to 1 MCM/y[2].

Because of the reasons described above, both the natural systems and the people that are relying on the natural systems for living are highly vulnerable to impacts of climate change and variability. Both natural systems and the people do have weak adaptive capacity. In general, livelihoods in most of Uganda and specifically in the project areas are vulnerable to impacts of climate change due to the great exposure to the impacts and the sensitivity and the reduced capacities of these livelihoods. The degraded natural resources are more sensitive to the risks of drought, flood and landslides and the reduced capacity of the population to prevent, prepare and respond to those risks exacerbate this situation.

Establishing integrated water management is an important response to the increased demand for water and the uncertainties of climate change. In its Costed Adaptation Strategy (Ministry of Environment 2012) the government of Uganda has devised a programme on Integrated Water resources management to help reduce the losses from droughts and floods.

Climate change adaptation measures of the integrated management include improving early warning system on flooding, improving agricultural production systems for drought and flood resilience, environmental rehabilitation of degraded catchments for water recharging and improving resilience to flooding, and strengthening adaptive capacity of local communities and their institutions.

A.1 Uganda and its water resources

Nearly one-fifth of the total area of Uganda, or 44,000 square kilometers, is open water or swampland implying that the country is fairly endowed with surface water resources.

[2] According to a study to assess the economic impact of climate change in Uganda undertaken by a consortium including Baastel, Makerere University, Metroeconomica, and the Centre for International Development and Training at the University of Wolverhampton -

Similarly substantial amounts of groundwater are in aquifers found in rocks at different depths below the ground surface. Uganda is therefore a well-watered country. Four of East Africa's Great Lakes--Lake Victoria, Lake Kyoga, Lake Albert, and Lake Edward--lie within Uganda or on its borders. Lake Victoria dominates the southeastern corner of the nation, with almost one-half of its 10,200-square-kilometer area lying inside Ugandan territory. It is the second largest inland freshwater lake in the world, and it feeds the upper waters of the Nile River, which is referred to in this region as the Victoria Nile.

Water resources in Uganda principally originate from rainfall and are stored in both open and underground reservoirs. Occurrence of water resources therefore depends principally on the rainfall pattern, and the topographic and geological conditions among other factors. Thus, surface and groundwater resources of Uganda are non-uniform both in space and time due to changes in the factors that determine their occurrence.

Uganda's water resources have recently been quantified in terms of resources availability and demand (MWE, 2013). The total annual renewable water resources of Uganda have been estimated to be 43 Km^3. Of this 29 Km^3 are externally renewable water resources and 14 Km^3 are internally renewable water resources. Thus, Uganda's dependence ratio on water resources originating from outside its borders is about 69%. The present utilization rate of internally renewable water resources is low, only about 2.8% and this is partly attributed to the limited area under irrigation. By 2030 the utilization rate of internally renewable water resources will be 14.1% if all the irrigation potential of 240,000 ha is utilized. The share of the irrigation as part of the overall water demand will therefore rise to 60%.

Uganda is made up of 8 basins (see Figure 1 below) and within each basin there are a number of catchments. Currently 17 catchments have been demarcated in the whole country and the catchments or sub-catchments will be the level where integrated planning, development and management of water and related resources will be undertaken.

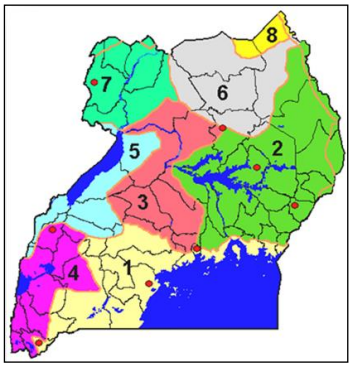


Fig. 1: Uganda eight hydrological basins

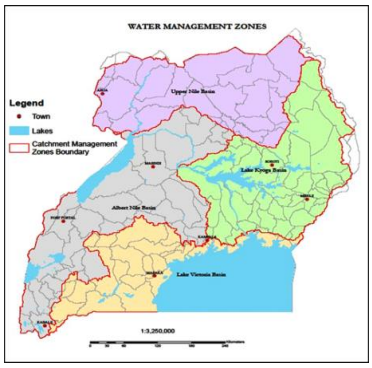


Fig. 2: Uganda four Water Management Zones (WMZs)

Based on the 8 hydrological basins Uganda has been divided into four Water Management Zones (WMZs) namely Victoria, Albert, Kyoga and Upper Nile) (see Figure 2 below) and this is a regional level top down framework through which water resources will be managed and developed. WMZ offices are operational in the 4 WMZs. The main purpose of the WMZs is to de-concentrate WRM closer to where action is needed in order to mobilise local community efforts and other stakeholders to achieve catchment based IWRM and to ensure effective coordination with other water resources related activities being implemented at district level such as environment, forestry and water supply. WMZs are expected to be permanent operational arrangements for effective water resources management and development in Uganda.

A.3 Drivers and impediments of unsustainable practices and proposed solutions

The current catchment plans do not sufficiently elaborate on the interlinkages between water and land management and do not take climate change and ground water resources into consideration. In addition the capacity of sub-regional and local management as well as of extension services is weak.

Farmers in the catchment areas are often not aware of the need to consider more water efficient methods and lack the knowledge and understanding of those methods. A general misconception pertains, that conservation practices are not economic. This can surely be explained by their reduced access to extension services, credits and inputs required.

There is need to take a number of actions to improve water management and ensure sustainable management of water that include:

i. increasing understanding of the intrinsic relationship between water and land management, and the inter-linkages of the agriculture and water sector;
ii. integrating land management into catchment management plans;
iii. promoting sustainable agricultural and land management practices
iv. raising awareness about the importance of water conservation;
v. demonstrate that water efficient practices can be at the same time economic
vi. ensuring compliance with abstraction permits through monitoring;
vii. encouraging adoption of water efficient technologies;
viii. constructing surface water storage reservoirs for multipurpose uses so as to secure water for, among others, domestic supply, irrigation, livestock, aquaculture, industry and the environment.

Wetlands play a crucial role throughout the country in capturing sediment and maintaining water quality, and the maintenance of environmental flows to meet the minimum requirements of ecosystems and conservation plicies and laws are at place. However, multiple issues have emerged including forest and watershed degradation, increasing incidence of landsides and growing wetlands encroachment, since mandated institutions have not effectively enforced compliance with rules and there not sufficient incentives at place for conservation agriculture.

There is therefore a need to:

i. promote sustainable ecosystem management, including forest management, and conservation and sustainable use of wetland resources, and protection of riverbanks and lakeshores;
ii. devise and apply an incentive framework for sustaining ecosystem goods and services; and
iii. (strengthen enforcement and compliance functions in relation to water resources protection.

In general, knowledge about water resources, particularly at the local level, is presently inadequate to support water resources planning and management, and analytic tools and models are weakly developed. Water monitoring is weak, and overall the water sector has limited skills and capacity. A particular need is a dedicated planning and decision support system to underpin development and management of water resources. A number of actions are therefore needed to improve water information, planning and capacity that include:
(i) rationalizing and modernizing the hydrometric monitoring network for surface and groundwater, and water quality;
(ii) preparing a harmonized and integrated water resources data and information management system;
(iii) developing modeling and analysis tools, integrated into the Water Information System;
(iv) establishing cooperation with partners and stakeholders in planning, development and management of water and related resources, and
(v) promoting stakeholders driven catchment based planning, development and management of water and related resources.

A.2 Impact of climate change

Different studies and climate models generally give variable results for future rainfall trends but there is certainty with regards to the trend of increasing future temperatures and the increased variability of rainfall patterns.

Climate studies of Uganda are mostly deducted from regional projections of East Africa. A review by Goulden (2006) of modelling outputs for East Africa under a range of plausible CO2 emission scenarios created by the IPCC4 reveals that there is consensus around:

- an increase in mean annual temperature of between 0.7 ºC and 1.5 ºC by the 2020's and of between 1.3 ºC and 4.3 ºC by the 2080's.
- a significant increase in mean annual rainfall beyond 2060 with the highest percentage increase in December, January and February. For a medium high emissions scenario and taking the average (median) of different model results, annual rainfall increases have been estimated as up to 7% by 2080 with December to February rainfall increases of 13% by 2080.
- changes in the severity and frequency of extreme events (floods, droughts, heatwaves, storms), although little is known about the nature of these changes (some models suggested that we would see a 20-30% increase in extreme wet seasons at a medium CO2 emission scenario).

Like many countries in East Africa region, Uganda experiences equatorial climate with moderate temperatures and humid conditions throughout the year. Its location across the Equator gives it two rain seasons in a year, which merge into one long rainy season northwards from the Equator. The first rainy season ranges from March to June, while the second one ranges from August to November. The rainfall level ranges from 400 to 2200 mm per year.

Uganda's climate can be broadly subdivided into:

i. Highland climate;

ii. Savannah tropical climate, including the lake basin climate; and

iii. Semi-arid climate

Major symptoms of climate change in Uganda include increase in temperatures and increased variability and unpredictability of rainfall patterns. This leads to an increase in the frequency and intensity of disasters such as droughts, floods and landslides.

Projections of Global Circulation Models (GCMs) are that temperatures will continue to rise, particularly in the semi-arid areas because atmospheric moisture vapour pressure deficits at the planetary boundary layer cannot be met by the soil water storage. GCMs broadly predict an increase in rainfall, with the largest increased in the October-November-December (OND) "short" season. However, the biggest impact should be expected from an increase in the frequency of intense rainfall events and a decrease in the frequency of low intensity events. Rainfall quantities are affected by the amount of atmospheric moisture transported into the region. Both El Niño / Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) play a role in Ugandan rainfall and determine whether moist air or drier air from the sub-Saharan region is preferentially advected into the Ugandan region. Very moist air usually results in wet or very wet seasons (bringing with it flooding), whilst very dry air results in drought. A rise in air temperature allows the air to hold a lot more moisture. For every 1°C air temperature increases, the air can hold ~7% more moisture and this is a significant increase in the potential energy of the atmosphere which manifests itself in the intensity of storms as latent heat is released. A warming atmosphere will result in the change in frequency and intensity of droughts and studies in Uganda indicate that storms will become greater in intensity and droughts of longer duration. These effects are already manifest in Uganda, with apparent changes in flood and drought frequency and intensity. Rainfall-runoff ratios (a measure of the water production) of the region vary widely. North eastern region and the south-western region have ratios of less than 5% (rainfall converted to runoff). In the west, around the Ruwenzori Mountains, significant river runoff occurs down the Semliki River to the Albertine Rift and Albertine Nile. The per capita water availability is expected to continue decreasing as demand increases. This trend is already especially evident in the North eastern region but will spread into the other catchment areas in Uganda.

A recent vulnerability analysis[3] comes to the conclusion that the seasonality of rainfall is likely to change in the future. The onset of rainy seasons can shift by 15 to 30 days

[3] USAID (2013) Uganda climate change vulnerability assessment report.

(earlier or later), while the length of the rainy season can change by 20 to 40 days from year to year. The highest percentage increase in rainfall is projected for December, January and February, which is historically the driest season for many parts of Uganda. This increase could have strong impacts on agriculture, especially with respect to tree crops (e.g., coffee) and post-harvest activities such as drying and storage. This indicates that the current wet season from March to May (known as the "long rains" in Southern and Central Uganda) may shift forwards in time or the September to November rains, known as the "short rains" may extend longer.

Global warming is further causing retreating of glaciers, particularly in the tropics. In East Africa the ice caps on Mt. Kilimanjaro and Rwenzori Mountains are retreating. About 82% of the 1912 ice cap on Mt Kilimanjaro has already melted. By 1990, glaciers on the Rwenzori Mountains had receded to about 40% of their 1955 recorded cover. A recent study carried out by researchers from University College London and their Ugandan partners suggests that all the glaciers in the Rwenzori Mountains could disappear within the next two decades. The melting of the ice cap on tropical mountains has a negative effect on both the water catchments and eco-tourism, as well as on the overall economy. For example the melting of ice caps on Rwenzori Mountains has increased the erosive power of **river** Semliki. This erosive power and associated siltation downstream, compounded by the intensive cultivation along the river course, has enabled Semliki to disproportionately erode the Ugandan side and literally block its original course.

In addition extreme floods associated with El Nino rains like those which occurred in 1961/63 and 1997/98 cause rise in water table further inland and can submerge agricultural land, crops and livestock, resulting into enormous losses. This is frequent in areas around Lake Kyoga. In the last decades, there were at least 14 major flood events, affecting an average of about 68000 people (WB 2011).

Although Uganda has abundant water resources, its distribution is uneven. An analysis[4] of average annual temperatures between 1951-1980 and 1981-2010, shows a notable increase of approximately 0.5-1.2 C for minimum temperatures and 0.6-0.9 C for maximum temperatures. This warming trend is projected to continue, with some models projecting an increase of more than 2 C by 2030. Increased temperatures and variability of rainfall will exacerbate water scarcity problems, particularly in the semi-arid areas. The semi-arid areas of the country experience water stress. Prolonged and severe droughts lead to low water levels in rivers, underground aquifers and reservoirs, affecting the hydrology, biodiversity and water supply.

Uganda's NAPA suggests a steep increase in droughts in the recent years and argues that Uganda is already suffering from the impacts of a changing climate. In the recent past, droughts have led to chronic food shortages and widespread livestock deaths in certain areas of the country. Severe droughts were recorded in 1993 - 1994, 1998, 1999, 2002 and 2005, each affecting approximately 655,000 people on average (World Bank, 2011). The cattle corridor, a fragile ecosystem, is dependent on rainwater for human consumption and production. The rural poor depend on streams and swamps.

[4] USAID (2013) Uganda climate change vulnerability assessment report.

These sources will dry up during severe droughts resulting in the diversion of resources to emergency operations.

A decrease in water levels seems to be the most long-term effect in Uganda's water bodies. The Participatory Rural Appraisal of Uganda's NAP revealed a decrease in water levels in most lakes, complete drying of fish ponds, complete disappearance of wetlands, drying up of valley dams and lowering of water tables resulting in drying and closure of boreholes. The lack of water for livestock, humans and backyard crop irrigation impacts negatively on productivity and livelihoods. The decrease in the water level can also have an impact on power generation, for example the severe drought of 2004/05 contributed to the reduction of the Lake and Nile River level with serious impacts on power generation leading to power rationing in the domestic and commercial sectors, and thus resulting in the interruption of economic activities and a decline in manufacturing outputs.

On the basis of macro level indicators, Uganda can be considered to be highly vulnerable given its dependence on primary production and natural resource use, weak institutional capacity, limited infrastructure, limited capacity and equipment for disaster management, limited financial resources and low income per capita and heavy reliance on rain fed agriculture (MWE 2002). An exercise mapping vulnerability to climate across Africa by International Livestock Research Institute for DFID also finds Uganda to be highly vulnerable with only Rwanda, Burundi and parts of Sudan, Chad and Niger more so (see Thornton et al 2006).

A.3 Overview of the project areas/catchments

The **various catchment areas in Uganda** are therefore affected by the impacts of climate variability and change to varying degrees.

This project is planned to be implemented in 3 catchments namely

- Awoja found in Kyoga Basin (Basin no.2) in Kyoga WMZ,
- Aswa found in Aswa Basin (Basin no.6) in Upper Nile WMZ and
- Maziba found in Kagera Basin (Basin no. 1) in Victoria WMZ.

These catchment areas have been selected based on the following criteria:

- ***Relative degree of vulnerability to climate change,*** in terms of expositions to the risk related of certain impacts (landslide, floods, droughts) and vulnerability due to challenges such as land degradation, water scarcity and population pressure
- ***Broader representation of climatic zones of Uganda.*** This criterion is very useful to learn from different approaches of managing water resources and adapting to changing climate in different climatic zones and local contexts. This will help in designing future scaling-up based on the experiences to be gained from this project and to contribute to the overall implementation of managing water resources of Uganda based on catchment management zones.

- ***Representation of diverse livelihood and social systems*** that may require different approaches of responding to climate change impacts. The three catchment areas do also represent different livelihood and social systems ranging from high population density around high slope and degraded areas dominated by crop farming to semi-arid mixed agriculture and to the lowland cattle-dominating agro-pastoral systems.
- ***Opportunity for building synergies with on-going programs/interventions*** The three catchment areas will provide opportunities to demonstrate management of water resources and climate change adaptation measures that are responding to the local specific context and situations. The three areas are the ones that have been chosen by the Government when it started implementing catchment management approach.
- ***Sensitivity of ecological systems*** such as degraded highlands, wetlands, grazing lands/savannah.

The key characteristics of each catchment are summarized below.

A.3.1 Awoja Catchment

The Awoja catchment is located in Kyoga basin in the eastern part of Uganda. It extends over close to 11,000 km^2 and is mountainous to the east and drains into a lake region in the west. Awoja catchment consists of 14 districts (which are wholly or partly located within the catchment).

The Awoja catchment has a fast growing population, currently estimated at 1.4 million people with growth rate of 4-6% will increase to 4.8 million people by 2040. In the Awoja Catchment poverty and food insecurity are worse than the national average. (North-eastern Uganda, which includes part of the Kyoga Basin, is the poorest region in the country, with a poverty level at 75.8% of the population.) The cattle corridor is also significantly poorer than the wetter parts of the basin.

The key physical features of the Awoja catchment are characterized by:

(a) the high-rainfall mountain areas,

(b) lowland plains with sufficient rainfall to support rain-fed agriculture,

(c) extensive wetlands and lakes, and

(d) the dry northern cattle corridor occupied by pastoralists.

Most of the catchment is covered by open shrubs with grassland, especially in the central, northern and eastern part of the catchment. In the western part of the catchment the land cover is dominated by small herbaceous fields with crops and sparse trees.

Rivers are used for domestic water, livestock watering, clothes washing, bathing, fishing, brick making and small scale irrigation along river banks. The rivers are often characterised by heavily degraded, eroded and often collapsing river banks. There are also high levels of sediment deposition. The state of the river banks and the river

siltation increase flood risk. Awoja catchment has wetlands that absorb large volumes of surface water thus function as fresh water reservoirs that slowly release water, either underground to replenish aquifers, or laterally towards the streams and rivers. The slow release of water increases water availability during the dry season for domestic use, edge cultivation, and livestock watering; keeps boreholes, shallow wells and springs functional. Wetlands also play a key role in filtering pollution.

Significant parts of the catchment are covered by formal protected areas such as game reserves, central forest reserves, national parks, local forest reserves, and hunting areas. Smaller community wildlife management areas and some forest reserves have also been set aside. However, due to the increasing population pressure protected areas are being encroached upon for cropping, grazing and the harvesting of natural resources, especially in the northern part of the catchment. Harvesting of forest products is forbidden, but local people continue to harvest firewood and other forest products resulting in conflict with Park authorities.

The Awoja Catchment is one of the areas in Uganda that has been affected by the impacts of climate variability and change. Droughts, floods, and landslides are a consequence of natural climatic variations in the Awoja Catchment, which are now being exacerbated by climate change. Land degradation and deforestation make the area particularly vulnerable to these changes since they play a large role in the onset of flood events and may also contribute to droughts as soils lose their capacity to store water for later release, either to streams or as evapotranspiration.

The most drought-prone areas in the Awoja catchment are within the cattle corridor, particularly in the Karamoja region in the north of the Awoja catchment (NELSAP, 2012). Food security issues continue to affect the north and northeast parts of the Awoja catchment because these areas have low average annual rainfall that is highly variable from year to year.

Floods are a particular concern to the people residing in the Awoja catchment. The areas within Awoja that were the most affected by the floods and were recorded include: Sironko, Bulambuli, Kapchorwa, Kween, Kumi, Bukedea, Serere and Soroti. These events lead to loss of human life, animals and crops.

A.3.2 Aswa catchment

Aswa catchment is located in Aswa basin in Northern Uganda. It is a transboundary catchment between South Sudan and Uganda and covers just over 31 thousand square kilometers. Over the last 20 years, the Aswa basin, both in Uganda and South Sudan, was theatre of armed conflict, acute social insecurity and mass displacement of populations from rural areas towards more secure congregated settlements. This in turn led to mass abandonment of agricultural land, poverty and famine and high reliance on food aid.

The Aswa catchment is host to a variety of livelihood systems including pastoral, agro-pastoral and pure farming societies. Cropping is invariably done as rain-fed agriculture at a rather high risk of flooding- and drought-related reductions of yields. Even under normal or better conditions of rainfalls with regard to quantities received and distribution

patterns yields per area and per labour unit are grossly sub-optimal. Livestock-keeping has the same characteristics as cropping. It is largely depending on the seasonal availability of water and grazing areas.

Competition for limited resources in the already insecure environment coupled with the widespread availability of guns lead to further opportunities for armed conflict. In terms of pressures on the environment, the social upheaval led to the degradation of abandoned agricultural land and intensive collection of firewood and unsustainable use of other natural resources near population centres. This resulted in deforestation, encroachment on and degradation of wetlands and overexploitation of other areas with natural vegetation and generally made the area less resilient to risks related to climate change such as droughts.

With the return of peace and security investment, action and management plans have been put in place in Uganda to assist the social and economic recovery process. A lot of the social organization structures have been eroded or no longer hold the respect that they once had. Data availability and reliability is an issue across the whole catchment, particularly data that analyses the effects of different actions and the impact of different projects, as well as the social indicators. Land and water management in the Aswa catchment is still at a rather rudimentary level. This naturally limits the intensity, diversity and profitability of the use of natural resources in a society overwhelmingly dependent on cropping and keeping of livestock.

There is considerable potential for intensification and diversification of agricultural production, which can be tapped on the condition that water flows in the system of the basin and its sub-basins can be controlled. Wetlands are an important resource under pressure for conversion to other land uses such as cultivation. Natural soil erosion hazard is high only in isolated pockets of the catchment. However, soil loss does occur due to poor land management practices.

Climate change affects Aswa catchment in terms of erratic rainfall and more frequent droughts. Impacts of climate change in this region include reduced rainfall with shift in rainfall seasonality (later start, shorter rainy season and longer dry season), increased rainfall variability and increase in temperature, increased evapotranspiration, reduced soil moisture, increase in drought, reduced ephemeral river flows, reduction in groundwater levels and reduction in available water for domestic use, crop production and livestock production This leads to an increase in land degradation, reduction on water quantity, reduction in rangelands and livestock productivity, reduction in crop yields.

Climate change also affects Aswa catchment in terms of flooding and contamination of water resources. Impacts include increased rainfall and temperature, increased soil erosion, increased landslides, increase in severity of land degradation, increase in siltation and pollution of water bodies (rivers, lakes, dams and valley tanks). Other impacts include increase in loss of annual and permanent crops, reduction in food productivity, reduction in crop yields, reduction in forest productivity, degradation of water quality, reduction in water supply due to siltation, increase in destruction and damage of transport network. This can lead to reduction of access to fields and markets, reduction in incomes from cash crops, increase in poverty, increase in failure

of large capital investments, reduction on macro-economic success, increase on loss of life and increase in migration of rural populations to towns to look for employment.

A.3.3 Maziba Catchment

The Maziba catchment is located in Kagera Basin in the South Western part of Uganda. It is a trans-boundary catchment cutting across two countries of Uganda and Rwanda. In Uganda, Maziba catchment covers the three districts of Kisoro, Kabale and Ntungamo. The landscape of Maziba catchment contains small, fragmented landholdings on a mountainous terrain. The area has numerous streams and wetlands. The 2013 total population of Maziba catchment is 406,655 people and grows at a rate of 3%. 9% of the population is urban while 91% is rural. Maziba catchment is densely populated, with about 296.8 inhabitants /km2 and the land holding is therefore small per household. The pressure induced by the people on the catchment resources is very high and will continue to grow as population grows over time. Particularly, there has been an increase in number of settlements in the hilly and fragile marginal lands due to increased population. The communities attributed this population increase to preference of boys to girls, poor attitudes to family planning, cultural and religious beliefs that promote big families, poverty, drunkenness and limited education especially among women.

Population pressure has contributed to land fragmentation, agricultural intensification, and encroachment into water catchment areas, with the shift from intensive cultivation of the hillside fields to conversion of wetlands to agricultural fields. As population continues to increase and the upland per capita farmlands decrease in size, people take on the arduous task of converting wetlands to crop fields and cattle farms. Land shortage is often believed to be a major factor forcing families and individuals to encroach on marginal lands. Thus the terraces and wetlands became the new agricultural frontiers.

Thus, Maziba catchment faces a number of challenges that include rapid loss of vegetation cover, high to extremely high rates of soil loss in some areas, poor water quality, reducing stream flow, changing rainfall patterns and associated droughts and floods, population land pressure, limited adoption of improved farming technologies and wetland degradation.

Based on Landsat images of 2013, subsistence farmlands cover 49.1% followed by bush land and thickets at 35.5% and tropical forest only at 18.7 %. Although most of the catchment is dominated by very low to low soil loss rates, there are particular areas that experience soil loss ranging from high to extremely high. Particularly, Hamurwa, Kaharo, Kyanamira-Buhara and parts of Bubaare micro-catchments experience high (50-90 t/ha/yr) to extremely high (>90 t/ha/yr) rates of soil loss. Land degradation involves both loss of topsoil and nutrient mining. Generally Maziba catchment is very highly degraded.

The major cause of degradation is related to poor agricultural practices such as insufficient or excessive use of fertilizers, shortening of the fallow period, and absence of anti-erosion measures. The landscape is dominantly bare or with limited vegetation. Medium to high vegetation coverage does not exceed 10% of the catchment. With such

a dominantly bare catchment, soil erosion has become one of the most serious environmental problems characterized by huge gulleys that run downwards along the steep hill sides. Extreme cases are characterized by landslides. Rivers and streams in Maziba catchment are heavily silted due to poor land practices upstream such as cultivation on river banks and encroachment on wetlands. Silt load increases after a rain downpour in many parts of the catchment. Reduced stream flow and drought are also common challenges in the catchment.

Climate change thus greatly impacts highland areas of Uganda in terms of heavy rain and soil erosion**. I**mpacts of climate change in Maziba catchment include increase in rainfall intensity and frequency of heavy rainfall, soil erosion, landslides, severe land degradation and siltation. This leads to pollution of water bodies (rivers, lakes, dams and valley tanks), the loss of annual and permanent crops, reduction in food production and crop yields, reduction in forest productivity, deterioration in water quality and reduction in water supply due to siltation of water bodies.

In summary, the three Catchments are highly vulnerable to the impacts of climate change due to the following factors:

1. Degradation of agricultural production due unsustainable management

The people of the catchments are heavily dependent upon natural resources for their livelihood with subsistence agriculture being the primary source of food and income. Almost all socio-economic activities are relied upon the natural resources. The local communities are largely subsistence farmers. Their livelihoods depend on agriculture and do not have alternative livelihood strategies to generate income from other sources and minimize their vulnerability. Due to a growing human population, poor farming practices, such as uncontrolled use for farming, fishing, grazing and deforestation the natural resources are increasingly degraded. The degradation of the natural resources reduced the agricultural yield and renders the catchment more vulnerable to risks of climate change such as floods, droughts and landslides.

2. Degradation of ecosystems

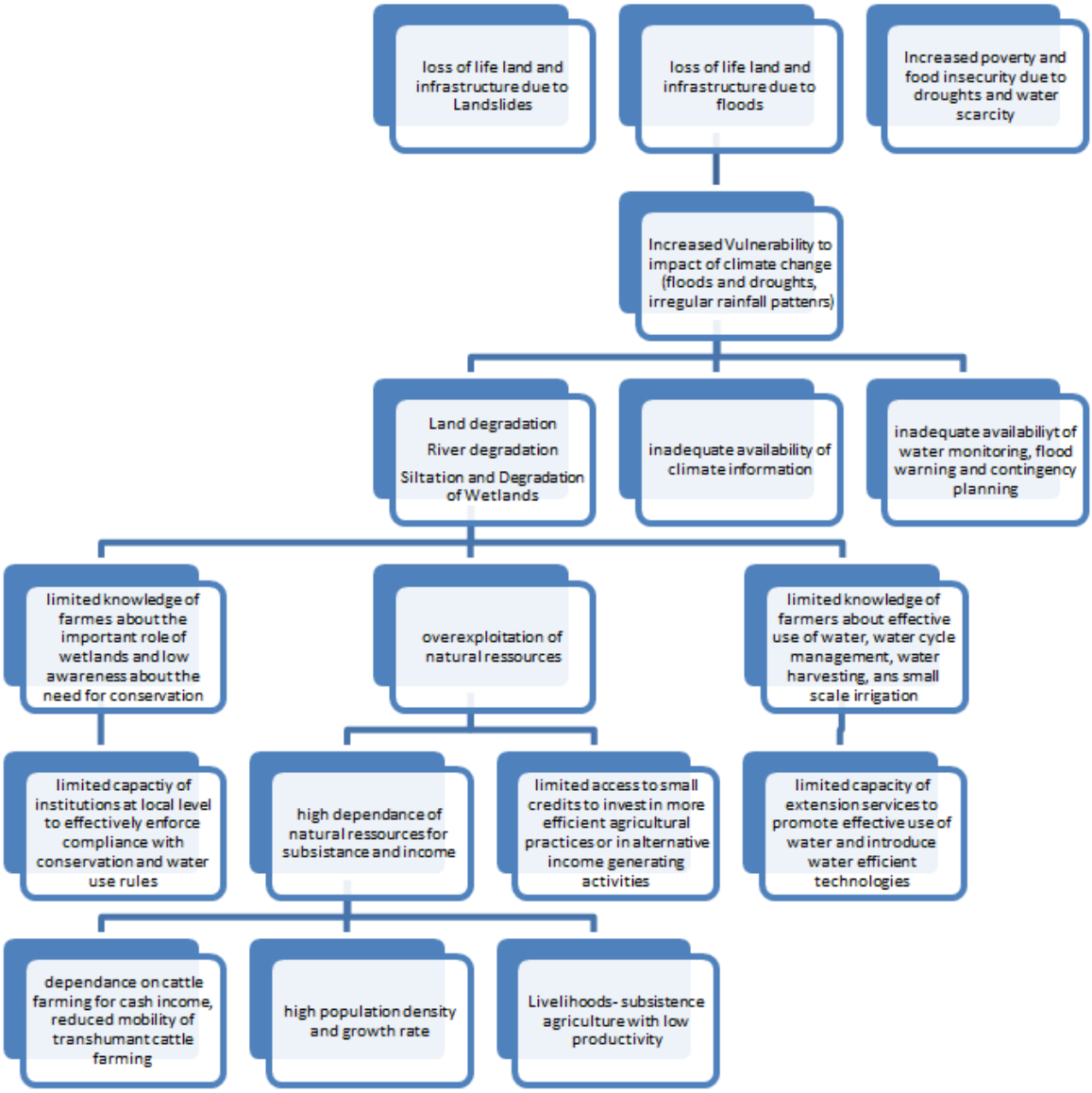
The wetlands and other ecosystems in the catchments are suffering from degradation due to increasing human pressures. Wetlands play a crucial role throughout the country in capturing sediment and maintaining water quality, and the maintenance of environmental flows to meet the minimum requirements of ecosystems. The wetlands and lakes systems are also degraded due to encroachment and uncontrolled fishing, grazing and other uses. This pressure on wetlands reduces their function to provide flood attenuation and sediment capture and renders the entire catchment more vulnerable to the impacts of climate change.

3. Weak capacity of the people and institutions

In general, knowledge about water resources, particularly at the local level is inadequate to support water resources planning and management and mandated institutions cannot effectively enforce compliance with rules. Analytic tools and models are weakly developed. Infrastructure for water monitoring to observe risks related to

climate change are weak, and overall the water sector has limited skills and capacity to respond to the challenges of climate change.

The drivers, impediments and causes of the increased vulnerability are presented in the flow chart and summarized table.



Causes of Increased Vulnerability to climate change	
Livelihoods- subsistence agriculture with low productivity	The population in the 3 catchments is almost entirely rural and more than 85% of livelihoods are based on agriculture. Most of the agriculture is subsistence, with low productivity levels relying on rain-fed agriculture. This leads to food insecurity and poverty. Major staple food crops include bananas, sweet potatoes, cassava, rice, Irish potatoes, millet, maize and sorghum. There are no significant formalized irrigation schemes.

High population density and growth rate	Each of the three catchments has a fast growing population, currently estimated at between 0.7million to 1.4 million people, but, if the growth rate, which varies between 4% and 6% in the catchments, is not contained, this will increase to between 2.4 and 4.8 million people by 2040.
Dependence on Livelihoods – cattle farming for cash	Livestock including cattle, sheep, goats and pigs are important cash earning resources of the farm households within the three Catchments. Overgrazing in some parts of the catchments leads to the destruction of the vegetation cover exposing rangeland to degradation
Land degradation	Landslides and mudslides caused by cultivation of steep slopes leads to loss of life, land and infrastructure. Overgrazing lead to erosion and soil loss. Damage to wetlands due to encroachment activities. Deforestation caused by uncontrolled harvesting of timber and biomass.
River degradation	Land use (cultivation and livestock) up to river edges causes loss of riparian vegetation and destabilising of river banks, adding to soil erosion and sediment loads downstream.
Siltation and Degradation of Wetlands	Encroachment and exploitation of wetlands cause siltation and degradation. Wetlands lose their ecological functionality and capacity to provide ecosystem services, including ability to filter water to lakes. Floods result in the displacement of people and loss of crops.
Limited access to climate information including flood early warning	Farmers have limited access to climate information and thus cannot prepare themselves and react timely
High poverty levels	In the three catchments poverty and food insecurity are worse than the national average. For example northern and North-eastern Uganda where Aswa and Awoja are found are the poorest regions in the country, with a poverty level at 75.8% of the population.) The cattle corridor is also significantly poorer than the wetter parts of the basin. Furthermore, the people in southwestern Uganda where Maziba catchment are found to have degraded their wetlands and have overexploited their lands due to very high population density resulting in great reduction in food production and hence increase in poverty levels.

B. Project Objectives

The overall goal of the project is to strengthen communities' resilience to the impact of climate change through promoting catchment based integrated, equitable and sustainable management of land and water resources and the establishment of local flood early warning systems, in order to improve resilience to climate change, and increase adaptation capacity while enhancing food security.

The project is expected to contribute towards addressing the critical challenges related to natural resources management and sustainable socio-economic development without destroying the environment which is the major source of income for many livelihoods. The holistic approach of the proposed project is designed as a more integrated way to support communities in Awoja, Aswa and Maziba catchments in their efforts to increase their resilience to the impacts changing climate and to increase their adaptation capacity to observe the onset and be better prepared to respond to the impacts of climate change.

Specific objectives of the project are to:

- Increase the resilience of ecosystems by supporting the development and implementation of catchment based and community driven actions for sustainable management of natural resources, including forest management,

and conservation and sustainable use of wetland resources, and protection of riverbanks and lakeshores in Awoja, Aswa and Maziba catchments

- Increase the resilience of agricultural production systems by supporting stakeholders and communities in the catchments in the development and implementation of sustainable, climate proof agricultural practices (including the promotion of drought-prone and flood prone farming systems and highly adaptive livestock breeds)
- Increase adaptation capacity through the establishment of local flood early warning systems in in Awoja, Aswa and Maziba catchments
- Increase adaptation capacity at local by strengthening capacities of key actors of extension services to support the implementation of integrated climate change adaptation in sustainable water resources management at local level

Increase adaptation capacity at national level by strengthening capacities of key actors and stakeholders to integrate climate change adaptation into national and sectoral development plans and strategies.

C. Project Components and Financing

The project will combine both policy and practice for resilience to climate change at national and local community levels. The project will work closely with the communities of the three catchment areas and implement adaptation activities in the catchments. The project will also support the capacity of key stakeholders at the catchment level (extension services, local governance) and promote the integration of climate change adaptation into integrated catchment management plans. The project will also support Uganda to upscale implementation of its catchment based integrated water resources management framework and the recently approved climate change policy.

Table showing Reasons/Causes and Drivers of unsustainable systems, Baseline situations and proposed project components and activities in the three catchment areas

Reasons/Causes of unsustainable management of natural resources	**Drivers** for unsustainable management of natural resources and of climate vulnerability	**Baseline situation**	**Proposed Components and Activities**
1. Degradation of the natural resource base for sustaining agricultural systems	• Poor agricultural practices • High dependence on rainfall which is unreliable in most cases • Low household income • Livelihoods dependent upon subsistence agriculture with low productivity • High poverty levels	• more than 85% of livelihoods are based on agriculture. Most of the agriculture is subsistence, with low productivity levels relying on rain-fed agriculture. This leads to food insecurity and poverty.Major staple food crops include bananas, sweet potatoes, cassava, rice, Irish potatoes, millet, maize and sorghum. • There are no significant formalized irrigation schemes.	***Supporting communities to identify and implement water security and climate adaptation actions*** • Introduce small-scale irrigated agriculture systems • Diversify livelihoods by introducing off-farm activities • Introduce revolving fund schemes to promote improved farming practices, off-farm activities and build household assets

	• Overgrazing in some parts of the catchments leads to the destruction of the vegetation cover exposing rangeland to degradation • Livelihoods dependent upon on cattle farming for cash • High poverty levels	• Livestock including cattle, sheep, goats and pigs are important cash earning resources of the farm households within the three Catchments. • Open grazing widely practiced • Poor management of rangelands • High livestock population beyond the carrying capacity of rangelands	***Supporting communities to identify and implement water security and climate adaptation actions*** • Promote zero grazing, cut and carry or stock feeding of animals • Introduce improved breeds and improve their husbandry • Promote communities to keep reduced number of livestock • Develop rangeland management plan for use by communities
2. Increased pressure on natural resources due to human activity- degradation of natural ecological systems	• Encroachment and over exploitation of ecological systems (wetlands,forstes, highlands, riverbanks, grazing lands etc) • High population density and growth rate. Each of the three catchments has a fast growing population, currently estimated at between 0.7million to 1.4 million people, but, if the growth rate, which varies between 4% and 6% in the catchments, is not contained, this will increase to between 2.4 and 4.8 million people by 2040.	• High level of environmental degradation due to increased hill side farming, wetlands encroachment, overgrazing , deforestation • High soil erosion, siltation, landslides and mudslides caused by cultivation of steep slopes, overgrazing, deforestation • Increased deforestation caused by uncontrolled harvesting of timber and biomass. • Increased floods resulting in the displacement of people and loss of crops.	***Supporting communities to identify and implement water security and climate adaptation actions*** • Introduce good practices of managing environmental resources such as agroforestry, hill side terracing, contour bunds, reforestation, • Promote catchment protection and buffer zone management around key ecological systems • Promote zero grazing, cut and carry or stock feeding of animals • Introduce improved cooking stoves or other alternative energy sources
3. Poor adaptive capacity of communities and ecosystems	• Limited access to climate information including flood early warning	• Farmers have limited access to climate information and thus cannot prepare themselves and react timely • No early warning systems, such as flood warning	***Establishment of water resources monitoring networks for use in flood early warning systems and for testing the quality of water*** • Establish early warning, flood management, and environmental quality monitoring systems • sensitize & engaged communities in identifying threats, response measures, and taking local actions
	• Poor institutional capacity and awareness	• No or weak community structures to manage water and other natural resources • Absence of stakeholder participatory and coordination platforms	***Establishing functioning management structures for Awoja, Aswa and Maziba catchments*** • Conduct water and other natural resources assessment • Develop comprehensive catchment management and climate adaptation plans based on the assessment • Establish functioning catchment management institutional structures • Establish multi-stakeholders' platforms to facilitate collaboration
	• Limited capacity and awareness to take local adaptation actions	• Limited capacity to take local adaptation action and manage water resources • Limited awareness on the importance of taking local actions to build resilience and water security	***Strengthening capacities of stakeholders:*** • Build capacities of stakeholders, especially of communities • Organize trainings on IWRM as a tool for climate change adaptation • Raise awareness of stakeholders, including communities, local authorities and other stakeholders

	• Unavailability of good practices/approaches of climate change adaptation and catchment management	• No documentation of good practices in Uganda • No or limited experience of demonstrating good practices/ innovative approaches of managing water resources and climate change adaptation • No/limited experience of learning (community-to-community)	***Knowledge management:*** ▪ Document processes and develop case studies on good practices and innovative approaches for learning ▪ Facilitate community-to-community learning, including visits both within and outside of Uganda ▪ Facilitate policy/practice influencing

The table below summarizes project components and expected outputs:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Supporting communities to identify and implement water security and climate adaptation actions	▪ Communities supported with training and implementation of adaptation actions in agricultural production including livestock, fisheries and agroforestry such as terracing, contour bunds, reforestation, conservation agriculture, introduction of drought-tolerant crops, introduction of water security schemes such as small scale irrigation, water harvesting schemes, valley tanks and dams ▪ Communities supported with training and implementation of actions to increase the resilience of ecosystems of Awoja, Aswa and Maziba catchments through catchment protection, buffer zone management etc.	▪ Enhanced Adaptation Capacity of communities in Awoja, Aswa and Maziba catchments to climate change impacts ▪ Increased Resilience of Ecosystems in Awoja, Aswa and Maziba catchment areas	3,855,000
2. Establishment of water resources monitoring networks for use in flood early warning systems and for testing the quality of water	▪ Communities' local early warning, flood management, and environmental quality systems strengthened. This includes establishing water resources monitoring networks (surface water, groundwater and water quality) which will be the basis for the flood early warning systems, and setting up water quality testing equipment for use during flood periods ▪ Stakeholders in the catchments sensitized & engaged in identifying threats, response measures, and taking local actions	▪ Communities are better prepared to the risk of flood and upon timely information can take envisaged response measures	1,080,000

3. Establishing functioning management structures for Awoja, Aswa and Maziba catchments	▪ water and other natural resources potential of the three catchment areas (including groundwater) are assessed to provide basis for developing integrated plans ▪ Catchment based IWRM and climate adaptation plan prepared for Awoja, Aswa and Maziba catchments including groundwater resources aspects ▪ Awoja, Aswa and Maziba catchment management institutional structures strengthened/established and functioning ▪ Multi-stakeholders' platforms established and operationalized as part of catchment management structures	▪ Improved Water and climate governance through stakeholder empowerment & participation, including women & youth reduce conflicts over resource use, restore degraded land and improve food security & household incomes	940,000
4. Strengthening capacities of stakeholders	▪ Capacity building initiative for key stakeholders (extensions services, local governance) at catchment level to facilitate implementation of adaptation action ▪ Awareness raising workshops and other events on climate change, its impacts and adaptation strategies related to water organized for Awoja, Aswa and Maziba communities, local authorities and local stakeholders ▪ Trainings on IWRM as a tool for climate change adaptation organized for key institutions at national and District levels. ▪ Awareness raising workshops at national level to sensitize key Government sectors on importance of integrating issues of water security and climate resilience into national and sectoral development plans	▪ Key stakeholders capacitated to facilitate implementation of IWRM and climate adaptation actions on the ground ▪ Uganda reviewed its national and sector development plans and strategies to integrate water security and climate resilience issues	344,000
5. Knowledge management	▪ Processes and lessons from implementing the project documented, case studies developed, and learning materials prepared and disseminated ▪ Learning trips to successful projects in Africa organized	Increased knowledge in the region	305,000
6. Project Execution cost			480,000
7. Total Project Cost			**7,004,000**
8. Project Cycle Management Fee charged by the Implementing Entity			490,280
Amount of Financing Requested			**7,494,280**

D. Projected Calendar

Milestones	Expected Dates
Start of Project Implementation	October 2015
Mid-term Review (if planned)	October 2017
Project Closing	December 2018

Terminal Evaluation	October 2019

PART II: PROJECT JUSTIFICATION

A. Adaptation measures and contribution to climate resilience

The project has five components.

The first component is supporting the implementation of catchment-based climate adaptation actions.

Baseline situation

- more than 85% of livelihoods are based on agriculture. Most of the agriculture is subsistence, with low productivity levels relying on rain-fed agriculture. This leads to food insecurity and poverty.Major staple food crops include bananas, sweet potatoes, cassava, rice, Irish potatoes, millet, maize and sorghum.
- There are no significant formalized irrigation schemes.
- Livestock including cattle, sheep, goats and pigs are important cash earning resources of the farm households within the three Catchments.
- Open grazing widely practiced and poor management of rangelands. High livestock population beyond the carrying capacity of rangelands
- Increased floods resulting in the displacement of people and loss of crops.
- High soil erosion, siltation, landslides and mudslides caused by cultivation of steep slopes, overgrazing, deforestation. Also increased deforestation caused by uncontrolled harvesting of timber and biomass.
- High level of environmental degradation due to increased hill side farming, wetlands encroachment, overgrazing , deforestation

This component is the most important component of the project as it is expected to directly strengthen resilience and adaptation capacity of Awoja, Aswa and Maziba communities to climate change impacts and to increase the resilience of the watersheds to climate changes. The activities focus on training communities on, and demonstrating climate responsive agricultural practices which on the one hand address the risk of drought (introduction of drought resistant crops, introduction of irrigation schemes, water harvesting schemes etc.) and on the other hand address the risk of floods.

It is envisaged to work on four demonstration sites per catchment and to train about 500 members of the community per catchment for improved treatment of farmland through biophysical measures. Furthermore, the introduction of water harvesting structures aims to open up land for irrigation farming.

In addition, the introduction of activities to restore watersheds and manage wetlands sustainably (reforestation, wetlands management etc.) serve to increase the resilience of the ecosystem. In this context it is envisaged to rehabilitate communal lands/hillsides and gullies with appropriate bio-physical measures and technologies.

The activities that will be undertaken under this Component are expected to enhance resilience of communities and ecosystems to climate change impacts.

Increase resilience of agricultural production

- Establish 12 demonstration sites for climate change adaptation actions involving various water harvesting and catchment management measures such as trenches, check dams, rain and storm water harvesting ditches and ponds, terraces, contour ploughing, contour bunding etc.
- Construct 12 flood water harvesting and retention structures such as valley tanks/dams for multipurpose uses
- Train 1500 members of the community in improved and climate proof agricultural practices such as introducing high-yielding drought resistant seed varieties, promoting use of farmyard manure and fertilizers etc.
- Support 1500 households to benefit from climate adaptation actions
- Treat 1500 hectares of farmland with bio-physical measures
- Treat 15000 hectares of communal land with bio-physical measures
- Provide incentives for on-farm tree conservation e.g. value addition and market linkages to tree products, simple reward systems, etc.
- Construct 300 water harvesting structures (dams, valley tanks, check dams)
- Irrigate 150 hectares of land through construction of dry season irrigation schemes such as simple gravity-fed schemes and low-power pumped schemes that utilize water from nearby rivers, swamps and lakes or drip and canal irrigation that draws water from existing streams, ponds and harvested flood waters and introduction of resilient seeds
- Construct soil/water conservation measures in 150 hectares of the catchment

Increase the resilience of ecosystems

- Hold public awareness campaigns about the dangers of rapid loss of vegetation cover and the benefits of catchment protection
- Restore/rehabilitate 90 hectares of wetland area
- Delineate and protect 120 hectares of buffer zone through re-vegetation of river and stream banks
- Establish 12 climate smart projects for alternative income generation in the 3 catchments such as fish farms and fish ponds, fruit tree growing, bee-keeping, aquaculture, goat rearing, sustainable milk production, poultry rearing etc. to prevent encroachment of wetlands
- Establish 12 tree nurseries at community level for sustainable supplies of seedlings
- Delineate and rehabilitate 60 hectares of bare land through afforestation
- Introduce affordable and socially acceptable alternative renewable sources of energy e.g. low-cost solar panels for lighting, radios, cell phones, biogas for cooking and lighting to prevent/reduce degradation of natural resources

The second component is to establish water resources monitoring networks for use in flood early warning systems and for testing the quality of water during floods in each of the catchments.

Baseline situation

- No early warning systems, such as flood warning
- No environmental quality assessment and monitoring systems
- Farmers have limited access to climate and water information and thus cannot prepare themselves and react timely

The early warning systems will be used to timely inform populations in each of the catchments on floods. The identification of threats and risks as well as the establishment of preparedness activities, response measures and contingency plans form an integral part of the early warning systems. The aim is that the local populations are better prepared to deal with the risk of flood and upon timely information can take envisaged response measures.

The catchment based monitoring and flood early warning system will have the following main components:

- *Risk Knowledge*

Risk assessment will be based on historic experience and modeling of climate change scenario. Vulnerability assessment will cover exposition to the risks as well as human, social, economic, and environmental assets of livelihoods and capacity to respond with suitable adaptation strategies. For example flood risk maps will be developed and surveys will be undertaken to assess the vulnerability of the livelihoods of people living in flood-prone areas.

- *Monitoring of risks*

Monitoring of possible disaster signs is necessary to generate accurate warnings in timely fashion. This will include:

  - Establishing 6 hydro-meteorological monitoring stations (2 in each catchment)
  - Establishing 6 groundwater monitoring stations (2 in each catchment)
  - Establish 9 water quality monitoring stations (3 in each catchment)

- *Dissemination of understandable warnings to those at risk*

This is providing early warning information or messages to communities that are at flood risks in a way that is easily understandable to enable proper responses. This includes developing messages in a language that is simple and understandable by the communities and choosing effective communication channels, such as radio, TV, Internet, mobile phones

- *Response capacity*

It is essential that communities understand their risks; and know what they can do in preparation and response to risk warnings. Building up a prepared community requires capacity building.

This is mainly identification of preparedness activities, response measures and contingency plans such as:

  - organizing communities and training on response measures
  - establishing infrastructure necessary for response measures
  - mobilizing partners to support response measures

The *third component* focuses on establishing/strengthening community-based catchment management structures for Awoja, Aswa and Maziba catchments.

Baseline situation

- Draft Catchment Management Plans have been prepared for Awoja, Aswa and Maziba catchments but these do not address climate change and groundwater issues and provide insufficient linkages between water and land management
- Catchment management institutional structures for Awoja, Aswa and Maziba catchments have been established but these are weak and hence need strengthening to make them fully functional. Some additional structures especially at the local levels may need to be established by this project.
- Multi-stakeholders' platforms have been established in the three catchments but these need to be reviewed and if possible reestablished and operationalized as part of catchment management structures

Activities under this component include supporting local communities to participate in and fully own the management of the catchments. This component is also expected to establish well-functioning catchment management structures to bring equitable and sustainable management of water and other natural resources. This is expected to strengthen the natural resource base of the communities on which their livelihoods are based, and which also is strengthening their climate resilience. Moreover, multi-stakeholders' platforms will be established and operationalized as part of catchment management structures. This component is expected to strengthen the institutional capacity of the communities to adapt to climate change.

Currently there are catchment management committees established. However, they are not strong enough and are not given clear responsibility of managing catchments. The project will strengthen the community level structures/catchment management committees to make them responsible for managing the catchments, to create a feeling of ownership of the catchments, and also to demonstrate how management of water and related resources can be better managed when responsibilities shift from central to lower levels and where communities have management roles.

The activities that will be undertaken under this Component include:

- Undertake 3 catchment based groundwater resources assessments and integrate the results in IWRM plans
- Prepare IWRM and Climate adaptation plans for the 3 catchments
- Establish 12 community/sub-watershed and 20 district Watershed Structures
- Support communities to use platforms as part of governance for water and climate resilience

The *fourth component* aims at strengthening the capacities of key stakeholders at local and national level, such as key institutions responsible for water, agriculture, environment, disaster management, energy, government authorities.

Baseline situation

- Limited capacity of extension service to adequately service local population
- Limited capacity of local population to take local adaptation action and manage water resources
- Limited awareness on the importance of taking local actions to build resilience and water security

This component is expected on the one hand to improve the ability of key stakeholders to implement IWRM and climate adaptation actions on the ground and thereby improve communities' climate resilience. The catchment planning process is aimed at bringing all the stakeholders in a catchment to coordinate and harmonise their plans and actions so as to avoid duplication and create synergy. Thus, the stakeholders whose awareness would be raised under component 4 include local communities, Non -Governmental Organisations, private sector, local governments, academic institutions etc.

On the other hand based on the experiences from demonstrations in Awoja, Aswa and Maziba catchments it aims to raise awareness of key government officials on IWRM and climate adaptation and the importance of integrating water security and climate resilience issues into national and sector development plans, facilitating integration of the same. An envisaged outcome is the review of and strengthening or establishing a national framework for integrating climate change adaptation and water security issues into national and sectoral planning and decision-making processes in Uganda.

Therefore Capacity building areas will among others include:

- awareness raising workshops on climate change, its impacts and adaptation strategies related to water for Awoja, Aswa and Maziba communities, local authorities and local stakeholders (six awareness workshops per year)
- trainings on IWRM as a tool for climate change adaptation organized for key institutions at national and District levels (twelve national/local trainings)
- Sensitization of key government sectors in Uganda to integrate issues of water security and climate resilience into their development plans

Mechanisms/ tools to integrate issues of water security and climate resilience ready for the key sectors such as agriculture, water, environment and energy

The program has also a *fifth component* for knowledge management.

Baseline situation

- No documentation of good practices in Uganda
- No or limited experience of demonstrating good practices/ innovative approaches of managing water resources and climate change adaptation
- No/limited experience of learning (community-to-community)

Main activities of this component are the documentation of processes and lessons learned from project implementation and sharing among other parties. This will have a broader impact as it will influence approaches and practices of other stakeholders and

communities based on experiences from the project. Monitoring and Evaluation of the project will be an integral part of this component.

One particular aim of this component is to increase knowledge on water security and climate resilience. The activities that will be undertaken under this component include:

- Ten innovative technologies/approaches and lessons learnt documented
- Four cases developed
- The organization of learning trips to successful projects in Africa could be a part of the proposed project, since this could help to promote regional exchange and learning and foster innovative approaches.

B. Economic, social and environmental benefits of the project

Economic benefits of the project

Baseline situation

Currently adaptive capacity of communities in Awoja, Aswa and Maziba catchments to climate change impacts is very low and any slight change in climatic factors causes serious problems to the people and their livelihoods. The communities need to be given the necessary training and awareness to enable them to implement various climate change adaptation actions.

The project will directly improve adaptation capacity of 1500 members of households through training and implementation of agricultural adaptation practices at 12 demonstration sites. Through these activities the project aims to treat 1500 hectares of farmland and 15000 hectares of communal land with bio-physical measures and thereby improve agricultural productivity and income. The project will also make an additional 150 ha of land suitable for dry season farming through the introduction of dry season irrigation schemes and drought resistant seeds.

Community-based climate adaptive actions on the ground will improve agricultural productivity by communities. Climate-responsive agronomic practices such as conservation agriculture and agroforestry, introduction of drought-tolerant crops, introduction of water security schemes such as small scale irrigation and water harvesting schemes will not only improve agricultural productivity but also make production more reliable, contributing to household food security. Most of these activities will benefit the vulnerable groups of the community particularly women and children. For example small scale irrigation and water harvesting structures will benefit women especially through producing vegetables as income sources.

In addition the project will implement 12 livelihood improvement projects and introduce a revolving fund to specifically support communities in aiming to generate alternative sources of income for 100 members of households (total 1200 members of households), targeting particularly women and households headed by single women.

Environmental conservation activities of the project will improve the natural-resource base of the communities which are still the main asset for income generation of many livelihoods.

The introduction of energy-saving stoves, which has the main objective to reduce pressure on forest and other natural resources and thereby improve their resilience to climate change, do also have the positive side effect to reduce women's and children's burden of collecting fuel wood. Time saved for women could be spent on productive activities such as vegetable and small ruminants, poultry production. Moreover, children will have a chance of going to school as household incomes grow and more time is available for kids.

In general about 140,000 people (approximately 10% of the population in the 3 catchments) are expected to gain from these investments and gender aspects will be fully considered.

The activities related to reduce the risk of flooding by improving water infiltration help to reduce the negative impacts of irregular rainfall patterns and prevent enormous losses that would occur in case of flooding.

The introduction of flood early warning systems at catchment level, will help to reduce great economic losses if early response measures are undertaken by the communities. Furthermore the risk assessment will help to promote investment in flood resilient infrastructure.

Environmental benefits of the project

Baseline situation

The project areas are faced with rampant environmental degradation, soil loss, and reduction in biodiversity, which contribute to low resilience to climate change and hence increase the risk of droughts and floods.

The project will play an important role in protecting soils, biodiversity, combating desertification and building resilience to climate change.

The project contains concrete investments aimed at restoring or reducing environmental degradation in order to improve the resilience of ecosystems to the expected impact of climate change and to reduce the risk of droughts and floods through conserving healthy water and soil nutrition cycles. Soil and water conservation and reforestation activities will reduce soil loss and sedimentation to wetland systems and lakes and improve water infiltration.

The wetland ecological systems of Awoja, Aswa and Maziba catchments will be better managed and protected with different interventions of the project. The project will rehabilitate 90 ha of wetlands and delineate 120 ha of buffer zones through re-vegetation of river and stream banks.

Furthermore the project will rehabilitate 60 hectares of bare land through afforestation and promote reforestation through the establishment of 12 tree nurseries. Reforestation will improve the natural vegetation cover of the catchment areas, particularly the upper sub-catchments which are currently highly degraded. These activities will also contribute to properly managing the flood hazards to communities, which is serious at present in most of Uganda.

The proposed project is expected to have positive environmental impacts as it supports watershed rehabilitation and management and good agriculture and land management practices, including watershed planning and soil conservation measures (e.g. terracing, contour bunds, reforestation). All these factors are critical to enhance the resilience of ecosystems and to ensure long term and sustainable food production and security.

Environmental and social safeguards will be considered during implementation of specific sub-projects to prevent potential adverse environmental impacts, if any, related to small infrastructure such as irrigation and water harvesting systems.

The project will also create ownership for managing communal environmental resources by forming community management structures such as community watershed committees, thereby improving their natural resource base. At country level, Uganda will benefit as the project will provide a chance to test its national strategies and plans related to IWRM, climate adaptation and poverty reduction. Experiences of IWRM and climate adaptation in Awoja, Aswa and Maziba catchments are expected to influence scaling up to the rest of the 4 Water Management Zones and also to other Eastern African countries.

Social benefits of the project

Baseline situation

The highly vulnerable groups in the community (women, children, elderly, disabled) are entrenched in poverty due to limited options for improving their livelihoods. Thus, they need to be supported to have alternative income generation activities to help improve their livelihoods. This is key in stabilizing and improving the social welfare in the rural areas and thereby reduce migration of people to urban centers in search of income generation activities.

The project will implement climate adaptation investment actions prioritized through a participatory catchment action planning process. As part of the catchment planning and implementation process, the establishment and operationalisation of management structures for the three catchments will be a priority. Activities of the project will be developed in a community-based participatory process. This will result in developing socially accepted project interventions by communities. This will again contribute to managing conflicts between communities related to access to and use of natural resources. Again this will contribute to the national stability of Uganda as country.

Women and children who are highly vulnerable groups of community will be specifically targeted by the project to assure their participation in all project activities (training, community based management, and Early Warning System). Some activities of the project are specifically targeting woman and vulnerable groups. The 12 livelihoods improvement project, which will be introducing alternative income generation activities such as beekeeping, poultry rearing etc. and provide small credit through a revolving fund, contains a self-targeting mechanism, since the activities are particularly attractive for landless and poorer households.

The introduction of energy-saving stoves, which has the main objective to reduce pressure on forest and other natural resources and thereby improve their resilience to climate change, also has the positive side effect to reduce women's and children's burden of collecting fuel wood.

In general it is envisaged that the project will contribute to stabilizing and improving the situation in the rural areas and thereby prevent migration of young men to urban centers in search of income generation activities and thereby reduce the burden of women and children in rural areas.

C. Cost-effectiveness of the proposed project

The Project will allocate about US$4 million to Component 1 for supporting communities in the three catchments to improve water security through implementation of climate change adaptation actions. In addition, US$1 million will be allocated to Component 2 for strengthening the water resources monitoring system and developing a flood early warning system. Furthermore, US$0.94 million will be allocated to Component 3 for establishing and operationalising management structures for the three catchments. US$0.39 million will be allocated to Component 4 for strengthening the capacities of stakeholders to enable them effectively adapt to impacts of climate change. US$0.259 million will be allocated to Component 5 for knowledge management so as to document the experiences with implementing climate change adaptation activities in the three catchments and use them to develop tools for integrating water security and climate resilience in development programs in Uganda and the region. US$0.48 million will be allocated to Component 6 for use in management of the project.

Component 1 is therefore the most important as it will ensure that concrete investments in climate change adaptation are implemented in the 3 catchments. The benefits of these investments would include improved economic productivity and better livelihoods as a result of erosion control, reduced watershed degradation, flood control, improved water infiltration, water harvesting etc. .

The Uganda National Climate Change-Costed Implementation Strategy (Ministry of Water and Environment 2012) has looked at the costs of proposed actions of its integrated water resources management program documented in the Government of

Uganda's Adaptation strategy and compared them to the potential benefits in terms of reducing unmet water demand or in reducing losses from floods or droughts. The model calculates the minimum reduction in damages required for the project to generate a 10% rate of return. The results indicate that with minimum investment the programme would already generate this rate of return. A simple economic analysis has been done to examine the benefits and costs of investments in climate change adaptation actions in order to assess whether it is likely that the economic benefits justify the costs. This analysis demonstrates that the economic internal rate of return (EIRR) of the investments included in the project is approximately 15%. Further, the sensitivity analysis demonstrates that if the main outcomes are underachieved, the project will still be viable.

Indicative benefits can be estimated, drawing on case studies of the costs of insufficient development and inadequate management of water resources in Uganda. For example, activities to improve wetlands management could yield benefits of between US$ 230 and 400 per hectare per year, based on estimates of economic value of goods and services provided by wetlands.

Econometric analysis shows, for example, that increasing the availability and reliability of water for agriculture through measures – including water harvesting facilities and improved agricultural water management – can substantially raise crop productivity. A 1% increase in water availability in the weeding phase alone increases crop productivity by 0.64%, which means an additional US$ 0.32 per acre per year, on average. Taking all cultivable area in Uganda (estimated at 4.4 million hectares or 10.9 million acres), this would translate to US$ 3.5 million of additional crop output per year. Increased water availability in sowing and weeding phases would increase productivity growth by 3.3%, translating to an additional US$ 18 million per year.

D. Consistency of the project with national sustainable development, poverty reduction, and climate adaptation strategies and plans

The proposed project has a very high level of support from Ugandan government as the proposed interventions are in line with the priorities of the Government. Uganda identified water resources management and climate change adaptation as key priority areas in its national policy or program documents.

To address the various water resources related challenges Uganda adopted the principle of Integrated Water Resources Management IWRM during preparation of the **Water Action Plan (WAP) in 1993-94**. The WAP detailed activities associated with water resources development and management and also defined the problem of securing water of acceptable quality and quantity to sustain the health of the people of Uganda and for economic activities. It further expresses the need for an institutional framework within which priorities can be determined and optimal uses planned.

Based on the WAP, Uganda undertook a **Water Resources Management (WRM) reform study from 2003 to 2005** with the objective to establish an effective framework for Water Resources Management in Uganda to ensure water resources are managed in an integrated and sustainable manner. This reform study led to preparation of a WRM reform strategy. The strategy adopted a paradigm shift in WRM from centralised to Catchment/Basin Water Resources Management.

To promote integrated development and management of water and related resources in Uganda the Directorate of Water Resources Management (DWRM) in the Ministry of Water and Environment is currently promoting a **Catchment-based Water Resources Management (CbWRM) strategy** that is aimed at preparation and implementation of Catchment Management Plans through a stakeholders driven process following a catchment. In this regard Catchment Management Planning (CMP) Guidelines have been developed to guide the process of preparation of catchment management plans in Uganda and the de-concentration of water resources management to Water

Management Zones (WMZs). A catchment management plan contains priority investment and management measures needed to be implemented to protect and restore the catchment while improving people's livelihoods. It is through preparation and implementation of catchment management plans that adaptation to climate change will be realized while improving the livelihoods of the people. The approach of the project to work on catchment/basin level is in line with these strategies.

The Ministry of Water and Environment has recently developed **draft Catchment Management Plans for Awoja, Aswa and Maziba catchments**. However, the interventions were by far inadequate in terms of practically enhancing climate resilience of ecosystems and people. Several interventions have been carried out by government in these catchments to improve management of water and related resources that contributes to enhancing resilience of ecosystems and people to the changing climate. Government's interventions have been around catchment restoration and law enforcement, while that of NGOs have been awareness raising and taking some local actions.

The three catchments have draft catchment management plans that have been prepared through a stakeholder driven planning process. However these plans did not fully address climate change issues and hence climate change adaptation measures and actions are not well elaborated in the plans. This project will therefore build on the existing draft plans and develop them further to include climate change adaptation measures. As a result of this work a climate change adaptation strategy and implementation plan with cost estimates and locations for intervention sites will be developed and implemented for each catchment.

The project will build on and support on-going decentralization efforts of government through the existing catchment management structures especially the Catchment Management Committees (CMC) and water user associations and groups for each catchment (list of members of CMC for each catchment attached). The project will strengthen these structures to enable them to fully participate in updating the catchment management plans and take responsibility for implementing the plans and managing the catchments. The structures will be key in identifying water resources and climate change issues to be addressed as well as specific locations where priority interventions need to be implemented.

The Government of Uganda has also developed several guiding policies that are aimed at mitigating the adverse impacts of climate change and variability and to achieve reduction in poverty through environmentally sustainable development. These include amongst others, Disaster Management and Preparedness Policy, Forestry Policy, Environment Policy, National Water Policy, Energy Policy, Waste Management, the National Wetlands Policy, and climate change policy.

Uganda adopted development plans based on the Millennium Development Goals (MDGs), the **National Development Strategy and Country Vision 2040**. The proposed project is aligned with all these national documents. The Uganda Vision 2040 commits the country to put in efforts to attain a green and clean environment. The National Development Plan (2010/11-2014/15) prioritizes climate change as cross cutting issue, and strategic climate change interventions have been included in the plan.

Uganda prepared its **National Climate Change Policy and Strategy in 2012** making it the 1st country in EAC to formulate a stand-alone Climate Change Policy paper. Uganda's National Climate Change Policy is in accordance with and was influenced by the EAC Climate Change Policy. The goal of Uganda's National Climate Change Policy is to ensure a harmonized and coordinated approach towards a climate resilient and sustainable low-carbon development path for Uganda. The overarching policy objective is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development. The Uganda national costed climate change implementation strategy was developed in 2012 and contains, among others, a sub-programme for integrated Water Resources Management that would help reduce losses from droughts and floods

The National Adaptation Programme of Action (NAPA), has undertaken a first preliminary assessment of the country's vulnerability to climate change, and identified its adaptation priority projects. The proposed project is anchored firmly in the priorities identified in the NAPA. The project will contribute towards implementing NAPA Priority projects in Uganda such as Community Tree Growing, Land Degradation Management, Community Water and Sanitation, Water for Production, Drought Adaptation Project, and Climate Change and Development Planning.

Uganda's **National Communication** on climate change to UNFCCC includes, among other things, information on additional measures and policies to adapt as well as information on gaps and constraints including lack of financial resources and technical constraints, the weak capacity of local decision-makers to manage natural resources due to data information and training constraints.

The proposed project will also support the on-going process and efforts towards mainstreaming climate change in Uganda in key sectors of the economy through considering issue of climate change during National and District strategic Development Planning processes. The project will also contribute to other on-going Catchment-based IWRM planning processes, and the new National Adaptation Plan (NAP) development process in Uganda

E. Meeting national technical standards

The project meets important environmental standards such as the Environmental Impact Assessment (EIA) Regulation (1998) and Sectorial EIA Guidelines of Uganda.
Since the project is mainly aiming at improving the state of the environment of the Awoja, Aswa and Maziba catchments, it will not generally have negative environmental impacts. It is clearly expected to have positive environmental impacts through improving the wetland ecosystems of the area, through improving sustainable management of water and other natural resources, addressing issues of community resilience to climate change.

Particularly the project will be implemented as per the national standards of Uganda such as for environmental, water, and ecosystems management. Some project resources will be used to meet relevant standards for the management of critical natural resources taking into account the threats to wetland and lake ecosystems, water quality

and quantity and also deforestation and land degradation. Vulnerability and risks assessment, early warning system will be developed and established in Awoja, Aswa and Maziba catchments to protect livelihoods of vulnerable people from existing climate impacts, and if possible projected changes in the future.

F. Complementarily with other projects

The Ministry of Water and Environment of Uganda is implementing a program towards catchment-based management of water resources. The Ministry, through support of different Development Partners such as the World Bank, Denmark, Austria and Germany has embarked on preparation of Catchment Management Plans. There are already draft Catchment Management Plans for Awoja, Aswa and Maziba Catchments in Kyoga Water Management Zone, Upper Nile Water Management Zone and Victoria Water Management Zone respectively. Although preparation of the various Catchment Management Plans has been supported by various partners such as World Bank, these partners are not providing funds for implementation of these plans. Specifically, World Bank is interested in funding large infrastructure projects which are outside the scope of this project. Thus, the activities proposed under this project are not funded by another project. The activities of existing programs funded by World Bank in Awoja and Aswa catchments as well as those funded by the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) under Kagera project in Maziba catchment will compliment project activities and will be implemented within the framework of the CMP.

The proposed project will however build upon the on-going processes, and support practical implementation of some aspects of the plans. The project will also collaborate with other interventions by NGOs such as the Resilience Framework for Climate Change in Mount Elgon (RFCC) project of IUCN, where the Executing Agencies of the proposed project (the Ministry of Water and Environment of Uganda and Global Water Partnership Eastern Africa) are also implementing partners.

Experiences of the Global Water Partnership Eastern Africa in facilitating stakeholder platforms at different levels, and facilitating coordination and collaboration among various stakeholders and among different programs/initiatives is a useful opportunity to promote collaborative action in Awoja, Aswa and Maziba catchments for better impact.

The complementary nature of this project with other activities on the ground is another reason to push forward and scale-up the good lessons from previous efforts. GWP Eastern Africa has successful experience in water resources management and climate change adaptation at catchment and national level. Both executing agencies (GWP Eastern Africa and the Ministry of Water and Environment) have collaborated in similar climate change adaptation project around Mount Elgon located in Awoja catchment. Both have experience of engaging stakeholders at various levels, including districts and local communities.

The new project will scale up actual demonstration of concrete community-level actions combined with policy.

A catchment management plan (CMP) is framework for integrated and sustainable development and management of water and related resources in a catchment. Thus, the actions presented in the CMP are those that have been identified by all the stakeholders as being key in addressing issues and challenges in the catchment. The proposed activities will improve catchment management by addressing issues of climate change in the context of the catchment management plans and hence ensure that

climate change adaption investments are included in these plans. Development of CMPs is stakeholders driven and is guided by catchment coordination platforms and management structures that include the Stakeholders Forums (SF), Catchment Management Committees (CMC), Catchment Technical Committee (CTC) and water user associations and groups. These structures will provide coordination platform that would allow creation of synergy between the proposed project and the other activities as well as conflict management through the catchment management plans.

G. Learning and knowledge management strategies of the project

The project has considered knowledge management and learning as one of its main components. Important processes and lessons from project implementation will be properly documented and shared among stakeholders. These activities will be included as regular part of M&E and will be used in adjusting future project implementation. This component will also facilitate joint learning and experience sharing among various stakeholders. Moreover, Awoja, Aswa and Maziba catchments will be used as demonstration sites for others to learn from experiences of the project.

The following table provides information on the existing constraints/baseline situation and the proposed activities as part of the project's knowledge management strategy:

Constraints/ baseline situation	**proposed activities**
Absence or little availability of best practices and innovative approaches in Uganda for: • catchment-based management of water resources • taking local actions that enhance water security and climate resilience • establishing/strengthening community structures for catchment management and building climate change resilience • linking scientific knowledge with local knowledge • enhancing stakeholder coordination/partnership for joint action and implementation at local level	• Document the whole process and outcomes of the project interventions • Develop case studies from interventions such as on consultative and participatory processes, integrated catchment plans, identification and implementation of adaptation options, stakeholders'' engagement, policy- influencing, community management structures • Facilitate learning including organizing learning visits mostly within Uganda and limited visits to Rwanda on GWP EA demonstration site and others in the region • Document challenges and response strategies to help future design and scaling-up of project interventions, and policy/practice influencing

H. Consultation process during project preparation

The process of developing this project started with holding consultation with key stakeholders in Uganda at national and local levels. The Ministry of Water and Environment (particularly the Directorate of Water Resources Management and the Climate Change Focal Point), Uganda Country Water Partnership, Mekerere University, and IUCN were consulted in the process of developing this project. At local level, the

local staff of the Ministry of Water and Environment in Kyoga Water Management Zone based in Mbale town, Upper Nile Water Management Zone based in Lira town, Victoria Water Management Zone based in Mbarara town and a number of districts in three catchments have been consulted.

The participatory process will help in identifying priority actions by communities and other stakeholders. Such priorities will, as far as possible, be considered as project interventions if they are supported by scientific or knowledge-based analysis. If there is a mismatch, further consultation with communities and relevant stakeholders will continue to reach into a consensus regarding priority interventions.

Implementation of the project will be driven by stakeholders at various levels including the local level. Thus priority interventions and actions as well as the number and type of beneficiary communities will be identified, selected and prioritized in a community-based participatory process. This will result in developing socially accepted project interventions by communities. The highly vulnerable groups in the community such as women, children, disabled, elderly etc. will be specifically targeted and given priority by the project.

Gender analysis carried out during preparation of the draft catchment management plans has been utilised during formulation of this proposal. This analysis was carried out as part of stakeholders analysis to identify the interests and roles of the different stakeholders so that they are well targeted during implementation of the catchment management plans.

List of stakeholders consulted during the process is shown below:

No	Organization
National level	
1	Ministry of Water and Environment, Climate Change Focal Point, (Focal Point Person)
2	Ministry of Water and Environment, Directorate of Water Resources Management (Commissioner for Water Resources Planning and Regulation)
3	Uganda Country Water Partnership (Executive Secretary)
4	International Union for Conservation of Nature (IUCN) (Program Manager for Eastern and Southern Africa region)
5	Mekerere University, Department of Geography, Geo-Informatics and Climatic Sciences
Local level	
1	Team Leaders of Kyoga, Upper Nile and Victoria Water Management Zones
2	Districts of Soroti, Napak, Bulambuli, Kapchorwa and Kumi in Awoja, Districts of Abim, Gulu, Aleptong, Lira in Aswa catchment and Districts of Kabale, Kisoro and Ntungamo in Maziba catchment
3	Some members of the local community in the catchments

Issues covered during consultations include the following:

- The nature of the project and its specific role in enhancing resilience of communities

- The activities focusing on adaptation measures to be included by the project
- Defining key stakeholders, their roles, responsibilities and contribution during project implementation
- Project management structures
- Issues of sustainability and ownership, especially by communities and local government
- Recognition of the role of women and youth in the implementation of the project
- Issue of coordinating and collaborating with other existing projects

The project design process also carried out some level of consultations with the communities by way of identifying their priority problems and suggested solutions. Moreover, each of the three areas has a draft Catchment Management Plan that has been prepared through a highly consultative and stakeholder driven process. The measures proposed therefore respond to the specific local needs and have been proposed by stakeholders through a bottom up approach from the local level up to the catchment level. Further wider consultations will be done during developing full project proposal.

Preparation of the catchment management plans for the three catchments brought all the stakeholders in the catchments to work together to identify key issues that affect them and to jointly propose actions to be implemented to address those issues. This process enabled the stakeholders to coordinate and harmonise their plans and actions so as to avoid duplication and create synergy. These stakeholders include local communities, Non -Governmental Organisations, private sector, local governments, academic institutions etc and were identified through a detailed stakeholders analysis process. However more work will need to be done during project implementation to identify and involve additional stakeholders especially at the local level that may have been missed out. The lessons learnt through this process is that communities will be keen and willing to contribute if involved right from the start of the project and they will have a sense of ownership if they are fully involved in identification of challenges faced and proposing possible solutions. This will ultimately guarantee full acceptance of the project as is the case in the three catchments.

The communities and their representatives have fully participated in all the processes that led to preparation of the draft catchment management plans and have contributed both their time and labour. They have also contributed to identification and prioritization of actions in the catchments to be implemented and have also contributed to proposing possible sources of required resources that include their free labour and supply of local materials during project implementation. Based on these experiences it can thus be stated that the community is committed to contributing up to 10% of the costs through free labour and local materials.

Considering that a catchment management plan (CMP) is framework for integrated and sustainable development and management of water and related resources in a catchment and that actions presented in the CMP are those that have been identified by all the stakeholders as being key in addressing issues and challenges in the catchment decision making will be community based and stakeholders driven. Through the stakeholders coordination platforms and management structures in each catchment

communities will have opportunities to identify and select activities based on their priorities. Stakeholders' coordination platforms and management structures exist in the 3 catchments but need to be re-oriented and strengthened.

I. Justification for funding requested

A study undertaken by a consortium including Baastel, Makerere University, Metroeconomica, and the Centre for International Development and Training at the University of Wolverhampton assessing the economic impact of climate change in agricultural production of Uganda, shows that the threats from droughts and floods are more important than the threat from decreased yield due to changes in precipitation and temperature increases. The estimates consider that while the impacts of climate change on agricultural production in 2050 are likely to be significant in percentage for some crops (cassava, potato and sweet potato show around 40 percent reductions) in most other cases the reduction is less than 10 percent (millet, sorghum and pigeon peas). Overall losses for food crop due to reduced yields in production by 2050 are not likely to be more than 1.5 billion. Losses caused by extreme weather events such as floods and droughts are much more severe.

It is documented that in Uganda, climate change, water-related disasters, such as droughts, floods, landslides, windstorms and hailstorms, contribute well over 70 percent of the natural disasters and destroy annually an average of 800,000 ha of crops, resulting in economic losses of over U Sh120 billion.[5] The 2010-2011 drought is estimated to have caused losses of about US$470 million to food, cash crops and livestock as a whole. This equates to about 16 % of the total value of these items in GDP of 2011. For the 2005-2008 drought Agriculture sector production losses were estimated at 126.2 billion Shillings[6]. Floods in 1961/62, 97/98 and in 2007 saw widespread infrastructure damage, displacement and destruction of livelihood assets. In the floods and landslides following the heavy rains in 1997/1998 53 people were killed in landslides and over 2,000 people were displaced and roads, bridges, houses, crops, and property, worth more than US$20 million have been destroyed. The 2007 floods most heavily affected the eastern and northern parts of the country, and clearly demonstrated the country's vulnerability to impacts of adverse effects of climate change, since property worth over US$80 million was destroyed[7] and an estimated 50,000 households (300,000 people) have been affected by the flooding, and required humanitarian assistance of $40,844,801[8] to address urgent humanitarian and some limited early recovery needs.

Therefore the overall adaptation priorities of the project are to address the risks of floods and droughts.

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[5] Second United Nations World Water Development Report (2006)

[6] Uganda Department of Disaster Management: The 2010–2011 Integrated Rainfall Variability Impacts, Needs Assessment and Drought Risk Management Strategy

[7] UNDP/NEMA/UNEP Poverty Environment Initiative, Uganda (2009) Enhancing the Contribution of Weather, Climate and Climate Change to Growth, Employment and Prosperity.

[8] Uganda Consolidated Appeals Process (CAP) 2007

The project targets building adaptive capacity and enhancing climate resilience of local communities through the establishment of flood early warning systems. The development of a flood early warning system based on a strengthened water resources monitoring system is strategic. Not only will it be used to timely inform populations in each of the catchments on flood situations but it will also enable the local populations to be better prepared to deal with the risk of floods and take envisaged response measures. The system will also increase access to improved data and related analytical tools that should help the country to better adapt to increased climate variability and change, and to increase their resilience through improved investment preparation, and enhanced decision making. Effective utilization of weather and climate information in the management of water resources can yield substantial socio-economic benefits, particularly during drought periods and floods.

Unlike the usually sectoral oriented projects, the proposed project is designed to employ a more integrated and holistic approach of supporting communities in Awoja, Aswa and Maziba catchments in their efforts to increase their resilience to risks such as floods or droughts and to improve their adaptation capacity to those risks while at the same time improving their livelihoods strategies and enhancing their food security.

For communities in Awoja, Aswa and Maziba catchments climate change adaptation is not an option but rather a means for survival and development, and hence the cost of adaptation is practically the cost for sustaining livelihoods. Community-based climate adaptive actions on the ground will improve sustainable natural resources management and hence agricultural productivity by communities. Climate-responsive agronomic practices such as conservation agriculture and agroforestry, introduction of drought-tolerant crops, introduction of water security schemes such as small scale irrigation and water harvesting schemes will not only improve agricultural productivity but also make production more reliable, contributing to household food security.

The adaptation activities of component one therefore do not only increase the resilience of ecosystems and agricultural productions systems to the risk of drought and flood, but also enhance the food security of the livelihoods in the catchments.

J. Considering sustainability of program outcomes during designing the project

The program designing process carefully considered the issue of sustainability.

The program's ***environmental sustainability*** is mainly reflected right from the objectives. The main objective is sustainable management and development of water and related natural resources of the Awoja, Aswa and Maziba catchments. It is based on this framework that project activities were identified. The risk assessment exercise carried out for the project also covered environmental assessment of the project. The project will consider monitoring and evaluation of environmental changes as part of the regular project M&E system.

Economic sustainability is relying on the participatory and consultative process to build ownership of the project by communities, local governments and other stakeholders. This process is expected to mobilize some resources for the implement of project and the continuity of its activities at the end of the project. For example key

government sectors in Uganda contributed to the project development without seeking any payment. This type of contribution is expected from all stakeholders during and after project implementation.

Technical, logistical, material and political support are expected from the different stakeholders and will be ensured through the various stakeholder coordination and collaboration structures that will be created by the project. Project interventions such as irrigation schemes and water harvesting structures will continue to provide benefits to communities beyond the project lifespan so as to meet their current and future demands. Investment plans and budgets developed will ensure future investments are implemented with ease based on available financial information and costing of investments

Economic viability of the type of activities, technologies or practices of the project interventions is assured by taking the economic situation of the communities into consideration. That means proposed interventions are mostly based on the communities' local knowledge systems and practices and their available resources to ensure economic feasibilities. Communities are expected to contribute about 10% of component I of the project through free labor and supply of local materials. In addition, the creation of revolving funds linked to catchment/environmental management will also contribute to economic sustainability.

There is some experience of the use of revolving funds called "Community Environment Conservation Fund (CECF)" in Uganda and is bearing spearheaded by some Non-Governmental Organizations in collaboration with government. It has been used in 3 catchments of Aswa, Rwizi and Lokok over the last 3 years. The fund aims at empowering the communities to build their social, economic, and ecological resilience in the catchment.

This is a revolving fund that is maintained by the communities who borrow from it for a period of 3 years and then return the money with interest after that period. The communities are provided funds at a very low interest rate and in return they commit to managing the catchment or else the funds are not provided.

The funds can be used for any activity that an individual wants to invest in, such as setting up a business, paying school fees, investing in agriculture etc. For example, within a period of 2 years the communities in Aswa catchment were provided US$ 31,200 and in return they have been engaged in demarcation of about 165km of river and stream banks and buffer zones of the tributaries of R.Aswa. The demarcation of boundaries along stream/river banks is used by the local communities to prevent any environmentally detrimental activity within 30 meters of the rivers. The communities have so far documented cases of decreasing sedimentation in streams as a result of reduced river bank cultivation, increase in volumes of water especially in the dry season, and clearer water in the streams. In areas where stream banks have been demarcated, farmers report that their streams have not dried over the last 2 dry seasons. Communities have also reported increase in natural wetland vegetation cover, and an increase in fish stocks, especially lung fish that burrows and breeds in wetland vegetation.

It is however still too early to say that the revolving fund is sustainable but it has certainly provided people with access to credit and also an incentive for protection of their catchments. Further piloting of the use of the funds needs to be done to ensure that its success can be ensured.

Technical/technological sustainability is also considered during the design phase by way of ensuring technical acceptability of project interventions by local communities, which will contribute to sustainability of the interventions. The creation of stakeholder coordination and collaboration structures will ensure that technical expertise and experiences are continuously shared and utilized during implementation of activities in the catchments which will further contribute to technical and technological sustainability. The monitoring and early warning system that will be established by the project will continue to provide information after the closure of the project since it will be mainly people-centered system and since it will be linked with the institutions so that it will be integrated within their regular activities. The introduction of some technologies such as energy saving cooking stoves will be undertaken through a credit arrangement (revolving funds) linked to catchment management which will contribute to better technology adoption by communities while ensuring environmental protection. Communities will also be engaged in the local production of introduced technologies for easy dissemination.

Social sustainability was also another useful consideration during designing the project. Issues of social, cultural and other social values of local communities have been considered during proposing interventions. Participation of local communities to appraise the proposed interventions is considered during the initial inception phase of project implementation. Recognition of the role of women and youth in the implementation of the project by all stakeholders is also expected to contribute to sustainability. The project activities will be further refined by communities through consultation and participatory processes before full scale implementation is undertaken. This will create ownership by communities to project interventions and also to their sustainability.

Institutional sustainability is confidently believed to be achieved through the kind of management structure included in the project design. The project will be implemented through already existing MWE and government structures at national, catchment, and local levels. The structures and personnel will ensure sustainability of the project results beyond project lifecycle as the institutions are permanent and will continue to execute their mandates after the project as their capacities would have been built by the project.

At community level, the project will strengthen already existing structures, platforms, and groups to ensure governance of project interventions beyond the project lifespan. Following participatory process of project development also gave the advantage of creating ownership of the project by various stakeholders that will be involved in project implementation. Establishing community management structures and giving responsibilities of managing their natural resources is an approach preferred by the project with the aim of brining ownership and sustainability of project interventions. The project will also offer tangible solutions to beneficiaries to address their current and

future needs. This will build ownership and ensure sustainability of the results beyond project lifecycle.

Lastly the M&E including mid-term review and phasing out strategy do also contribute to sustainability of project interventions.

K. Overview of the environmental and social impacts and risks identified as being relevant to the project

The proposed project falls under “Category C” as it has no considerable adverse environmental or social impact. The suggested measures are time tested, contribute to enrich the environment and help to improve the socio-economic condition of people living in the project area. According to Environmental Impact Assessment (EIA) Regulation (1998) and Sectorial EIA Guidelines of Uganda most of the components/activities of the proposed project do not fall within the First Category of projects that require full EIA. Some of the activities such as small scale irrigation, rainwater harvesting, valley dams may require EIA depending on the size and location of the interventions.

To assure that National standards of Uganda, such as Environmental Impact Assessment Regulation and Guidelines, Water Resources Regulations, Water Source Protection Guidelines will be respected while implementing the project, the monitoring system of the project will include the monitoring of the environmental performance of the project through conducting environmental audits and reviewing project reports. In addition, it is envisaged that for some specific interventions of the project at the initial phase of the project, some project resources will be used to undertake Environmental impact assessments for selected project activities, based on the guidance obtained from the National Environmental Management Authority of Uganda and under the supervision of the RIE.

For the preparation of the full project proposal, the RIE will undertake a screening of the project activities in close collaboration with the National Environmental Management Authority (NEMA) to agree on those activities which might require further analysis. The project shall carryout specific EIAs for the project activities based on Ugandan regulation. In any case the project will develop an Environmental and Social Management Framework (ESMF) for its interventions. Further consultation and guidance will be given by REMA and other relevant sectors during the preparation of ESMF. All of these activities will be done during the preparation of full project proposal, which will also include participatory stakeholders’ approaches as per the Uganda regulation requirement.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	Yes. The project complies with following domestic law and policies ▪ The constitution of Uganda – ○ in Article 189, provision is made for decentralization which is further elaborated in the Local Government Act, 1997. The State holds in trust for the people of Uganda its natural resources including natural lakes, rivers and wetlands for the common good of all citizens. ▪ Water Act (1995)- the rational management and use of the waters of Uganda ▪ Environmental Act (1995)- Sustainable environmental management ▪ Water Statute, 1995 ▪ National Water Policy (1997) ▪ The Local Government Act, 1997 ▪ The Land Act,1998 - recognizes customary tenure as a form of land holding Various arguments have been raised about the applicability of the colonial treaties, such as the River Nile Agreements from 1929 that seek to limit Uganda's use of the Nile Water. It is submitted that these issues are not of paramount concern today as far as rural water supply is concerned since the levels of water extracted make no significant impact, if any, on the Nile waters.	According to Environmental Impact Assessment (EIA) Regulation (1998) and Sectorial EIA Guidelines of Uganda most of the components/activities of the proposed project do not fall within the First Category of projects that require full EIA. Some of the activities such as small scale irrigation, rainwater harvesting, valley dams may require EIA depending on the size and location of the interventions.

Access and Equity	Yes. In general the project promotes for fair and equitable access to benefits of the project. However, the nature of the project with 12 demonstration sites and 12 livelihood improvement projects does not allow all members of the community to benefit to the same extent.	There is a risk that access to benefits related to capacity building on the 12 demonstration sites would not provide equal access opportunities. Some activities of the project, such as the 12 livelihood improvement projects are not intended to provide a benefit for all, but target those livelihoods in need. It is necessary to clearly define in the full project preparation phase the criteria for participation in those projects and to delineate clearly, which of the activities are to the benefit of the community as such and which of the benefits are specifically targeted to those in need.
Marginalized and Vulnerable Groups	No initiatives are identified with orientation or execution that could generate a negative impact on marginalized and/or vulnerable groups. Some activities, such as the livelihood improvement projects, the tree nurseries and the production of improved cooking stoves are targeting women, single headed households and marginalized groups.	The delineation of buffer zones, the re-vegetation of river and stream banks and other conservation methods need to be monitored closely, particularly with regards to former resource use in those areas, in order to assure that these measures are accompanied with livelihood improvement projects and other means to assure subsistence of people who have exploited those resources.
Human Rights	No activities are identified whose execution is not in line with the established international human rights. Project objectives promote basic human rights for equitable access to service and water for irrigated agriculture and capacity building as well as access to information.	
Gender Equity and Women's Empowerment	The activities of the project are oriented to promote a fair and equal development between men and women. The project promotes equal participation in decision-making processes by assuring women representation in Catchment Management Committees, establishing participatory platforms for all stakeholders, balancing representation in the forums.	An in depth gender analysis of the involvement of men and women in the in options proposed as concrete adaptation activities should be undertaken
Core Labour Rights	The project respects the labour standards as identified by ILO	
Indigenous Peoples	The Project promotes the respect the rights and responsibilities set forth in the United Nations Declaration on the Rights of Indigenous Peoples. In the local	There is a risk that traditional natural resource use and land use rights are undermined. Therefore a detailed analysis of resource use rights and land use rights particularly with regards to

	communities exist different tribes, but no sharp distinction between indigenous and non-indigenous people can be made.	water and forest resources should be undertaken in the initial project phase.
Involuntary Resettlement	The project will not be involved in resettlement activity of communities.	
Protection of Natural Habitats	The protection of wetlands and its natural habitats and biological diversity is a core objective of component 1 of the project.	During the implementation of the all activities related to protection and management of wetlands, grasslands, forests shall be closely monitored to evaluate if the expected impact is achieved or if any unexpected negative side effects turn up
Conservation of Biological Diversity		
Climate Change	The project does not only increase the adaptation capacity of the local population and the resilience of the ecosystems, but also reduces greenhouse gas emissions through the introduction of improved stoves and reforestation initiatives	
Pollution Prevention and Resource Efficiency	The project will contribute to energy efficiency (e.g. introduction of cooking stoves), efficient use of water, prevention of water pollution, monitoring water quality. Furthermore the project will minimize material resource use.	
Public Health	The project will not have negative impacts on public health. On the contrary the project will contribute to improve health conditions of the communities by monitoring water quality, reducing smoke out of traditional cooking stoves, improving living environment (healthy surroundings), improving household diet (diversified food due to irrigation), improved income to access health facilities, etc.	
Physical and Cultural Heritage	The project will not have any activity related to affecting physical and cultural heritages. Their protection/conservation will rather be promoted by the project.	
Lands and Soil Conservation	Soil conservation and reduction of land degradation through supporting terraces, afforestation, catchment management is a core objective of component 1 of the project.	During the implementation all the activities related to protection and management of land shall be closely monitored to evaluate if the expected impact is achieved or if any unexpected negative side effects turn up

PART III: IMPLEMENTATION ARRANGEMENTS

A. Project management arrangements

The project will be implemented by the Sahara and Sahel Observatory (OSS) and executed by the Ministry of Water and Environment (Uganda) in close collaboration with the GWP Eastern Africa and the Uganda Country Water Partnership (CWP).

The role of the OSS as the implementing entity of the project is to bear full responsibility for the overall management of the projects financed by the Adaptation Fund, including the financial, monitoring, and reporting responsibility.

The Ministry of Water and Environment (MWE) in Uganda in collaboration with GWP Eastern Africa (GWPEA) will be responsible for project management and implementation at the country level. GWPEA will be responsible for providing technical guidance and support to project implementation while MWE will be responsible for project coordination and implementation on the ground through its various structures at the national and regional levels.

GWPEA has a number of governance structures. The overall highest decision making body is the Meeting of the Consulting Partners (MCP) which represents all stakeholders in nine countries in Eastern Africa. Below the MCP is the Regional Steering Committee (RSC) which meets twice in a year. This is a policy and oversight committee that oversees programs in the region. It is composed of two members from country water partnerships from the nine countries in the region. It has a secretariat office GWPEA-Secretariat which is hosted at the Nile Basin Initiative secretariat office in Entebbe, Uganda. Each of the nine countries (Burundi, Egypt Eritrea, Ethiopia, Kenya Rwanda, Somalia, Sudan and Uganda) have established Country Water p\Partnerships (CWP) that provide a consultation platform. Each CWP has a Steering Committee composed of various stakeholders.

The Ministry of Water and Environment through its Directorate of Water Resources Management will take lead in implementing the project at the country level. Considering that the Awoja, Aswa and Maziba catchments are found in Kyoga, Upper Nile and Victoria Water Management Zones (WMZs), DWRM will coordinate on ground activities through the Kyoga, Upper Nile and Victoria Water Management Zone teams. DWRM through the various WMZs has already established interim governance structures (Stakeholders Forums and Catchment Management Committees) in the 3 catchments that will be strengthened and used for coordination of project implementation. Lower level government structures will be created as appropriate in line with the Catchment Planning Guidelines for use in implementing activities on the ground. The project will be guided by various committees including the Uganda Country Water Partnership (CWP), the Water Management Zone Advisory Committees and the Catchment Management Organisation (CMO) structures.

In terms of project implementation arrangement, the following table provides roles of different entities at different levels:

No	***Entity***	***Role***
1	GWPEA-Meeting of Consulting Partners and GWPEA Regional Steering Committee	• Overall policy guidance and support • Support in policy influencing
2	OSS	• Approval of annual work plan and budget • Approval of annual financial and technical reports • Program/project management
3	GWPEA-Regional Secretariat	• Communication, networking and Partnership building • Supporting the project in work planning and progress reporting • Coordinating the various supervision visits and reviews • Providing backup support to the CWP in its support to the project
4	Ministry of Water and Environment (Uganda)	• National level project coordination and implementation • Coordination of stakeholder consultation • Partnership building at country level
5	Uganda Country Water Partnership (CWP)	• Support MWE in national level project implementation • Support MWE in stakeholder consultations • Support MWE in partnership building at country level
6	Project Steering Committee	• Project-related decision making body that will oversee implementation of the project. Includes representatives of key stakeholders in catchment based WRM in Uganda
7	Awoja, Aswa and Maziba Project Implementation Units (field office)-based at Mbale, Lira and Kabale hosted by Govt offices	• Day-to day follow-up of project implementation in the 3 catchments
8	Project Manager (based in Kampala/Entebbe)	• Ensure liaison on project activities among and between GWPEA Secretariat, MWE and the field offices • Facilitate project implementation
9	Local governments (Districts)	• Facilitate project implementation especially by mobilizing communities
10	Local communities	• Local owners and implementers of the project • Contribution up to 10% of component II of the project • Establish community structures to manage natural resources

Note: Roles of entities in program M&E is described in section III.D

The diagram below shows the linkages among different parties.

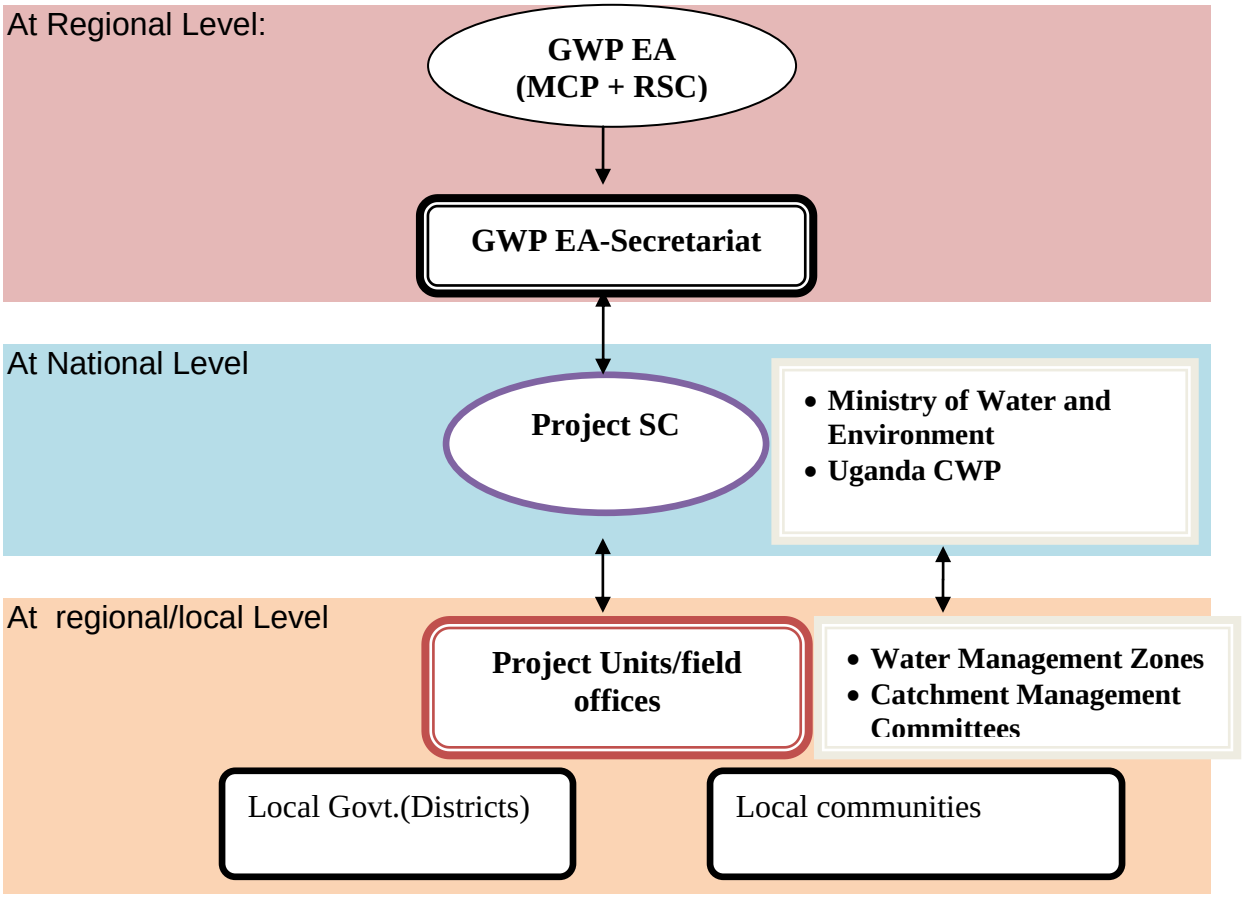

Fig 3. Structure of Executing agency

B. Project Risk Management

No	*Identified Risks*	*Level (H, M, L)*	*Risk Management Measures*
2	High expectations by communities and local government for quick investments on the ground	H	• More awareness raising programs for understanding the policy-practice linkage helps

C. Measures for environmental and social risk management

No	*Identified Risks*	*Level (H, M, L)*	*Risk Management Measures*
1	Competing interests between different stakeholders regarding accessing and use of water and other natural resources	L	Establish multi-stakeholders' forum
2	Natural resource use related conflicts	M	Recognize local systems of conflict management
3	Mismatch between the catchment and administrative boundaries	L	Promote for catchment-based management and development
4	Sectoral bias by various stakeholders	L	Full participation by all stakeholders for implementation, and strengthening country water partnership
5	Inadequate baseline data/resource potential	M	Establish baseline situation during implementation
6	Low technology adoption rate by communities	L	Promotion and demonstration of new technologies and practices

D. Project Monitoring and Evaluation arrangements, including a budgeted M&E plan.

The Ethics and Finance Committee (EFC), with support of the Adaptation Fund Secretariat, monitors the Adaptation Fund portfolio of projects and programmes. The Board requires that projects and programmes under implementation submit annual status reports to the EFC and that the implementing entities ensure that capacity exists to measure and monitor results of the Executing Entities at the country-level.

The OSS assures that the GWP-Eastern Africa Region, in collaboration with the Ministry of Water and Environment, Uganda CWP and the various project offices will undertake the evaluation and prepare the yearly reports. To this effect the GWP-Eastern Africa Region will assign its Regional Program Manager to devote a substantial part of his time for this project.

Quarterly Progress Reports will be prepared by the Project team in Uganda and verified by the GWP EA and the OSS. Annual Project Reports will be prepared to monitor progress. These annual reports include, but are not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project Outcome (annual);
- Lessons learned/good practices;
- Annual expenditure reports;
- Reporting on project risk management.

A joint review mission to the project sites will also be designed to happen twice in a year. The joint review will include representatives from Ministry of Water and Environment, GWP EA, OSS, participating implementing stakeholders, local government and communities. The first mission will focus on reviewing the plan while the second will focus on the results. The mission will provide on-site technical support to the project staff at the site.

In terms of financial monitoring, the project team will provide the OSS with certified periodic financial statements. Audits on the project will follow OSS finance regulations and rules and applicable audit policies.

During project implementation, Annual Work Plans (AWP's) and Quarterly Work Plans (QWP's) will be used to refine project delivery targets and realign project work upon consultation and endorsement by the OSS.

The program will undergo an independent Mid-Term Review (MTR) at the mid-point of project implementation, which will determine progress being made toward the achievement of outcomes and identify adjustments if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; highlight issues requiring decisions and actions; and present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for the final half of the project's term. A terminal evaluation will also be conducted. Project M&E budget is shown in the Table below:

Program M&E Budget (USD)

No	Type of M&E activity	Responsible	Budget (w/o project staff)	Timeframe
1	launching workshop	GWP-EnA	25,000.00	Dec-15
2	quarterly status reports	Project team/GWP-EA	-	20 days after the quarter end
3	annual reports	Project team/GWP-EA	-	20 days after year ends
4	visit to the sites and other project follow-up	Project team/GWP-EA	120,000.00	quarterly
5	joint review missions (2 per year)	Project team/GWP-EA	200,000.00	Jan & July every year
6	Mid-term Evaluation	GWPO/GWP-EA	50,000.00	Oct-17
7	Final Evaluation	GWPO/GWP-EA	50,000.00	Oct-19
8	Project terminal report	Project team/GWP-EA	10,000.00	Dec-18
9	Audit	GWPO/GWP-EA	25,000.00	yearly
	Total (indicative)		480,000.00	

E. Project Results Framework including milestones, targets and indicators

The Results Framework of the project defines success indicators for project implementation as well as the respective means of verification. A Monitoring and Evaluation (M&E) system for the project will be established, based on the indicators and means of verification. It is important to note that the Results Framework in Section E, including its indicators, targets and means of verification, will be reconfirmed during the launching event expected in December 2015.

Any changes to the Results Framework require approval by the GWP-Eastern Africa Regional Steering Committee and the OSS. The launching workshop is crucial to building ownership for project results and agree on modalities of project execution, document mutual agreement for the proposed executive arrangements amongst stakeholders.

Goal	Indicators	Baseline	Target	Source of data/Method
Objective: enhance food security and improve communities' resilience to climate change impacts through sustainable management of water related natural resources	• Changes in agricultural productivity (eg.qt/ha) • Percentage of communities that have increased resilience to withstand small climate shocks	• recent agricultural productivity data • data on households' resilience to climate shocks	• Targeted communities (10% of them female headed HHs) have increased agricultural productivity by 10% in 2018 • 50% of targeted households develop climate resilience by 2018 to withstand small shocks	• National statistical data/ project survey reports • National statistical data/ Household survey reports
Component 1: Supporting communities to identify and implement water security and climate adaptation actions				
Outcome 1.1: Resilience of communities and natural systems to climate change impacts enhanced	• *No. of households that developed resilience to small climate shocks* • *No. of natural systems with improved resilience*	• *households have low resilience to small climate shocks* • *natural systems have low resilience*	• *Increase in the No. of HHs by 50% by 2018* • *At least two natural systems improved their resilience*	• *Program reports* • *biomass, soil and wetlands survey*
Output 1.1.1: Communities supported with training and implementation of adaptation actions in agricultural production	▪No. of demonstration sites for integrated local adaptation actions ▪No. of communities' members trained ▪area of farmland treated with appropriate bio-physical measures and practices, ▪area of communal lands/hillsides and gullies rehabilitated with appropriate bio-physical measures and technologies ▪Number of male and female who benefited from participation in communal lands treatment ▪Number of functional surface water harvesting systems ▪Ha of farmland put under irrigated agriculture	•Limited local adaptation actions by communities •..area of farmland •…area of communal land •No intervention to benefit farmers •No water harvesting structures • No of valley tanks/dams for multipurpose uses	▪ Twelve demo. sites by 2016 ▪ 1500 members of the community trained by 2018 • 1500ha farmland treated with bio-physical measures by 2018 • 15000ha communal land treated with bio-physical measures by 2018 • No of beneficiary Households reaches 1500 by 2018 • 300 water harvesting structures put in place • 12 valley tanks/dams for multipurpose uses constructed • 150 ha of land covered by irrigated farming	▪ Progress reports ▪ Training reports and materials ▪ Reports of local government and actors

	▪	•No irrigated field		
Output 1.1.2: Communities supported with training and implementation of adaptation actions to increase ecosystem resilience	•Size/Area of wetlands rehabilitated •Size/are of catchment protected •Length of gullies treated •Size/area of buffer zone protected •Size/Area of enclosed areas established •Peoples livelihoods improved as a result of established revolving fund	•…area of wetlands •…area of degraded catchment •…length of gullies •…area of buffer zone threatened •…area of protected areas •No. livelihoods improvement projects supported	• 90 ha of wetland area rehabilitated • 150 ha of upper catchment area treated with soil/water conservation measures • 120ha of buffer zone delineated and protected • 60 ha of land enclosed for rehabilitation • 12 livelihood improvement projects in place target each 100 members of livelihoods, particularly women and youth	▪ Project reports ▪ Reports of local government and actors
Component 2: Establishment of water resources monitoring networks for use in flood early warning systems and for testing the quality of water				
Outcome 2.1: Communities are better prepared to the risk of flood and timely information can take envisaged response measures	• *No. of community-level early warning systems established* • *No. of stakeholders/HHs engaged in managing early warning systems*	• *Communities do not have local early warning system*	• *Local EWS for flood management established by 2018* • *At least 1200 HHs engaged in managing local EWS*	• *Project reports* • *HH surveys*
Output 2.1.1: communities' local early warning, flood management, and environmental quality systems strengthened	▪Level of improvement of local community systems ▪Water quality of various sources maintained during floods ▪ No. of water resources monitoring stations (groundwater, surface water and water quality) functional	•Communities' traditional systems •Number of instant water quality treatment equipment for use during floods and for onsite water quality testing • No. of water resources monitoring stations	▪ Community-owned/managed early warning, flood management & environmental quality systems established by 2018 • 3 instant water quality treatment/testing equipment in place ▪ 6 groundwater, 6 surface water and 9 water quality monitoring stations installed	▪ Project reports ▪ Monitoring reports/data ▪ Water test reports ▪ Early warning reports
Output 2.1.2: Stakeholders in the catchment sensitized & engaged in identifying threats, response measures, and taking local actions	▪Level of stakeholders' engagement	•Little engagement of stakeholders and households	▪ Stakeholders and households affected by flood fully engaged by 2018	▪ Project reports ▪ Early warning reports

Component 3: Establishing functioning management structure for Awoja, Aswa and Maziba catchments				
Outcome 3.1: Awoja, Aswa and Maziba catchments managed by an appropriate water and climate governance structures	• *Existence of appropriate catchment management structures for Awoja, Aswa and Maziba catchments*	• *Interim structures*	• *Fully functioning structures by 2016*	• *Decision reports of the management* • *Reports on resource use related conflicts*
Output 3.1.1: Catchment based IWRM and climate adaptation plan prepared for Awoja, Aswa and Maziba catchments	▪Groundwater resources assessment in each of the catchments ▪Awoja, Aswa and Maziba integrated plans	▪ No. of groundwater resources assessment undertaken and integrated in IWRM plans ▪ No integrated plans	▪ 3 catchment based groundwater resources assessments undertaken and integrated in IWRM plans ▪ Full IWRM and Climate adaptation plans prepared by end 2016	▪ IWRM and climate adaptation plans ▪ Assessment reports ▪ Process reports
Output 3.1.2: Awoja, Aswa and Maziba catchment management institutional structures strengthened /established and functioning	▪No. of gender balanced functional watershed planning and management entities (district watershed team, community watershed team) ▪No. of community watershed that adopted legalized bylaws	▪ No watershed teams	▪ 12 community/sub-watershed and 20 district Watershed Structures established by 2016	▪ Minutes of meetings of watershed committees ▪ Program progress reports
Output 3.1.3: Multi-stakeholders' platforms established and operationalized as part of catchment management structures	▪No. of multi-stakeholder platforms established	▪ No community structures	▪ Communities use platforms as part of governance for water and climate resilience	▪ Minutes of multi-stakeholder platforms ▪ Project progress reports
Component 4: Strengthening capacities of stakeholders				
Outcome 4.1: Key stakeholders capacitated to implement IWRM and climate adaptation actions on the ground	• *No of key stakeholders ready to support local communities* • *No of communities and other stakeholders that are ready to implement actions*		• Key stakeholders in each catchment area support capacity building activities of the 12 demonstration sites • Key stakeholders at national level • Governments fully sensitized and committed by 2016 • 25% shift in approach by 2017	• *Reports* • *surveys*

Output 4.1.1: Awareness raising workshops and other events on climate change, its impacts and adaptation strategies related to water organized for Awoja, Aswa and Maziba communities, local authorities and local stakeholders	▪No of awareness raising workshops conducted •No. of people participated	▪ none	▪ six awareness workshops per year	▪ workshop reports
Output 4.1. 2: Trainings on IWRM as a tool for climate change adaptation organized for key institutions at national and District levels	▪No of trainings conducted, and Training materials prepared ▪No. of people trained	▪ no	▪ twelve national/local trainings	▪ training reports ▪ training materials
Output 4.1.3: Key Government sectors aware and are sensitized on importance of integrating issues of water security and climate resilience into national and sectoral development plans	▪No of key Govt. sectors involved	▪ Low level of appreciation	▪ Key Govt. sectors in Uganda sensitized and committed to integrate issues of water security and climate resilience into their development plans by 2016	▪
Output 5.1.4: Uganda supported to review its national development plan to integrate issues of water security and climate resilience into its national and sector plans	▪No of sectors supported with development of mechanisms/tools for integrating issues of water security and climate resilience	▪ National development plans do not generally integrate issues of water security and climate resilience i	▪ Key sectors such as agriculture, water, environment and energy reviewed their sectorial plans ▪ Mechanisms/ tools to integrate issues of water security and climate resilience ready by end 2013 for the key sectors	▪
Component 5: Knowledge management				
Outcome 5.1: Good practices and lessons learned are documented and contribute to exchange of knowledge among all stakeholders	▪Mechanisms and tools to integrate issues of water security and climate resilience developed			▪ Review reports in the region ▪ Documents on the mechanisms and tools
Output 5.1.1: processes and lessons from implementing the project documented, case studies developed, and learning materials prepared and disseminated	▪No. of innovative technologies/approaches and lessons learnt documented ▪No. of case studies produced ▪No. of experts, DAs & farmers	▪ No	▪ Ten innovative technologies/approaches and lessons learnt documented by 2018 ▪ four case developed by 2018	▪ M&E reports ▪ Documentation reports ▪ Case studies ▪ Assessment reports

	who apply knowledge and skills gained		▪ 50% of experts, DAs and farmers apply knowledge	
Output 5.1. 2: learning trips to successful projects in Africa organized	▪No of trips organized No. of people participated	▪ no	▪ three trips to outside of Uganda	▪ Sensitization workshop reports ▪ Policy briefs ▪ Advocacy materials
Component 6: Project management				
Outcome 6.1: Efficient and participatory project management system developed	• *Success of the program*	•	• *The program phases out successfully*	• *Final evaluation report and exist strategy*
Output 6.1.1: efficient project management system developed and operational	▪Overall achievement of annual plans	• No	▪ 100% achievement of planned activities and budget	• Reports
Output 6.1.2: efficient M&E system established	▪No. of male and female experts who attended project M&E trainings ▪Number of joint review missions	• No	• Two trainings in 2015 and 2016 • Two joint-monitoring visits per year (one to review plans and another to review results)	• Reports

F. Alignment of Project Objectives/Outcomes with Adaptation Fund Objectives/Outcomes

Alignment of project objectives/outcomes with that of Adaptation Fund is shown in the table below:

Adaptation Fund Impact		**Project Goal**	
Impact: Increased resiliency at the community, national, and regional levels to climate variability and change.		enhance food security and improve communities' resilience to climate change impacts through sustainable management of water and related resources	
Adaptation Fund Outcomes	**Adaptation Fund Outcome Indicators**	**Project Results**	**Project Results Indicators**
Output 1: Risk and vulnerability assessments conducted and updated at a national level	1.1. No. and type of projects that conduct and update risk and vulnerability assessments 1.2 Development of early warning systems	Output 2.1.1: communities' local early warning, flood management, and environmental quality systems strengthened	• Level of improvement of local community early warning systems

Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1.2. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased 2.2.1. Percentage of population covered by adequate risk-reduction systems	Outcome 4.1: Key stakeholders capacitated to implement IWRM and climate adaptation actions on the ground	• No of communities and other stakeholders that are ready to implement actions
Output 2.1: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events 2.1.2. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased 2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	Output 4.1.1: awareness raising workshops and other events on climate change, its impacts and adaptation strategies related to water organized Output 4.1. 2: trainings on water and climate change organized (introductory, water and CC focused, adaptation measures, strategy/plan development) Output 5.1. 2: learning trips to successful projects in Africa organized	• No of awareness raising workshops conducted • No. of people participated • No of trainings conducted, and Training materials prepared • No. of trained people • No of trips organized • No. of people participated
Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1.1 No. and type of risk reduction actions or strategies introduced at local level 3.1.2 No. of news outlets in the local press and media that have covered the topic	Outcome1.1: Resilience of communities to climate change impacts enhanced	• No. of households that developed resilience to small climate shocks

Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	Output 3.1.1: IWRM and climate adaptation plans prepared for Awoja, Aswa and Maziba catchments Output 1.1.2: Communities supported with training and demonstration of climate responsive local actions Output 3.1.1: Awoja, Aswa and Maziba catchment management institutional structure established and functioning	• % of communities/sub watersheds for which sub-plans prepared • No. of Demonstration sites established/strengthened • No. of communities members trained • No. of gender balanced functional watershed planning and management entities (district watershed team, community watershed team) • No. of community watershed that adopted legalized bylaws
Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type) 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)	Output 1.1.1: Communities supported with training and implementation of adaptation actions in agricultural production	▪area of farmland treated with appropriate bio-physical measures and practices, ▪area of communal lands/hillsides and gullies rehabilitated with appropriate bio-physical measures and technologies ▪No. of male and female who benefited from participation in communal lands treatment ▪No. of functional surface water harvesting systems • Ha of farmland put under irrigated agriculture
Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress	Outcome 1.1: Resilience of communities and natural systems to climate change impacts enhanced	•Size/Area of wetlands rehabilitated •Size/are of catchment protected •Length of gullies treated •Size/area of buffer zone protected Size/Area of enclosed areas established
Output 5: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	Output 1.1.2: Communities supported with training and implementation of adaptation actions to increase ecosystem resilience	•Size/Area of wetlands rehabilitated •Size/are of catchment protected •Length of gullies treated •Size/area of buffer zone protected • Size/Area of enclosed areas established

Outcome 7: Improved policies and regulations that promote and enforce resilience measures	7. Climate change priorities are integrated into national development strategy	•	•
Output 7: Improved integration of climate-resilience strategies into country development plans	7.1. No., type, and sector of policies introduced or adjusted to address climate change risks 7.2. No. or targeted development strategies with incorporated climate change priorities enforced	▪ Output 4.1.3: Key Government sectors aware and are sensitized on importance of integrating issues of water security and climate resilience into national and sectoral development plans ▪ Output 4.1.4: Uganda supported to review its national development plan to integrate issues of water security and climate resilience into its national and sector plans	• No of key Govt. sectors involved • Draft revised national development plans and strategies

G. Detailed Project Budget

Outcome/ Output	Activities	Budget (USD)
Component 1	**Supporting communities to identify and implement water security and climate adaptation actions**	
Outcome 1.1	**Resilience of communities and natural systems to climate change impacts enhanced**	
	Consult communities and agree on the locations for various interventions	15,000
	Train communities on climate responsive local actions	90,000
	Support communities in Awoja, Aswa and Maziba catchments to harvest water on farm for different purposes	300,000
	Support communities in Awoja, Aswa and Maziba catchments to construct 12 valley tanks/dams for multipurpose uses	1,200,000
Output 1.1.2	Support communities in Awoja, Aswa and Maziba catchments to manage and restore their wetlands and other ecosystems eg forests	450,000
	Support communities in Awoja, Aswa and Maziba catchments to implement land and water conservation measures	900,000
	Support communities in Awoja, Aswa and Maziba catchments to establish a revolving fund for livelihood improvement	900,000
	sub-total component 1	3,855,000
Component 2	**Establishing water resources monitoring networks for use in flood early warning systems and for testing the quality of water**	
Outcome 2.1	**Communities are better prepared to the risk of flood and timely information can take envisaged response measures**	
Output 2.1.1	Raise communities awareness on flood management and early warning systems	30,000
	Assess flooding area and impacts including settlement patterns, and communities' traditional flood management practices	60,000
	Establish rainfall - flood relationship	30,000
Output 2.1.2	Strengthen the local system and provide flood early warning information to communities	90,000
	Install equipent for instant water quality treatment during floods and for on site water quality tesing (1 set I each catchment)	450,000
	Establish 6 groundwater monitoring stations (2 in each catchment)	90,000
	Establish 9 water quality monitoring stations (3 in each catchment)	90,000
	Establish 6 hydromet monitoring stations (2 in each catchment)	240,000
	sub-total component 2	1,080,000

Component 3	**Establishing functioning management structure for Awoja, Aswa and Maziba catchments**	
Outcome 3.1	**Awoja catchment managed by an appropriate water and climate governance structures**	
Output 3.1.1	Organize Awoja, Aswa and Maziba catchments stakeholders meetings and launch the project	55,000
	Agree on the action plan to prepare an IWRM and climate adaptation plan for Awoja, Aswa and Maziba catchments	-
	Conduct situational analysis (bio-physical and socio-economic) of the Awoja, Aswa and Maziba catchments	105,000
	Undertake groundwater resources assessment in each of the catchments and integrate GW within IWRM in catchments	300,000
	Assess water and related natural resources potentials, challenges, uses; and draft management/development plan for Awoja, Aswa and Maziba catchments	105,000
	organize consultation meeting of stakeholders on the draft Awoja, Aswa and Maziba catchments integrated plan	75,000
	Finalize the plans and get endorsed by all stakeholders	15,000
Output 3.1.2	Conduct stakeholder analysis and define roles and interests	15,000
	Organize stakeholders meeting and agree on the structures	30,000
Output 3.1.3	Organize Awoja, Aswa and Maziba catchments stakholders' platform Meetings (six meetings/year)	160,000
	Organize National Project Steering Committee meetings in (four meetings/year)	32,000
	Organize Local government and community consultation meetings (six meetings/year)	48,000
	sub-total component 3	940,000
Component 4	**Strengthening capacities of stakeholders**	
Outcome 4.1	**Support communities in Awoja, Aswa and Maziba catchments to implement land and water conservation measures**	
Output 4.1.1	Organize six awareness raising workshops per year on climate change, its impacts and adaptation strategies related to water (one national and five community)	120,000
Output 4.1.2	organize six trainings on water and climate change (introductory, water and CC focused, adaptation measures, strategy/plan development, local management systems)	150,000
Output 4.1.3	organize two sensitization workshops to key Government stakeholders in Uganda on the importance of integrating issues of water security and climate resilience into national and sectoral development plans	24,000
	organize follow-up meetings with key government sectors, and agree on an action plan to integrate IWRM and CC adaption into National development Plans	5,000
Output 4.1.4	support technical assistance for Uganda to review its national development plans and strategies to integrate issues of water security and climate resilience	30,000

	Organize review workshops on the mechanism and tools to integrate issues of water security and climate resilience	15,000
	sub-total component 4	344,000
Component 5	**Knowledge management**	
Outcome 5.1	**Countries and communities in Eastern Africa changed their approaches and practices based on Awoja experience**	
Output 5.1.1	Document good practices, processes and challenges from project implementation	40,000
	review and endorse by stakeholders for dissemination	15,000
	Prepare learning materials (knowledge kits, documentary films, posters	80,000
	Organize learning events on CC to the site (world water day) (2 events)	50,000
Output 5.1.2	Organize learning trips to successful projects in Africa (e.g.. Kenya & Ethiopia)	120,000
	sub-total component 5	305,000
Component 6	**Project Execution**	
Outcome 6.1	**Efficient and participatory project management system developed**	
Output 6.1.1	regular follow-up of project implementation by GWPEA, OSS and Ministry of Water and Environment	125,000
Output 6.1.2	organize project planning and results-based management training	30,000
	organize joint project monitoring missions	200,000
	Midterm review	50,000
	Final Evaluation	50,000
	Audit	25000
	sub-total component 6	480,000
	TOTAL PROJECT BUDGET	**7,004,000**
	Implementing Entity Management fees (7%)	490,280
	Grand TOTAL PROGRAM BUDGET	**7,494,280**

H. Disbursement schedule with time-bound milestones.

Outcome/ Output	Activities	Budget (USD)	2015	2016	2017	2018	
Component 1	**Supporting communities on water security and climate adaptation actions**						
Outcome 1.1	**Resilience of communities and natural systems to climate change impacts enhanced**						
Output 1.1.1	Consult communities and agree on the locations for various interventions	15,000		15,000			
	Train communities on climate responsive local actions	90,000		90,000			
	Support communities in Awoja, Aswa and Maziba catchments to harvest water on farm for different purposes	300,000		100,000	100,000	100,000	
	Support communities in Awoja, Aswa and Maziba catchments to construct 12 valley tanks/dams for multipurpose uses	1,200,000		400,000	400,000	400,000	
Output 1.1.2	Support communities in Awoja, Aswa and Maziba catchments to manage and restore their wetlands and other ecosystems eg forests	450,000		150,000	150,000	150,000	
	Support communities in Awoja, Aswa and Maziba catchments to implement land and water conservation measures	900,000		300,000	300,000	300,000	
	Support communities in Awoja, Aswa and Maziba catchments to establish a revolving fund for livelihood improvement	900,000		300,000	300,000	300,000	
	sub-total component 1	3,855,000	0	1,355,000	1,250,000	1,250,000	
Component 2	**Establishing local flood early warning system**						
Outcome 2.1	**Communities are better prepared to the risk of flood and timely information can take envisaged response measures**						
Output 2.1.1	Raise communities awareness on flood management and early warning systems	30,000		10,000	10000	10,000	
	Assess flooding area and impacts including settlement patterns, and communities' traditional flood management practices	60,000		20,000	20000	20,000	
	Establish rainfall - flood relationship	30,000			30,000		
Output 2.1.2	Strengthen the local system and provide flood early warning information to communities	90,000		30000	30000	30000	
	Install equipment for instant water quality treatment during floods and	450,000		150,000	150,000	150,000	

	for onsite water quality testing (1 set I each catchment)						
	Establish 6 groundwater monitoring stations (2 in each catchment)	90,000		45,000	45,000		
	Establish 9 water quality monitoring stations (3 in each catchment)	90,000		45,000	45,000		
	Establish 6 hydromet monitoring stations (2 in each catchment)	240,000		120,000	120,000		
	sub-total component 2	1,080,000	0	420,000	450,000	210,000	
Component 3	**Establishing functioning management structure for catchments**						
Outcome 3.1	**Awoja catchment managed by an appropriate water and climate governance structures**						
Output 3.1.1	Organize Awoja, Aswa and Maziba catchments stakeholders meetings and launch the project	55,000	55000				
	Agree on the action plan to prepare an IWRM and climate adaptation plan for Awoja, Aswa and Maziba catchments	-					
	Conduct situational analysis (bio-physical and socio-economic) of the Awoja, Aswa and Maziba catchments	105,000		55000	50,000		
	Undertake groundwater resources assessment in each of the catchments and integrate GW within IWRM in catchments	300,000		150,000	150,000		
	Assess water and related natural resources potentials, challenges, uses; and draft management/development plan for Awoja, Aswa and Maziba catchments	105,000		85000	20,000		
	organize consultation meeting of stakeholders on the draft Awoja, Aswa and Maziba catchments integrated plan	75,000		35,000	40,000		
	Finalize the plans and get endorsed by all stakeholders	15,000			15000		
Output 3.1.2	Conduct stakeholder analysis and define roles and interests	15,000		15,000			
	Organize stakeholders meeting and agree on the structures	30,000		10,000	20,000		
Output 3.1.3	Organize Awoja, Aswa and Maziba catchments stakeholders' platform Meetings (six meetings/year)	160,000		40000	60000	60000	
	Organize National Project Steering Committee meetings in (four meetings/year)	32,000	8000	8000	8000	8000	
	Organize Local government and community consultation meetings (six meetings/year)	48,000	12,000	12,000	12,000	12,000	

	sub-total component 3	940,000	75,000	410,000	375,000	80,000	
Component 4	**Strengthening capacities of stakeholders**						
Outcome 4.1	**Key stakeholders capacitated to implement IWRM and climate adaptation actions on the ground**						
Output 4.1.1	Organize six awareness raising workshops per year on climate change, its impacts and adaptation strategies related to water (one national and one community)	120,000		40,000	40,000	40,000	
Output 4.1.2	organize six trainings on water and climate change (introductory, water and CC focused, adaptation measures, strategy/plan development, local management systems)	150,000		50,000	50,000	50,000	
Output 4.1.3	organize two sensitization workshops to key Government stakeholders in Uganda on the importance of integrating issues of water security and climate resilience into national and sectoral development plans	24,000	12000	12000			
	organize follow-up meetings with key government sectors, and agree on an action plan to integrate IWRM and CC adaption into National development Plans	5,000	5000				
Output 4.1.4	support technical assistance for Uganda to review its national development plans and strategies to integrate issues of water security and climate resilience	30,000		30000			
	Organize review workshops on the mechanism and tools to integrate issues of water security and climate resilience	15,000		15000			
	sub-total component 4	344,000	17000	147,000	90,000	90,000	
Component 5	**Knowledge management**						
Outcome 5.1	**Countries and communities in Eastern Africa changed their approaches and practices based on Awoja experience**						
Output 5.1.1	Document good practices, processes and challenges from project implementation	40,000		10,000	10,000	20,000	
	review and endorse by stakeholders for dissemination	15,000				15000	
	Prepare learning materials (knowledge kits, documentary films, posters	80,000			40000	40000	
	Organize learning events on CC to the site (world water day) (2 events)	50,000		25000		25000	
Output 5.1.2	Organize learning trips to successful projects in Africa (e.g. Kenya &	120,000		60,000	60,000		

	Ethiopia)						
	sub-total component 5	305,000		95,000	110,000	100,000	
Component 6	**Project Execution**						
Outcome 6.1	**Efficient and participatory project management system developed**						
Output 6.1.1	regular follow-up of project implementation by GWPEA, OSS and Ministry of Water and Environment	125,000	10000	40000	35000	40000	
Output 6.1.2	organize project planning and results-based management training	30,000	30000				
	organize joint project monitoring missions	200,000	20000	60000	60000	60000	
	Midterm review	50,000			50000		
	Final Evaluation	50,000				50000	
	Audit	25000	4000	7000	7000	7000	
	sub-total component 6	480,000	64,000	107,000	152,000	157,000	
	SUB-TOTAL PROJECT BUDGET	**7,004,000**	**156 000**	**2 534 000**	**2 427 000**	**1 887 000**	
Component 7	**Implementing Entity Management of project**						
	Sub-total component 7		92,000	122,000	122,000	154,280	
	TOTAL PROJECT BUDGET	**7,494,280**	**248,000**	**2,656,000**	**2,549,000**	**2,041,280**	

Annexe

MAZIBA CATCHMENT COMMITTEE

Name	Designation	Representation	Contact
BAZIRAKYE LOUIS	LC3 Chairperson (CHAIRMAN MAZIBA CMO)	LC 3 CHAIRPERSON KABALE SOUTHERN DIVISION	+256703187999/+256772601255 ibazirakye@yahoo.com
MUHEREZA DASTUN	LC3 Chairperson	LC 3 CHAIRPERSON KAHARO SUB-COUNTY	+256772307871/+256702307871
TUMUHIMBISE EDISON	LC3 Chairperson	LC 3 CHAIRPERSON MAZIBA SUB-COUNTY	+256772672628/+256756409229
KABATEREINE JAMES	LC3 Chairperson	LC 3 CHAIRPERSON HAMURWA S/C	+256782106233
TWESIGOMWE ELIAS	LC3 Chairperson	LC3 CHAIRPERSON KAMUGANGUZI SUB-COUNTY	+256777379013/+256702736184
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TUSHABE MULANGIRA	Kabale District Senior Environmental Officer	DISTRICT SENIOR ENVIRONMENT OFFICER KABALE	+256772929788 murangi2009@yahoo.com
KYOMUHANGI EDDIE	Sub-county Community Development Officer	SUB-COUNTY COMMUNITY DEVELOPMENT OFFICER	+256772393172 kyomuhangieddie2015@gmail.com
Name	Designation	Representation	Contact
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ZERIDA RINDABO	Community Development officer	S/C TECH	+256777858521 rindabozerida@gmail.com
NATURINDA BRIGHTON	Finance Officer	S/C TECH.	
AHIMBISIBWE ALFRED	Municipal Environment Officer	MUN. TECH	
AHABWE KAMUSIIME	HOPE RADIO Presenter	MEDIA	+256787286813/+256703476774 kamusiimepraise@gmail.com
MUGISHA JAMES	Principal Assistant Secretary	KABALE DIST. ADMINSTRATION	+256772676149
NYAKANA SWITHEN	KABALE DIOCES Water and Sanitation Programme	NGO	+256700128254 nyakaanaswithen@yahoo.com

UPPER ASWA CATCHMENT MANAGEMENT COMMITTEE MEMBERS				
DISTRICT	**NAME**	**DESIGNATION**	**TELEPHONE**	**E-MAIL**
OTUKE	Hon. Ogwang Benson	LCV Chair	0775490930	
	Odongo Thomas	DWO	0772669379	
	Boniface Ebong	DEnO/AgDNRO	0758850224	Bonniebong11@gmail.com
ABIM	Hon.Ocero Norman (Chairman CMC)	LCV	0788718700	oceronorman@yahoo.com
	Mwaki Isaac	DWO	0781485838	Waterengineer.uganda@gmail.com
	Oscar Okeng	VET	0772996147	
LIRA	Hon. Oremo Alex A lot	LCV		
	Ogwang Richard	ACAO	0772510746	ogwarich@gmail.com
	Omoko Hudson	DWO	0752578131	hudsonomoko@gmail.com
ALEBTONG	Hon. D.K Odongo	LCV	0777807072	odongodavidkennedy@yahoo.com
	Atalla Joan.A	DNR	0789960021	atalla__jo@yahoo.com
	Dr.Charles Noki	DPO	0772673509	charlesnoki@yahoo.com
AGAGO	Hon. Peter Odeket / Hon.Lalam Susan	LCV	0777155340	
	Jurua Charles	ACAO	0772356433	juruac@gmail.com
	Raymond Olyel	DWO	0783922788 0755366077	olyelraymond@yahoo.com
AMURIA	Etebu John Robert	Vice LCV	0771425088	
	Bernard Egangu	DWO	0772689395	begangu@yahoo.com benegangu@gmail.com
	Otim Charles	DNRO	0772316865 0757581140	hsifcty@yahoo.com
UWASNET	Okaka Isaac	Regional Coordinator	0779707638	isaacokaka@yahoo.com
PRIVATE SECTOR DEVELOPMENT LIRA	Aruna Nelson	Project Officer	0782553528	Nelo@yahoo.com

MEMBERS OF THE AWOJA CATCHMENT MANAGEMENT COMMITEE

1. **Chairpersons, Local Council 5**

- Soroti district (Chair): Eguuyu George
- Napak district: Lominya Joseph
- Bulambuli district: Wananzofu Simon Peter
- Kapchorwa district: Sam Cheptoris
- Kumi district: Imail Orot

2. **Chief Administrative Officers**

- Serere district
- Ngora district
- Bukwo district
- Nakapiripirit district

3. **District Technical Staff**

- Amudat: Water Officer
- Sironko: Community Development Officer
- Kween: Water Officer
- Bukedea: Environmental Officer
- Katakwi: Natural Resources Officer

4. **Non Governmental Oganisations**

- Water Aid (national level)
- Red Cross Uganda, Soroti
- IUCN, Mbale

5. **Private Sector and Parastatals**

- National Forest Authority
- Uganda Wildlife Authority
- National Water and Sewerage Corporation

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (such as National Development Strategy and Country Vision 2040, National Climate Change Policy and Strategy 2012, The National Adaptation Programme of Action (NAPA)) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Khatim Kherraz, *Executive Secretary* Implementing Entity Coordinator  	
Date: *30 January 2014*	Tel. and email: khatim.kherraz@oss.org.tn
Project Contact Person: Nikola Rass, Sadok El Amri	
Tel. +216 71 206 633 Email: boc@oss.org.tn; Nikola.rass@oss.org.tn; sadok.elamri@oss.org.tn	

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: 256 41 4343 023
: 256 41 4341 286
Email : finance@finance.go.ug
Website : www.finance.go.ug

In any correspondence on
this subject please quote No. EDP79/251/02

THE REPUBLIC OF UGANDA

Ministry of Finance, Planning &
Economic Development
Plot 2-12, Apollo Kaggwa Road
P.O. Box 8147
Kampala
Uganda

16 January 2015

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for a Project "ENHANCING RESILIENCE OF COMMUNITIES TO CLIMATE CHANGE THROUGH CATCHMENT BASED INTEGRATED MANAGEMENT OF WATER AND RELATED RESOURCES IN UGANDA"

In my capacity as Designated Authority for the Adaptation Fund in Uganda, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks posed by climate change in the Uganda more specifically in Awoja catchment in Eastern Uganda, Aswa catchment in Northern Uganda and Maziba catchment in South Western Uganda with an estimated total cost of US dollars Seven Million four hundred and ninety four thousand two hundred and eighty (US $7,494,280).

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Ministry of Water and Environment, Uganda in partnership with the Global Water Partnership Eastern Africa through the Sahara Sahel Observatory as the Regional Implementing Entity.

Sincerely,

Ruhweeza

Joyce Kamanyire Ruhweeza
DESIGNATED AUTHORITY FOR THE ADAPTATION FUND
Principal Economist
Ministry of Finance, Planning and Economic Development
Government of the Republic of Uganda

Copies: The Permanent Secretary/Secretary to the Treasury
Ministry of Finance, Planning and Economic Development
Kampala, Uganda

The Permanent Secretary
Ministry of Water and Environment
Kampala

Mr. Paul Isabirye
UNFCCC National Focal Point
National Meteorological Authority
Kampala