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
Amount of Financing Requested:	7,781,000 US Dollars

A. Project Background and Context

Uganda occupies a total area of 241,038km^2, most of which is suitable for agriculture. Despite 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$). Although the human development index has seen a steady rise since the early 1990s, about 29% of the population still lives on less than 1.25 US$ per day[2] as the poverty rate remains high at 31% in 2006 and 24.5% in 2010. With a contribution of 52% of growth (2008) compared to 32% in 1992, services are the main drivers of growth. Agriculture employs about 66% of the working population and contributes about 22% to total GDP[1]. Seventy-one percent of Uganda's working population is engaged in subsistence agriculture as their main occupation and 68% of households depend on it for their livelihoods.[2] Therefore, agriculture remains a fundamental part of Uganda's economy. Between 2009 and 2010 the population of Uganda grew by 3.7 percent to a total of 32 million people and is projected to reach 103.2 million in 2050 assuming the growth declines by 2.9% per annum between 2040 and 2050[3]. In spite of rapid urbanization, 85% of the population remains predominantly rural. Although Uganda's Vision 2040 is targeting

[1] UBOS, Uganda Bureau of Statistics
[2] UNDP/NEMA/UNEP Poverty Environment Initiative, Uganda (2009) Enhancing the Contribution of Weather, Climate and Climate Change to Growth, Employment and Prosperity.
[3] Bashaasha B., Thomas, T. S., Waithaka M., Kyotalimye M. (2012) East African Agriculture and Climate Change: A Comprehensive Analysis, Uganda

60% urban population by 2040 it is more likely that, 79% of Uganda's population will still live in rural areas by 2030.

The major symptoms of climate change in Uganda include an increase in the frequency and intensity of disasters e.g. floods and landslides; variability and unpredictability of rainfall patterns; and increase in temperatures. These have severe impact on agriculture and food security of the country especially among the rural populations.

The combined effect of population increase and climate change have put an unprecedented pressure on land and water resources and if not supported by sustainable management practices will lead to increased degradation of natural resources that makes the land more sensitive to the risks of floods and landslides.

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.

Uganda's economy and local communities are vulnerable to climate change and variability as a result of a number of compounding factors: i) heavy reliance on natural resources, particularly within the agricultural sector; ii) dependence on rain-fed agriculture; iii) close linkages between agricultural performance and climatic changes – with gross domestic product (GDP) and inflation rates closely corresponding to seasonal rainfall patterns; iv) high population growth rates – ~3.2% per year – in combination with high poverty levels reducing capacity of communities to cope with climate hazards; v) low per capita income of ~ US$506; vi) limited financial capacity to fund adaptation measures; vii) weak and inadequate infrastructure; viii) inadequate supply of clean water and sanitation facilities; and ix) inadequate availability of health and medical services[4].

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 different climate change scenarios the total unmet water demand in 2050 could rise from 3 to 10 MCM/y[5]. Therefore, establishing an integrated water management framework is an important response to the increased demand for water and the uncertainties of climate change. In its Costed Adaptation Strategy[6] the government of Uganda has devised a programme on Integrated Water Resources Management (IWRM) to help reduce the losses from droughts and floods.The proposed project seeks to apply catchment based IWRM as a key Climate change adaptation measure for the vulnerable natural systems and communities in the highly sensitive project areas suggested. The proposed project will involve establishing Frameworks for Climate Resilient

[4] CDKN Climate and Development Knowledge Network (2015) Economic assessment of the impacts of climate change in Uganda: Key results – www.cdkn.org.

[6] MWE, Ministry of Water and Environment, (2012) Costed Aaptation Strategy. Integrated Water Resources management

Catchment Management, implementing concrete adaptation actions for resilient and sustained ecosystems, agricultural and other livelihood systems and building capacities of extension services and local, regional and national institutions to better support communities.

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 well endowed with surface water resources. Similarly, substantial amounts of groundwater are in aquifers found in rocks at different depths below the ground surface. Generally, Uganda is a well-watered country. Four of East Africa's Great Lakes--Lakes Victoria, Kyoga, Albert and Edward lie within Uganda or on its borders. Lake Victoria dominates the southeastern corner of the nation, with almost 10,200 km^2 lying inside the Ugandan territory. Water resources in Uganda are stored in both open and underground reservoirs. Occurrence of water resources depends principally on the rainfall pattern, 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 were quantified in terms of resources availability and demand[7]. The total annual renewable water resources of Uganda are estimated to be 43 Billion km^3 of which 29 and 14 Billion Km^3 are externally and internally renewable water resources respectively. 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 (about 2.8%). This is partly attributed to the limited area under irrigation. If all the irrigation potential of 240,000 ha is utilized by 2030 the utilization rate of internally renewable water resources could be 14.1%. The share of irrigation as part of the overall water demand could in this case rise to 60%.

Uganda is made up of 8 hydrological basins (Figure 1) each with different catchments. Currently 17 catchments have been demarcated in Uganda. Integrated planning, development and management of water and related resources will be undertaken in these catchments or sub-catchments. Based on the 8 basins, Uganda has been divided into four Water Management Zones (WMZs) namely Victoria, Albert, Kyoga and Upper Nile WMZs (Figure 2). 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 services closer to where action is needed. This helps to mobilize local community and other stakeholders' efforts to achieve catchment based IWRM and ensure effective coordination with other water resource related activities being implemented at district level such as environment, forestry and water supply. WMZs are permanent operational arrangements for effective water resources management and development in Uganda.

[7] MWE, Ministry of water and Environment

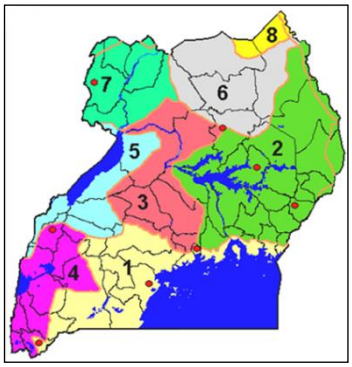


Figure 1: Hydrological basins of Uganda

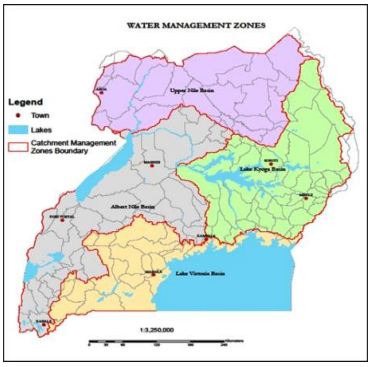


Figure 2: Water Management Zones of Uganda

A.2 Impact of climate change

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 rainy seasons in a year, which merge into one long rainy season northwards from the Equator. The first and second rainy seasons range from March to June and August to November respectively. The rainfall level ranges from 400 to 2200 mm per year. Uganda's climate can be broadly subdivided into: Highland climate, Savannah tropical climate, including the lake basin climate and Semi-arid climate.

Although different studies and climate models generally indicate variable results for future rainfall trends, it is certain that temperatures and variability of rainfall patterns will continue to increase.

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 CO_2 emission scenarios created by the IPCC4 reveals increases in mean annual temperature of between 0.7 and 1.5 ºC by the 2020's and 1.3 and 4.3 ºC by the 2080's. It further shows a significant increase in mean annual rainfall beyond 2060 with percentage increase highest in December, January and February. Changes in the severity and frequency of extreme events (floods, heatwaves and storms) are highlighted although little is known about the nature of these changes. Some models though suggest that we would see a 20-30% increase in extreme wet seasons at a medium CO_2 emission scenario.

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 increase 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.

A recent vulnerability analysis[8] 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 (earlier or later), while the length of the rainy season can change by 20 to 40 days from year to year. This increase could have strong impacts on agriculture, especially with respect to tree crops (e.g. coffee) and post-harvest activities e.g. drying and storage. This indicates that the current wet season from March to May (referred to as the "long rains" in Southern and Central Uganda) may shift forwards in time or the September to November rains, referred as the 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 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 ice caps on Rwenzori Mountains has increased the erosive power of river Semliki. Such erosive power and associated siltation downstream, compounded by the intensive cultivation along the river course, have enabled Semliki to disproportionately erode the Ugandan side and literally block its original course.

Although Uganda's climate is naturally variable, the major symptoms of climate change include increase in temperatures and increased variability and unpredictability of rainfall patterns that lead to increased frequency and intensity of disasters such as floods and landslides. Floods have great impacts on local communities as well as socio-economic sectors – particularly the agriculture sector[9]. For example, floods in 1961/62, 97/98 and in 2007 saw widespread infrastructure damage, displacement and destruction of livelihood assets. Flooding is mainly associated with low lying areas and riverbanks. Locations most prone to flooding are situated along rivers and streams that often break their banks due increased rainfall upslope. Flooding mainly affects agriculture and transport through washing away of crop gardens and transport infrastructure e.g. roads, bridges and culverts. Soil erosion on the other hand is more wide spread and sweeps across vast parts of the upper and middle slopes. Farmlands are predisposed to excessive water runoff as a result of increased exposure of soils due to continuous cultivation combining with increasingly torrential rainfall. Agriculture, food security, income, water and sanitation are the most sensitive and thus affected sectors as far as soil erosion is concerned. But agriculture being the mainstay of local livelihoods, poor crop performance translates into both food and income insecurity. 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 68,000 people[10].

Landslides are localised events that occur in highly prone areas. Human settlements, agriculture, water and sanitation are usually most affected when landslides occur.

[8] USAID (2013) Uganda climate change vulnerability assessment report.
[9] Disaster Risk Reduction Policy
[10] World Bank

Increasing precipitation due to climate change is expected to trigger increased frequency and magnitude of landslides especially in highly prone areas. For instance about 365 people were killed in a landslide in Bududa District in Eastern Uganda within the Awoja-Catchment[11].

It will be the poor and vulnerable who feel these impacts the hardest. Exacerbating poverty and triggering migration and heightened competition over strategic water resources, climate change could lead to regional insecurity[12]. Uganda is therefore highly vulnerable to climate change and variability.

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

Many ecosystems, including forests, wetlands, streams, rivers and riverbanks as well as farmland are under increasing threat of degradation or modification in the face of population increase and climate change. Supply of regulatory services of those ecosystems such as flood control through water infiltration, landslide regulation and soil erosion control or water purification is decreasing given unsustainable cropping practices that characterize the farming systems in most of Uganda. As a result, the supply of fresh clean water, especially to the downstream communities is threatened by soil erosion and siltation. Declining land productivity implies reduction in food supply alongside fast increasing human population. The resultant food gap has prompted expansion of agricultural frontiers to fragile parts of the ecosystem e.g. riverbanks, swamps and steep slopes. Inevitably, interference with slope stability has in recent years led to increased magnitude of various hazards e.g. soil erosion, landslides, siltation and flooding.

Uganda has embarked on preparation of Catchment Management Plans (CMPs) as a means of promoting integrated planning, development and management of water and related resources to address the various impacts including climate change. However, the current CMPs neither sufficiently consider the inter-linkages between water and land management nor take climate change fully into consideration. In addition the involvement of sub-regional and local management structures as well as extension service workers in management of water and related resources has been limited.

In general the **capacity of sub-regional and local management structures** is not sufficient to efficiently provide services to the communities and the communities are not well represented due to a lack of organisation in interest groups.

There is therefore a need to:

i. strengthen the capacity of sub-regional and local management structures and extension services and promote integrated management approaches
ii. promote the organisation of communities in interest groups to facilitate a stakeholders driven catchment based planning, development and management of water and related resources.
iii. establish cooperation with partners and stakeholders in planning, development and management of water and related resources.

[11] NEMA, National Environment Management Authority, 2010.
[12] Hepworth, N. and Goulden, M. (2008) Climate Change in Uganda: Understanding the implications and appraising the response. LTS International, Edinburgh.

Farmers in the catchment areas are not aware of the need to sustainably manage water and land resources to decrease the risk of floods, landslides and siltation. Their knowledge and understanding of those methods is inadequate. This can surely be explained by their reduced access to extension services, credits and inputs required.

There is a need to take a number of actions to **ensure sustainable management of water resources and agricultural landscapes** to increase their resilience to floods and landslides. The actions may include:

i. increasing understanding of the intrinsic relationship between water and land management, and the inter-linkages of the agriculture and water sectors;
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. Constructing surface water storage reservoirs and biophysical structures, such as terraces and contour bunds

Wetlands play a crucial role throughout the country in capturing sediments, maintaining water quality and environmental flows to meet the minimum requirements of ecosystems. Due to the need to generate income, communities encroach on wetlands as alternative areas for crop farming and livestock production. Over exploitation of wetlands by local populations through unsustainable agricultural production causes siltation and degradation. Wetlands lose their ecological integrity to provide ecosystem services e.g. ability to filter water to lakes. Floods result in the displacement of people and loss of crops.

Forests are vital for maintenance of the hydrological cycle as well as stabilisation of soils across different landscapes.

Riverbanks when its vegetation is well preserved help to reduce the risk of flooding by stabilization of the shore line.

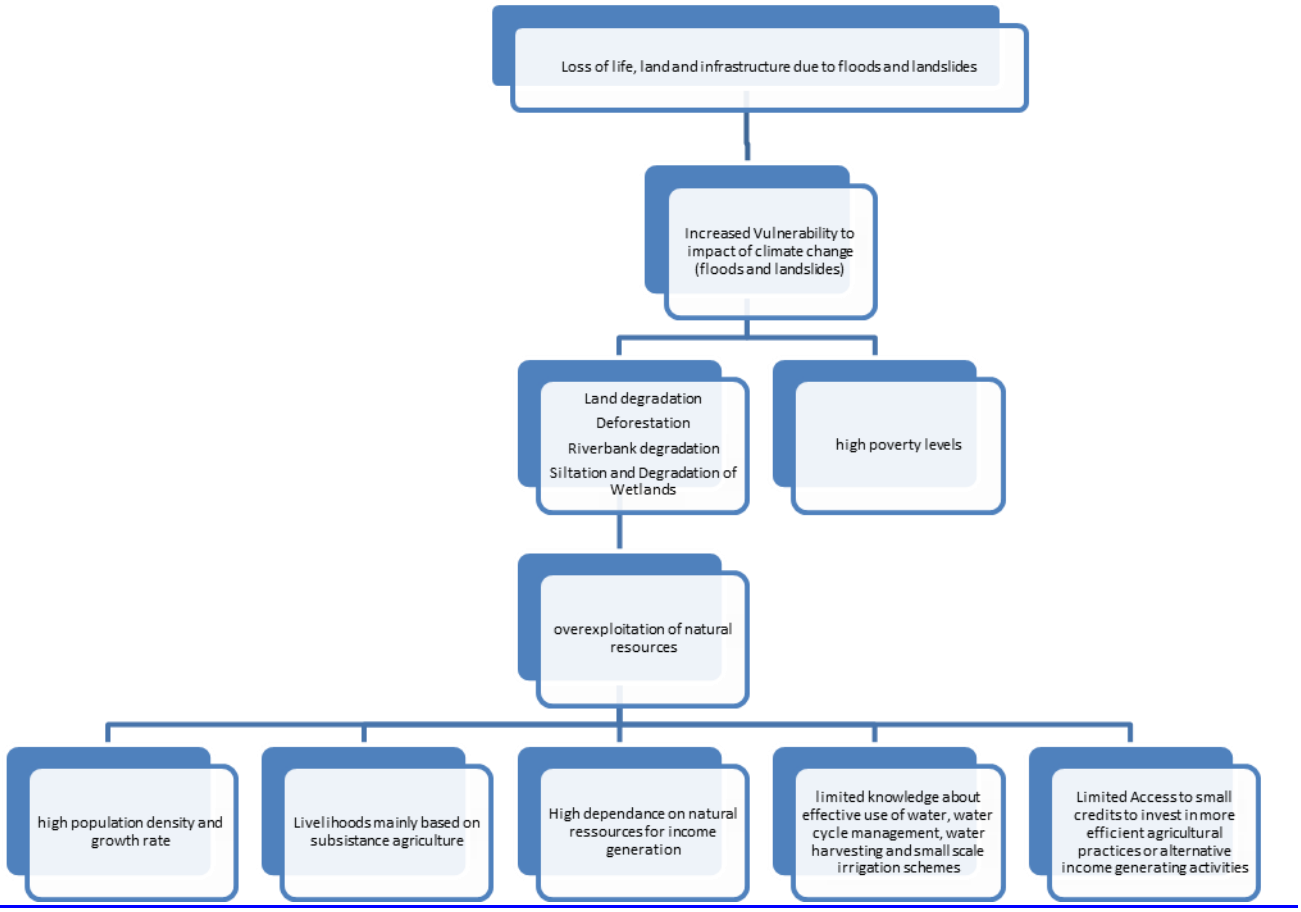
Although conservation policies and laws are in place mandated institutions have not effectively enforced compliance with rules and there are no sufficient incentives in place for conservation agriculture. Lack of access to credit facilities further impedes efforts of the local population to engage in alternative sources of livelihoods. Consequently, multiple issues have emerged including forest and watershed degradation, increasing incidences of landsides and wetlands encroachment.

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 protection of water and related resources.
iv. Promote alternative income generation activities for livelihoods to reduce pressure on natural resources

The above actions will contribute to building climate resilience of ecological systems and agricultural production systems.

The interrelation of those major issues are presented in the flowchart below



A.4 Overview of the project areas/catchments

The proposed 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 (Figures 1 and 2). The project will focus on three components in the three catchments in a phased manner. Details of activities for implementation in each catchment are presented in part III in the implementation section of the proposed project.

The three catchments have been selected out of four water management zones of Uganda based on the following criteria:

- ***Relative degree of vulnerability to climate change,*** in terms of exposure to the risk of landslides and floods and vulnerability due to challenges such as land degradation, water scarcity, population pressure and poverty.
- ***Broader representation of climatic zones of Uganda.*** This criterion is 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 catchment based water resources management in Uganda.
- ***Representation of diverse livelihood and social systems*** that may require different approaches of responding to climate change impacts. The three

catchment areas 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.

- ***Opportunity for building synergies with on-going programs/interventions.*** Work in 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 contexts and situations. The three catchment areas were also prioritized by the Government when it started implementing catchment management approach. There is already on going work by various stakeholders with which the proposed project will collaborate to create synergies.
- ***Sensitivity of ecological systems*** such as degraded highlands and wetlands.

The three catchments are exposed to the climate change related risk of flood and landslides (see table below). Occurrence of landslides in the three catchments is concentrated in the highland ecosystems, while flooding occurs in lowland ecosystems.

Exposition and Impact of climate change related risks in Maziba, Awoja, Aswa			
Catchment	**Maziba**	**Awoja**	**Aswa**
Landslides	About 57 Major land slides known since 1970s to-date.	About 93 Major landslides known since the 1990s to-date.	About 48 Major landslides known since the 1980s to-date.
Floods	About 35 flood events mentioned since 1990s including flooding of streams such as Kachamahembe stream.	About 52 flood events since 1990s including flooding of river Manafwa.	About 43 flood events since the 1990s, including the flooding of river Aswa.
Impacts	• Destruction of infrastructure • Maziba Hydro power dam silted, destroyed and nolonger operational • Maziba-Kigarama bridge destroyed, • Destruction of houses/settlements • Loss of lives and • Displacement of people • Loss of agricultural food crops • Gullies across the landscapes	• Death and Displacement of people. About 365 people lost their liveds. • Destruction of infrastructure • Loss of agricultural food crops in the lowlands due to flooding • Destruction of houses/settlements.	• Loss of lives and • Displacement of about 68,000 people • Loss of livestock and agricultural food crops • Destruction of banks of river Aswa • Water pollution

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 covers an area of 11,000 km^2, 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%. It is estimated to 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. Awoja catchment largely lies within the cattle corridor that 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) Midland and lowland plains with sufficient rainfall to support rain-fed agriculture,
(c) Extensive, forests, wetlands, lakes and river banks.

Most of the catchment is covered by open shrubs with grassland, especially in the central, northern and eastern parts 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 increases 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 the most affected by the impacts of climate variability and change. Floods and landslides are consequences of natural climatic variations in the Awoja Catchment exacerbated by climate change. Awooja is highly vulnerable to landslides in the mountains and floods in the lowlands. These events lead to loss of human life, animals and crops.

Land degradation and deforestation make the area particularly vulnerable to these changes since they play a large role in the onset of flood events The areas within

Awoja, which are most affected by the floods include Sironko, Bulambuli, Kapchorwa, Kween, Kumi, Bukedea, Serere and Soroti.

About 93 major landslides have occurred in Awoja especially in the Bududa and Manafwa areas since the 1990s to-date. It is mentioned that at least 365 people were killed in a landslide in Bududa District in the Awoja-Catchment. Between 1997 and 2004, heavy rains left 48 people dead and ten thousand displaced and landless. The volume of debris from ninety eight landslides was 11 million m3 and this was deposited into rivers and streams. Twenty nine of these landslides dammed rivers resulting in destruction of bridges and roads when the dams broke. Due to frequent landslides and floods, the rivers are often characterised by heavily degraded, eroded and often collapsing river banks. There are also high levels of sediment deposition. Therefore, the state of the river banks and the river siltation increases flood risk.

About 52 flood events have occurred since the 1990s including flooding of river Manafwa. Infrastructure including roads and bridges has been destroyed. The floods in low lands have destroyed and covered agricultural food crops such as Irish and sweet potatoes, maize and beans. The areas within Awoja, which are most affected by the floods include Sironko, Bulambuli, Kapchorwa, Kween, Kumi, Bukedea, Serere and Soroti.

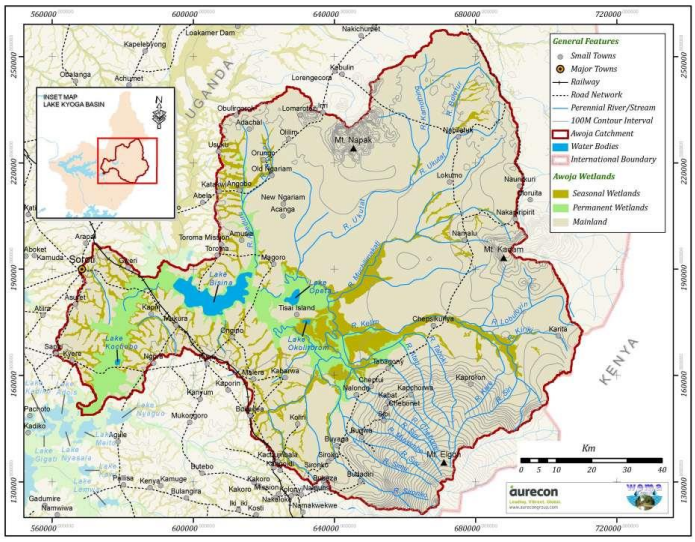


Figure 3: Rivers, lakes and wetlands of the Awoja catchment

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 covering over 31,000km^2. Over the last 20 years, the Aswa basin 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, famine and high reliance on food aid.

The catchment is host to a variety of livelihood systems including pastoral, agro-pastoral and crop farming under rain-fed agriculture at a high risk of flooding. Under normal rainfall conditions crop and livestock yields are low.

These factors have increased human 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 floods.

About 48 Major landslides are reportly known to have occurred since the 1980s to-date. About 43 flood events are said to have occurred since the 1990s. River Aswa faces the risk of flooding most of the time. The floods in low lands have destroyed and covered agricultural food crops such as simsim, beans, maize and cow peas. The impacts of landslides and floods are:

- Loss of lives and
- Displacement of about 68,000 people
- Loss of livestock and agricultural food crops
- Destruction of banks of river Aswa
- Water pollution

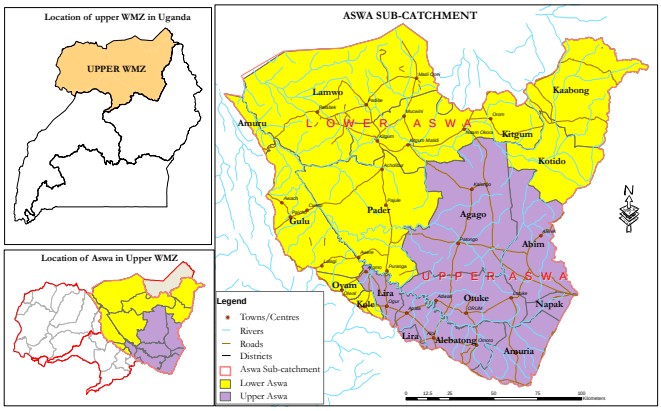


Figure 4: Aswa catchment in Upper Nile WMZ

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 characterised by dispersed Eucalyptus trees or woodlots planted by the local people and driven by the fast growth and coppicing abilities of Eucalyptus and quick incomes from sales. The area has numerous streams and wetlands. Maziba catchment is densely populated, with about 297 inhabitants /km^2 with small land holdings per household. The pressure exerted by the growing population on the catchment resources is very high and will gradually increase over time. Thus, Maziba catchment faces a number of climate change related challenges that include rapid loss of vegetation cover, high rates of soil loss in some areas, poor water quality, reducing stream flow, changing rainfall patterns, floods, landslides and wetland degradation.

Maziba catchment faces a high risk of landslides in the hilly areas and floods in lowlands. Occurrence of landslides was concentrated in the highland ecosystems, while flooding was in lowland ecosystems.

About 57 major landslides have occurred in Maziba from 1970 to-date. It is known that the landslides of 1977 destroyed the then Maziba hydro power dam and caused the siltation of the dam. The dam was later rehabilitated in the 1990s. However, due to continuous siltation resulting from landslides, the dam ceased to generate hydro power. It has since closed.

About eleven (38) landslides occurred recently between 2009 and 2016. In 2009 and 2015, landslides in Maziba covered and destroyed most of the rural infrastructure such as roads and bridges downhill and impeded public transport. There are spectacular gullies, an indication of recent landslides and soil erosion.

The floods in low lands have destroyed and covered agricultural food crops such as Irish and sweet potatoes and beans.

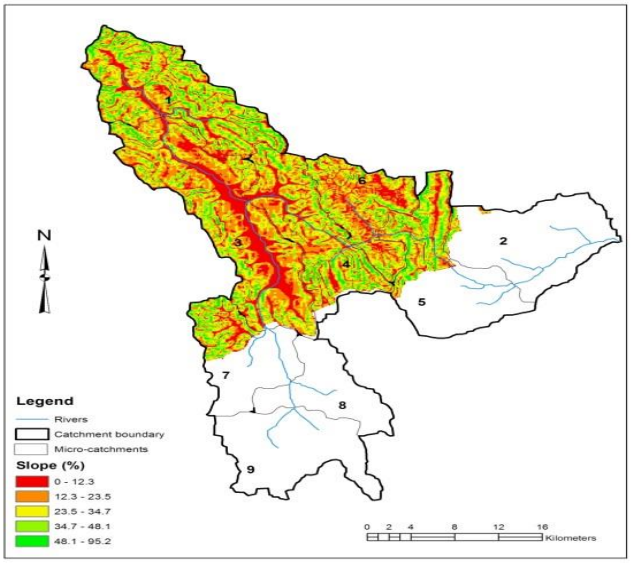


Figure 5: Slope map of Maziba catchment

Table 1 summarizes the characteristics of the three selected catchments.

Table 1: Vulnerability of selected catchments						
Catchment	***Climatic zone***	***Vulnerabilities***			***Opportunity for synergy with other programs***	***Remarks***
		exposure to risks	***Livelihood/social system***	***Sensitivity of ecosystems***		
Awoja	Highlands	Landslides	▪ Small-holder farming (Maize, millet, sorgum and cassava) on high slopes due to population pressure ▪ High population mostly dependent on land resources	▪ Soil erosion and deforestation ▪ ecosystem degradation, ▪ Encroachment of protected transboundary areas (Kenya/ Uganda)	▪ UNDP CC adaptation project in the Mt. Elgon region ▪ World Bank and GIZ support for catchment management ▪ Uganda government programs ▪ IUCN program in Mt. Elgon ecosystem	Awoja catchment was the top most priority in the Kyoga Water Management Zone due to complexity of the challenges.
	Midlands	▪ Increased water runoff ▪ Erosion ▪ Gullies	▪ Mostly mixed (crop and livestock) farming systems in midlands	▪ Land degradation		
	Lowlands	▪ Floods ▪ Siltation ▪ Erosion	▪ Small-holder farming encroaching on riverbanks	▪ Wetlands, lake shorelines and riverbanks degradation		
Aswa	Highlands	Mudslides	▪ Low level of rural community services and structures	▪ Forest degradation	▪ Austrian Cooperation Agency/IUCN on climate change adaptation, World Bank support for catchment management, Uganda government programs such as Farm Income Enhancement and Forest Conservation (FIEFOC)	▪ Area affected by armed conflict and social instability until recent past ▪ Aswa catchment was selected from the Upper Nile Water Management Zone by stakeholders to develop and implement catchment management plan.
	Midlands	Surface run-off and erosions	▪ Mixed crop and livestock	▪ Soil erosion and deforestation		
	Lowlands	▪ Floods ▪ Erratic and intense rainfall	▪ Reliant on food aid ▪ Mostly mixed (crop/ livestock) farming systems with farming of cassava, maize, sorghum	▪ Transboundary catchment (shared between Uganda and South Sudan)		
Maziba	Highland	▪ Landslides	▪ Dependence on land resources	▪ Land degradation due to high population pressure	▪ Nile basin Initiative/NELSAP program Uganda government programs such as FIEFOC (Farm Income Enhancement and Forest Conservation	▪ Tranboundary catchment (shared between Uganda and Rwanda) ▪ Maziba catchment was the second top most priority in the Victoria Water Management Zone due to complexity of the challenges.
	Midlands	▪ Surface run-off and soil erosion	▪ Mixed small-holder (crop and livestock) farming systems with poor farming (Beans, sorghum and maize practices on mountain hill slopes	▪ Farming on high slope areas ▪ Loss of natural vegetation (vegetation now dominated by eucalyptus plantations)		
	Lowlands	▪ Floods in low lands	▪ High population (that is highly dependent on poor land practices	▪ Land shortage ▪ Wetlands, lake shorelines and riverbanks degradation		

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

1. Degradation of agricultural lands due to unsustainable management practices

The populations of the catchments are heavily dependent upon natural resources for their livelihoods with subsistence agriculture being the primary source of food and income. Almost all socio-economic activities rely upon the natural resources. The local communities are largely subsistence farmers. Their livelihoods depend on agriculture without alternative livelihood strategies to generate income from other sources and minimize their vulnerability. Due to the growing human population, poor farming practices, such as uncontrolled use of land for farming, fishing, grazing and deforestation, the natural resources are increasingly degraded. The degradation of the natural resources renders agricultural landscapes in the catchments more vulnerable to risks of climate change such as floods and landslides.

2. Degradation of ecosystems

Riverbanks, wetlands, forests and mountain ecosystems such as Mount Elgon in the catchments are degraded due to increasing human pressures such as encroachment and deforestation.
The vegetation of ecosystems on riverbanks is very important to stabilise the shoreline and prevent flooding. Wetlands play a crucial role throughout the country in capturing sediments, maintaining water quality, and environmental flows to meet the minimum requirements of ecosystems. Wetlands and lake systems are also degraded due to encroachment for crop and livestock farming. Forests on the other hand are vital for maintenance of the hydrological cycle as well as stabilisation of soils across different landscapes. Deforestation due to the high wood and non-wood demands of the increasing human population in the catchments is a major threat. Such pressures on wetlands and forests reduce the capacity of such ecosystems to maintain their ecological integrity and provide ecosystem services. This renders the entire catchments more vulnerable to the impacts of climate change. The mountain ecosystems such as Mount Elgon, a transboundary ecosystem (shared between Kenya and Uganda) are also highly encroached by human activities.

3. Weak capacity of the people and institutions

In general, knowledge about water resources and impacts of climate change on these resources, particularly at the local level is too inadequate to support water resources planning and management and mandated institutions cannot effectively enforce compliance with laws and regulations.Overall the water sector has limited skills and capacity to respond to the challenges of climate change.

B. Project Objectives

The overall goal of the project is to increase the resilience of communities to the risk of floods and landslides of Awoja, Maziba and Aswa Catchments through promoting catchment based integrated, equitable and sustainable management of water and related resources.

The project will 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 in a more integrated way to support communities in the three catchments in their efforts to increase their resilience to the impacts of the changing climate, 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 systems including forests, wetlands, riverbanks and lakeshores in Awoja, Aswa and Maziba catchments
- ***Increase the resilience of agricultural landscapes*** by supporting stakeholders and communities in the development and implementation of sustainable water harvesting, soil bio-physical and flood control structures.
- ***Increase resilience of other livelihood systems by promoti***ng new and off-farm activities through facilitating credit and market access
- ***Build the capacity of extension services and institutions at local, catchment, water management zone and national level to better support local stakeholders***. Higher level capacity building to integrate climate change adaptation in national and sector-wide development plans and strategies.

C. Project Components and Financing

The project, with its three Components, will combine both policy and practice for resilience to climate change at national and local community levels. The project components include:

1. Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments
2. Implementing concrete adaptation actions for resilient and sustained ecosystems, agricultural landscapes and other livelihood systems
3. Building climate change adaptive capacities of institutions and communities and managing knowledge

Tables 2 (a) and (b) below show causes of unsustainable baseline situations and proposed interventions as well as components and expected outputs of the proposed project.

Table 2(a): *Baseline situations and proposed project components and activities in the three catchments*				
Reasons/Causes of increased vulnerability to climate change risks of floods and landslides	**Drivers**	**Impediments**	**Baseline situation**	**Proposed Components and Activities**
1. Degradation of the natural resource base for sustaining agricultural landscapes	• Population growth • Dependence on rainfed agriculture to generate income	• Reduced access to inputs and knowledge on sustainable farming practices	• Most communities' source of livelihoods including commercial and subsistence farming is dependent on rainfed agriculture without any significant formalized irrigation schemes. • Low household incomes • Livelihoods dependent upon subsistence agriculture with low productivity • High poverty levels • Poor agricultural practices	***Implementing concrete adaptation actions for resilient and sustained agricultural landscapes and other livelihood systems*** • Promote agricultural landscape management practices • Promote water harvesting and storage technologies such as valley/sand dams/tanks and ponds • Promote land slide and flood management technologies • Improve access to extension services for agricultural landscape managementIntroduce revolving fund schemes to promote impoved sustainable and climate resilient farming activities
2. Increased pressure on natural resources due to human activities-degradation of natural ecological systems	• High population density and growth rate • Need to exploit natural resources for income generation, subsistance and cooking, heating and constructiion.	• Lack of alternative options for income generation • No access to alternative methods, technologies and products for cooking, heating and construction. • Insufficient awareness of the important role of different ecosystem services • Lack of knowledge on sustainable natural resources management practices	• Encroachment and over exploitation of ecological systems (wetlands, forests, highlands, riverbanks and soils) • High level of environmental degradation due to increased hill side farming, wetlands encroachment and deforestation • High soil erosion, siltation, landslides and mudslides caused by cultivation of steep slopes, and deforestation. • Increased deforestation caused by uncontrolled harvesting of trees for timber and non-timber products. • Increased floods and landslides resulting in the displacement of people and loss of crops, siltation of streams and rivers.	***Implementing concrete adaptation actions for resilient ecological systems*** • Introduce good practices of managing environmental resources such as agroforestry, hill side terracing, contour bunds, reforestation, and river banks protection. • Promote catchment protection and buffer zone management around key ecological systems • Introduce improved cooking stoves or other alternative energy sources • Introduce alternative income generating activities • Improve access to extension services for agricultural and natural resource management. • Introduce revolving fund schemes as incentives to promote improved, off-farm activities and improve household incomes and conservation of environmental resources.

3. Low capacity of communities and local and sub-regional institutions to manage natural ressources sustainably and thereby increase the resilience to floods and landslides	Develop a catchment based management system	• Catchment plans, have been developed in accordance with guidelines developed by the Ministry of Water and Environment, which do not fully consider the impact of climate change	• Inadequacy of catchment management plans to provide framework for water resources management and climate change adaptation • Issues of climate change not integrated in Catchment management Plans for Awoja and MazibaAswa catchment does not have a plan for the entire catchment	***Integration of climate change issues into Awoja, Maziba and Aswa Catchment Management Plans*** • Revise existing catchment management plans of Awoja and Maziba, and integrate climate change issues into the plans • Finalise catchment management plan for the entire Aswa catchment that integrates climate change adaptation issues. • Revise the guidelines of the Ministry of Water and Environment on catchment planning and integrating climate change adaptation issues.
	• Communities have not appropriated the CMP	• Weak community structures (i.e. interest groups, user groups etc.) to manage water and related natural resources • Limited capacity of local and subregional management level and extensions services	• Catchment Management Plans have been developed but have not considered strengthening community structures • Absence or limited stakeholder participatory and coordination platforms especially at the local levels	***Strengthen catchment management structures/frameworks, and establish stakeholders' participatory forums*** • Support catchment management institutional structures down to the local level to take full ownership and responsibility. • Establish multi-stakeholders' platforms at various levels in the catchments to facilitate collaboration
		• Limited access of local population to knowledge on climate change adaptation and IWRM • Limited capacity of sub-regional and local management structures and extension services to provide services at local level	• 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:*** • Improve capacity of local and sub-regional management structure and extension services to build capacities of stakeholders, especially of communities and local implementing partners • Organize trainings on IWRM as a tool for climate change adaptation • Raise awareness of stakeholders, including communities, local authorities and other stakeholders. • Establish demonstration centres for testing control of floods and landslides in Maziba, Ecosystems conservation in Awoja and alternative income generation activities. Aswa.
4. No up-scaling of sucessful adaptation practices		• Unavailability of good practices/approaches of climate change adaptation and catchment management	• Very limited documentation of good practices for water security or climate resilience in Uganda • Limited experience of demonstrating good practices/ innovative approaches of managing water resources and climate change adaptation • 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 Training of Trainers (ToT) visits within the three catchments. ▪ Build capacities of national stakeholders for up scaling and integration of climate resilience issues into sectoral and national plans. ▪ Facilitate policy/practice influencing

Table 2(b): *Project components and expected outputs*			
Project Components	**Expected Outcomes**	**Expected Concrete Outputs**	**Amount (US$)**
1. Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments	1.1 Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba catchments	1.1.1 The existing catchment management planning guidelines revised to include aspects of climate change	106,200
		1.1.2 The Catchment Management Plans (CMPs) of Awoja, Maziba and Aswa revised to address climate change issues	132,900
	1.2 Awoja, Aswa and Maziba catchments managed by appropriate water and climate governance structures	1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba & 3 for Aswa)	162,000
2. Implementing concrete adaptation actions for resilient and sustained ecosystems, control of floods and landslides across agricultural landscapes and diversification of livelihood strategies	2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced	2.1.1 The most degraded areas vulnerable to intensive rainfall confirmed	37500
		2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation	823,000
		2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation	180,000
		2.1.4 Communities in 3 catchments supported to rehabilitate degraded wetlands	1,071,000
		2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones	645,000
	2.2 Resilience of agricultural landscapes to floods and landslides enhanced	2.2.1 Communities in 3 catchments supported to harvest water and control floods	1,010,700

	2.3 Resilience of livelihood systems to climate change impacts enhanced.	2.3.1 Revolving fund schemes introduced to diversify sources of income in 3 catchments	594,000
		2.3.2 Business planning for alternative income generating activities-IGAs (Bee keeping, Eco-tourism, Zero grazing, Hand crafts etc.) supported	84,000
3. Building capacities of extensions services and institutions at sub-catchment, catchment, water management zone and nation level to support local communities and managing knowledge	3.1 Adaptive capacity of communities and other stakeholders to climate change impacts strengthened	3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities	218,950
		3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities on ecosystems conservation, control of floods and landslides across agricultural landscapes and alternative income generating activities established	727,785
	3. 2 Documenting and developing mechanisms to integrate climate change adaptation and implementation	3.2.1 Good practices and lessons that influence policies and practices documented	229,950
		3.2.2 Key Government officials integrate IWRM and CC in national and sectoral development plans	151,200
4. Monitoring and evaluation			218,215
5. Project execution cost			729,380
6. Project implementation cost			659,220
Amount of financing requested			**7,781,000**

D. Projected Calendar

Milestones	Expected Dates
Start of Project Implementation	July 2016
Mid-term Review (if planned)	September 2018
Project Closing	September 2020
Terminal Evaluation	December 2020

PART II: PROJECT JUSTIFICATION

A. Adaptation measures and contributions to climate resilience

The proposed adaptation measures by the project and their contribution to climate resilience are described below against the three components of the project.

The first component is: Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments

Baseline situation

The current framework for climate resilient management in the three catchments is presented in Table 3. The proposed project will focus on establishing, supporting and strengthening the existing frameworks.

Table 3: *Baseline situation for project component one*

National	▪ Guidelines for preparing catchment management plans exist ▪ However, the guidelines lack the steps or procedures for integrating climate change issues
Awoja	▪ A CMP developed based on the Government's Guidelines for catchment management planning ▪ However, the CMP did not fully incorporate climate change aspects, rather the focus was on participatory water resources management ▪ The CMP was endorsed by the Catchment Management Committee (CMC) ▪ CMC trained in catchment management aspects and participatory processes ▪ Only catchment and sub-catchment management plans exist and no micro-catchment management committees and Fora. ▪ Catchment-wide multi-stakeholders participatory forums exist up to sub-catchment level, but are not fully operational since the CMP is not being implemented at the time being. They will need to be strengthened initially.
Maziba	▪ A CMP developed based on the Government's Guidelines for catchment management planning ▪ However, the CMP did not fully consider climate change aspects, rather the focus was on participatory water resources management ▪ The CMP was endorsed by the CMC ▪ CMC trained in catchment management aspects and participatory processes ▪ No lower catchment level management structures exist such as sub-catchment and miro-catchment levels. These will be formed at a later stage during the implementation of the CMP. ▪ Catchment-wide multi-stakeholders participatory forums exist but are not fully operational since the CMP is not being implemented at the time

	being. They will need to be strengthened initially.
Aswa	▪ Development of a CMP has been ongoing only for the northern part of Aswa (Upper Aswa) but is yet to be completed. No comprehensive CMP for the entire catchment has been developed. ▪ CMC established for the Upper Aswa catchment and is operational ▪ No lower catchment level management structures exist due to social instability in the recent past, and limited capacity of government institutions and other stakeholders to develop and strengthen the structures. ▪ Catchment-wide multi-stakeholders participatory forums do not exist due to social instability in the recent past, and limited capacity of government institutions and other stakeholders.

Uganda government has developed and adopted catchment management planning guidelines as a means of ensuring coordinated and integrated planning and implementation of water and related activities in a catchment. Following these guidelines the Ministry of Water and Environment has recently developed **CMPs for Mpanga, Ruhezamyenda, Lwakhaha, Lower Malaba, Awoja and Maziba catchments**. Preparation of CMPs is ongoing in 6 more catchments of Rwizi, Semliki, Mpologoma, Victoria Nile, Albert Nile and Aswa. However these Catchment Management plans do not have adequate interventions in terms of practically addressing climate change aspects, so as to enhance climate resilience ecosystems within the catchments and the people.

These Catchment Management Plans (CMPs) will act as a guiding plans/documents in promoting integrated planning, development and management of water and related resources. Thus, all the water related investments and interventions in a catchment are expected to be based on a CMP. Specifically, the CMPs of Awoja and Maziba (www.mwe.go.ug) have been prepared through a stakeholder driven planning process. However these plans do not fully address climate change issues and hence climate change adaptation measures and actions are not integrated into the plans. This project will therefore build on the existing plans and develop them further to include climate change impacts s well as proposed adaptation measures. A climate change adaptation plan with cost estimates and locations of intervention sites will be developed and implemented for each catchment. Aswa catchment does not have a CMP yet, hence climate change issues will be integrated during the development of its catchment management plan.

CMPs are living documents and the Catchment Planning Guidelines recognize the need to review and update them as and when new information becomes available. Hence the need to update the CMPs of Awoja and Maziba, (Table 3) that were recently approved, to ensure that climate change issues are fully addressed and any risks resulting from climate change adaptation measures and actions are averted. The existing plans will continue to guide implementation until such a time when revised ones are available. The updated plans are expected to provide more guidance to the stakeholders on how to address climate change issues as part of catchment management and should be appreciated by stakeholders. The lessons learnt from updating these plans will be used

during preparation of new catchment management plans, reviewing of existing ones and updating the catchment management planning guidelines. Thus, inclusion of climate change aspects in catchment management planning will be one of the innovations of this project.

Considering that funds needed to implement CMPs are normally much higher than what is available, mobilization of resources to implement the plans is an ongoing process by the CMCs with support of relevant government agencies such as the Ministry of Water and Environment. Therefore, implementation of the plans will continue beyond the project period using resources from various sources such as government, civil society, private sector and donors.

The institutional framework for catchment management is presented in Figure 3.

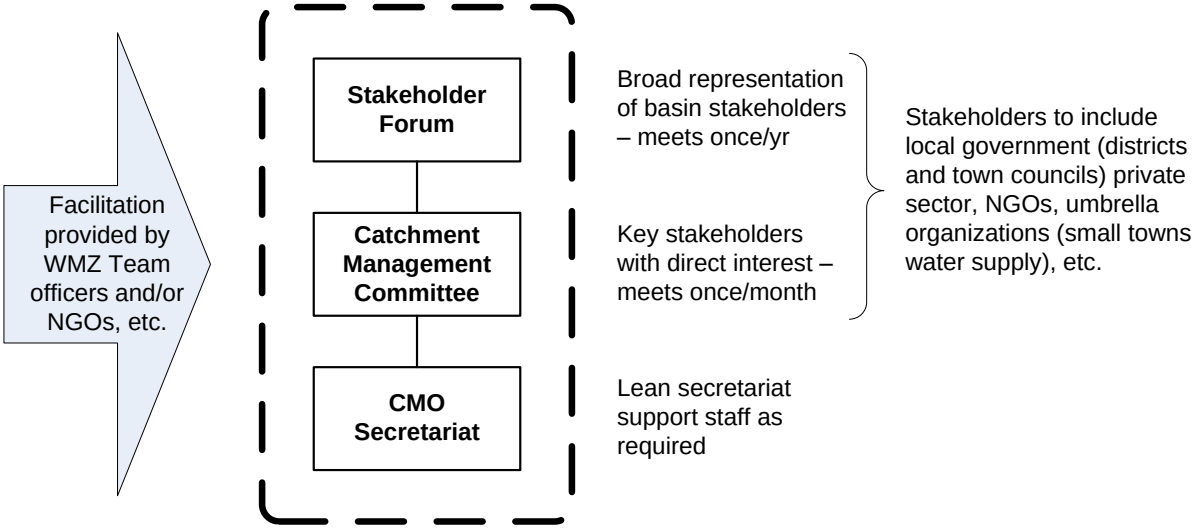


Figure.6: Institutional framework for catchment management in Uganda

The framework for catchment based water resources management was developed in 2010 to guide establishment of Catchment Management Structures and preparation of CMPs. This framework is being promoted by the Directorate of Water Resources Management of the Ministry of Water and Environment through the four WMZs. In line with this framework, catchments have been demarcated and will be units through which water and related resources will be managed and developed considering that water does not follow administrative boundaries. Each catchment will be transformed into a Catchment Management Organisation (CMO) that will be the level where stakeholder driven integrated water resources management and development will be implemented. For each catchment, sub-catchment, or micro catchment, the following structures are or will be created.

(i) Catchment Stakeholders Fora (CSF): Composed of representatives of all key stakeholders in the catchment who meet at least once a year. These are

responsible for defining key water resources related issues in the catchment that require consideration in order to effectively protect, manage and develop water resources. They review and provide input into plans for coordinated, integrated and sustainable development and management of water and related resources in the catchment including their implementation status.

(ii) Catchment Management Committee (CMC): Composed of a group of 10 – 25 high level officials representing key stakeholders (local governments, NGOs, Private sector etc.) in the catchment. These are responsible for promotion of coordinated planning and implementation as well as stakeholders driven decision making related to integrated and sustainable development and management of water and related resources in the catchment.

(iii)Catchment Technical Committee (CTC): Composed of technical staff from key stakeholders in the catchment (local governments, NGOs, private sector etc), technical staff of various government ministries and agencies. They support the CMC in coordination of stakeholders' involvement in planning, management and development of water and related resources in the catchment that require consideration. They are responsible for spearheading implementation of the various activities in the catchment. They work very closely with the local communities through their extension workers who provide support and training to the local people such as the farmers, fishermen, water users through their associations where they exist, to implement actions on the ground. Where necessary new water users associations will be established where they don't exist.

(iv) Catchment Secretariat: Composed of 1 to 3 full time or part time people. These are responsible for providing support to the CMC in coordination of planning and implementation of activities in the catchment as well as follow up of implementation of recommended actions by the stakeholders.

(v) Community management structures: Community management structures operate at the local level and are part of the catchment management structure.Community management **The lowest catchment management**s at community level will be the miro-catchment Forum,management and technical committees and the secretariat that feed into the Sub- catchment structures.These structures are responsible for coordination of implementation of project activities and ensuring that synergy is created among the various stakeholders to avoid duplication and leverage available resources. They are a mechanism through which stakeholder views and input in project implementation will be provided for purposes of ensuring ownership and acceptable of project activities.

Proposed interventions

This project will build on and support on-going decentralization efforts of government through the existing catchment management structures especially the CMC, CTC and water user associations and groups for each catchment. The project will strengthen these structures to enable them to fully participate in updating the CMPs and take responsibility for implementing climate change adaptation and livelihood improvement measures in the plans and managing the catchments. The structures, where they exist, have been key in identifying key water resources and climate change issues to be addressed in the catchment management planning process as well as identifying specific locations where priority interventions need to be implemented.

In this project 9 Micro-Catchment management structures are planned to be created in 9 hotspot micro-catchments covering the three connected zones in each of the three selected catchments (Highlands, midlands and lowlands). These structures are already provided for under the institutional arrangements for catchment management. These will continue beyond the project period and be sustained by government using innovative funding sources such as water permit fees and funds for water source/catchment protection that will be paid by investments that are based on water.

This component is expected to strengthen the institutional capacity of the communities to adapt to climate change. It will entail the revision of the existing catchment management planning guidelines to include aspects of climate change.This is meant to guide the revision of the already existing catchment management plans and the development of new ones to ensure that climate change issues are incorporated. A consultant will be hired to undertake this activity through a participatory and consultative process in the initial stages of the project in close collaboration with key stakeholders. Based on the revised guidelines, Catchment management plans for Maziba and Awoja will be revised to integrate issues of climate change, and a comprehensive CMP for Aswa catchment will also be developed. These CMPs will provide frameworks for sustainable and climate-resilient catchment management and development.

Under this component also the project will strengthen the existing Catchment management structures or where they are nonexistent support their establishment to facilitate equitable and sustainable management of water and other natural resources. As already described above these structures will include Forums, management and technical committees and sectariats from the Catchment to the micro-catchment level which will be the lowest community level. Currently there are catchment management committees in Awoja and Maziba and some sub-catchment management structures in some places but no micro-catchment management structures in all the catchments.The project will facilitate the formation of catchment and sub-catchment structures in Aswa and micro-catchment structures in all the three catchments and build their capacities as part of supporting local communities to participate in and fully own the management of the catchments, sub-catchments and micro-catchments in the targeted project areas. This is also intended to demonstrate how management of water and related resources can be better done when responsibilities shift from central to lower levels where communities have management roles.

Activities under this component are detailed below:

Outcome 1.1 **Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba catchments**

This will involve will involve revision of existing catchment management guidelines to make the incorporation of climate change issues mandatory These will guide the revision of the already developed guidelines for Awoja and Maziba to incorporate climate change issues. The revised guidelines will be used to guide the development of the Aswa catchment management plan. The Ministry through the staff based at WMZs will take the lead in this outcome assisted by the Consultant and District Environment Officers. Specific outputs and activities will include:

Output 1.1.1 The existing catchment management planning guidelines revised to include aspects of climate change.

Activity 1.1.1.1 Engage a consultant to facilitate the revision of the CMP guidelines

Activity 1.1.1.2 Organize stakeholder consultative workshops during revision of guidelines

Activity 1.1.1.3 Edit and print the revised guidelines

Activity 1.1.1.4 Disseminate the revised guidelines. The revised CMP guidelines will be disseminated to the different stakeholders organised in workshop. Four work shops are planned including one National and three catchment level workshops.

Output 1.1.2 The Catchment Management Plans (CMPs) of Awoja, Maziba and Aswa revised to address climate change issues

Activity 1.1.2.1 Engage a Consultant to facilitate the integration of Climate change issues in Awoja, Maziba and Aswa CMPs. The CMPs for Awoja and Maziba are already developed. The World Bank is currently financing the development of the Aswa CMP. In this project, the Consultatnt will be needed to facilitate the process of integrating climate change aspects into the already developed CMPs of the three catchments.

Activity 1.1.2.2 Organize stakeholder consultative workshops during the revision of the CMPs

Activity 1.1.2.3 Edit and print the revised CMPs

Activity 1.1.2.4 Diseminate the revised CMPs

Outcome 1.2 Awoja, Aswa and Maziba catchments managed by appropriate water and climate governance structures

In this outcome the proposed project will strengthen the already existing catchment and sub-catchment governance structures in Awoja, Aswa and Maziba catchments. The Project will also support the establishment and strengthening of micro-catchment management committees and Fora in all the three ctachments.This is intended to facilitate Catchment-wide multi-stakeholders' participation in catchment management activities as these committees will play a central role in community mobilization. The

Ministry through Project staff and those based at WMZs will take the lead assisted by the District Environment Officers in ensuring that this outcome is accomplished. Specific outputs and activities will include:

Output 1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba & 3 for Aswa)

Activity 1.2.1.1 Conduct start up meetings for the 9 committees and leaders in the 9 sub-catchments to initiate catchment based approaches to water and related resources management and climate change adaptation issues

Activity 1.2.1.2 Organise quartery meetings of catchment and sub-catchment committees and forums to review progress of execution of their roles and responsibilities in catchment management activities

The second component is: Implementing concrete adaptation actions for resilient and sustained ecosystems, agricultural landscapes and diversification of livelihood systems

Baseline situation

Currently, more than 85% of people in the three catchments are dependent on natural resources and agricultural landscapes for their livelihoods (income and subsistence). The level of ecosystems degradation is high due to encroachment of forests and wetlands as well as cultivation at or close to river banks, uncontrolled harvesting of trees for timber, firewood and charcoal. The unsustainable farming practices such as hill and river side farming, cultivation of steep slopes, and unsustainable natural resource utilization practices have made local communities highly vulnerable to floods and landslides that are major impacts of climate change. The frequency of floods and landslides has increased and led to displacement of people and loss of staple crops (e.g. bananas, sweet potatoes, cassava, rice, Irish potatoes, millet, maize and sorghum), soil erosion, siltation and erosion of river banks and streams as well as deterioration of water quality. Degraded forests occupy about 18.2% (13,520ha) in Maziba catchment, 32.5% (71,500ha) in Awoja and 30% (51,300ha) in Aswa catchment. In Aswa catchment (31,000ha), wetlands constitute 7% (217,000ha) of the total land area of which 30% (65,100) is degraded. In Maziba catchment (74,100ha) degraded wetlands 30% (22,230ha) while in Awoja catchment 30% (83,170ha) out of the catchment area of 27,723ha are degraded. It is also estimated that at least 20% of river banks in each catchment are degraded. Specifically, in Awoja, due to the increasing population pressure protected areas have been encroached upon for cropping, grazing and harvesting of natural resources. Harvesting of forest products is illegal in protected areas, but local people continue to harvest firewood and other forest products illegally. 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 increases flood risk.

In Maziba catchment climate change related challenges include rapid loss of vegetation cover, high rates of soil loss in some areas, poor water quality, reducing stream flow, changing rainfall patterns, floods, landslides and wetland degradation.

In Aswa catchment deforestation, encroachment on and degradation of wetlands and over exploitation of natural resources are major challenges.

The detailed major challenges that impede sustainable management of ecosystems, agricultural landscapes and livelihood systems in the three catchments are presented in Table 4.These challenges have generally made the catchments less resilient to risks related to climate change such as floods, mudslides and landslides.

The proposed project will undertake interventions aimed at improving the resilience of communities, agricultural landscapes and ecosystems in the three catchments to the impacts of climate change (such as increased variability of rainfall and heavy rainfall) by reducing the risk of floods, mud and landslides. The specific interventions to address the challenges highlighted in this component have been designed and are presented in subsequent sections of the proposal.

Table 4: Baseline situation of project component two.					
Catchment	**Micro-catchment**	**Callenges affecting ecosystems, agricultural landscapes and livelihoods**	***Vulnerabilities***		
			Exposure to risks	***Livelihood/social system***	***Sensitivity of ecosystems***
Awoja	Mount Elgon region (High lands)	▪ Increased frequency of heavy rainfall leading to landslides ▪ Mountain ecosystem degradation (threat to the protected areas due to deforestation and encroachment) ▪ Farming on high slopes due to population pressure ▪ High population mostly dependent on land resources.	▪ Landslides in mountain terrain leading to soil erosion, gullies, siltation of streams, rivers and deterioration of water quality. ▪ Destruction of infrastructure	▪ Montane farming system practiced at higher altitudes in Kapchorwa, in the Mount Elgon region. ▪ Dominated by smallholder farms of about 1.5 hectares. ▪ Crops include: Maize, millet, sorgum, Bananas, cassava and Arabic coffee. ▪ High population on steep slopes ▪ Poor farming practices	▪ Land degradation in most areas of the catchment. ▪ Soil erosion and deforestation ▪ Mountain ecosystem degradation, ▪ Landslides are a threat to the mountain ecosystem ▪ Degradation of protected areas due to transboundary-encroachment (Kenya and Uganda)
	Midlands	▪ Poor farming practices especially related to sorghum ▪ Soil erosion and deforestation ▪ High population mostly dependent on land resources	▪ Soil erosion, gullies leading to, siltation of streams, rivers and deterioration of water quality	▪ Fairly Montane agricultural system with smallholder farms of about 1.5 hectares. ▪ Crops in agricultural landscapes include: Arabic Coffee, maize, beans, sweet potatoes, cassava ▪ Mostly mixed (crop and livestock) farming systems in midlands. ▪ High population in midlands ▪ Poor farming practices	▪ Degradation of protected areas due to transboundary-encroachment (Kenya and Uganda)
	Lowlands	▪ Increased frequency of floods leading to destruction of homes, animals and crops. ▪ Wetlands lake shorelines and river banks degradation ▪ Encroachment on wetlands ▪ Increasing population.	▪ Floods leading to displacement of people, destruction of infrastructure destruction of crops ▪ Loss of food and income security	▪ Teso farming agricultural system ▪ Crops: Maize, millet and sorgum groundnuts, simsim and sunflower ▪ Mixed agriculture (crops and livestock	▪ Wetlands, lake shorelines and riverbanks degradation

				▪ Average farm size in this area is about three hectares. ▪ Unsustainable agricultural practices due to inadequate knowledge	
Maziba	Highlands	▪ Increased frequency of heavy rainfall ▪ Farming is done on high slope areas ▪ Loss of natural vegetation (vegetation now dominated by eucalyptus woodlota) ▪ Land degradation due high population pressure ▪ Poor farming practices mainly for maize production ▪ High population dependent on land resources	▪ Landslides leading to soil erosion and degradation of water resources in the valleys and lowlands.	▪ Under a Montane agricultural system ▪ Agricultural landscapes characterised by Mixed small-holder crop farming systems ranging between 0.3 - 2ha with poor farming practices ▪ Crops include: Bananas, Beans, sorghum and maize, potatoes and Arabic coffee.	▪ Farming on high slope areas ▪ Loss of natural vegetation (vegetation now dominated by eucalyptus woodlots) ▪ Tranboundary catchment (shared between Uganda and Rwanda)
	Midlands	▪ Mixed (crop and livestock) farming systems with poor farming practices ▪ Soil erosion and deforestation due to high population pressure	▪ Mudslides leading to soil erosion and siltation of rivers and streams and deterioration of water quality.	▪ Under a Montane agricultural system ▪ Crops include: Bananas, Beans, sorghum and maize, potatoes and Arabic coffee. ▪ Soil erosion and poor farming practices e.g reduced fallows.	▪ Land shortage ▪
	Lowlands	▪ Increased frequency and impact of Flood hazards ▪ Mixed (crop and livestock) farming systems	▪ Floods in low lands leading to displacement of people, destruction of crops and destruction of infrastructure. ▪ Floods also lead to erosion of river banks ▪ Loss of food and income security	▪ Under a Montane agricultural system ▪ Crops include: Bananas, Beans, sorghum and maize, potatoes, Arabic coffee and vegetables. ▪ Encroachment on wetlands and river banks ▪ Due to population pressure.	▪ Wetlands, lake shorelines and riverbanks degradation
Aswa	Highlands	▪ Water scarcity ▪ Land degradation (especially grazing) due to high livestock numbers, and transhumant living styles	▪ Erratic and intense Rainfali leading to soil erosion and displacement of people and livestock.	▪ Under Annual Cropping and Cattle Northern System. ▪ Mostly small holder (About 2.5 ha) mixed crop farming systems with poor farming	▪ Land degradation in most areas of the catchment. ▪ Soil erosion and deforestation ▪ Transboundary catchment

		▪ Low level of rural community services		practices. ▪ Crops: cotton, tobacco, simsim, maize, finger millet, sorghum, cassava, and sunflower. of practices ▪ Area affected by armed conflict and social instability until recent past ▪ Land degradation	(shared between Uganda and South Sudan)
	Midlands	▪ Increase in landslides ▪ Mixed (crop and livestock) farming systems with poor farming practices ▪ Soil erosion and deforestation due to high population pressure	▪ Landslides leading to soil erosion and degradation of water resources in the valleys and lowlands.	▪ Under Annual Cropping and Cattle Northern System. ▪ Characterised by small holder farms of about 2.5 ha ▪ Crops: cotton, tobacco, simsim, maize, finger millet, sorghum, cassava, and sunflower. ▪ Land degradation due to high population	
	Lowlands	▪ Increased frequency and impact of Flood hazards ▪ Mixed (crop and livestock) farming systems ▪ Wetlands, lake shorelines and riverbanks degradation	▪ Floods in low lands leading to displacement of people, destruction of crops and deterioration of water quality in rivers and streams ▪ Loss of food and income security.	▪ Under Annual Cropping and Cattle Northern System. ▪ Mostly small holder farms of about 2.5 ha ▪ Crops: cotton, tobacco, simsim, maize, finger millet, sorghum, cassava, and sunflower. ▪ Degradation of wetlands, shorelines and river banks.	

Proposed selection criteria of community investments and beneficiaries

In order to effectively implement adaptation actions proposed by the project, field visits will initially be undertaken together with the Catchment Management Committee and other stakeholders to identify the actual sites of the 3 Micro-catchments in each catchment where the various activities/interventions are to be implemented. The aim is to identify for each catchment one micro-catchment in the highlands; one micro-catchment in the midlands and one micro-catchment in the lowlands.

Communities in the identified nine micro-catchments will targeted considering the following selection criteria:

Criterion 1: Proximity to the natural resource
People in the most degraded areas will be targeted because these are frontline people that interact with the natural resources daily. They are afftected and affect the resources. So it is these communities that own the land or are most responsible for its degradation. In this case community members will be selected to participate in interventions for forest, wetland and river banks restoration. This approach will help in protecting the resource.

Criterion 2: Vulnerability
Consideration will be given to the most vulnerable groups e.g. women, youth and the absolute poor. It is the vulnerable that depend on natural resources for livelihoods.

Criterion 3: Resource users
Even among the communities that are in proximity of the natural resources, it is important to target the resource users. The people using the resources are the best people to restore them as they understand the resource better.

Criterion 4: Effects
Communities that will be most affected by the project interventions e.g. demarcation of river banks and wetlands will be targeted. They should get “some soft landing” and be prioritized for implementation of IGAs.

Criterion 5: Gender
Deliberate effort will be made to ensure that at least 50% of the target beneficiaries are women. This will be done in consultation with local leaders and sub catchment management committees. For the case of engaging in improved cook stoves as a micro-enterprise, only women and women groups will be targeted by the proposed project. The benefits and expected beneficiaries and innovations of the project are presented in Annexes II and IV respectively.

Proposed concrete adaptation interventions

Component 2 aims at increasing the resilience of ecosystems, agricultural landscapes and livelihood systems to the impacts of climate change such as heavy rains by reducing the risk of floods, landslides and mudslides. The project aims to assure that ecosystems can continue to provide ecosystem services important for adaptation and resilience against the impact of climate change, and that agricultural landscapes can support crop growth while alternative income generating opportunities for livelihoods do not only provide additional incomes for vulnerable communities in the Awoja, Aswa and Maziba catchments, but also reduce pressure on natural resources. In this component, activities that focus on assisting vulnerable communities to adapt climate resilient ecosystem management measures, agricultural landscape management practices, as well as investing in alternative income generating activities will be implemented.

The component will support the development and implementation of catchment based and community driven actions for sustainable management of ecosystems such as forests, wetlands and riverbanks in the three catchments. Resilience of ecosystems will be enhanced through providing inputs for afforestation, production and marketing of improved cook stoves, wetland and river banks demarcation as well as for implementation of wetland and river bank action plans. Inputs for agricultural landscape management practices such as the bio-physical conservation measures aimed at increasing the resilience of the landscapes to landslides and floods will be provided. Construction and maintenance of flood management structures will also be supported. The component will introduce and implement a revolving fund that will serve as an incentive to the communities for engaging in activities that enhance the resilience of ecosystems to climate change impacts. The component will support the implementation of off-farm alternative income generating activities.

It is expected that at the end of the project, proposed interventions for component 2 will enable communities to adopt climate resilient sustainable ecosystem and agricultural landscape management practices, as well as invest in alternative income generating activities. Detailed component activities structured according to the three outcomes and their constituent outputs and activities proposed for implementation are presented below.

OUTCOME 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced

The high population growth in the three catchments has increased demand for ecosystem products and services of forests, wetlands and river banks. Communities in the three catchments continue to derive their livelihoods from these ecosystems unsustainably due to inadequate knowledge and access to information as well as inputs for sustainable forest, wetlands and river banks management practices that enhance their resilience to the impacts of climate change.

Overall, forests are exploited for timber, firewood, and charcoal for biomass energy as well as encroached upon for agricultural crop farming thereby increasing their vulnerability to landslides, mudslides and floods. Similarly Wetlands are also exploited for various products including papyrus for crafts and quite often encroached upon for agricultural crop farming, grazing, brick baking and settlements. River banks are threated by lack of protection measures. Most river banks are

eroded because cultivation of food crops is done close to the river banks. Therefore ecosystaround river banks are degraded. In this component, the resilience of forests, wetlands and river bank ecosystems to climate change impacts will be enhanced by restoration and rehabilitation activities.

Degraded forest landscapes that are vulnerable to high rainfall will be identified and confirmed through workshops and field visits involving key stakeholders and subsequently restored through afforestation under Outputs 2.1.1 and 2.1.2. Awareness and capacity will be raised among the communities to undertake forest landscape restoration and management activities, tree nuseries and woodlot establishment and management thereby building the resilience of forest ecosystems. About 1,161,806 hectares of communal and private forests in Uganda are degraded. Degraded forests occupy about 18.2% (13,520ha) in Maziba catchment, 32.5% (71,500ha) in Awoja and 30% (51,300ha) in Aswa catchment. One thousand (1000) hectares of degraded and deforested areas are targeted for restoration. Therefore, about one million tree seedlings of different tree species will be raised under a Public Private Partnership arrangement and distributed to farmers. Afforestation will be important for reducing the risk of landslides and floods. Tree roots help to hold the soil together. Tree shoots, leaves and branches are vital for reducing the rain drop effect hence facilitating water infiltaration in the soil. Under this output relatively fast growing tree species including indigenous and exotics preferred by the local communities such as *Grevillea robusta*, *Alnus acuminata* and *Markhamia* spp will be raised in the nurseries and distributed for planting. Eucalyptus species are associated with high water uptake to the detriment of ecosystems. The National Environment Management authority (NEMA) by law prohibits the planting of Eucalypts in wetlands. Therefore, planting of *Eucalyptus* species will be discouraged by the proposed project by introducing and promoting other tree species. Other tree species will also be explored for planting and efforts will be made to ensure that tree species selected for planting will be suitable for planting in sites agreed upon with the communities in the three catchments based on previous site-species matching conducted by the Uganda National Forestry Authority.

The project will also support communities with improved cook stoves to reduce the levels of forest degradation due to over dependency of the communities on forests for biomass energy under Output 2.1.3. This output will be essential to support communities in reducing pressure on forest resources for firewood and charcoal needs hence reducing deforestation hence enhancing their resilience.

In order to enhance the resilience of **wetland ecosystems**, the project will support wetland demarcation as well as the development and implementation of specific wetland action plans in the three catchments in Output 2.1.4.

Component 2 is also designed to improve the resilience of river banks and buffer zones by supporting the demarcation of **river banks** and buffer zones as well as the development and implementation of specific river banks restoration/ protection action plans Under Output 2.1.5. It is well known that soil erosion and unsustainable farming practices such as crop farming close or at the river banks hinder the stability of river banks and cause their erosion. Under this component, the proposed project will support the demarcation of 200km of river banks and streams as well as stabilize approximately 320 ha of buffer zones to increase the resilience of river banks to the same climate change impacts. The detailed outputs and activities for outcome 2.1 are as follows:

Output 2.1.1 The most degraded areas vulnerable to intensive rainfall confirmed

About 1,174,982 ha of **forests, wetlands and river banks** are degraded and highly vulnerable to intensive rainfall and therefore increase the risks of floods and landslides. Degraded forests occupy about 18.2% (13,520ha) in Maziba catchment, 32.5% (71,500ha) in Awoja and 30% (51,300ha) in Aswa catchment. In Aswa catchment (31,000ha), wetlands constitute 7% (217,000ha) of the total land area of which 30% (65,100) is degraded. In Maziba catchment (74,100ha) degraded wetlands 30% (22,230ha) while in Awoja catchment 30% (83,170ha) out of the catchment area of 27,723ha are degraded. It is also estimated that at least 20% of river banks in each catchment are degraded. These are the degraded ecosystems that will be targeted by the proposed project for restoration at the start of the project. Such areas considered being ideal in terms of size, vulnerability, and extent to which communities depend on them for their livelihoods will be identified for hosting climate resilient adaptation actions. Field visists will be conducted by different stakeholder in the three catchments. The catchments will be mapped and agreed upon and confirmed for adaptation actions in stakeholders' workshops. Also field meetings will be held with community members and catchment management committees to agree on the most degraded wetlands, forest areas and river banks that the proposed project can support communities to rehabilitate. This process will be lead and guided by the Coordinators of the WMZs and District Environment Officers. The detailed activities include:

Activity 2.1.1.1 Undertake stakeholder workshop to identify the most degraded area vulnerable to intensive rainfall. Stakeholder workshops will be undertaken in each of the three catchments.

Activity 2.1.1.2 Undertake field visit to confirm the feasibility of the areas selected as most degraded /vulnerable to intensive rainfall. For this activity, visits to each of the three catchments will be made by the project Team including, the WMZ Team, LG staff and PM Team based at the project headquarters. The feasible areas will then be mapped in more detail.

Output 2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation

Deforested and degraded areas will be restored through afforestation. Restoration in this case will aim at returning the ecological functions of forest ecosystems that were lost due to unsustainable forest management practices, particularly water infiltration to reduce the risk of landslides. The Local communities (individuals and groups) will initially be selected and capacitated in tree nursery establishment and management and later in forest management and restoration. Information on appropriate species, species site matching, planting techniques and growth conditions will be highlighted. Local communities will also be exposed to tree management techniques if high survival rates are to be achieved. The principal in afforestation is that tree species of high value to local communities in terms of soil stabilisation and control of run off/erosion will be applied to reduce the rain drop effect hence reducing the incidences of land slides and floods. The proposed project will support the selected tree nurseries with seedlings of high value tree species, soil mixtures, purchase of seed, shadding material as well as tools and equipment and other nursery

implements under a Public Private Partnership arrangement. The following are the specific activities:

Activity 2.1.2.1 Train selected individuals and groups in nursery establishment and management. About five trainings per sub-catchment totaling to 45 trainings will be conducted in the three catchments of the project area.

Activity 2.1.2.2 Establish one tree nursery per sub-catchment under a Public Private Partnership (PPP) arrangement, so that in total 9 tree nurseries will be established. The capacity of the exisiting tree nurseries will be assessed and based on the capacity needs identified, will be supported to produce the planting stock for individual and community groups willing to participate in degraded forest restoration activities. The project will provide tree shade, soil mixtures, water, manure, seed; equipment etc. to each of the 9 nurseries. It is proposed that at least 9 nurseries will be supported under Puplic Private Partnership arrangement to produce about 1,200,000 seedlings of different species and distributed to farmers. Approximately 1200 ha of degraded and deforested lands will be restored. The project will buy tree seedlings from the nurseries at subsidized prices. The community members on the other hand will contribute a small cost (about 10%) to purchase the seedling as well as provide the land and labour to plant and manage the seedlings. However, members outside the target areas can buy the seedligs at market prices. This is to ensure the sustainability and ownership of project interventions.

Activity 2.1.2.3 Select and train communities in forest management for restoration
This activity will be done to enable the local communities with knowledge and skills in ensuring that the planted tree seedlings survive and grow wherever they will be planted.

Activity 2.1.2.4 Procure and distribute seedlings to selected communities
Generally the project will buy the raised tree seedlings from the 9 supported nurseries at subsidized prices. The seedlings will subsequently be distributed to individuals and community groups for planting. However, planting of Eucalyptus species will not be encouraged.

Output 2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation

Improved energy cook stoves are important in reducing the energy needed to cook. This is important in deflecting enormous pressure on forest resources for biomass energy. In the proposed project, knowledge and skill of communities on improved cook stoves will be enhanced.

Activity 2.1.3.1 Sensitize communities on advantages of using improved cook stoves
Communties will be exposed to the different improved cook stoves. It is expected that the cook stoves will serve to reduce women's and children's burden of collecting fuel wood. Women will save such time on productive activities such as vegetable, small ruminants and poultry production as children get a chance of going to school as household incomes grow.
Activity 2.1.3.2 Select and train 2 groups per sub-catchment in production, business planning and marketing of improved cookstoves.
This activity is specifically targeting women particularly single mother households. Women groups in different catchments will be trained in business planning, making cook stoves as well as marketing them. It is expected that with such knowledge and skills cook stoves could be sold in and out the targeted catchment and sub

catchments. The proposed project targets supporting 18 groups to produce 8000 stoves as a micro-enterprise. It is envisaged that at least 3600 households will have acquired and are using improved cook stoves.

Output 2.1.4 Communities in 3 catchments supported to rehabilitate degraded wetlands

Wetlands serve as important water reservoirs and thereby help to reduce the risk of flooding. In the proposed project, degraded wetlands will be rehabilitated so that their water retention capacity is enhanced. This will eventually be vital in controlling floods. In this output community members will be trained in wetland rehabilitation and restoration techniques. The wetlands in the targeted catchments will be demarcated and communities provided with implements to implement their wetland specific restoration action plans.

Activity 2.1.4.1 Select and train community members in wetland rehabilitation and restoration activities. About 1800 households will be trained in wetland restoration interventions of which 50% are women. Four training workshops will be held.

Activity 2.1.4.2 Organize community workshops to develop site specific wetland restoration action plans. The proposed project targets supporting the communities to develop at least 12 individual wetland restoration action plans (4 per catchment).

Activity 2.1.4.3 Demarcation of wetland boundaries in the 3 catchments. This will be essential in securing the boundaries of the wetlands under rehabilitation and restoration by the local communities. Approximately, 300 hectares of degraded wetlands will be restored.

Activity 2.1.4.4 Provide inputs to communities to implement the site specific wetland restoration action plans. The project will provide in puts for implementation of about 12 individual wetland restoration action plans (4 per catchment).

Output 2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones

River banks are facing the risk of erosion due to unsustainable management practices. They are faced with a high risk of siltation following floods and land slides. It is therefore important that the proposed project supports the protection and restoration of degraded river banks and buffer zones. At least 540 community members 50% of which should be women will be trained in river bank restoration. The activities under this output are:

Activity 2.1.5.1 Train communities on protection of river banks. In this case two trainings will be conducted to train communities on protection of river banks.

Activity 2.1.5.2 Organize community workshops to develop site specific river banks restoration action plans. One community meeting per sub catchment will be conducted following two prior exposure trainings on river banks protection.

Activity 2.1.5.3 Demarcation of river banks in the 3 catchments. The project will aim at restoring 320ha of buffer zone/river bank and 200 Km of riverbank boundaries will be put in place.

Activity 2.1.5.4 Provide inputs to communities to implement the site specific river bank restoration action plans

OUTCOME 2.2 Resilience of agricultural landscapes to floods and landslides enhanced

Several deaths of humans and domestic animals occur during the occurrence of floods and lanslides. There is also significant loss of property. Floods, landslides and mudslides in the project areas also often lead to siltation of lakes, rivers, streams and reduced water quality. This problem is severe where former wetlands adjacent to lakes and rivers have been converted to agricultural food cropping.
Local communities lack the knowledge and access to sustainable water harvesting and flood management technologies. This component therefore, is designed to support stakeholders and communities in the development and implementation of sustainable water harvesting and flood management technologies as well as the bio-physical soil conservation structures that enhance the resilience of the agricultural landscapes to climate change impacts of floods, landslides and mudslides. This outcome will focus on soil conservation as a combination of practices used to protect the soil on a landscape. Bio-physical soil conservation measures will be applied in combination with flood management across agricultural landscapes. Under **Output 2.2.1** communities will be supported to construct flood management structures such as check dams, diversion canals and contour bands and terraces as well as the bio-physical conservation structures**.** Below are the activities that will be undertaken in the proposed project.

Output 2.2.1 Communities in 3 catchments supported to harvest water and control floods

Activity 2.2.1.1 Conduct workshops and meetings to sensitize communities on water harvesting and flood control structures. Two community training workshops will be held.

Activity 2.2.1.2 Train communities on construction and maintenance of water harvesting and flood control structures. Two community training workshops will be held.

Activity 2.2.1.3 Provide inputs for communities to construct water harvesting structures such as Check dams, retention ponds and diversion canals

Activity 2.2.1.4 Provide inputs for communities to construct biophysical conservation structures such as hill side terracing, contour bunds and grasses on farmlands.

Activity 2.2.1.5 Hold workshops, meetings and radio talk shows to sensitize communities on the importance of bio-physical conservation structures (hill side terracing, contour bands and grasses)

Activity 2.2.1.6 Train beneficiaries to construct and establish specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands). One workshop and two community training meetings will be held in each sub catchment.

OUTCOME 2.3 Resilience of livelihood systems to climate change impacts enhanced.

Component 2 is further designed to provide an incentive system to communities to engage in environmental conservation activities as well as to compensate people that formerly encroached on protected areas. One of the key aspects of component

2 is the establishment of a revolving fund also sometimes called “Community Environment Conservation Fund (CECF)” in the 3 catchments.

Piloting of the CECF has been ongoing in 3 catchments of Aswa, Rwizi and Lokok by IUCN with active involvement of the Directorate of Water Resources Management of the Ministry of Water and Environment over the last 3 years with very good results. For example, within a period of 2 years the communities in Aswa catchment were provided US$ 31,200 and in return they engaged in demarcation of about 165km of river and stream banks and buffer zones of the tributaries of Aswa. The demarcation of boundaries along stream/river banks is used by the local communities to prevent any environmentally detrimental activity within 30m of the rivers.

This proposed fund will be maintained by Savings and Credit Co-operatives (SACCOs). The project will initiate links with 21 reliable and transparent SACCOs within the three catchments. Each SACCO will be provided with a maximum of USD$ 25,000 that will be available for borrowing by legible groups on an annual incremental basis. The distribution of the SACCOs in the project area will be based on the size of the catchments. Awoja catchment which is the largest (31,000km^2/ha) will have 11 SACCOs, Aswa (11,000km^2/ha) will have 8 and Maziba (741km^2/ha) will have 2 SACCOs. It is proposed that each group to be supported will initially be given USD 4750, totaling to USD 99,750 for all the 21 SACCOs. This fund can be revised in subsequent years following good returns on investments. The community members can access the revolving fund for micro-credits in perpetuity on the basis that they continue to undertake activities that are directly linked to their performance in undertaking catchment management and after presentation of a sustainable business plan of their investment. The funds can be used for any sustainable income generating activity that an individual wants to invest in, for instance setting up a business and investing in beekeeping, tourism, craft etc.

The expectation is that the existence of this fund will set incentives for stakeholders to carefully plan and implement catchment-wide, ecosystem-based adaptation interventions that enable them to adapt to climate change while at the same time enhancing ecological and social resilience. The fund will be based on a community monitoring, reporting and verification system (MRV) that has already been initiated and tested in a few catchments in the country.

A SACCO is a democratic, unique member driven, self-help co-operative. It is owned, governed and managed by its members who live in the same community or area. These members agree to save their money together in the SACCO and or to make loans to each other at reasonable rates of interest. Interest is charged on loans, to cover the interest cost on savings and the cost of administration. There is no payment or profit to outside interest or internal owners. The members are the owners and the members decide how their money will be used for the benefit of each other. SACCOs are democratic organisations and decisions are made in a structured democratic way. Members elect a board that in turn employs staff to carry out the day-to-day activities of the SACCO. SACCOs exist all over the country and are well established thus there is already a lot of experience in the country on how to run them efficiently and effectively. Awareness of communities will be raised on the revolving fund as well as income generating activities in **Outputs 2.3.1** and **2.3.2** respectively. The communities will be trained in business planning; value addition and marketing so that they can apply for credit and undertake various IGAs.

Under this out come about 2400 vulnerable households are proposed to have improved livelihoods through alternative income generating activities at the end of the project; and at least incomes of 70% of participating farmers have improved. The detailed activities include:

Output 2.3.1 Revolving fund schemes introduced to diversify sources of income in 3 catchments

Activity 2.3.1.1 Conduct workshops and meetings to sensitize communities on the revolving fund. Three day workshops and meetings are planned to expose the communities to the revolving fund and its mode of application.

Activity 2.3.1.2 Train communities and CMCs and facilitate them to develop Savings and Credit Co-operative (SACCOs) branches to manage a revolving fund. One day training will be provided following 3 prior sensitization meetings about the revolving fund.

Activity 2.3.1.3 Handover and Supervision of Disbursement of the funds. It is planned that USD 25,000 will be handed over to 21 SACCOs in the project areas for during the project period. Eleven SACCOs in Awoja, eight in Aswa and two in Maziba will receive the funds.

Output 2.3.2 Business planning for alternative income generating activities-IGAs (Bee keeping, Eco-tourism, Zero grazing, Hand crafts etc.) supported

Activity 2.3.2.1 Select and train potential beneficiaries in income generating activities, including business planning, value addition and marketing

The third component is: Building capacities of extension services and institutions at sub-catchment, catchment and WMZ level to support local communities and knowledge management

Baseline situation

The existing capacity of catchment management structures to address climate change issues as well as those about water and related resources in a coordinated manner is limited. Stakeholders at national, district, catchment, and local levels have limited capacity to address impacts of climate change through a catchment based process. The extension services are too inadequate to support the local population due to limited capacity. The communities are vulnerable to climate change risks yet their capacity to take local adaptation actions and manage water and related resources in a sustainable manner is also limited. There is also limited awareness at various levels on the importance of taking local actions to build resilience to climate change and improve water security.

Documentation of good practices of IWRM and climate change adaptation in Uganda for learning and scaling-up is inadequate with no or limited experience of demonstrating good practices as well as innovative approaches of managing water resources and climate change adaptation. In addition, cross learning (community-to-community) experiences are limited too.

Therefore, this project proposes specific interventions for building the capacities of extension services and institutions at sub-catchment, catchment and WMZ level to support local communities to support local stakeholders and to create awareness

about the climate change and management of water and related resources to support communities to adapt to climate change impacts.

Proposed interventions

This component is expected to build capacity of stakeholders at various levels (national, catchment, district and local levels) to effectively support the implementation of the project. The component will contribute to building capacity of stakeholders with the aim of increasing resilience to climate change impacts in the three catchments (Awoja, Maziba Aswa). Capacity building will be in form of: Training of Trainers (ToT) (Tables courses, awareness raising and exchange visits among others). Some of the key stakeholders targeted for capacity building include extension services staff from various sectors at (district and subcounty levels) such as agriculture, water, environment, forestry and community development. Extension services staff from the key sectors highlighted will be trained through TOT to become trainers. The TOT training will help to create a critical mass of trainers in prioritized adaptation actions at community level and also assure the long-term sustainability of the project interventions. The TOT trainees will thereafter be involved in training the communities and other stakeholders in implementation of various interventions in the catchments. The training of extension services staff from the key sectors is aimed ensuring that extension services continue after the end of the project. In this component, a capacity needs assessment will be undertaken as part of the project inception phase to identify capacity needs of the various institutions and individuals that are key in project implementation.

To enhance practical learning, demonstration centres will be established in the three catchments as follows: Awoja-the target will be ecosystems conservation specifically focusing on afforestation and production, installation and marketing of improved cook stoves; Maziba- will mainly be for testing wetlands and river banks management and flood control; Aswa will be the centre for business planning as well as piloting alternative income generation activities. The demonstration center, which tests and develops activities in one domain (ecosystems conservation, wetlands and river banks management and flood control or alternative income generation activities) will provide training of trainers services for the other demonstration centers in this domain and in return receive training of trainers from them on their domain. The experiences from demonstrations in Awoja, Maziba and Aswa catchments aim at raising awareness of key government officials on IWRM and climate change adaptation. In addition, the demonstration centres will be used to catalyse integrating water security and climate resilience issues into national and sector development plans and facilitating integration of the same.

The component will also support documentation of lessons learned from the project for sharing amongst stakeholders. This will have a broader impact as it will influence approaches and practices of other stakeholders and communities based on experiences from the project. All knowledge materials documented will also be incorporated in the National Climate Resource Change established in the Ministry of Water and Environment through the EU-Global Climate Change Alliance project. Cross learning (community-to-community) experiences will also be conducted.

OUTCOME 3.1 Capacities of extension services and trainers strengthened

The main impediments to the implementation of the existing CMPs are limited financial resources as well as limited capacity of the sub-regional and local

management structures, and extension services workers in supporting the local communities in the sustainable management of water and related resources. The project will address some of these challenges through capacity building of sub-regional and local management structures and extension workers through formal and on the job trainings that will be provided through the project's established demonstration centres and other specialized trainings per the project capacity building plan.

The communities in the three catchments of Awoja, Maziba and Aswa are vulnerable to the impacts of climate change. Therefore, there is need to strengthen their adaptive capacities. **Output 3.1.1** is designed to address this challenge. Specifically, it will involve raising awareness and training of stakeholders, conducting baseline study to identify gaps and priorities for project interventions, undertaking capacity needs assessment and developing Information Education Communication materials (e.g. posters and brochures) for sharing amongst the stakeholders. A comprehensive training plan detailing the specific trainees, content and duration of the training will be developed to guide the capacity building programme. In **Output 3.1.1**, training modules will be developed for the Training of Trainers TOT training sessions as well as modules for Activity level field training that will be conducted by the TOT trainees among the communities in the three catchments. **Output 3.1.2**.will involve the establishment and management of demonstration centres in the three catchments.

Below are the activities to be accomplished for each output:

Output 3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities

Activity 3.1.1.1 Conduct capacity needs assessment for key stakeholders (Regional and Local government staff, extension workers, CMCs). A consultatnt will be hired to determine the capacity gaps among the different stakeholders to inform their training.

Activity 3.1.1.2 Develop a detailed training plan to guide the capacity building program for the Project. A Consultant will also be hired to develop a detailed training plan highlighting the specific content with relevant examples to the prevailing conditions in each of the catchment.

Activity 3.1.1.3 Develop training modules for the TOTs and Field level trainings to build capacity of stakeholders on a continuous basis

Activity 3.1.1.4 Undertake TOT trainings to create a critical mass of trainers in prioritized adaptation actions at community level.

Activity 3.1.1.5 Develop and disseminate Information Education and Communication (IEC) Materials for awareness raising.

Under this activity the project has designed a project training plan for all stakeholders including extension services, regional institutions and government officials as well as local communities.

During the training, at community level the stakeholders will be equipped with knowledge and skills on the implementation of project components. These community level trainings are listed as an integral part of component two and are provided by extension services and decentralized institutions. This is aimed at building their capacity to undertake and sustain the project interventions.

Component three of the project is focused on building the capacity needed to undertake local trainings and provide extension services. The project training plan includes the undertaking of a detailed capacity needs assessment of extension services and decentralized sub-regional institutions to assess their capacity to provide trainings and extensions services in support of the implementation of the concrete adaptation activities of component two. Training of trainers (TOTs) for all local community trainings will be undertaken and training modules will be developed to support the trainers in undertaking those community level trainings. Post project trainings are envisaged after the stakeholders have acquired the necessary skills. The Ministry of Water and Environment (MWE) and local governments are expected to take over the post project activities which will be integrated into the different sectors and local government programmes.

Table 5: Training plan

Component	Specific Training theme/activity	Stakeholders	Training Methods	Responsible Persons	Timeline				
					2016	2017	2018	2019	2020
Component 2: Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems	*Activity 2.1.2.1* Train selected individuals and groups in nursery establishment and management. 3 trainings per sub-catchment will be conducted (9 trainings in total)	• Catchment Management Committees • Communities	• Training Workshops, presentations and discussions • Hands on practical demonstrations at nurseries	District Forest officer					
	Activity 2.1.2.3 Select and train communities in forest management for restoration. 2 trainings per sub-catchment (18 in total)	• Catchment Management Committees • Communities	• Training workshops presentations and discussions • Field case studies	District Forest officer					
	Activity 2.1.3.2 Select and train groups per catchment	• Catchment Management	Workshops presentations and	District Production					

	in production, business planning and marketing of improved cookstoves. 4 trainings per sub-catchment	Committees • Community groups	meetings	Officer					
	Activity 2.1.4.1 Select and train community members in wetland rehabilitation and restoration activities. 4 trainings per sub-catchment (36 in total)	• Catchment Management Committees • Communities	• Workshops presentations • Field practical training	District Wetlands Officer					
	Activity 2.1.5.1 Train communities on protection of river banks. One training per sub-catchment will be conducted (9 in total)	• Catchment Management Committees Communities	• workshops • Field training • Set up demonstration nurseries	Team Leader, Water Management Zone (WMZ					
	Activity 2.2.1.2 Train communities on construction and maintenance of water harvesting and flood control structures. 4 trainings per sub-catchment (36 in total)	• Catchment Management Committees • Communities	• Workshop, • Set up demonstration	Team Leader, Water Management Zone (WMZ					
	Activity 2.2.1.6 Train beneficiaries to construct and establish specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands). 2 trainings per sub-catchment (18 in total)	• Catchment Management Committees • Communities	• Workshops, meetings, demonstration structures	Team Leader, Water Management Zone (WMZ)					
	Activity 2.3.1.2 Train communities and CMCs and facilitate them to develop Savings and Credit Co-operative (SACCOs) branches to manage a revolving fund. Training 7	• Catchment Management Committees • Communities • SACCO staff	• Workshops, meetings,	District Cooperative Officer					

	groups per catchment (21 in total) (Aswa, Maziba and Awoja)								
	Activity 2.3.2.1 Select and train potential beneficiaries in income generating activities, including business planning, value addition and marketing. Training 14 groups in business planning per catchment	• Catchment Management Committees • Communities	• Workshops	Team Leader, Water Management Zone (WMZ					
Component 3: Building capacities of institutions and communities and managing knowledge	*Activity 3.1.1.2* Develop a detailed training plan to guide the capacity building program for the Project. A workshop will be conducted targeting key stakeholders to be consulted on developing a capacity development program	• Ministry of Water and Environment (MWE), Min. of Agric. (MAAIF), • Local government staff • Catchment Management Committees • Communities • Civil society • Private sector	• Workshops and meetings	Project Manager					
	Activity 3.1.1.3 Develop training modules for 7 TOTs and their related Field level trainings to build capacity of stakeholders on a continuous basis.	• District extension staff • Catchment Management Committees	• Desk research, field site visists, Workshop presentations and meetings	Project Manager					
	Activity 3.1.1.4 Undertake 14 TOT sessions on 7 TOT topics to create a critical mass of trainers in prioritized adaptation actions at community level.	• Local government staff • Catchment Management Committees	Workshops presentations, field visits and meetings	Project Manager					

	Two consecutiveTOT sessions per subject will be undertaken resulting in a total of 14 TOT sessions.	• Communities							
	Activity 3.1.2.4 Train committees (micro and sub catchment) and relevant stakeholders in managing the demonstration sites for specific interventions/enterprises	• Local government staff • Catchment Management Committees • Communities	Workshops presentations, field site visits and meetings	Team Leader, Water Management Zone (WMZ					

Table 6: The TOT topics

Topic of the TOT and modules	Number of local trainings	Persons to be trained to become a trainer	Training Center	Objective
1. Forestry reforestation • Nursery establishment • Forest management for reforestation	27 18	District Forest officer of 27 districts (14 districts in Awoja, 3 districts in Maziba and 10 districts in Aswa)	Awoja	2 TOT sessions will be undertaken with the objective to enable a critical mass of trainers to undertake 15 local trainings per catchment resulting into a total of 45 local trainings over the project period.
2. Improved Cookstoves • Production, • Business planning • Marketing	36	District Environment Officer (DEO) for each of the 27 districts	Awoja	2 TOT sessions will be undertaken targeting training DEO's in 27 districts with the objective to enable a critical mass of trainers to undertake a total of 36 local trainings
3. Flood control • Construction and maintenance of water harvesting and flood control structures • Construction and maintenance of specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands)	18 36	District Water Officers of all districts in the three catchments	Maziba	2 TOT sessions will be undertaken with the objective to enable a critical mass of trainers to undertake a total of 54 local trainings by the end of the project

4. Sustainable management of wetlands	36	District Wetlands Officers from the 27 districts in the three catchments	Maziba	2 TOT sessions will be undertaken with the objective to enable a critical mass of trainers to undertake a total of 36 local trainings in wetland management.
5. Protection of river banks	9	District Natural Resources Officers of districts that are targeted for river bank restoration	Maziba	2 TOT sessions will be undertaken with the objective to enable a critical mass of trainers to undertake a total of nine local trainings, each allocated to a river bank to be restored
6. Savings and Credit Co-operative (SACCOs)	21	District Marketing Officers	Aswa	2 TOT sessions will be conducted with the objective to enable a critical mass of trainers to undertake a total of 21 local training for the entire project.
7. Business planning for Alternative Income Generating Activities	42	District production Officer	Aswa	2 TOT sessions with the objective to enable a critical mass of trainers that will undertake a total of 42 local trainings

Output 3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities regarding ecosystems conservation, control of floods and landslides across agricultural landscapes and alternative income generating activities established

Description of demonstration centres

The project will establish one demonstration centre for each catchment (Aswa, Maziba and Awoja). Each catchment will specialize in a specific component which can offer a wide range of learning lessons from across the three catchments. Aswa catchment will specialize in business planning and income generating activities, Maziba will have a demonstration centre for flood control and landslides management across agricultural landscapes, Awoja will be the centre for ecosystem restoration including forests, wetlands and river banks. Overall, the demonsration centres will offer key and tailor made services targeted towards improving stakeholder capacities. The centres will provide Training of Trainers trainings and remain the main centre for knowledge exchange and development and testing of innovative approaches around the subject of interest of each specific training centre In addition the centres will establish regular planning systems; enhance stakeholder capacity to increase resource base (e.g. local and external contributions) scaling up strategic partnerships with development partners, and technical support in incorporating sustainable strategies in all development activities, in particular information on climate change impact and monitoring will be provided.

1. Business planning and income generating activities (Aswa)

To enhance the capacity of stakeholders to invest in alternative income generating activities and thereby reduce the pressure on natural resources, the project will establish a revolving fund supported by training activities on business planning. The business-planning and income generating activities training center will focus on providing information and knowledge on the core income generating activities in the Aswa catchment that can be replicated in the other two catchments- Maziba and Awoja. The income generating activities to be targeted include activities identified by communities in the operationalization of the revolving fund. The centre will support communities in business planning and quality management, market research, provide technical support and serve as an information exchange center on alternative income generating activities such as bee keeping, eco-tourism, zero grazing, handcrafts. The development of the business planning centre is part of the capacity building strategy of the project aimed at enhancing its sustainability. The training center will also be the hub for training and knowledge exchange on Savings and Credit Cooperatives.

2. Ecosystem restoration (Awoja)

The centre will support technical aspects in ecosystem restoration and management. For example, the centre will offer training in reforestation, tree management skills, and tree protection against fire, animals and encroachers, maintenance of tree plantation and acquisition of improved healthy seedlings in addition to wetlands and river banks restoration and management. The trainings offered at this centre will help the community organizations/ communities in identifying complementarities, synergies and opportunities that will increase their effectiveness thus enhancing their livelihoods sustainably to conserve forests, wetlands and river banks. Improved livelihoods will result from:

- Viewing the rural poor around forests/protected areas, wetlands and river banks as primary actors in the conservation process thus promoting their strengths, skills, and potentials.
- Promoting grassroots participation in a practical and democratic way.
- Ensuring interventions which promote activities that will be socially, economically, institutionally, and environmentally sustainable.

3. Flood control and landslides (Maziba)

This training centre will provide guidance in averting the recurrence of floods and landslides. Therefore, the demonstration centre to be established will:

- Increase the capacity to better understand and handle flood risk with aim of minimizing associated social, economic and environmental loss;
- Support improved local frameworks for flood management;
- Develop together with the stakeholders approaches to reduce vulnerabilities to floods and landslides;
- Train stakeholders with aim of maximizing a mix of structural and non-structural approaches to the flood and landslides management;
- Develop approaches to public participation appropriate for different problem contexts and cultural settings.

The specific activities under Output 3.1.2 are

Activity 3.1.2.1 Select and agree on land for setting up demonstrations (Government land Sub-county/District land)

Activity 3.1.2.2 Support infrastructure development and maintenance of the demonstrations centers in the three catchments.

Activity 3.1.2.3 Set up demonstration plots and procure inputs for their management

Activity 3.1.2.4 Train committees (micro and sub catchment) and relevant stakeholders in managing the demonstration sites for specific interventions/ enterprises (Ecosystem Conservation in Awoja, income generating activities in Aswa and control of floods and landslides across agricultural landscapes in Maziba).

OUTCOME 3. 2 Documenting and developing mechanisms to integrate climate change adaptation and implementation

Documentation and dissemination of lessons learned and best practices will be a critical aspect of the project. These lessons will support replication of some of the interventions with better and higher adaptive effects to the impacts of climate change. At the same time, documentation will enhance up-scaling and out-scaling to other areas. The project will develop communication materials with informative material for instance in form of posters, flyers and brochures that are intended to facilitate knowledge transfer as well as sustain project interventions. Study tours between the three catchments and other relevant catchments will be organised. **Outcome 3.2** will in **Output *3.2.1*** undertake activities on knowledge management, to document best practices and lessons learned and facilitate knowledge exchange. Furthermore, in **Output 3.2.2** advocacy and awareness raising activities will target key Government Sector Staff to integrate water security and climate resilience issues into National and Sectoral Development Plans and develop a scaling up strategy for integrating issues of water security and climate resilience into national and sectoral development plans. The following are the specific out puts and activities.

Output 3.2.1 Good practices and lessons documented

Activity 3.2.1.1 Documenting and disseminating lessons and best practices from project interventions

Activity 3.2.1.2 Share knowledge and information through use of existing and popular platforms e.g. media, telecom that are easily accessible by the stakeholders.

Output 3.2.2 Key Government officials integrate IWRM and CC in national and sectoral development plans

Activity 3.2.2.1 Advocacy and awareness raising activities targeting key Government Sector Staff to integrate water security and climate resilience issues into National and Sectoral Development Plans

Activity 3.2.2.2 Organise follow-up meetings and develop a scaling up strategy with key government sectors, and agree on an action plan to integrate IWRM and CC adaption into National and sectoral development Plans.

B. Economic, social and environmental benefits of the project

Economic Baseline situation

About 29% of the population still lives on less than 1.25 US$ per day[2] as the poverty rate remains high at 31% in 2006 and 24.5% in 2010. With a contribution of 52% of growth (2008) compared to 32% in 1992, services are the main drivers of growth. Agriculture employs about 66% of the working population and contributes about 22% to total GDP[13]. Seventy-one percent of Uganda's working population is engaged in subsistence agriculture as their main occupation and 68% of households depend on it for their livelihoods.[14] Therefore, agriculture remains a fundamental part of Uganda's economy. 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.

Economic benefits of the project

The project will directly improve adaptation capacity of 20,000 households[15] through training and implementation of climate change adaptation interventions.

In addition the project will train and support 600 households on alternative livelihood systems. The project will specifically introduce revolving funds such as the Community Environment Conservation Fund (CECF)" schemes to support communities in aiming to generate alternative sources of income, targeting particularly women and households headed by single women.

The project will also include environmental conservation activities that will improve the natural-resource base of the communities which are still the main assets for income generation of many livelihoods.

[13] UBOS, Uganda Bureau of Statistics

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

[15] UBOS, 2014. National Population and Housing Census 2014. Average number of persons per household is 5.

The activities related to reducing 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.

Environmental Baseline situation

The project areas are faced with rampant ecosystem and environmental degradation, soil loss, and reduction in biodiversity, which contribute to low resilience to climate change with high risk floods.

Degraded forests occupy about 18.2% (13,520ha) in Maziba catchment, 32.5% (71,500ha) in Awoja and 30% (51,300ha) in Aswa catchment. In Aswa catchment (31,000ha), wetlands constitute 7% (217,000ha) of the total land area of which 30% (65,100) is degraded. In Maziba catchment (74,100ha) degraded wetlands 30% (22,230ha) while in Awoja catchment 30% (83,170ha) out of the catchment area of 27,723ha are degraded. It is also estimated that at least 20% of river banks in each catchment are degraded.

Environmental benefits of the project

The project will be useful in protecting soils, biodiversity and thereby building resilience to climate change.

The project contains concrete investments for restoring or reducing environmental degradation in order to improve the resilience of ecosystems to climate change and to reduce the floods and landslides. 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 aims at restoring/rehabilitating 1,450ha of degraded and deforested areas through afforestation and reforestation, 300 hectares of degraded wetlands, 320ha of buffer zone/river bank and 200 Km of riverbank boundaries put in place. Floods and landslides across landscapes will be controlled through training on, establishment and maintenance of bio-physical measures thereby improving reslience of agricultural landscapes. 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 two 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.

Furthermore, the project will support the establishment/rehabilitation of nine 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 contribute to proper management of 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 ensure long term and sustainable food

production and security. Such actions will have significant contribution in conserving fragile ecosystems of Mt. Elgon, degraded highlands and encroached wetland 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 other Eastern African countries.

Social Baseline situation

The highly vulnerable groups in the community (women, children and youth) 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 thus reducing migration of people to urban centers in search of income generation activities.

Social benefits of the project

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 operationalization 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.

Women and children that are known to be highly vulnerable groups of communities will be specifically targeted by the project to assure their participation in all project activities (training and community based management). Some activities of the project are specifically targeting woman and vulnerable groups. To reduce pressure on forest and other natural resources, improved cook stoves will be introduced thereby improving resilience to climate change. The proposed project targets supporting 18 groups to produce 8000 stoves as a micro-enterprise, targeting about 3600 households and 100% being women. The stoves will also have the positive side effect of reducing 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. In general about 20,000 households in the 3 catchments are expected to gain from these investments and gender aspects will be fully considered.

The livelihoods improvement project targeting 600 households, which will be introducing alternative income generation activities such as beekeeping, poultry rearing as well as set up a participatory incentive mechanism and a revolving funds scheme, since the activities are particularly attractive for the landless and poorer households.

The youth will also be engaged in activities that support the project such as tree seedlings production in tree nurseries.

In general it is envisaged that the project will contribute to stabilizing and improving the situation in rural areas and thereby preventing migration of young men to urban centers in search of income generation activities. It will also reduce the burden of women and children in rural areas. For instance with introduction and promotion of cook stoves children will have a chance of going to school as household incomes grow and more time is available for kids.

C. Cost-effectiveness of the proposed project

The Project will allocate about US$4.445 million to Component 2 for Implementing concrete adaptation actions for resilient and sustained ecosystems, agricultural landscapes and other livelihood systems. In addition, US$0.401 million will be allocated to Component 1 Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba. Furthermore, US$1.327 million will be allocated to Component 3, for Building capacities of institutions and communities and for knowledge management.

Component 2 is 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 and water harvesting.

The Uganda National Climate Change-Costed Implementation Strategy (MWE, 2012) costed the proposed actions of its integrated water resources management program as documented in the Government of Uganda's Climate Change Adaptation Strategy and compared them to potential benefits in terms of reducing unmet water demand or in reducing losses from floods. 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 the economic benefits and justify the costs. This analysis demonstrates that the economic internal rate of return (EIRR) of the investments included in the project is approximately 15%. Furthermore, 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/ha/yr, 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 ha 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 part of GoU priorities. 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 an 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 centralized 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..In this regard Catchment Management Planning (CMP) Guidelines have been developed to guide the process of preparation of CMPs in Uganda and the de-concentration of water resources management to WMZs. A CMP 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 CMPs 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 GoU 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 among 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 (NDP) (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 the East Africa Community (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 IWRM that would help reduce losses from floods.

The National Adaptation Programme of Action (NAPA), undertook the 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, and Water for Production 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 inadequate 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 and improving community livelihoods.

Particularly the project will be implemented following the national standards of Uganda related to 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 as well as land degradation.

F. Complementarily with other projects

The MWE 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 CMPs. There are already CMPs for Awoja and Maziba Catchments in Kyoga WMZ and Victoria WMZ respectively. Although preparation of the various CMPs has been supported by various partners such as World Bank, most of these partners are not providing funds for implementation of these plans. In any case the resources required to implement these plans are way beyond the funding that can be sourced from one partner. For example, the budget estimates for implementing Awoja CMP amounts to US$100m. Specifically, World Bank is interested in funding large infrastructure projects that are outside the scope of this project. 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 thus 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 (GWP) Eastern Africa are also implementing partners.

The consultation process during project proposal preparation identified a number of projects that the proposed project will complement. The specific projects that complement the proposed project are indicated in Annex III.

G. Learning and knowledge management strategies of the project

The project has considered capacity building and knowledge management and learning as one of its main components. With respect to knowledge management and learning 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.

Table 7 provides information on the existing constraints/baseline situation and the proposed activities as part of the project's knowledge management strategy.

***Table 7**: Proposed project's knowledge management strategy*

Constraints/ baseline situation	**Proposed activities**
Absence or limited 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 within Uganda • 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

Responding to impacts of Climate change requires a multi-disciplinary, multi-sectoral and multi-institutional approach because the issue is cross-cutting affecting various sectors and groups of societies. The proposed project design facilitates multi-stakeholder participation and collaboration starting right from its development up to its implementation. It promotes consultations, participatory processes and dialogues among the various stakeholders of government, non-government, private sector, development partners, research/academics, and local communities. This approach is believed to create ownership by the various stakeholders, and ensure sustainability of project interventions by creating institutionalized systems. This is also expected to establish a mechanism for scaling-up similar approaches and interventions.

The development of the project proposal followed a very long and wide consultative and participatory process at various levels in Uganda. Thorough analyses by several experts were undertaken in the process. The main proposal design and development

committee was composed of experts from OSS (climate change and water resources), GWPEA (environmental, forestry, water and climate change), and MWE (water resources, climate change, hydro-meteorology and environment).

Issues covered during consultations include the following:

- The nature of the project and its specific role in enhancing resilience of the most vulnerable 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
- Identification of priority problems/issues and possible solutions
- Identification of risks and/or possible conflicts and resolution mechanisms
- Identification of projects/initiatives for possible synergies

The development of the CMPs of Awoja and Maziba included gender analysis. Since the activities of the proposed project are taken from the catchment plans no further gender analysis has been undertaken at this stage.

The consultation and participatory processes during the development of the project proposal at different levels are summarized in Annex V.

Project Components and Gender analysis

The project will use gender sensitive approaches, and recognizes the different roles attributed to women and men in natural resource utilization. The project also recognizes women as being impacted most by climate change, since they are more directly dependent on natural resources for survival. Therefore, the project will incorporate gender-related issues in stakeholder consultations and other participatory forums though development of a gender equality action plan. Moreover, the participatory forums and structures will be constituted through representatives of different groups, including women, poor, youth, elderly and disabled (these are the most vulnerable groups). The involvement of these vulnerable groups will provide a fertile ground to integrate their needs into planning and decision making. The approaches designed will promote equity and equality amongst the gender and vulnerable groups and is crucial for the social, economic, and environmental sustainability hence, thus building their resilience to climate change impacts. The catchment based approach to water resources management will therefore mainstream and impact the lives of over 20,000 households (including women, elderly, youth, disabled) since they are the most vulnerable to climate change and directly depend on natural resources to derive their livelihoods. The project interventions proposed in component two are activities, which have been planned with the communities in the context of the development of the Catchment Based Management Plan. In this context also gender analysis has been undertaken (for example see excerpt of Maziba catchment plan with regards to gender in Annex XIII). All the components of this project have been screened for gender aspects. The resulting gender analysis is indicated in Annex VI.

I. Justification for funding requested

Generally, there is limited detailed data for Uganda on the projected economic costs of climate change and the additional costs and benefits of adaptation. Assessments of Africa and other African countries facing similar challenges, however, indicate that the economic costs of climate change in Africa could equal an annual loss in GDP of ~1.5-3% by 2030 under a business-as-usual scenario.

In the long-term, these costs could increase rapidly to a loss of ~10% of GDP by 2100. Assessments undertaken indicate high benefits incurred by adaptation compared to costs. For example, appropriate adaptation measures could reduce the economic costs of climate change in Africa from ~2 to 1% of GDP by 2040 and from 10 to 7% of GDP by 2100 (GOU, 2012). Adaptation measures need to be carefully planned for and managed to reduce the negative effects of climate change on socio-economic returns in Uganda.

It is documented that in Uganda, climate change, water-related disasters, such as floods, landslides, windstorms and hailstorms, contribute well over 70% of the natural disasters and destroy annually an average of 800,000 ha of crops, resulting in economic losses of over U Sh120 billion.[16] Floods and landslides following the heavy rains in 1997/1998 killed 53 people and displaced over 2,000 people. Roads, bridges, houses, crops, and property, worth more than US$20 million were also destroyed. The 2007 floods most heavily affected the eastern and northern parts of the country, and indicated the country's vulnerability to impacts of adverse effects of climate change. Property worth over US$80 million was destroyed[17] and an estimated 50,000 households (300,000 people) have been affected by the flooding, and required humanitarian assistance of $40,844,801[18] to address urgent humanitarian and some limited early recovery needs. Considering the costs associated with responding to such disasters highlighted above, it is evident that the proposed financial resources are needed and would just be adequate to design resilience and adaptive capacities of communities against climate change impacts.

The project targets building adaptive capacity and enhancing climate resilience of local communities through implementing concrete adaptation actions. 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 floods and improve their adaptation capacity to those risks while at the same time improving their livelihoods strategies and enhancing food security. 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, water harvesting schemes will not only improve agricultural productivity but also make production more reliable, contributing to household food security.

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

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

[18] Uganda Consolidated Appeals Process (CAP) 2007

The adaptation activities of component two therefore do not only increase the resilience of ecosystems and agricultural productions systems to the risk of floods, 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 implementation of the project and the continuity of the activities at the end of the project. Considering that the project will contribute to the achievement of the objectives and targets of various government sectors in Uganda these sectors provided in-kind thus contributed to the project development. Since government employees receive salaries and have a responsibility to provide services to the people, once their capacity is improved the sustainability of their service provision to the people should be guaranteed. Similarly, local communities will be motivated to participate in project activities through the conditionality of access to the revolving fund and programmes, and assuring that investments in alternative income generating activities have positive rates of return.

Technical, logistical, material and political support is 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. As a sign of commitment and ownership and as conditionality of access to the revolving fund the communities are expected to contribute in kind to activities of rehabilitation and restoration of component two. In addition, the creation of revolving funds linked to livelihoods will also contribute to economic sustainability, since the project will use the revolving fund to encourage and support the testing of successful alternative income generating activities that will

have a positive rate of return. The local communities will be trained on the economically sustainable sources of alternative incomes.

Technical/technological sustainability is also considered during the design phase through 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 hence contributing to technical and technological sustainability. The introduction of some technologies such as energy saving cooking stoves will be undertaken through a credit arrangement (revolving funds) linked to catchment management that contributes to better technology adoption by communities while ensuring environmental protection. Not only do improved cook stoves contribute to environmental protection but also income generating by producing them and selling out to poulations in non-project areas. Communities will also be engaged in the local production of introduced technologies for easy dissemination.

Social sustainability was also another useful consideration during project design. Issues of social, cultural and other social values of local communities have been considered when proposing interventions. Participation of local communities to appraise the proposed interventions will be 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 appreciated the differences in livelihoods, social systems and identified interventions in reponse to those differences. Noting that targeted catchments are dispersed in different agro-ecological zones with marked differences in livelihood systems, they are similarly related in agricultural and natural resources mangement practices. The farming system in fragmented plots on the mountain terrain in Maziba requires different responses to other farming systems.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 will be achieved through the management structure included in the project design. The project will be executed 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 because institutions are permanent and will continue to execute their mandates after the project and 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. Participatory process of project development also has provided an opportunity of creating ownership of the project by various stakeholders that will be involved in project implementation and sustainability of these interventions after the end of the project. Establishing community management structures and giving the local people responsibilities of managing their natural resources is an approach preferred by the project aimed at ensuring ownership and sustainability of project interventions. The project will also offer tangible solutions to beneficiaries to address their current and future needs. This will further 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

At its decision B.25/8 the Adaptation Fund Board decided that given the described risks, and as adequate risk screening or impacts assessment is not possible for the incompletely identified sub-projects and activities of the submitted concept note, the project should be seen as belonging to Category B, and the fully developed proposal should present an overall project Environmental and Social Management Plan (ESMP).

During the preparation of the full project proposal, the approach of environmental and social impact assessment for the proposed project has been approved by the NEMA and an ESMP has been prepared (see Annex IX). A detailed assessment will be carried out for specific projects depending on their size, location and type. Further consultation and guidance will be given by NEMA and other relevant sectors during the preparation of detailed assessments for certain activities as per the Uganda regulation requirement.

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, and 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 monitoring 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 and social impact assessments for selected project activities, based on the guidance obtained from the National Environment Management Authority (NEMA) of Uganda and under the supervision of the RIE.

Table 8: **Checklist for Environmental and social principles**

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 domestic law and policies (see Annex IX)	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 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.	Some activities of the project, such as the livelihood improvement projects are not intended to provide a benefit for all, but target those livelihoods in need as well as the livelihoods which are involved in restoration activities due to their proximity to the natural resources which are to be protected. The project will closely monitor the targeting of all project beneficiaries to assure equal access of men, women youth and the most vulnerable. Indicators in this regard are included in the M&E scheme.
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 users 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. Indicators in this regard are included in the M&E scheme.
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 access of 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.	All project activities have been screened and analysed in order to take gender aspects into consideration (see Annex VI). An in depth gender analysis of the involvement of men and women in the in options proposed as concrete adaptation activities will be undertaken in the initial project phase.
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 communities exist different tribes, but no sharp distinction between indigenous	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 water and

	and non-indigenous people can be made.	forest resources will be undertaken in the initial project phase.
Involuntary Resettlement	The project will not be involved in major resettlement activity of communities. However, people that might have encroached on natural resources such as riverbanks and wetlands will be asked to move out of the area and be involved in restoration activities as well as activities for alternative income generation to assure their livelihoods.	The project will closely monitor the targeting of the project beneficiaries, particularly to assure that those people who have encroached on protected natural resources have access to the revolving fund and are involved in income generating activities. Indicators in this regard are included in the M&E scheme.
Protection of Natural Habitats ***Conservation of Biological Diversity***	The protection of wetlands and its natural habitats and biological diversity is a core objective of component 2 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. Indicators in this regard are included in the M&E scheme.
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. The training centers will provide example of efficient resource use through the application of cooking stoves and energy efficient methods.	
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 reducing smoke out of traditional cooking stoves, improving living environment (healthy surroundings). However, Water harvesting, storage and irrigation facilities may aggravate some diseases such as malaria.	During the implementation of the project awareness raising activities will be undertaken on malaria and other water related diseases.
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, reduction of land degradation through supporting terraces, afforestation and catchment management is a core objective of component 2 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 key stakeholders such as the GWP Eastern Africa and the Uganda Country Water Partnership (CWP), NEMA and the participating local governments.

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.

According to benchmark achievements and orderly submission of reports and plans OSS will receive the funds and channel them to Uganda where they will be received by the Ministry of Finance, Planning and Economic Development that is the Designated Authority for the Adaptation fund. The Ministry of Water and Environment (MWE) in Uganda will be responsible for project management and execution. The MWE through its Directorate of Water Resources Management (DWRM) will take the lead in executing the project. Considering that the Awoja, Aswa and Maziba catchments are found in Kyoga, Upper Nile and Victoria Water Management Zones (WMZs) respectively, 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 governance structures (Stakeholders Forums and Catchment Management Committees) in the 3 catchments that will be strengthened and used for coordination of project implementation. At the local level, project execution offices will be based at local government offices of Mbale (for Awoja catchment), Lira (for Aswa catchment) and Kabale (for Maziba catchment). The project execution offices will closely collaborate with local government structures in the execution of the project in line with the Catchment Planning Guidelines.

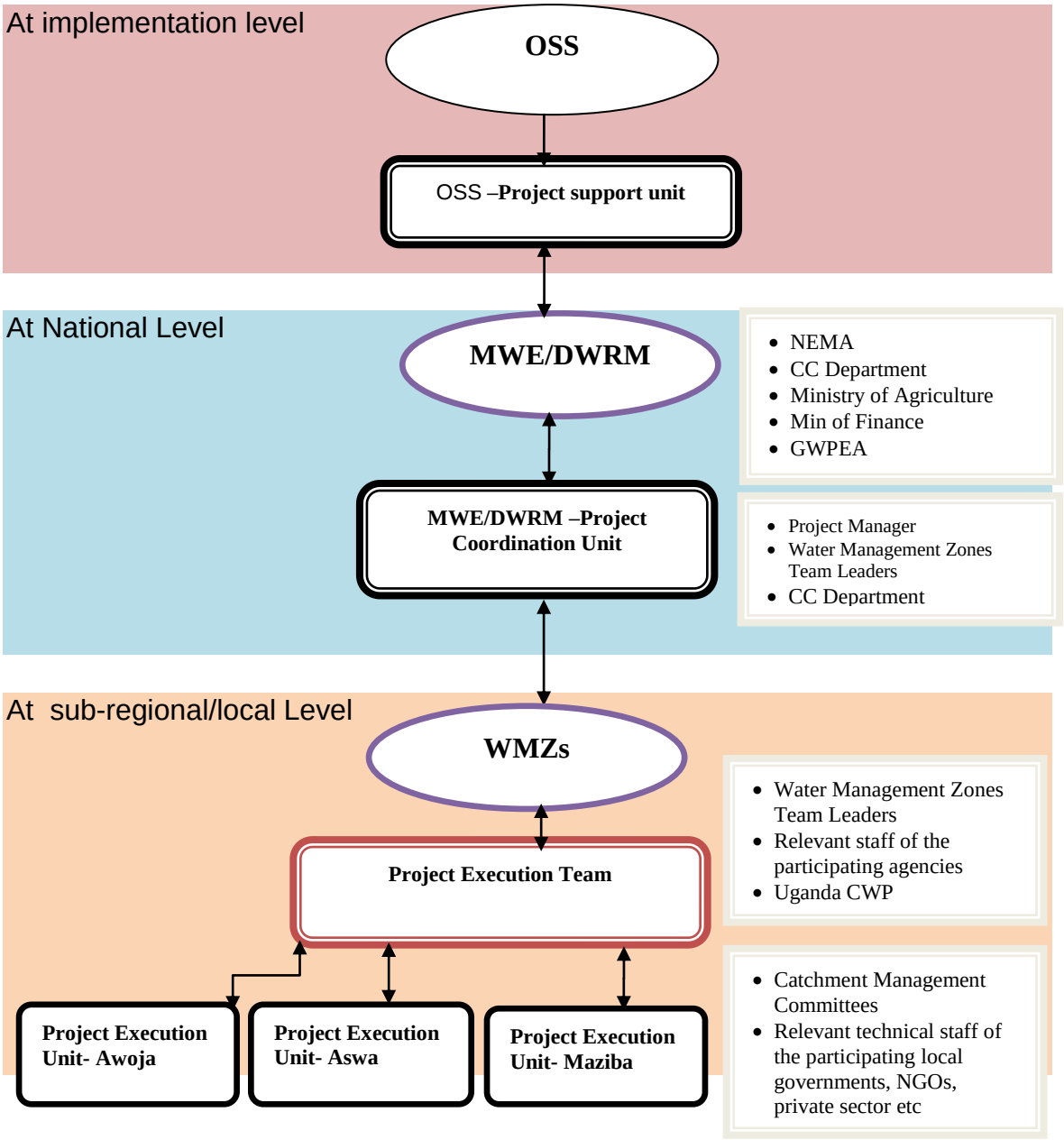
A project Manager will be appointed and stationed at the Directorate of Water Resources and ensure liaison on project activities among and between the MWE, the WMZs , the field offices, local governance structures and other stakeholders.

The project will be guided by various committees including the Project Steering Committee, Project Coordination Team, Project Execution Team, Focal Points at WMZ, and Support Team at the Ministry. In addition, existing structures such as the Water Management Zone Advisory Committees, the Catchment Management Organization (CMO) structure and Uganda Country Water Partnership (CWP) will provide the necessary guidance to the project and ensure that the needs for the local communities are met.

GWP Eastern Africa has successful experience in water resources management and climate change adaptation at catchment and national level. The ministry of Water and Environment has collaborated with GWP Eastern Africa in similar climate change adaptation projects around Mount Elgon located in Awoja catchment. Both have experience of engaging stakeholders at various levels, including districts and local communities.

GWPEA will perform the role of technical Adviser and be responsible for providing technical guidance and support to the project. The involvement of GWPEA in this project execution is mainly to mobilize GWP's extensive experience in demonstrating, documenting and partnership building on water resources management and climate resilience. Specifically, GWPEA will support the ministry in the implementation of the capacity building and knowledge management component of the project ensuring very strong linkages between the knowledge generated at the catchment and national level processes and frameworks. It will also support the Ministry in capacity building of stakeholders at both national and local levels in relevant areas, integration of climate change in CMPs and revision of the catchment planning guidelines. The involvement of GWPEA will be elaborated in detail at the start of the project and will be formalized through a Memorandum of Understanding with the Ministry of Water and Environment.

The diagram below shows the project implementation structure with linkages among different parties. Detailed roles and responsibilities of project partners are presented in Annex VII.



B. Project Risk Management

The project anticipates various risks during the implementation phase. Table 9 summarises the anticipated risks and mitigation measures.

Table 9: Risks and risk management strategies

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	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
3	Mismatch between the catchment and administrative boundaries	L	• Promote 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
7	Local communities with limited participation and willingness to promote project initiatives	L	• Increase sensitization at local community level, working with available set up local structures, active involvement of community organizations in project implementation
8	Collaboration amongst the relevant technical institutions	M	• The relevant institutions should be involved right from the project inception and continuously be involved in planning, implementation, Programme review, and reporting.

C. Measures for environmental and social risk management

At this stage, a broader view of Environmental and Social Management Plan (ESMP) for the proposed project has been developed in collaboration with the NEMA (see Annex IX). Further detailed ESMP for each intervention will be formulated during the inception phase of project implementation**.** The ESMP for the proposed interventions of the project is shown in Table 10.

Table 10: Risk and risk management measures for the proposed interventions of the project

No	***Identified Risks***	***Level (H, M, L)***	***Risk Management Measures***
1	Delineation of degraded areas for rehabilitation may shift the pressure to non-degraded areas and some conservation measures (if not carefully selected) may aggravate degradation	M	Carefully select areas for rehabilitation and include population in the rehabilitation activities Introduction of alternative income generation activities for livelihood diversification to reduce pressure on natural resources Monitor area of environment that is protected, as well as surrounding environment
2	Water harvesting, storage and irrigation facilities may aggravate some diseases such as malaria	L	Raise awareness through community based health workers on malaria and other water related diseases
3	Introduction of drought-tolerant crop varieties may contribute to loss of local varieties by farmers	L	Promote conservation of local crop varieties when introducing drought-tolerant crop varieties
4	Upstream activities may have negative environmental impact downstream and cause social conflict with downstream users	M	Strengthen coordination and conflict resolution mechanisms at catchment at WMZ level
5	Promoting indigenous forest trees to replace plantation forests (e.g. Eucalyptus in Maziba) may cause conflict	M	Properly consult all stakeholders in reforestation measures and inform about advantages of replacing Eucalyptus trees by indigenous ones
6	Natural Resource Use related Conflicts	M	Include all stakeholders in consultation at local level, strengthen existing local conflict resolution mechanism, integrate conflict resolution mechanism in catchment-based management structures Establish Grievance Mechanism at local and national level
7	Armed Conflict in Aswa Catchment	L	The conflict in the area is perceived as a passed conflict that has been overcome. Many projects in the region work on the stabilization of the area.

Grievance mechanism

Grievance mechanisms are proven tools in helping institutions minimise harm to communities and ecosystems by protecting the existing rights, obligations and standards. The proposed project has included a mechanism to manage conflicts/grieviences.

The proposed project will essentially be guided by the OSS **grievance mechanism** that aims at providing persons affected by adverse environmental or social impacts resulting from OSS projects or programs with an accessible, transparent, fair and effective process for the submission and processing of their complaints (http://www.oss-online.org/en/grievance-mechanism).

OSS mechanism is in line with the principles for non-judicial grievance mechanism, elaborated by JohnRuggie, Un Special Representative of the Secretary General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises the following standards on Effectiveness, legitimacy, Accessibility particulary by complainants, predictability, equitability, transparency of the processes and outcome, rights compatibility and participation at all relevant stages in the decision making process. OSS has developed a complaints' form that will be filled and the grievance handled accordingly. Furthermore, during initial implementation phase, the project will conduct an analysis of the various structures, identifying gaps and resources (human, administrative, financial technical capacity, etc.) needed for the effective feedback and grievance redress mechanism that is to be established within the project. The project will establish a feedback and grievance redress mechanism that will help to diffuse conflicts arising from project implementation.

The project will establish three levels at which conflicts can be resolved i.e. at the community, district and national/ministry levels. This system will ensure that simple and practical procedures for complaints are properly recorded, responded to, and reported, and allow for effective escalation of unresolved issues. The process will also enable awareness and accessibility to grievance redress in a way that is consistent with the scope of the project.

Further, the process will strengthen policy, legal and institutional framework for managing grievances and conflicts that can assist in handling/ addressing stakeholder concerns and issues relevant to project implementation. The stakeholders will be informed of the existence of the grievance mechanism set up by the project using the available communication channels such as meetings, media websites etc. This will enable stakeholders who have any issues to get assistance as quickly as possible.

For purposes of transparency, complaints and follow ups will be communicated/ published to stakeholders. A clear and concise step wise operationalization and management structure of the feedback and grievance mechanism will be designed at the project inception phase. The feedback and grievance mechanism will be of tremendous support to the catchment management structures. This is because the structures form the actual interface between the affected and the project (more detailed information on the grievance mechanism in Annex XIV).

D. Project M & E arrangements, including 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.

OSS as implementing entity supervises the M&E activities of the project. The OSS assures that the Ministry of Water and Environment and the various catchment offices will undertake the evaluation and prepare the yearly reports. To this effect the Ministry of Water and Environment will assign a Project Manager to devote a substantial part of his time for this project and will be supported by a Project Liaison Officer to coordinate work in the 3 catchments. GWPEA will provide support as may be requested by Ministry of Water and Environment.

Quarterly Progress Reports will be prepared by the Project team in Uganda and verified by 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 towards project objectives 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.

At the beginning of the project, the project team will undertake baseline surveys and prepare a detailed M&E plan that will streamline project objectives, indicators and methodologies of data collection. A joint review mission to the project sites will also be planned to be conducted twice in a year. The joint review will include representatives from MWE, GWP EA, OSS, participating executing 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 as well as 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 re-align 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 towards the achievement of outcomes and identify adjustments if needed. The review 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. An independent terminal evaluation will also be conducted. Project M&E work plan and budget are shown in Table 11. It is also included in the budget of executing entity and implementing entity:

Table 11: Project Monitoring and Evaluation Work Plan and Budget

M & E activity	Responsible Parties	Budget (USD)	Time frame																		Notes
			2016		2017				2018				2019				2020				
			Quarters		Quarters				Quarters				Quarters				Quarters				
			3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Initial studies to improve baseline, gender analyses, land rights analyses and environmental and social impact assessment		30,000																			
Field visits for measuring the project results for each target and reporting as well as gender and land right analysis	M & E Officer, Communication Officer and Team Leader WMZ	40,000																			Will be undertaken quartery.
Monitoring Project outputs by Project Team/MWE and reporting	Project Manager and MWE	40,000																			Will be done Semi-annually
Visits to field sites for joint review of status and project progress and reporting	Project team/ MWE and OSS	14,000																			Will be done yearly
Mid term evaluation and reporting	Project Manager, M & E, Comm. Officer	30,000																			Will be done after the first two years.
Final evaluation and reporting	MWE and OSS	20,000																			Will be done at least two months before the end of the Project
Compiling a Project Terminal report	Project Manager/MWE	18,000																			Will be submitted at the end of the Project
Final Project Audit	OSS	26,215																			Will be done at least two months before the end of the Project
Total M & E costs		**218,215**																			

E. Project Results Framework including milestones, targets and indicators

The Results Framework of the project defines success indicators for project implementation and 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 July 2016.

Any changes to the Results Framework require approval by the Project Steering Committee. The launching workshop is crucial to building ownership for project results and agreeing on modalities of project execution, documenting mutual agreement for the proposed executive arrangements amongst stakeholders.

The Results/log framework

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Objective: To increase the resilience against the risk of flood and landslides of Awoja, Maziba and Aswa Catchments through promoting catchment based integrated, equitable and sustainable management of land and water resources	• Reduced impact of heavy rains through improved management of natural resources • Reduced incidences of landslides in the three catchments • Reduced impact of floods in the three catchments	• In 2015, The Uganda National Meteorological Authority (UNMA), IGAD Regional Climate Application and Prediction Centre (ICPAC) and the World Meteorological Organization (WMO) predicted the occurrence of floods and landslides with 95% certainity. Between 1970 and 2010, about 99 landslides have occurred in Awoja catchment. • There is increased vulnerability to those risks due to degradation of riverbeds, wetlands and forests, less water infiltration and increased superficial		• Integrity of targeted natural resources improved by at least 50% • Incidences of landslides and floods reduced by at least 50%.	• National statistical data (UBOS, 2014)	• Commisioner Water Resources MWE • OSS • Project Manager (PM) • Team Leader WMZs	• The current land and other natural resource management systems do not cause substantial changes in land use and land cover.

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
		runoff.					
Component 1: Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments							
Outcome 1.1 Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba	• Document describing the management system • Activities of the plan implemented	• Catchment management structures exist in Maziba, Awoja and Northern part of Aswa catchments but are not fully functional • Awoja and Maziba have non-functional structures at catchment and sub-catchment and no structures at micro - catchment level exist • Sub – catchment structures exist in the northern part of Aswa catchment but are not functional and no micro-catchment structures exist in Aswa		• By the end of the project, three (3) Fully functional Catchment management structures for the 3 target catchments are in place.	• Interviews with the communities	• Project Manager (PM) • Team Leader WMZs	• Decision-makers at all levels are willing to mainstream climate change considerations into planning and programming in a timely manner. • No major disputes and conflicts within communities
Output 1.1.1 The existing catchment management planning	• Revised CMP guidelines • Number of CMPs revised guidelines printed	• The existing CMP guidelines do not have a component on integration of climate change	<u>End of First year</u>: • 500 copies of revised guidelines printed (200 copies national	• Revised CMP guidelines in place • 500 copies of revised	• Workshop reports • WMZ reports	• Project Manager (PM) • Team Leader WMZs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
guidelines revised to include aspects of climate change	• Number of CMP dissemination workshops held.	issues in CMPs.	level and 100 per catchment) • 8 workshops (2 National and 6 catchment level workshops	guidelines printed (200 copies national level and 100 per catchment) • 8 workshops (2 National and 6 catchment level workshops			
Output 1.1.2 The Catchment Management Plans (CMPs) of Awoja and Maziba revised to address climate change issues	• Number of Catchment Management Plans (CMPs) revised to incorporate climate change issues • Number of copies of revised CMPs printed • Number of CMP dissemination workshops held	• Climate change issues are not incorporated in the existing CMPs of Awoja and Maziba catchments.	<u>End of First year</u>: • CMPs for Maziba and Awoja revised to incorporate climate change, printed and disseminated • 700 copies of revised CMPs (100 national level and 300 per catchment) 6 workshops (2 per Catchment for consultations and dissemination)	• 2 CMPs for Awoja and Maziba revised to incorporate climate change issues • 700 copies of revised CMPs (100 national level and 300 per catchment) • 6 workshops (2 per Catchment for consultations and dissemination)	• Workshop reports • WMZ reports • Activity and monitoring reports of Directorate of Water,	• Project Manager (PM) • Team Leader Water Management Zones (WMZs)	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Output 1.1.3 A comprehensive CMP for the Aswa catchment prepared (with funding from the world bank) following the revised guidelines includes issues of climate change	• CMP for the entire Aswa Catchment developed • Number of copies of the Aswa CMP printed • Number of dissemination workshops held	• Currently there is no CMP for the entire Aswa catchment. It is being developed with funding from the World Bank Project. The proposed project will ensure that the aspects of climate change are incorporated in the plan.	<u>First year</u>: • CMP for the entire Aswa developed with funding from the World Bank integrates climate change aspects. • 400 copies of Aswa CMP (100 national level and 100 per sub-catchment) printed and distributed	• CMP for the entire Aswa in place • 400 copies of Aswa CMP (100 national level and 100 per sub-catchment) printed and distributed	• Workshop reports • WMZ reports • Activity and monitoring reports of Directorate of Water,	• Project Manager (PM) • Team Leader WMZs	
Outcome 1.2 Awoja Aswa and Maziba catchments managed by appropriate water and climate governance structures							
Output 1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba & 3 for Aswa).	• Number of sub catchment and micro-catchment Committees, Fora and Secretariats established/ strengthened • 50 % of the committee members in of sub catchment and micro-catchment Committees, Fora and Secretariats are Women	• Awoja and Maziba have non-functional structures at catchment and sub-catchment and no structures at micro - catchment level; • Sub – catchment structures exist in the northern part of Aswa catchment but are not functional and no micro-catchment structures exist in Aswa	<u>End of First year:</u> • At least 80% of Sub catchment and micro-catchment Committees, Fora and Secretariats established (Number of micro-catchments to be determined during baseline survey) <u>Mid term</u>: • At least 80% of Sub catchment and	By the end of the project All the Catchment committees, Fora and Secretariats established/strengthened in the three catchments and the 9 target sub-catchments and Micro-catchments within the sub-	• Project progress reports • Quartery M& E reports • WMZ reports • Activity and monitoring reports of Directorate of Water • Minutes of meetings of catchment management	• Team Leader WMZs • DEOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			micro-catchment Committees, Fora and Secretariats strengthened and functioning	catchments	structures		
	• Percentage change in the incidences of landslides and floods • Percentage of households with diversified income sources and sustained climate-resilient alternative income sources.	• Ecosystems are vulnerable to impacts of climate change. • There are limited sources of incomes for local communities	• Incidences of landslides and floods reduced by at least 10%. • • At least 10% of the targted households have diversified income sources.	• Incidences of landslides and floods reduced by at least 30%. • • At least 50% of the targted households have diversified income sources.	• Household survey • Project progress reports • Quartery M& E reports • WMZ reports	• PM • Team Leader WMZ • District Forest Officers (DFOs) • DEOs • CDOs	
Component 2 Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems							
Outcome 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced	• Number of Ha of degraded forest land restored • Reduced run off/erosion • Increased water infiltration rates into the soils • Number Ha of degraded wetlands restored • _Increased water	• Large areas of the targeted ecosystems in the project areas are vulnerable to the impacts of climate change About 1,161,806 hectares of Communal and private forest lands in Uganda are degraded.	<u>End of First year</u>: • 100 ha in Awoja, 50ha in Maziba and 50ha in Aswa) of degraded and deforested land i.e 15% restored • 50ha in Awoja, 15ha in Maziba and 15ha in Aswa) of degraded wetland (i.e 10 %) restored	• By the end of the project 1000 ha (500 in Awoja,250 in Maziba and 250 in Aswa) of degraded and deforested land have been (50%) restored • By the end of	• Field visit reports • Interviews with the communities • WMZ reports • Activity and monitoring reports of Directorate of Water	• PM • Team Leader WMZ • District Forest Officers (DFOs) • DEOs	• Local and regional planners, landowners, farmers, and local communities understand the value of combining conventional and traditional flood control

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
	rention capacity of wetlands • Number of Ha of degraded riverbanks restored • Increased stability and reduced erosion and siltation on river banks	• The total area of degraded wetlands in Maziba is 386.3 ha (58%), Awoja 7,000 ha and Aswa 5,800ha. i.e 13,186.3 ha in the entire project area. • Total area of degraded river banks (Statistics not available)	• 50 ha in Awoja, 15ha in Maziba and 15ha in Aswa) of degraded river banks have been protected. • 20% of target ecosystems restored and less vulnerable to climate change impacts <u>Mid term:</u> • 300 in Awoja, 100 in Maziba and 100 in Aswa) of degraded and deforested land i.e approx.28%) restored • 150ha in Awoja, 25ha in Maziba and 25ha in Aswa) of degraded wetland (i.e 12%) restored • 100 ha in Awoja, 20ha in Maziba and 20ha in Aswa) of degraded river banks have been protected.	the project 300ha (200ha in Awoja, 50ha in Maziba and 50ha in Aswa) of degraded wetland (i.e 30%) have been restored • 320 ha of degraded river banks have been protected. • At least 90% of target ecosystems restored and less vulnerable to climate change impacts			systems to reduce risk. • Environmental authorities and local communities work together to incorporate ecosystem conservation measures into risk reduction.
Output 2.1.1 The most degraded areas	• Map of each catchment indicating the specific degraded	• The size and specific location of Degraded forest, wetlands and riverbanks areas	<u>End of First year:</u> • All degraded areas vulnerable to intensive rainfall	• In each catchment an area of forest, wetland and	• Satellite Data • Remote Sensing • Field visit	• District Forestry Officers (DFOs)	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
vulnerable to intensive rainfall confirmed	areas vulnerable to intensive rainfall	vulnerable to intensive rainfall in the 3 catchments are not mapped.	mapped.	riverbank is defined which is most vulnerable to intensive rainfall and the risk of flooding and landslides. • A detailed baseline report on status of wetlands, forests and riverbanks produced and in place for each catchment	• Field reports • Project reports • Semi-annual and annual reports • Mid-term and Final evaluation • SurveysWMZ reports • Activity and monitoring reports of Directorate of Water	• Catchment Management Committee (CMC) • Team Leader WMZ • DEOs	
Output 2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation	• Number of nurseries supported under Public-private partnerships arrangements • Number of seedlings produced and distributed to farmers for planting • Number of seedlings	• Tree nurseries exit but they are privately owned with low production and technical capacities. • Inadequate knowledge,skills and capacity for afforestaion/restoration activities in the	<u>End of First year</u>: • 9 tree nurseries supported • 200, 000 seedlings of different species produced and distributed to farmers • 90 people trained in	• At least 9 nurseries supported under Puplic Private Partnership arrangements • About 1,000,000 seedlings of	• MOU PPP • Nurseries accounting system • Workshop reports • Field visit • Satellite data • Field reports	• Project Manager • Team Leader WMZs • DFOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
	planted • Number of people/ households trained in nursery establishment and management in the three catchments of which at least 40% should be women. • Number of people trained in woodlot establishment and management of which at least 40% should be women. • Area (ha) of degraded land restored. • Survival rate of seedlings.	catchments • About 1,161,806 hectares of Communal and private forests in Uganda are degraded. Such deforested and degraded forest areas will be the focus of restoration activities.	nursery establishment and management • At least 2000 households trained in woodlot establishment and management (at least 2 people per household trained). <u>Mid term:</u> • 500, 000 seedlings of different species produced and distributed to farmers • 90 people trained in nursery establishment and management • At least 5000 households trained in woodlot establishment and management (at least 2 people per household trained).	different species produced and distributed to farmers • At least 180 (72 Women and 98 Men) people trained in nursery establishment and management. • At least 10,000 households trained in woodlot establishment and management • 1000 ha of degraded and deforested lands restored	• Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys		

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Output 2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation	• Number of Community groups producing and marketing stoves under Public Private Partnership arrangement of which at least 100% should be women groups. • Number of households trained in making/manufacture and marketing of improved cookstoves of which 60% should be women. • Number of households using improved cook stoves • Number of training workshops conducted	• A Limited number of households are using improved cooking stoves. • High rate of tree cutting for fuelwood leading to land degradation	<u>End of First year:</u> • 2000 stoves produced • 1800 households (3600 people) use improved cook stoves of which 60% are women. • 9 training workshops on cook stove production <u>Mid term;</u> • 4,000 stoves produced • 3600 people use improved cook stoves of which 60% are women.	• 18 groups are supported to produce 8000 stoves under Public Private partnership arrangement • At least 3600 households trained in the installation and use of improved cooking stoves. • At least 3600 households have acquired and are using improved cook stoves under a cost sharing arrangement.	• MOU PPP • Workshop reports • Accounting of community groups • Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • WMZ reports • Activity and monitoring reports of Directorate of Water	• PM • Team Leader WMZs and • DEOs • DFOs	
Output 2.1.4 Communities in 3 catchments supported to rehabilitate	• Number of degraded wetlands restored. • Hectares of degraded wetlands restored (regerated /Un disturbed)	• Wetland degradation is rampant due to encroachment and overexploitation of wetland resources. • Limited expertise in	<u>End of First year</u>: • 80 ha of degraded wetland restored • 9 training workshops • 450 households (900	• 300 hectares of degraded wetlands restored.	• Satellite data • Field visit • Field reports • Project reports: Semi-	• PM • Team Leader WMZs and • DEOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
degraded wetlands	• Number of households trained and engaged in wetland restoration activities. • Number of Individual Wetland action plans developed	wetland restoration activities. • No individual wetland restoration action plans for degraded wetlands	people) of which 50% are women) trained • 6 wetland action plans (2 per catchment) developed and implemented. <u>Mid term:</u> • 200 hectares of degraded wetland restored • 27 training workshops • 1350 households (2700 people) of which 50% are women) trained • 12 wetland action plans developed and implemented.	• 1800 households trained in wetland restoration interventions of which 50% are women. • At least 12 individual wetland restoration action plans (4 per catchment) developed and implemented for 12 wetlands in the 3 catchments.	annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water		
Output 2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones	• Number of hectares of restored river banks are un disturbed/not eroded • Reduced siltation of river banks • Number of Km of river bank boundary marked	• Degraded river banks • The National Environment regulations on management of river banks and lake shores 2000 are in existence but are not enforced in the catchments.	<u>End of First year:</u> • 50 ha of buffer zone/river bank stabilized • 50 Km of riverbank boundary marked <u>Mid term:</u> • 100 ha of buffer	• 320ha of buffer zone/river bank stabilized (160 ha in Awoja, 80ha in Maziba and 80ha in Aswa) • 200 Km of	• Satellite data • Field visit • Indicator for restoration (un disturbed, un eroded river banks) • Field reports • Project reports: Semi-	• PM • Team Leader WMZs and • DEOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
	• Number of provisions related to protection of river banks and lake shores enforced. • Number of community members trained in river bank restoration		zone/river bank stabilized • 100 Km of riverbank boundary marked • Atleast 200 community members trained in river bank restoration	riverbank boundary put in place • At least 540 community members 50% of which should be women trained in river bank restoration	annual and annual reports; mid-term and final evaluations • Surveys • Training Reports		
Outcome 2.2 Resilience of agricultural landscapes to climate change impacts enhanced	• Percentage of agricultural landscapes less susceptible to floods and landslides	• There is high degradation of agricultural landscapes which increases their vulnerability to climate change impacts.	End of First year: • 50ha (for Maziba), 25ha and 25 ha for Awoja and Aswa of agricutural land with bio-physical and water harvesting structures in place Mid term: • 150ha (for Maziba), 50ha and 50 ha for Awoja and Aswa of of agricutural land with bio-physical and	• By the end of the project atleast 400ha of land (200 ha in Maziba, 100 ha in Awoja and 100 ha in Aswa) of agricutural land with bio-physical and water harvesting structures in place.	• Satellite data • Field visit • Livelihood survey • Semi-annual and Annual Reports • Mid-term and final evaluation Reports • Survey Reports WMZ reports	• PM • Team Leader WMZs and • DFOs • DAOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			water harvesting structures in place				
Output 2.2.4 Communities in 3 catchments supported to harvest water and control floods	• Number of households trained in flood management • Number of flood control structures constructed • Number of trainings on water harvesting and flood management • Number of meeting, radio talk shows, workshops on biophysical conservation structures	• Households use traditional flood management techniques. • The flood control is done using ineffective and rudimentary methods	End of First year: • 500 households trained in water harvesting and flood management techniques • 250 Km of biophysical structures in place in the most vulnerable micro catchments in the three target catchments • 9 Community workshops on water harvesting and flood management techniques held • 18 training meetings on construction and maintenance of water harvesting and flood control structures. • 3 radio talk shows to sensitize communities on biophysical structures held	• At least 2,000 households trained in water harvesting and flood management techniques • 1000 Km of biophysical structures in place in the most vulnerable micro catchments in the three target catchments • At least 18 Community workshops on water harvesting and flood management techniques held • At least 36 training	• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	Team Leader WMZ, DEOs and DAOs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			• One workshop per catchment and 3 meetings held at catchment level on biophysical conservation structures. <u>Mid term</u> • 1000 households trained in water harvesting and flood management techniques • 750 Km of biophysical structures in place in the most vulnerable micro catchments in the three target catchments • 9 Community workshops on water harvesting and flood management techniques held • 18 training meetings on construction and maintenance of water harvesting and flood control structures.	meetings on construction and maintenance of water harvesting and flood control structures. • At least 6 radio talk shows to sensitize communities on biophysical structures held • One workshop per catchment and 6 meetings held at catchment level on biophysical conservation structures.			

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			• 3 radio talk shows to sensitize communities on biophysical structures held • One workshop per catchment and 3 meetings held at catchment level on biophysical conservation structures.				
Outcome 2.3 Resilience of livelihood systems to climate change impacts enhanced by providing alternative income generating opportunities	• Percentage of households with improved livelihoods through undertaking resilient alternative income generating activities • Percentage change in livelihoods of beneficiary households	• 19.7% of households are estimated to suffer from food insecurity • Communities have limited alternative income sources apart and are therefore overexploiting natural resources.	<u>Mid term:</u> • <u>1000</u> vulnerable households have improved livelihoods through alternative income generating activities • At least incomes of 20% of participating farmers have improved	• By the end of the project the percentage of food insecure households is reduced to 10% • 2400 vulnerable households have improved livelihoods through alternative income generating activities • At least incomes of 70% of	• Livelihood analysis • Semi-annual and Annual Reports • Mid-term and Final evaluation Reports • Survey Reports • WMZ reports • Activity and monitoring reports of Directorate of Water	PM, Team Leader WMZs and CMCs trainers trained at TOT, District Community Development Officer (CDOs), District Commercial Officer	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
				participating farmers have improved			
Output 2.3.1	• Livelihood analysis report identifies most vulnerable households and those households which mostly degrade natural resources due to encroachment and other unsustainable practices	• A number of households will need to be resettled since they are encroaching vulnerable ecosystems such as riverbanks and wetlands; these are mostly the poorest and most vulnerable households, which will be targeted through IGAs. These HH and others need to be identified	<u>End of First year:</u> • At least 50% of the HHs affected by project inteventions supported for IGAs <u>Mid term:</u> • At least 80% of the HHs affected by project interventions supported for IGAs.	• Each catchment identifies HH to be targeted through livelihoods improvement activities of the project. • About 90% of the HHs affected by project interventions supported for IGAs	• Livelihoods survey		
Output 2.3.2 Revolving fund schemes introduced to diversify sources of income in 3	• Number of sensitization meetings and workshops on revolving fund held • Number of community groups	• The communities have limited access to and Knowledge on management of revolving fund schemes is inadequate.	<u>End of First year:</u> • At least 2 groups per catchment trained in revolving fund management and have formed SACCOs	• At least 9 community groups (3 per catchment) trained in revolving fund management	• Field reports • Project reports: • Semi-annual and annual reports; Mid-term and Final	Team Leader WMZs, PM and District Community Development Officer (CDOs), District	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
catchments	trained and prepared to access the revolving fund • Number of SACCOs branches formed and managing the revolving fund. • Number of community members benefiting from the revolving fund • Amount of money given as credit • Rates of return of the revolving fund	• There is no revolving fund solely focused on natural resources management (IWRM and CC adaptation).	for ease of management of the funds • 18 community trainings • 1000 households are accessing the revolving fund • About 19% of the Revolving will be disbursed <u>Mid term:</u> • 3 groups per catchment trained in revolving fund management and have formed SACCOs for ease of management of the funds • 27community trainings • 1500 households are accessing the revolving fund • About 38% of the Revolving will be disbursed • About 60% rates of return on investment expected	and have formed SACCOs for ease of management of the funds • 27community trainings • Atleast 3,000 households are accessing the revolving fund • About 80% rates of return on investment expected at the end of the Project.	evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	Commercial Officer	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Output 2.3.3 Alternative income generating activities-IGAs (bee keeping, tourism, Hand crafts etc.) supported	• Number of households trained in different IGAs •	• Communities have limited knowledge and skills on business planning for various income generating activites	<u>End of First year:</u> • At least 1,200 households trained <u>Mid term:</u> • At least 2000 households trained	• At least 2,400 households trained (20 trainings each of 30 participants per year with at least 2 trainings per sub-catchment)	• Training report • Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	PM, Team Leader WMZs and CMCs trainers trained at TOT	
Component 3: Building climate change adaptive capacities of institutions and communities and knowledge management							
Outcome 3.1 Adaptive capacity of communities and other stakeholders to climate change impacts strengthened	• Percentage of targeted communities undertaking climate change adaptation actions.	• Adaptive capacities of the Communities in the target areas are very low.	<u>End of First year:</u> • Adaptive capacity of at least 20% target communities to climate change impacts has increased by 10% <u>Mid term:</u> • Adaptive capacity of at least 50% target communities to	• By the end of the project adaptive capacity of at least 60% target communities to climate change impacts have been strengthened.	• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Household Surveys • WMZ reports • Activity and	PM & Team Leader WMZs	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			climate change impacts has increased by 10%		monitoring reports of Directorate of Water		
Output 3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities	• Capacity needs assessment of extension services and institutions undertaken • Detailed Training plan developed • Number of training modules developed for different Topics (i.e. 7 Topics including (i) Nursery establishment and management and forest management and restoration; (ii) Business planning production, and marketing of improved cook stoves; (iii) Wetland rehabilitation and restoration; (iv) Train communities on protection of river banks (v) Construction and maintenance of	• The communities in the three catchments have inadequate capacity in climate change adaptation strategies • - Capacity needs and priorities of Extension services and institutions in the targeted areas are not documented. • -No IEC materials on adaptation to climate change impacts in the three catchments	<u>End of First year:</u> • Capacity needs assessment of extensions services and institutions for 3 catchments done and a report produced • -Detailed training plan developed and followed in building the capacity of key stakeholders and communities • At least 7 TOT modules and Field training manuals developed on different subjects • Atleast- 14 TOT workshops conducted • At least 1500 calendars • Atleast 1500 posters • At least 5,000 flyers • Atleast 5,000 brochures	• Capacity needs assessment of extensions services and institutions for 3 catchments done and a report produced • -Detailed training plan developed and followed in building the capacity of key stakeholders and communities • At least 14 TOT modules and Field training manuals developed on different	• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	• PM • Team Leader WMZs •	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
	water harvesting and flood control structures; (vi) Construction and establishment of specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands); (vii) Business planning for Alternative Income Generating Activities • Number of Training of Trainers (TOT) workshops held • Number of trainers trained • Number of IEC materials designed/developed • Number of dissemination workshops organized		<u>Mid term:</u> • Capacity needs assessment of extensions services and institutions for 3 catchments done and a report produced • -Detailed training plan developed and followed in building the capacity of key stakeholders and communities • At least 7 TOT modules and Field training manuals developed on different subjects • Atleast- 6 TOT workshops • At least 3,000 calendars per year • Atleast 3,000 posters per year • At least 10,000 flyers • Atleast 10,000 brochures • 9 micro-catchment level dissemination workshops in 3 years (10 community	subjects • Atleast- 14 TOT workshops conducted At least 3,000 calendars per year • Atleast 3,000 posters per year • At least 10,000 flyers • Atleast 10,000 brochures • 90 micro-catchment level dissemination workshops in 3 years (10 community meetings per sub catchment)			

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			meetings per sub catchment)				
Out put 3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities regarding ecosystems conservation, control of floods and landslides and alternative income generating activities established	• Number of demonstration centers set up (infrastructure) • Number of demonstration plots/interventions per center • Number of committee members trained in the management of interventions at the demo centers • Quantities of inputs procured per center as planned • Status/condition of demonstration centers and plots. • Plots for key climate change adaptations established and well maintained • Number of trainings in key interventions	• Demonstration centres are non-existent in the catchments.	<u>End of First year:</u> • Management structure and guidelines in place for each demonstration site <u>Mid term:</u> • 1demonstration centre set up in each of the 3 catchments • At least 2 plots established at each demonstration centre	• 1 demonstration centre set up in each of the 3 catchments • At least 5 trainings in key interventions conducted at each center • Management structure and guidelines in place for each demonstration site • At least 4 plots established at each demonstration centre	• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	• PM • Team Leader WMZ • District Agricultural Officers, • DFOs, • DEO • Catchment Management Committees	Government is willing to provide land and other facilities necessary for a demontration centre.

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Outcome 3. 2 Demonstrating and developing mechanisms to integrate climate change adaptation and implementation	• Good practices and lessons from the project are documented and influence policy • Number of development plans incorporating climate change resilience issues	• No documented experiences and practices to influence planning and policy on climate change mitigation.	Mid term: At least one project lesson and best practice documented, shared and influence local and central government planning and policy.	By the end of the project lessons and best practices are documented, shared and influence local and central government planning and policy.	• Semi-annual and Annual Reports • Mid-term and final evaluation Reports • Survey Reports • WMZ reports • Activity and monitoring reports of Directorate of Water	• Team Leader WMZs • M&E officer • Communication Officer	
Output 3.2.1 Good practices and lessons that influence policies and practices documented	• Number of lessons learnt and best practice documents produced • Number of radio and Television talk shows held • Number of exchange visits between the catchments and the training centers organized	• No documentation of lessons learnt and best practices in climate change adaptation.	Mid term: • At least 2 documents with lessons learned and best practices from the project documented (i.e. policy briefs, brochures, media articles etc) • At least 1 study tours per catchment organized	• At least 3 documents with lessons learned and best practices from the project documented (i.e. policy briefs, brochures, media articles etc) • At least 2 study tours per catchment organized	• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys	• Team Leader WMZs • M&E officer • Communication Officer	

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
Output 3.2.2 Key Government officials integrate IWRM and CC in national and sectoral development plans	• A Baseline report • Number of trainings conducted • Number.of Government staff trained • Number.of follow up meetings held on intergration of climate change issues • Number of action plans for integrating IWRM and CC adaptation into National and Sectoral plans • A scaling up strategy developed	• The capacity of Key Government Officials to integrate IWRM and CC into National and sectoral plans is inadequate. • The IWRM and CC issues are not integrated in exisiting National and sectoral development plans.	<u>End of First year:</u> • 4 Training workshops (1 national and 3 catchment level) conducted • Atleast 50 Officials trained at National level on intergration of climate change resilience and adaptation issues into development plans • Atleast 150 Officials from Districts and Sub county levels trained on intergration of climate change resilience and adaptation issues into development plans • One baseline study conducted <u>Mid term:</u> • 4 Follow up meetings (1 national and 3 catchment level) held • Atleast 90% of		• Field reports • Project reports: Semi-annual and annual reports; mid-term and final evaluations • Surveys • WMZ reports • Activity and monitoring reports of Directorate of Water	• PM • Team Leader WMZ	• Key Sector heads and Ministries are willing to integrate IWRM and CC issues in development plans. • There is political to embrace the changes in the national and sectoral development plans.

Objective, component outcomes and outputs	Indicators	Baseline	Milestones	End of Project Targets	Means of Verification	Responsible Parties	Risks and Assumptions
			Development plans at district, Sub county and National levels integrate climate change resilience and adaptation issues • A scaling up strategy developed and is being used to scale up project activities.				
Project Management and M&E							
	• Number of Project launching workshops held in the catchments.		• End of First year: • 4 Project launching workshops (1 national and 3 catchment levels)	• 4 Project launching workshops (1 national and 3 catchment levels)	• Workshop reports • Lists of participants		
	• Baseline • Mid-term evaluation • Final evaluation		<u>End of First year:</u> • Baseline <u>Mid term:</u> Mid-term evaluation	• Final evaluation			

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:

Project Objective	Project objective Indicator(s)	Fund outcome	Fund outcome Indicator(s)	Grant Amount(USD)
Objective: To strengthen communities' resilience to climate change impacts through promoting catchment based integrated, equitable and sustainable management of land and water resources while enhancing food security	• Reduced impact of heavy rains through improved management of natural resources • Reduced incidences of landslides in the three catchments • Reduced impact of floods in the three catchments	**Outcome 2**: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	7,751,000
		Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses	
		Outcome 4: Increased adaptive capacity within	4.1. Responsiveness of development sector services	

Project Objective	Project objective Indicator(s)	Fund outcome	Fund outcome Indicator(s)	Grant Amount(USD)
		relevant development sector services and infrastructure assets	to evolving needs from changing and variable climate 4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets 6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	
		Outcome 7: Improved policies and regulations that promote and enforce resilience	7. Climate change priorities are integrated into national development strategy	

Project Objective	Project objective Indicator(s)	Fund outcome	Fund outcome Indicator(s)	Grant Amount(USD)
		measures		
Outcome 1.2 Awoja, Aswa and Maziba catchments managed by appropriate water and climate governance structures	Number of functional catchment management structures	***Output 2***: Strengthened capacity of national and sub-national 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 (by gender) 2.1.2 No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	16,2000
Outcome 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced	Proportion (%) of target ecosystems restored and less vulnerable to climate change impacts	***Output 5:*** Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	2,756,500
Outcome 2.2 Resilience of agricultural landscapes to climate change impacts enhanced	Percentage of agricultural landscapes less susceptible to floods and landslides	***Output 4:*** Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale 4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by	1,010,700

Project Objective	Project objective Indicator(s)	Fund outcome	Fund outcome Indicator(s)	Grant Amount(USD)
			sector and scale)	
Outcome 2.3 Resilience of livelihood systems to climate change impacts enhanced	Proportion (%) of the households participating in the project that are food secure	**Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.1 Percentage of households and communities having more secure access to livelihood assets 6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	678,000
Outcome 3.1 Capacities of extension services and trainers strengthened	Percentage of targeted communities undertaking climate change adaptation actions. Number of extension staff trained Number of TOTs conducted Number of trainers trained	***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies 6.2.1. Type of income sources for households generated under climate change scenario	946,735
Outcome 3. 2 Demonstrating and developing mechanisms to integrate climate change adaptation and implementation	Good practices and lessons from the project are documented and influence policy	***Output 7:*** Improved integration of climate-resilience strategies into country development plans	7.1. No. of policies introduced or adjusted to address climate change risks (by sector)	381,150

G. Detailed Project Budget

Component/Outcome/ Output/Activities	Budget notes	Cost/unit (USD)	No. Units	Total Budget (USD)
Component 1: Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments				
Outcome 1.1 Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba catchments				
Output 1.1.1 The existing catchment management planning guidelines revised to include aspects of climate change				
Activity 1.1.1.1 Engage a consultant to facilitate the revision of the CMP guidelines	Consultancy Man days and reimbursables	1,000	30	30,000
Activity 1.1.1.2 Organize stakeholder consultative workshops during revision of guidelines	1 National and 3 catchment based Workshops	7,650	4	30,600
Activity 1.1.1.3 Edit and print the revised guidelines	Designing, printing Copies	30	500	15,000
Activity 1.1.1.4 Disseminate the revised guidelines (1 National and 3 catchment level workshops)	1 National and 3 catchment based Workshops	7,650	4	30,600
Sub-Total Output 1.1.1				**106,200**
Output 1.1.2 The Catchment Management Plans (CMPs) of Awoja, Maziba and Aswa revised to address climate change issues				
Activity 1.1.2.1 Engage a Consultant to facilitate the integration of Climate change issues in Awoja and Maziba CMPs	Consultancy Man days and reimbursables	1,000	66	66,000
Activity 1.1.2.2 Organize stakeholder consultative workshops during the revision of the CMPs	Workshops	7,650	3	22,950
Activity 1.1.2.3 Edit and print the revised CMPs	Designing, printing Copies per CMP (100 per sub catchment and 50 for national level	20	1050	21,000
Activity 1.1.2.4 Diseminate the revised CMPs	1 workshop per catchment	7,650	3	22,950
Sub-Total Output 1.1.2				**132,900**
Outcome 1.2 Awoja, Aswa and Maziba catchments managed by appropriate water and climate governance structures				
Output 1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba & 3 for Aswa)				

Activity 1.2.1.1 Conduct start up meetings for the 9 committees and leaders in the 9 sub-catchments to initiate catchment based approaches to water and related resources management and climate change adaptation issues	2 Community level Meetings in each sub catchment	3,000	18	54,000
Activity 1.2.1.2 Organise quartery meetings of catchment and sub-catchment committees and forums to review progress of execution of their roles and responsibilities in catchment management activities	6 Quarterly (1.5 years) for each sub catchment	2,000	54	108,000
Sub-Total Output 1.2.1				**162,000**
Sub-Total Component one				**401,100**
Component 2: Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems				-
Outcome 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced				-
Output 2.1.1 The most degraded areas vulnerable to intensive rainfall confirmed				-
Activity 2.1.1.1 Undertake stakeholder workshop to identify the most degraded area vulnerable to intensive rainfall	3 workshops at catchment level	10,000	3	30,000
Activity 2.1.1.2 Undertake field visit to confirm the feasibility of the areas selected as most degraded /vulnerable to intensive rainfall	Visits involve project Team, WMZ Team, LG staff	2,500	3	7,500
Sub-Total Output 2.1.1				**37,500**
Output 2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation				
Activity 2.1.2.1 Train selected individuals and groups in nursery establishment and management	3 community workshops per sub catchment conducted by TOT DFOs include aspects on tree establishment and management	2,000	27	54,000
Activity 2.1.2.2 Establish 9 tree nurseries under a Public Private Partnership (PPP) arrangement	Provision of tree shade, soil mixtures, water, manure, seed, equipment etc.	17,000	9	153,000
Activity 2.1.2.3 Select and train communities in forest management for restoration	2 day workshops in each sub catchment	2,000	18	36,000
Activity 2.1.2.4 Procure and distribute seedlings to selected communities	The project buys seedlings	0.4	1,450,	580,000

	from the 9 supported nurseries at subsidized prices. The average cost of about 0.4 is realistic for indigenous seedlings and other species apart from eucalptus.		000	
Sub-Total Output 2.1.2				**823,000**
Output 2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation				
Activity 2.1.3.1 Sensitize communities on advantages of using improved cook stoves	Use media, schools, churches for sensitization of comm groups at micro catchment level	2,000	54	108,000
Activity 2.1.3.2 Select and train groups per catchment in production, business planning and marketing of improved cookstoves.	2 day training for 2 groups per sub catchment	2,000	36	72,000
Sub-Total Output 2.1.3				**180,000**
Output 2.1.4 Communities in 3 catchments supported to rehabilitate degraded wetlands				
Activity 2.1.4.1 Select and train community members in wetland rehabilitation and restoration activities	1 day workshops in each sub catchment	2,000	36	72,000
Activity 2.1.4.2 Organize community workshops to develop site specific wetland restoration action plans		3,000	18	54,000
Activity 2.1.4.3 Demarcation of wetland boundaries in the 3 catchments	Demarcate using pillars and live markers	40,000	9	360,000
Activity 2.1.4.4 Provide inputs to communities to implement the site specific wetland restoration action plans	Budget for the inputs for restoration. Action plans will actually be small Community projects with different interventiions/actions.	65,000	9	585,000
Sub-Total Output 2.1.4				**1,071,000**
Output 2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones				
Activity 2.1.5.1 Train communities on protection of river banks	2 day workshops in each sub catchment	1,000	18	18,000

Activity 2.1.5.2 Organize community workshops to develop site specific river banks restoration action plans		3,000	9	27,000
Activity 2.1.5.3 Demarcation of river banks in the 3 catchments	Demarcate using pillars and live markers	70,000	3	210,000
Activity 2.1.5.4 Provide inputs to communities to implement the site specific river bank restoration action plans	Budget for the inputs for restoration - indegenous trees,fruit trees, grass e.g napier, stone embarkments with mesh	130,000	3	390,000
Sub-Total Output 2.1.5				**645,000**
Outcome 2.2 Resilience of agricultural landscapes to floods and landslides enhanced				
Output 2.2.1 Communities in 3 catchments supported to harvest water and control floods				
Activity 2.2.1.1 Conduct workshops and meetings to sensitize communities on water harvesting and flood control structures	2 day community workshops conducted by TOT CDOs and DAOs on water harvesting and flood control structures	3,000	18	54,000
	3 day community meetings in sub catchments	2,000	36	72,000
Activity 2.2.1.3 Provide inputs for communities to construct water harvesting structures such as Check dams, retention ponds and diversion canals	Budget for the inputs for constructing water harvesting and flood control structures. Secure a service provider for sustainability	56,000	9	504,000
Activity 2.2.1.4 Provide inputs for communities to construct biophysical conservation structures such as hill side terracing, contour bunds and grasses on farmlands	Budget for the inputs for constructing Bio-physical conservation structures. Secure a service provider for sustainability	26,300	9	236,700
Activity 2.2.1.5 Hold workshops, meetings and radio talk shows to sensitize communities on the importance of bio-physical conservation structures (hill side terracing, contour bands and grasses)	1 workshop, 2 meetings and radio talk shows	12,000	9	108,000
Activity 2.2.1.6 Train beneficiaries to construct and establish specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands)	3 day community workshops conducted by TOT DAOs on Bio-physical conservation	2,000	18	36,000

	structures			
Sub-Total Output 2.2.4				**1,010,700**
Outcome 2.3 Resilience of livelihood systems to climate change impacts enhanced				
Output 2.3.1 Revolving fund schemes introduced to diversify sources of income in 3 catchments				
Activity 2.3.1.1 Conduct workshops and meetings to sensitize communities on the **r**evolving fund	3 day community meetings by TOT CDOs and CMCs	3,000	9	27,000
Activity 2.3.1.2 Train communities and CMCs and facilitate them to develop Savings and Credit Co-operative (SACCOs) branches to manage a revolving fund	Training 7 groups per catchment	2,000	21	42,000
Activity 2.3.1.3 Handover and Supervision of Disbursement of the funds	Funding for 7 groups per catchment	25,000	21	525,000
Sub-Total Output 2.3.1				**594,000**
Output 2.3.2 Alternative income generating activities-IGAs (Bee keeping, Eco-tourism, Zero grazing, Hand crafts etc.) supported				
Activity 2.3.2.1 Select and train potential beneficiaries in income generating activities, including business planning, value addition and marketing		2,000	42	84,000
Activity 2.3.2.2 Provide start up inputs to support groups to under take IGAs				
Sub-Total Output 2.3.2				**84,000**
Sub-Total Component two				**4,445,200**
Component 3: Building capacities of institutions and communities and managing knowledge				
Outcome 3.1 Capacities of extension services and trainers strenghtened				
Output 3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities				
Activity 3.1.1.1 Conduct capacity needs assessment for key stakeholders (Regional and Local government staff, extension workers, CMCs)	Consultancy Man days and reimbursables	1,000	44	44,000
Activity 3.1.1.2 Develop a detailed training plan to guide the capacity building program for the Project	Consultancy Man days and reimbursables	1,000	30	30,000
Activity 3.1.1.3 Develop training modules for the TOTs and Field level trainings to build capacity of stakeholders on a continuous basis	12 TOT modules	3,000	8	24,000
Activity 3.1.1.4 Undertake TOT trainings to create a critical mass of trainers in prioritized	2 trainers will be capacitated	7,000	14	98,000

adaptation actions at community level	per TOT topics. Hence 14 TOTs that will conduct local trainings.			
Activity 3.1.1.5 Develop and disseminate Information Education and Communication (IEC) Materials for awareness raising	3 catchment based Workshops	7,650	3	22,950
Sub-Total Output 3.1.1				**218,950**
Output 3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities regarding ecosystems conservation, climate smart agriculture and alternative income generating activities established				
Activity 3.1.2.1 Select and agree on land for setting up demonstrations (Government land Sub-county/District land)	visits or meetings	2,500	3	7,500
Activity 3.1.2.2 Support infrastructure development and maintenance of the demonstrations centers in the three catchments.	Renovation of buildings, provision of furniture and training materials/equipment	129,000	3	387,000
Activity 3.1.2.3 Set up demonstration plots and procure inputs for their management	Budget for farm tools, improved seed of high yielding varieties, fertilizers and other planting materials	105,095	3	315,285
Activity 3.1.2.4 Train committees (micro and sub catchment) and relevant stakeholders in managing the demonstration sites for specific interventions/enterprises (Ecosystem Conservation in Awoja, Income generating activities in Aswa and Climate smart Agriculture in Maziba).		2,000	9	18,000
Sub-Total Output 3.1.2				**727,785**
Outcome 3. 2 Demonstrating and developing mechanisms to integrate climate change adaptation and implementation				
Output 3.2.1 Good practices and lessons that influence policies and practices documented				
Activity 3.2.1.1 Documenting and disseminating lessons and best practices from project interventions	1 workshop per catchment and disemination materials	9,650	3	28,950
Activity 3.2.1.2 Share knowledge and information through use of existing and popular platforms e.g. media, telecom that are easily accessible by the stakeholders.		10,000	3	30,000
Activity 3.2.1.3 Organizing exchange visits and study tours between the 3 catchments and to sites with successful adaptation interventions e.g. learning from the experiences of similar		57,000	3	171,000

projects in the country etc.				
Sub-Total Output 3.2.1				**229,950**
Output 3.2.2 Key Government officials integrate IWRM and CC in national and sectoral development plans				
Activity 3.2.2.1 Training key Government Sector Staff on integrating water security and climate resilience issues into National and Sectoral Development Plans	1 National and 3 catchment based Workshops	7,650	4	30,600
Activity 3.2.2.2 Organise follow-up meetings and develop a scaling up strategy with key government sectors, and agree on an action plan to integrate IWRM and CC adaption into National and sectoral development Plans	1 national and 3 meetings in each catchment	7,650	4	30,600
Activity 3.2.2.3 Undertake a baseline study and identify gaps and priorities for project interventions	Consultancy Man days and reimbursables	1,000	90	90,000
Sub-Total Output 3.2.2				**151,200**
Sub-Total Component three				**1,327,885**
4.0 M& E, Executing Entity and Implementing Entity Budgets				
4.1 Monitoring the Implementation of the Project	Headquarter Project Team, OSS as well as M&E and Communication Officer MWE will be involved at different times/intervals during the project period.			
Initial studies to improve baseline, gender analyses, land rights analyses and environmental and social impact assessment	Headquarter Project Team Consultants and stakeholders in the field			30,000
Field visits for measuring of targets based on indicators and reporting	This is the quartery monitoring and evaluation undertaken by the M&E Officer as well as the Communications Officer.			40,000
Monitoring outputs by Project Team/MWE and reporting	This involves High level Project monitoring by the MWE Team at the Project Headquarters in Kampala. It will be done semi-annually.			40,000

Field vists for joint project reviews and reporting	Annual monitoring jointly conducted by the Project Management and OSS Team			14,000
Mid term evaluation and reporting	An External M&E Consultant will be hired for Mid term evaluation			30,000
Final project evaluation and reporting	An External M&E Consultant will also be hired to undertake the final project evaluation.			20,000
Compiling Final Project report	The Final report will be compiled by the Project Manager			18,000
Final Project Audit	An external Auditor will be engaged to Audit the Project.			26,215
Sub-Total M & E				**218,215**
4. 2 Executing Entity Budget				
Organizing launching workshops for communities, local authorities and other stakeholders to increase knowledge about the project interventions during inception phase	1 National and 3 catchment based Workshops	7,650	4	30,600
Project Coordination & Management fees	Project coordinator, 3 Field staff and Assistants per month			360,000
Operating costs	Costs related to travel, DSA, printing and communication, office rent per month			147,750
Equipment	For both office and field equipment with one (1) vehicle for Project Monitoring and one (1) vehicle each per catchment			191,030
Sub-Total Executing Entity				**729,380**

4.3 Implementing Entity Budget				
Project coordination & Management fees	Staff salaries(or part thereof) for project coordination and management staff ,finance, procurement and admin per month			316,880
Auditing and consulting services	Costs for external consulting services, notably external audits and other technical support yearly			80,000
Equipment	Costs associated with the provision of equipment to the IE			62,000
Operating costs	Operation costs related to travel, DSA, Printing, fax and telecom, and related ones per month			200,340
Sub-Total Implementing Entity				**659,220**
Total Project Budget				**7,781,000**

H. Disbursement schedule with time-bound milestones

Component/Outcome/ Output/Activities	Budget (USD)	One Year after Project Start[a/]	Year 2[b/2016]	Year 3	Year 4[c/]	Total
Component 1: Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments						
Outcome 1.1 Comprehensive catchment planning system that integrates issues of climate change established and tested in Awoja, Aswa and Maziba catchments						
Output 1.1.1 The existing catchment management planning guidelines revised to include aspects of climate change						

Activity 1.1.1.1 Engage a consultant to facilitate the revision of the CMP guidelines	30,000	30,000				30,000
Activity 1.1.1.2 Organize stakeholder consultative workshops during revision of guidelines	30,600	30,600				30,600
Activity 1.1.1.3 Edit and print the revised guidelines	15,000	15,000				15,000
Activity 1.1.1.4 Disseminate the revised guidelines (1 National and 3 catchment level workshops)	30,600	30,600				30,600
Sub-Total Output 1.1.1	**106,200**	**106,200**				**106,200**
Output 1.1.2 The Catchment Management Plans (CMPs) of Awoja, Maziba and Aswa revised to address climate change issues						
Activity 1.1.2.1 Engage a Consultant to facilitate the integration of Climate change issues in Awoja and Maziba CMPs	66,000	66,000				66,000
Activity 1.1.2.2 Organize stakeholder consultative workshops during the revision of the CMPs	22,950	22,950				22,950
Activity 1.1.2.3 Edit and print the revised CMPs	21,000	21,000				21,000
Activity 1.1.2.4 Diseminate the revised CMPs	22,950	22,950				22,950
Sub-Total Output 1.1.2	**132,900**	**132,900**				**132,900**
Outcome 1.2 Awoja, Aswa and Maziba catchments managed by appropriate water and climate governance structures						
Output 1.2.1 Nine (9) sub-catchment level community management structures, established and supported, in the 3 catchments (3 for Awoja, 3 for Maziba & 3 for Aswa)						
Activity 1.2.1.1 Conduct start up meetings for the 9 committees and leaders in the 9 sub-catchments to initiate catchment based approaches to water and related resources management and climate change adaptation issues	54,000	54,000				54,000
Activity 1.2.1.2 Organise quartery meetings of catchment and sub-catchment committees and forums to review progress of execution of their roles and responsibilities in catchment management activities	108,000		40,000	40,000	28000	108,000
Sub-Total Output 1.2.1	**162,000**	**54,000**	40,000	**40,000**	**28,000**	**162,000**

Sub-Total Component one	**401,100**	**293,100**	**40,000**	**40,000**	**28,000**	**401,100**
Component 2: Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems						
Outcome 2.1 Resilience of ecosystems services of forests, wetlands and riverbanks to climate change impacts enhanced						
Output 2.1.1 The most degraded areas vulnerable to intensive rainfall confirmed						
Activity 2.1.1.1 Undertake stakeholder workshop to identify the most degraded area vulnerable to intensive rainfall	30,000	30,000				30,000
Activity 2.1.1.2 Undertake field visit to confirm the feasibility of the areas selected as most degraded /vulnerable to intensive rainfall	7,500	7,500				7,500
Sub-Total Output 2.1.1	**37,500**	**37,500**				**37,500**
Output 2.1.2 Communities in 3 catchments supported to restore deforested and degraded land through afforestation						
Activity 2.1.1.2 Train selected individuals and groups in nursery establishment and management	54,000		54,000			54,000
Activity 2.1.2.2 Establish 9 tree nurseries under a Public Private Partnership (PPP) arrangement	153,000		100,000	53000		153,000
Activity 2.1.2.3 Select and train communities in forest management for restoration	36,000		18,000	18000		36,000
Activity 2.1.2.4 Procure and distribute seedlings to selected communities	580,000		210,000.0	210,000	160,000	580,000
Sub-Total Output 2.1.2	**823,000**		**382,000**	**281,000**	**160,000**	**823,000**
Output 2.1.3 Improved cooking stoves promoted in the 3 catchments to reduce levels of forest degradation						
Activity 2.1.3.1 Sensitize communities on advantages of using improved cook stoves	108,000	20,000	38,000	30,000	20,000	108,000
Activity 2.1.3.2 Select and train groups per catchment in production, business planning and marketing of improved cookstoves.	72,000		30,000	42,000		72,000
Sub-Total Output 2.1.3	**180,000**	**20,000**	**68,000**	**72,000**	**20,000**	**180,000**
Output 2.1.4 Communities in 3 catchments supported to rehabilitate degraded wetlands						

Activity 2.1.4.1 Select and train community members in wetland rehabilitation and restoration activities	72,000	20,000	52,000			72,000
Activity 2.1.4.2 Organize community workshops to develop site specific wetland restoration action plans	54,000	12,000	32,000	10,000		54,000
Activity 2.1.4.3 Demarcation of wetland boundaries in the 3 catchments	360,000	130,000	150,000	80,000		360,000
Activity 2.1.4.4 Provide inputs to communities to implement the site specific wetland restoration action plans	585,000	60,000	220,000	220,000	85,000	585,000
Sub-Total Output 2.1.4	**1,071,000**	**222,000**	**454,000**	**310,000**	**85,000**	**1,071,000**
Output 2.1.5 Communities in 3 catchments supported to restore degraded river banks and protect buffer zones						
Activity 2.1.5.1 Train communities on protection of river banks	18,000	18,000				18,000
Activity 2.1.4.2 Organize community workshops to develop site specific river banks restoration action plans	27,000	10,000	17,000			27,000
Activity 2.1.5.3 Demarcation of river banks in the 3 catchments	210,000	50,000	80,000	80,000		210,000
Activity 2.1.5.4 Provide inputs to communities to implement the site specific river bank restoration action plans	390,000	90,000	120,000	120,000	60,000	390,000
Sub-Total Output 2.1.5	**645,000**	**168,000**	**217,000**	**200,000**	**60,000**	**645,000**
Outcome 2.2 Resilience of agricultural landscapes to floods and landslides enhanced						
Output 2.2.1 Communities in 3 catchments supported to harvest water and control floods						
Activity 2.2.1.1 Conduct workshops and meetings to sensitize communities on water harvesting and flood control structures including awareness raising activities will be undertaken on malaria and other water related diseases	54,000	12,000	32,000	10,000		54,000
Activity 2.2.1.2 Train communities on construction and maintenance of water harvesting and flood control structures	72,000	12,000	30,000	30,000		72,000

Activity 2.2.1.3 Provide inputs and expertize for communities to construct water harvesting structures such as Check dams, retention ponds and diversion canals	504,000	130,000	160,000	160,000	54,000	504,000
Activity 2.2.1.4 Provide inputs for communities to construct biophysical conservation structures such as hill side terracing, contour bunds and grasses on farmlands	236,700	55,000	90,000	75000	16,700	236,700
Activity 2.2.1.5 Hold workshops, meetings and radio talk shows to sensitize communities on the importance of bio-physical conservation structures (hill side terracing, contour bands and grasses)	108,000	20,000	38,000	30,000	20,000	108,000
Activity 2.2.1.6 Train beneficiaries to construct and establish specific bio-physical conservation structures (hill side terracing, contour bunds and grasses on farmlands)	36,000	16,000	20,000			36,000
Sub-Total Output 2.2.4	**1,010,700**	**245,000**	**370,000**	**305,000**	**90,700**	**1,010,700**
Outcome 2.3 Resilience of livelihood systems to climate change impacts enhanced						
Output 2.3.1 Revolving fund schemes introduced to diversify sources of income in 3 catchments						
Activity 2.3.1.1 Conduct workshops and meetings to sensitize communities on the **r**evolving fund	27,000	10,000	17,000			27,000
Activity 2.3.1.2 Train communities and CMCs and facilitate them to develop Savings and Credit Co-operative (SACCOs) branches to manage a revolving fund	42,000	15,000	20,000	7,000		42,000
Activity 2.3.1.3 Handover and Supervision of Disbursement of the funds	525,000	99,750	99,750	200,000	125,500	525,000
Sub-Total Output 2.3.1	**594,000**	**124,750**	**136,750**	**207,000**	**125,500**	**594,000**
Output 2.3.2 Alternative income generating activities-IGAs (bee keeping, tourism, Zero grazing, Hand crafts etc.) supported						
Activity 2.3.2.1 Select and train potential beneficiaries in income generating activities, including business planning, value addition and marketing	84,000	24,000	30,000	30,000		84,000

Sub-Total Output 2.3.2	**84,000**	**24,000**	**30,000**	**30,000**		**84,000**
Sub-Total Component two	**4,445,200**	**841,250**	**1,657,750**	**1,405,000**	**541,200**	**4,445,200**
Component 3: Building capacities of institutions and communities and managing knowledge						
Outcome 3.1 Adaptive capacity of communities and other stakeholders to climate change impacts strengthened						
Output 3.1.1 Capacities of extension services and institutions at catchment level are strengthened to support communities in Awoja, Aswa and Maziba to undertake climate change adaptation activities						
Activity 3.1.1.1 Conduct capacity needs assessment for key stakeholders (Regional and Local government staff, extension workers, CMCs)	44,000	44,000				44,000
Activity 3.1.1.2 Develop a detailed training plan to guide the capacity building program for the Project	30,000	30,000				30,000
Activity 3.1.1.3 Develop training modules for the TOTs and Field level trainings to build capacity of stakeholders on a continuous basis	24,000	24,000				24,000
Activity 3.1.1.4 Undertake TOT trainings to create a critical mass of trainers in prioritized adaptation actions at community level	98,000	70,000	28,000			98,000
Activity 3.1.1.5 Develop and disseminate Information Education and Communication (IEC) Materials for awareness raising	22,950	22,950				22,950
Sub-Total Output 3.1.1	**218,950**	**190,950**	**28,000**			**218,950**
Out put 3.1.2 Three (3) Demonstration centers to facilitate experience sharing activities regarding ecosystems conservation, climate smart agriculture and alternative income generating activities established						
Activity 3.1.2.1 Select and agree on land for setting up demonstrations (Government land Sub-county/District land)	7,500	7,500				7,500
Activity 3.1.2.2 Support infrastructure development and maintenance of the demonstrations centers in the three catchments.	387,000	90,000	150,000	87,000	60,000	387,000
Activity 3.1.2.3 Set up demonstration plots and procure inputs for their management	315,285	60,000	120,000	115,000	20,285	315,285

Activity 3.1.3.4 Train committees (micro and sub catchment) and relevant stakeholders in managing the demonstration sites for specific interventions/enterprises (Ecosystem Conservation in Awoja, Income generating activities in Aswa and Climate smart Agriculture in Maziba).	18,000	9,000	9,000			18,000
Sub-Total Output 3.1.2	**727,785**	**166,500**	**279,000**	**202,000**	**80,285**	**727,785**
Outcome 3. 2 Demonstrating and developing mechanisms to integrate climate change adaptation and implementation						
Output 3.2.1 Good practices and lessons that influence policies and practices documented						
Activity 3.2.1.1 Documenting and disseminating lessons and best practices from project interventions	28,950			10,000	18,950	28,950
Activity 3.2.1.2 Share knowledge and information through use of existing and popular platforms e.g. media, telecom that are easily accessible by the stakeholders.	30,000	15,000	15,000			30,000
Activity 3.2.1.3 Organizing exchange visits and study tours between the 3 catchments and to sites with successful adaptation interventions e.g. learning from the experiences of similar projects in the country etc.	171,000			85,500	85,500	171,000
Sub-Total Output 3.2.1	**229,950**	**15,000**	**15,000**	**95,500**	**104,450**	**229,950**
Output 3.2.2 Key Government officials integrate IWRM and CC in national and sectoral development plans						
Activity 3.2.2.1 Training key Government Sector Staff on integrating water security and climate resilience issues into National and Sectoral Development Plans	30,600	30,600				30,600
Activity 3.3.2.2 Organise follow-up meetings and develop a scaling up strategy with key government sectors, and agree on an action plan to integrate IWRM and CC adaption into National and sectoral development Plans	30,600			15,000	15,600	30,600
Activity 3.3.2.3 Undertake a baseline study and identify gaps and priorities for project interventions	90,000	90,000				90,000
Sub-Total Output 3.2.2	**151,200**	**120,600**		**15,000**	**15,600**	**151,200**
Sub-Total Component three	**1,327,885**	**493,050**	**322,000**	**312,500**	**200,335**	**1,327,885**
4.0 M& E, Executing Entity and Implementing Entity Budgets						

4.1 Monitoring the Implementation of the Project						
Initial studies to improve baseline, gender analyses, land rights analyses and environmental and social impact assessment	30,000	30,000				
Field visits for measuring of targets based on indicators and reporting and undertaken detailed gender analysis and land use rights analysis	40,000	10,000	10,000	10,000	10,000	40,000
Monitoring outputs by Project Team/MWE and reporting	40,000	10,000	10,000	10,000	10,000	40,000
Field vists for joint project reviews and reporting	14,000		7,000	7,000		14,000
Mid term evaluation and reporting	30,000		30,000			30,000
Final project evaluation and reporting	20,000				20,000	20,000
Compiling Final Project report	18,000				18,000	18,000
Final Project Audit	26,215				26,215	26,215
Sub-Total M & E	**188,215**	**20,000**	**57,000**	**27,000**	**84,215**	**218,215**
4. 2 Executing Entity Budget						
Organizing launching workshops for communities, local authorities and other stakeholders to increase knowledge about the project interventions during inception phase	30,600	30,600				30,600
Project Coordination & Management fees	360,000	90,000	90,000	90,000	90,000	360,000
Operating costs	147,750	37,750	50,000	30,000	30,000	147,750
Equipment	191,030	191,030				191,030
Sub-Total Executing Entity	**729,380**	334,380	145,000	125000	**125,000**	**729,380**
4.3 Implementing Entity Budget						
Project coordination & Management fees	316,880	79,220	79,220	79,220	79,220	316,880
Auditing and consulting services	80,000		40,000		40,000	80,000
Equipment	62,000	62,000				62,000
Operating costs	200,340	50,085	50,085	50,085	50,085	200,340
Sub-Total Implementing Entity	**659,220**	**191,305**	**169,305**	**129,305**	**169,305**	**659,220**
Total Project Budget	**7,751,000**	**2,173,085**	**2,391,055**	**2,038,805**	**1,148,055**	**7,781,000**

List of Annexes

ANNEX I: TECHNICAL DESCRIPTION OF ADAPTATION ACTIONS

The proposed project is technically hinged upon the following aspects as described below.

1. Catchment management structures

These are arrangements being promoted by the project according to the framework for catchment based water resources management in Uganda developed in 2010. This is in support of preparation of Catchment Management Plans (CMP) by the Ministry of Water and Environment through the four Water Management Zones (WMZs) i.e. Victoria, Upper Nile, Albert and Kyoga WMZs. For each catchment, sub-catchment or micro catchment, the structures will be strengthened where they exist or created where they do not exist.

a. Catchment Stakeholders Fora (CSF)

These are meetings composed of representatives of a cross-section of key stakeholders in the catchments who meet at least once a year. The meetings are responsible for defining key water resources related issues in the catchment that require consideration in order to effectively protect, manage and develop water resources. In addition, the fora reviews and provides input into plans for coordinated, integrated and sustainable development and management of water and related resources in the catchment including their implementation status.

b. Catchment Management Committee (CMC)

These are a group of 10 – 25 high level officials representing key stakeholders (local governments, NGOs, Private sector etc.) in the catchment. They are responsible for promotion of coordinated planning and implementation as well as stakeholders driven decision making related to integrated and sustainable development and management of water and related resources in the catchment.

c. Catchment Technical Committee (CTC)

These constitute the advisory arm in the catchments to provide technical inputs into project activities. They are composed of technical staff from key stakeholders in the catchment (local governments, NGOs, private sector etc), technical staff of various government ministries and agencies. The CTC support in coordination of stakeholders' involvement in planning, management and development of water and related resources in the catchment that require consideration. The CTC are responsible for spearheading implementation of the various activities in the catchment. They work very closely with the local communities through their extension workers who provide support and training to the local people such as the farmers, fishermen, water users through their associations where they exist, to implement actions on the ground.

d. Community management structures

Community management structures operate at the local level and are part of the catchment management arrangements.The lowest catchment management structure at community level is the micro-catchment Forum, management and technical committees and the secretariat that feed into the Sub- catchment structures. The structures are responsible for coordination of implementation of project activities and ensuring that synergy is created among the various stakeholders. They are a

mechanism through which stakeholder views and input in project implementation will be provided for purposes of ensuring ownership and acceptable of project activities.

2. Restoration of deforested and degraded land through afforestation

Trees will be planted to restore the lost forest over time. Re-afforestation will target areas in the catchments that have been cleared of trees and those that have been degraded due to overfilling and other unsustainable practices. This has resulted in Landslides, soil erosion and gullies especially in hilly and Mountainous areas and siltation of streams, rivers and deterioration of water quality. Farmers will be trained in woodlot establishment and management and provided with trees to plant in these areas. The planted trees will help in holding the soil together and reduce the risks of erosion and landslides and in the process the ecosystems will be restored.

3. Promotion of improved cook stoves

The project will enhance pro-poor technologies to reduce on forest degradation through promotion of improved cook stoves. These will be used to reduce the amount of fuel wood used in these catchments hence resulting into increased forest health and integrity. The types of stoves that will be promoted include for instance Lorena and Upesi. Apart from domestic use, the stove will also be promoted as micro-enterprises for the women in the project areas.

4. Rehabilitation/Restoration of degraded wetlands

Most wetlands in the target catchments have been degraded either through encroachment and conversion into other uses like crop and animal production or through over exploitation of wetland resources. Rehabilitation will be done through development of specific wetland restoration plans in consultation with all the stakeholders especially the different community groups utilizing the wetland .These will lay out actions and activities to be undertaken, resources required and the roles and responsibilities of different actors. The project will base on these plans to fund the restoration of the target wetlands in the project area.

5. River bank restoration and protection of buffer zones

River banks in the target catchments have been degraded mainly due to landslides and floods, erosion or as a result of agricultural encroachment. Specific river bank restoration action plans will be developed with neighboring communities and other stakeholders on which the project will base to fund restoration activities. The communities bordering these rivers will be at the forefront of implanting these action plans.

6. Biophysical conservation structures

Due to loss of vegetation cover and farming on hilly areas there are high rates of soil loss especially in hilly and mountainous areas of Maziba and Awoja catchments. This has resulted in loss of soil fertility, siltation of rivers, reduction of water quality and degradation of wetlands. The project will train farmers in construction and maintenance of biophysical structures for water and soil conservation. These will help in slowing down the speed of water and allowing it to sink, reducing the risk of erosion and landslides. The biophysical conservation structures that will be implemented include hill side terracing, contour bands and grasses.

7. Water harvesting and flood control structures

These are water investments to enhance community resilence to floods. Due to climate change the increased intensity and frequency of heavy rains have increased the frequency of floods especially in low lands and landslides in hilly and mountainous areas of the catchments. To address these challenges the project will train and support farmers to construct and maintain water harvesting and flood control structures. These will include Check dams, retention ponds and diversion canals. In addition to harvesting run off by using the water retention ponds and check dams, diversion canals will be dug to direct or slowly drain the trapped water for other activities such as off season agricultural production or livestock including fisheries.

8. Revolving fund (Community Environment Conservation fund)

Communities will be organized at sub and micro catchment levels to form SACCOs (Savings and Credit Co-operatives). A SACCO is a democratic, unique member driven, self-help co-operative. It is owned, governed and managed by its members who live in the same community or area. The project will provide funds to the communities through these SACCOs to undertake environmentally friendly income generating activities to enable communities diversify their livelihoods and increase their resilience to climate change. The target activities include, Eco-tourism, livestock production, Bee-keeping and handcrafts.

9. Demonstration sites

These are centers of excellence that will be established in the catchments. They will foster learning and sharing of knowledge and skills in specialized interventions/enterprises (Ecosystem Conservation in Awoja, Income generating activities in Aswa and flood and landslides control in Maziba) at selected demonstration sites. And the stakeholders will learn and replicate the interventions on their farms from the knowledge acquired.

ANNEX II: The benefits and expected beneficiaries of the project.

No	Component	Beneficiaries	Benefits
1	Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments	• Ministry of Water and Environment (MWE), • Min. of Agriculture Animal Industry and Fisheries (MAAIF), • Local government staff • Catchment Management Committees • Communities • Civil society (NGOs, CBOs) • Private sector	▪ Climate change issues integrated into the Catchment Management Plans for Awoja, Maziba and Aswa catchments. • Awoja, Aswa and Maziba catchment management institutional structures strengthened /established and functioning • Multi-stakeholders' platforms strengthened/established and operationalized as part of catchment management structures
2	Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems	• Ministry of Water and Environment (MWE), Min. of Agric (MAAIF), • Local government staff • Catchment Management Committees • Communities • Civil society • Private sector	▪ Water, soil conservation and environmental management practices such as hill side terracing, contour bunds, reforestation implemented in Maziba, Awoja and Aswa. ▪ Water harvesting and storage facilities such as dams and ponds put in place ▪ Revolving fund schemes established to promote alternative income generating activities ▪ People trained on alternative income generation ▪ Improved cook stoves introduced and used by communities
3	Building climate change adaptive capacities of institutions and communities and managing knowledge	• Ministry of Water and Environment (MWE), Min. of Agric (MAAIF), • Local government staff • Catchment Management Committees • Communities • Civil society • Private sector	▪ Capacity of catchment management institutional structures in establishing and management of Frameworks for Climate Resilient Catchment Management enhanced ▪ Knowledge of stakeholders such as communities, local authorities, relevant central and local government departments, civil society etc. on climate change, its impacts and adaptation strategies related to water improved ▪ Capacities of stakeholders to implement concrete adaptation actions for climate resilient and sustainable ecosystems, control of floods and landslides across agricultural landscapes and other livelihood systems strengthened ▪ Demonstration centers in different domains established in the three catchments. ▪ Processes and lessons from implementing the project documented and disseminated ▪ A scaling-up strategy for integrating issues of water security and climate resilience into national and sectoral development plans developed

ANNEX III: Projects that complement the proposed project and lessons learnt

No	Projects that the proposed project will Complement	Key activities implemented	Areas of complementarity, synergy or additionality	Lessons learned
1	The Ministry of Water and Environment program towards catchment-based management of water resources through support from various development partners such as World Bank, Denmark, Austria and Germany	▪ Supported preparation of Awoja catchment management plan ▪ Supporting preparation and implementation of catchment management plans for Rwizi, Mpanga and Ruhenzamyenda catchments	▪ Implementation of the catchment management plan for Awoja but operating in different sites ▪ Preparation of Aswa catchment management plan. This project will specifically bring in the aspects of climate change that are not included in the catchment planning guidelines ▪ This project will also bring in the aspect of demonstration sites and revolving fund	▪ Preparation of catchment management plan is participatory requiring key stakeholders for ownership
2	Nile Equatorial Lakes Subsidiary Action Program (NELSAP) under the Kagera basin project	▪ Supported preparation of Maziba catchment management plan	▪ Implementation of Maziba catchment management plan but operating in different sites in case NESAP manages to obtain funding ▪ This project will bring in the aspect of demonstrations sites and revolving fund	-Implementation of physical tangible projects provides a good foundation for support and ownership. -Involvement of stakeholders from the onset of project identification till implementation helps in creating interest, sense of ownership and sustainability of the entire process.
3	Water Management and Development Project (WMDP) of the World Bank	▪ Supporting preparation of catchment management plans for Victoria Nile, Albert Nile, Aswa and Mpologoma catchments	▪ Preparation of Aswa catchment management plan. This project will specifically bring in the aspects of climate change that are not included in the catchment planning guidelines	▪ Water- infrastructure management project should have strong catchment management component.
4	Resilience Framework for Climate Change in Mount Elgon (RFCC) project of IUCN	Implementing a Climate Change Resilience Framework, which focuses on four different levels of interventions that can effectively reduce the risks of floods and landslides namely building sustainable water & land infrastructure, diversifying markets, livelihoods & nature, enhancing self-organisation and improving capacities for learning	▪ Resilience building of ecosystems around Mount Elgon in Awoja catchment ▪ Experience sharing and learning on building sustainable water and land infrastructure, diversifying markets, livelihoods & nature, enhancing self-organisation and improving capacities for learning ▪ This project will bring in the aspect of demonstrations sites	▪ There is need to set up climate and environmental monitoring stations to make sure that policy and management decisions for montane ecosystems are based on sound scientific evidence base
5	Various programs of GWP Eastern Africa in the region	▪ Promotion of implementation of IWRM ▪ Supporting implementation of local adaptation actions, stakeholders consultation, policy dialogue, knowledge management, capacity building	▪ Collaboration in implementation of local adaptation actions, stakeholders consultation, policy dialogue, knowledge management, capacity building but operating in different sites in the catchment	▪ Operating in partnerships can can lead to success in the planned interventions ▪ Raise community awareness and engage local media is one way to profile and have action on the ground ▪ Participatory and ownership by communities & other stakeholders

				promotes sustainability
6	EU-Global Climate Change Alliance	▪ Promotion of stakeholders involvement and participation in climate change adaptation in Uganda	▪ Implementation of climate change adaptation actions in Awoja, Aswa and Maziba catchments but operating in different sites	
7	UNDP-Country Office-Uganda	▪ Implementation of the territorial approach to climate change adaptation in the Mount Elgon region	▪ Implementation of climate change adaptation actions in Awoja catchment but operating in different sites ▪ This project will bring in the aspect of demonstrations sites	Designing a project linking various institutions from grassroots level institutions, government agencies, local authorities and private sector generates huge benefits for sustainability, and through the synergies developed provides the intervention with much greater effectiveness than that which can be achieved by stand-alone projects. □ Community involvement is vital for sustainable community-based natural resource management projects as they are the one who has to manage these resources beyond the project life .
8	FAO-Country office-Uganda	▪ Promotion of climate smart agriculture and adaptation to climate change in 20 districts in the cattle corridor that includes parts of Karamoja	▪ Implementation of climate change adaptation actions in Awoja catchment but operating in different sites ▪	- Agriculture has potential to adapt to a changing climate, to be more resilient and protect farmers against future changes in weather patterns, pests and diseases, and to slow the rate of climate change. ▪ Livelihood- and climate focused agricultural practices help farmers to sustainably increase their farm productivity and build resilience to climate change, while contributing to mitigation
9	Austria Development Agency	▪ Supporting preparation of Upper Aswa catchment management plan and implementation of climate change adaptation actions in Aswa catchment. Among the key actions was the Community Environment Conservation Fund (CECF)	▪ Implementation of climate change adaptation actions in Aswa catchment but operating in different sites ▪ This project will bring in the aspect of demonstrations sites	▪ Environmental interventions which require initial sacrifices from communities and lead to indirect or long-term benefits are hardly accepted by communities below a certain poverty level if they are not accompanied by simultaneous direct and immediate support to their livelihoods.
10	Climate Development Knowledge network (CDKN)	▪ Involved in undertaking studies on economics of CC adaptation in Uganda through various sectors.	▪ Assessing the economics of CC adaptation in the 3 catchments and guiding implementation	▪ There should be more research at catchment level to assess the risks to investment in crops from climate change and the level of support needed to boost resilience in both the arable and livestock sectors in the targeted catchment

ANNEX IV: Project experimental and innovative activities

No	Components	Innovations
1	Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments	• Incorporation of climate issues into Catchment management planning guidelines and already existing catchment management plans • Ensuring that women are adequately represented at all levels of the catchment management committees and fora. This increases their influence in decision making in catchment management.
2	Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems	• Ecosystem based approach in Natural resources management • Community Environment Conservation Fund though already being implemented by IUCN is relatively new and will be more of an innovation in the new areas it is going to operate in. This enables community members to engage in off-farm income generating activities that bring immediate benefits and encourage in Ecosystem management activities • Flood and land slides control structures
3	Building climate capacities of extension services and institutions to support communities and managing knowledge	• Documentation of innovative approaches and lessons learnt • Development of tools to integrate issues of water security and climate change resilience into key sectoral plans. • Development of a scaling up strategy.

ANNEX V: Consultations at national, subnational and local leve

Summary of government institutions consulted and issues raised during consultations				
N	**Institution/ Departments**	**Mandates/ Main objectives of institutions**	**Role/contribution in Project Preparation**	**Specific issues raised during consultation**
1	Ministry of Finance Planning and Economic Development	▪ Coordinating overall National Development planning and budgeting ▪ Designated National Authority	▪ Endorsed the Project ▪ Communicated on behalf of the Government of Uganda	▪ Coordination at national level
2	Ministry of Water and Environment (MWE)	▪ Policy and regulatory role for water and environmental issues	▪ Executing Entity ▪ In collaboration with GWP EA, technically coordinated the project proposal development process, facilitated the consultation process during project proposal development ▪ Made available key government documents	▪ Policy and practice influencing based future experiences from the proposed project ▪ Linking the knowledge management component of the project with the National Climate Knowledge Center
3	National Environmental Management Authority (NEMA)	▪ Regulatory authority for all environmental issues	▪ Provided guidance regarding the required social and environmental impact assessments per Ugandan law ▪ Cleared the TOR and processes of conducting environmental and social impact assessments	▪ Project has contribution in implementing higher level commitments (regional or global) ▪ The approach of promoting community-owned projects is very good. NEMA is delegating its authorities to local level structures. ▪ Districts will provide the political support ▪ Good that the project includes wetlands restoration ▪ Capacity building needs to be a continuous process even after the project phases out ▪ Learning from other countries is also good. Uganda is planning to organize a visit program to Ethiopia on community-based conservation practices
4	Uganda National Meteorological Authority (UNMA)	▪ Meteorological services	▪ Contributed by reviewing the draft project proposal	▪ The project's sustainability strategy is useful for developing a scaling-up plan after the project ▪ Establishing baseline situation is important to measure impacts at a later stage

				▪ The project provides to consider both hydrological and meteorological stations in project sites.
5	Directorate of Environment Affairs, MWE	▪ Policy and coordination of environmental activities	▪ Contributed by reviewing the draft project proposal	▪ The project's approach of protecting the integrity of ecological systems while promoting climate change adaptation and livelihoods is useful ▪ Need to link this with the national environmental and climate change policies of the country ▪ Link the project with higher level structures such as the Water Policy Committee, water sector working group, etc. to ensure coordination.
6	Directorate of Water Resources Management, MWE	▪ Policy implementation and coordination of water resources management activities ▪ implementation of standards regarding water quality and the issuance of permits	▪ Lead Directorate with responsibility of executing the project on behalf of the MWE. ▪ In collaboration with GWPEA, facilitated the process of project proposal development	▪ Need to design a simple but effective and efficient project management system ▪ The project will be crucial in implementing the country's water resources management and climate change adaptation strategies
7	Climate Change Department, MWE	▪ Policy and coordination of climate change issues ▪ UNFCC Focal Point	▪ Contributed by reviewing the draft project proposal ▪ Provided the technical endorsement of the project content	▪ Emphasized for the project to consider stakeholders' engagement in the project
8	Policy and Planning Department, MWE	▪ Coordinating policy and planning of the Ministry	▪ Contributed by reviewing the draft project proposal, especially in making sure that the proposed project is in line with government priorities and strategies.	▪ The project is good as it is designed based on the national development plan and climate change policy ▪ It is also good that it integrates stakeholders and sectors including wetlands, fisheries and agriculture

Summary of NGOs consulted and issues raised during consultations				
N	**Organization**	**Main areas of operation**	**Role/contribution in Project Preparation**	**Specific issues raised during consultation**
1	International Union for Conservation of Nature (IUCN)	▪ Nature conservation ▪ Ecosystem based adaptation ▪ Wetlands management	▪ Experience sharing on revolving fund ▪ Linking with its project in Aswa catchment ▪ Contributed by reviewing the	▪ Involving non-government agencies for project implementation ▪ Potential implementing partner at local level

			draft project proposal	
2	ECOTRUST	▪ Environmental conservation	▪ Contributed by reviewing the draft project proposal	▪ Potential implementing partner at local level
3	Environment Alert/ENRsNET (Environment and Natural Resources Network of CSOs)*	▪ Environmental conservation ▪ Networking and capacity building ▪ Advocacy and lobbying	▪ Contributed by reviewing the draft project proposal ▪ Providing information on NGOs that are active in the project sites	▪ Catchment-based approach is very useful as it establishes a common vision by the various stakeholders ▪ Need to facilitate for multi-stakeholders participation within a certain catchment ▪ The selection of the 3 catchments is very interesting as they represent the different water management zones. ▪ Need to prioritize interventions of the project in the 3 catchments as project resources are limited to cover all areas
**ENRs Net is an umbrella network of CSOs that work in environment and natural resources management areas. It is established in 2008, currently with over 70 members and its secretariat hosted by Environment Alert. It has Thematic Working Groups for forestry, climate change, wetlands, environment and governance*				

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Summary of Development Partners and Programs consulted and issues raised during consultations

N	Organization	Main areas of operation	Role/contribution in Project Preparation	Specific issues raised during consultation
1	UNDP-Country Office-Uganda	▪ Development partner	▪ Contributed by reviewing the draft project proposal	▪ Linking with the project in Karamoja (Awoja catchment)
2	FAO- Country Office-Uganda	▪ Development partner ▪ Agriculture and food security	▪ Contributed by reviewing the draft project proposal	▪ Linking with on-going project in 20 districts in the cattle corridor in Uganda ▪ reconsider the duration of the project to 5 years ▪ further prioritization of interventions by consulting communities and partners ▪ Need to see the linkage between the smaller catchments and the bigger catchments or water management zones
3	Austria Development Agency	▪ Development partner	▪ Communicating the information to other partners	▪ Linking with a project in Aswa catchment
4	CDKN	▪ Development partner ▪ Economics of CC adaptation in Uganda	▪ Sharing documents, including the results of the study recently conducted	▪ Linking the project with the process that CDKN is doing

Consultations Water Management Zones, Districts and catchment/communities levels

The project design team conducted consultations with the management and staff of Water Management Zones (WMZs) for the three targeted catchments:

- Kyoga WMZ for Awoja catchment based in Mbale Town
- Upper Nile WMZ for Aswa catchment based in Lira Town
- Victoria WMZ for Maziba catchment based in Mbarara Town

Moreover the districts from the targeted catchments were also consulted in the process such as

- Districts of Soroti, Sironko, Napak, Bulambuli, Kapchorwa and Kumi in Awoja
- Districts of Abim, Gulu, Aleptong, Lira in Aswa catchment
- Districts of Kabale, Kisoro and Ntungamo in Maziba catchment

The project design team carried out various consultations with the Catchment Management Committees that represents different stakeholders such as Local governments, private sector, NGOs, representatives of women and youth. The team also visited different parts of the three catchments and made consultations with the local communities and also appreciated the challenges on ground and possible interventions.

The issues that emerged during the consultations are summarized as follows:

Consultations in Awoja catchment

Major issues that emerged from consultations with stakeholders in Awoja catchment for consideration during the implementation of the CMP include:

- Mount Elgon, Karamoja & low lying areas are hotspots that need immediate intervention in Phase I of the implementation plan. Mount Elgon is highly encroached, Karamoja is deforested due to charcoal production and lowlands are degraded, especially the wetland systems.
- Documentation of successful implementation of project
- Interaction visits should be undertaken to share ideas and experience in similar studies by the committees
- Partnership with stakeholders is of paramount importance in case studies hence these should be adopted in the catchment to drive synergies through interaction visits
- Issue of district vis-a-vis catchment boundaries need to be resolved
- Enforcing laws related to environment is important
- Coordination is important during implementation to enhance synergy and partnership among various actors

(a)  (b) 

Photo (1a): Awoja: landslide around the Mount Elgon due to farming up to the tip of the mountain, and (1b) Awoja river near Soroti town

(a)  (b) 

Photo (2a): Awoja-a village and farming system dominated by sorghum in the midlands of the catchment, and (2b) Part of the extensive lake/wetland system in lowlands of the catchment.

Consultations in Aswa catchment

The major issues that emerged from consultations with stakeholders in Aswa catchment for consideration during preparation of the CMP include:

- capacity building/knowledge transfer and awareness raising especially at community level needed
- Investments on water storage for irrigation
- Water quality issues
- Stakeholder consultations and participatory mechanism and resource use or access related conflicts management
- Role of districts in the catchment management planning process
- Engaging other partners or programs such as IUCN which is a key partner in the preparation of the CMP
- Consider wetlands and other land use issues.

 

Photo (3a): Aswa: maize and groundnuts cropping systems, and (3b) Aswa river with turbid water due to sediment load from upper parts of the catchment

Consultations in Maziba catchment

The major issues that emerged from consultations with stakeholders in Maziba catchment for consideration during implementation of the CMP include:

- Catchment protection is critical due to farming on high slopes. The catchment is dominated by highlands.
- Loss of natural vegetation and replacement by eucalyptus which is not good for the environment. However eucalyptus gives quick return
- Maziba is a transboundary catchment and this aspects need to be considered. NELSAP supported the preparation of catchment management plan.
- Training and awareness rising for communities is important.
- Consider wetlands and riverbanks conservation other land use issues

Photo (4a): Maziba: farming on the highlands, and (4b) replacement of natural vegetation with plantation mainly eucalyptus

The project design team noted that the CMPs for Awoja and Maziba were prepared through a highly consultative and stakeholder driven process. In addition the catchment management planning process in Upper Aswa catchment is ongoing through similar stakeholder driven processes.

Preparation of the CMPs enabled stakeholders to coordinate and harmonise their plans and actions so as to avoid duplication and hence create synergy. These stakeholders include local communities, Non -Governmental Organisations, private sector, local governments, academic institutions etc. and all 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. For this purpose a project inception phase has been suggested. This phase will include consultations with several stakeholders at various levels to confirm those to collaborate with in executing the various components and activities of the project. It will also refine the list of stakeholders' and update baseline data/information, on the conditions of the catchments. Furthermore, it will create an understanding of the project execution structure by stakeholders. This phase will be used to conduct more elaborated environmental and social impact assessment. Experiences from similar projects indicate that communities will keenly be willing to contribute if involved right from the start of the project. They will also 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 CMPs and have contributed both their time and labour. They have also contributed to identification and prioritization of actions in the catchments and proposed possible sources of the required resources that include their free labour and supply of local materials during project implementation. Based on these experiences it is evident that the community is committed to contributing up to 10% of the costs through free labour and local materials.

A CMP is a framework for integrated and sustainable development and management of water and related resources in a catchment. The actions presented in the CMP were identified by all the stakeholders as key in addressing issues and challenges in the catchment. Therefore, decision making in the catchment will be community based and stakeholders driven.

Consultations for proposal endorsement process

Endorsement by the Designated Authority of Uganda

The national Designated Authority for the GoU, the Ministry of Finance, Planning and Economic Development, endorsed the project proposal (Annex: Endorsement Letter)

Endorsement by the National Water Policy Committee of Uganda

The Water Policy Committee endorsed the Project Concept, and requested the MWE and GWPEA to continue in preparing the full project proposal. The minutes of the Water Policy Committee (WPC) dated May 8, 2015 read as follows:

- ***Issue No. 6:*** Adaptation to Climate Change through integrated water resources management
- ***Issue code:*** 08WPC/03/15
- ***Decision and recommendation:*** The Project Concept on "Enhancing Resilience of Communities to Climate Change through catchment based integrated management of water and related resources in Uganda " is highly welcome and will be the first opportunity for Uganda to access funds from the Adaptation Fund. The project concept note is therefore endorsed and the team from the Ministry of Water and Environment and Global water partnership is requested to continue with project proposal development.

National Environmental Management Authority (NEMA)

Provided guidance regarding the required social and environmental impact assessments per the Ugandan law, and cleared the TORs and processes of conducting environmental and social impact assessments. NEMA also approved the Environmental and Social Management Plan (ESMP) of the proposed project.

ANNEX VI: Project components and gender analysis

Component	Gender aspect	Benefits	Risks	Strategies for mitigation
1. Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments	Representation of various gender groups in catchment management structures	• Awoja, Aswa and Maziba catchment management institutional structures strengthened /established and functioning • Multi-stakeholders' platforms strengthened/established and operationalized as part of catchment management structures	Management committees being dominated by men	Proper guidelines to cater for representation of women, youth and vulnerable groups in the catchment management structures and multi-stakeholders' platforms
2. Implementing concrete adaptation actions for resilient and sustained ecosystems, agriculture and other livelihood systems	A 100% selection of women to undertake production and marketing of improved cook stoves as micro-enterprise.	Water and soil conservation and environmental management practices such as hill side terracing, contour bunds, reforestation implemented in Awoja and Maziba (mountainous areas) and Aswa	• Low adoption rates of the interventions by all gender groups • Elites hijacking the project interventions	Enable improved access to Agricultural tools and technologies with aim of improving their agricultural practices
	▪ At least 50% women Access to revolving fund.	• Revolving fund schemes established to promote alternative income generating activities • People trained on alternative income generation	Marginalization of Women, youth and vulnerable groups	• Supporting various groups especially women and the other vulnerable groups to access the revolving fund through skills development and trainings etc. • Clear guidelines on management of the fund to cater for all groups • Ensure that all groups are equally represented on fund management committees • Proper and inclusive criteria for selection of beneficiaries
3. Building climate change adaptive capacities of institutions and communities and knowledge management	Selection at least 40% of women as beneficiaries for participation in Capacity and knowledge interventions in climate change resilience	▪ Capacity of catchment management institutional structures in establishing and management of Frameworks for Climate Resilient Catchment Management enhanced ▪ Knowledge of stakeholders such as communities, local authorities, relevant central and local government departments, civil society etc. on climate change, its impacts and adaptation strategies related to water improved ▪ Capacities of stakeholders to implement concrete adaptation actions for climate resilient and sustainable ecosystems, agricultural landscape management for flood and landslides control and other livelihood systems strengthened ▪ Demonstration centers for ecosystems management, climate resilient agriculture and alternative income	Low participation by vulnerable groups due to low literacy levels, marginalization and hijack special interest groups	▪ Gender groups especially women need to be supported and empowered to participate in capacity and knowledge management project activities Proper guidelines on participation of vulnerable groups in capacity building activities should be put in place

		generating activities established ▪ Processes and lessons from implementing the project documented and disseminated ▪ Policy influencing/dialogues conducted ▪ A scaling-up strategy for integrating issues of water security and climate resilience into national and sectoral development plans developed		

ANNEX VII: Project implementation structure

No	*Management structure*	*Roles and responsibilities*
1	**Project Implementation Unit** • OSS Project Officer dedicated the implementation of the project • OSS Financial and Auditing unit	• Approval of annual work plan and budget • Approval of annual financial and technical reports • Supervision of M&E • Supervision of ESMP
2	**Project Steering Committee** ▪ Composed of OSS, GWP, DWRM, NEMA, CC DEPARTMENT, Min. of Agriculture, Min of Finance ▪ Meets Quarterly through face to face, video or Skype	• Provide strategic guidance to the project and ensure that resources are efficiently utilized and the project objectives are achieved in an efficient and effective manner • Review and approve annual and quarterly project work plans and budgets • Review and approve quarterly and annual progress reports • Review and approve project technical reports • Review and approve any modifications to the project execution strategies and arrangements
3	**Project Coordination Team national lève** ▪ Composed of a Project Manager at MWE, representative of CC Department, Team Leaders of the 3 WMZs ▪ Meets monthly	• Ensure the overall responsibility for the successful execution of project activities and achievement of planned project outputs • Ensure that the project is well coordinated and executed to achieve the objectives • Ensure that project resources are utilized efficiently to achieve the project outputs • Ensure that the key stakeholders at national, regional and local levels are involved in project execution • Ensure that the necessary support is provided by the relevant stakeholders to the project execution teams • Ensure that the project is executed within the relevant structures and following government procedures
4	**Project Execution Team Water Management Zone level** ▪ Composed of Team Leaders of the 3 WMZs, relevant staff of the participating agencies at national and local levels ▪ Meets weekly	• Execute the project in line with the agreed work plan • Utilize project resources efficiently to achieve the project outputs • Involve key stakeholders at national, regional and local levels in project execution • Coordinate the support provided by the relevant stakeholders to the project execution teams • Execute the project within the relevant structures and following government procedures
5	**Project Execution team at local level** Awoja, Aswa and Maziba Project Execution Units (field office)-based at the local govt offices of Mbale, Lira and Kabale	• Day-to day follow-up of project execution in the 3 catchments in close collaboration with the local government offices • Execution of the project by the local government offices in close collaboration with the local communities
6	**Focal Points at WMZs** ▪ WMZ Team Leaders or their designated representatives ▪ Day to day project follow up	• Ensure that the project is executed following government strategies for catchment based water resources management • Ensure that key stakeholders in the zone are actively involved in project execution • Ensure that the support provided by the relevant stakeholders to the project execution teams is well coordinated

		and harmonized • Provide guidance in the formation of the relevant stakeholder coordination and collaboration structures in the catchments • Coordinate provision of technical support in the development and implementation of catchment management plans
7	**Support Team to the Ministry of Water and Environment** ▪ GWP and other relevant expert agencies	• Support the ministry in the execution of the knowledge management component of the project ensuring very strong linkages between the knowledge generated at catchment level and national level processes and frameworks • Support the Ministry in capacity building of stakeholders at both national and local level in relevant areas • Support the Ministry in the integration of climate change in catchment management plans and revision of the catchment planning guidelines • Support the Ministry in policy influencing process based on good practices from the project
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

ANNEX VIII: List of people consulted and contributed in the development of the project proposal at national level

N	Name	Institution	Title	Contacts
1	Chebet Maikut	Climate Change Department, MWE	Ag. Commissioner / UNFCCC NFP	chmaikut@gmail.com 0752 609414
2	James Kawesi	Policy and Planning Department, MWE	Ag. Commissioner, Policy and Planning Department, MWE	James.kawesi@mwe.go.ug and jkawesi11@gmail.com
3	Florence Grace Adongo	Directorate of Water Resource Management (DWRM)	Ag. Director, DWRM	Florence.adongo@mwe.go.ug and florence@gmail.com
4	Kennedy Igbokwe	Food and Agriculture Organisation	Project Manager	Kennedy.igbokwe@fao.org
5	Paul Isabirye	Uganda National Meteorological Agency, MWE	Ag. Executive Officer, UNMA	Paul_isabirye@yahoo.com
6	Jackson Rwakishaija	Uganda National Meteorological Agency, MWE	ADFEA	Jackson.rwakishaija@gmail.com
7	Onesimus Muhwezi	UNDP	Team leader	Onesimus.muhwezi@undp.org
8	Paul Mafabi	MWE	Director Environment Affairs	pamafabi@yahoo.co.uk
9	Joseph Epitu	MWE	Principal Training officer/ Ag.Principal Climate Change Officer-Outreach	Joseph.epitu@mwe.go.ug
10	Sophie Kutegeka	IUCN-Uganda	Program Officer	Sphie.KUTEGEKA@iucn.org
11	Andrine Kirabo	ECOTRUST	Program Coordinator	akirabo@ecotrust.or.ug
12	Masaba Andrew	Ministry of Finance, Planning and Economic Development (Development Assitance and Regional Cooperation)	Senior Economist	Andrew.masaba@finance.go.ug
13	Olivier Beucher	Baastel/CDKN Economics of CC Adaptation study Project	Director of Corporate Development Environment Consultant	Olivier.beucher@baastel.com
14	Zake Joshua	Environmental Alert (Environmental and Natural Resources Network of NGOs)		joszake@gmail.com

List of people consulted- Meeting with Sahara Sahel Observatory on the 8 June 2015				
N	**Name**	**Designation**	**Institution**	**Email/Telephone**
1	Mugisha Louis	Team leader	Kyoga WMZ	mugishalouis@yahoo.com, loius.mugisha@mwe.go.ug 0772421608/0705001608
2	Kitamirike Jackson	Senior Analyst	Kyoga WMZ	jacksonkitamirike@gmail.com 0772465987/ 0702767913
3	Christine Mukwaya	Senior water officer	Kyoga WMZ	mukwayatina@gmail.com 0772496645/0702496645
4	Waiswa Nelson	Sociologist	Directorate of WRM	nwaiswa2012@gmail.com 0772447227
5	Duncan Kikoyo	Water officer	Directorate of WRM	ahimb@msn.com
6	Ojiambo Wilson	Water officer	Victoria WMZ	ojiambowilson@gmail.com 07022501534
7	Andrea Schalla	Technical Advisor	Kyoga WMZ	Andrea.schalla@giz.de 0772755283
8	Edward Martin Rwarinda	Principal Water Officer	Directorate of WRM	edwardmartin.rwarinda@gmail.com 0752775596/ 0776171096
9	Pamella Agaba	Ag. Senior water officer	Directorate of WRM	Agaba.pamela@yahoo.com 0772986729
10	Jackson Twinomujuni	Asst. commissioner	Directorate of WRM	Jk.twinomujuni@gmail.co , Jackson.twinomujuni@mwe.go.ug
11	Pule Johnson	Sr. Hydrologists/ Team leader	Upper Nile WMZ	Johnson.pule@mwe.go.ug , jpuleobuku@yahoo.com
12	Florence Adongo Grace	Director DWRM	Directorate of WRM	Florence.adongo@mwe.go.ug
13	Dr. Callist Tindimugaya	Commissioner	Directorate of WRM	Callist.tindimugaya@mwe.go.ug
14	Mabise Otita Livingstone	Senior water officer	Upper Nile WMZ	Livingstone.mabose@gmail.com
15	Nakiyinba Milly	Hydrologist	Directorate of WRM	Nakiyinbam68@gmail.com
16	Olc Honmoller	Technical Advisor	Directorate of WRM	olchonmoller@mac.com

Consultative meeting at IUCN Uganda Office on 21/05/2015			
N	**Name**	**Designation**	**Institution**
1	Polycarp Mwima	Programme officer	IUCN
2	Adrine Kirabo	Programme coordinator	Environment Conservation trust of Uganda- ecotrust
3	Sarah Nachuha	Programme Manager	Environment Conservation trust of Uganda- ecotrust

Consultative meeting during field visit in the catchments 06-10 July 2015			
N	Name	Designation	Institution
1	Kyomukama Adis	DNRO	Kabale District Local Government
2	Bazirakye Louis	Chairperson	Maziba Catchment Committee
3	Kyomuhendo Connie	Socio-scientist	Ministry of Water and Envt
4	Musota Richard	Senior Water Officer	Maziba catchment
5	Matsiko M.A	CAO	Kabale District Local Government
6	Ojiambo Wilson	Water Officer	Victoria WMZ
7	Mugisha James	Personnal Assistant	Kabale District Local Government
8	Tushabe Muzanhira	Education officer	Kabale District Local Government
9	Busingye Winifred Mbabazi	District Community Development Officer	Kabale District Local Government
10	Nyakaana	Kigezi diocese water programme	Maziba/Kabale District Local Government
11	Csarces	Security officer	Awoja/Sironko District Local Government
12	Andrea	GIZ Technial Advisor	Awoja/Kyoga WMZ
13	Mabise Otita Livingstone	Senior water officer	Aswa/Upper Nile WMZ
14	Awach Chemange	Natural resources officer	Awoja/Kapchorwa District

Project Design/Drafting Team				
N	**Name**	**Institution**	**Title**	**Contacts**
1	Florence Grace Adongo	Directorate of Water Resource Management (DWRM)	Ag. Director, DWRM	Florence.adongo@mwe.go.ug and florence@gmail.com
2	Callist Tindimugaya (Dr.)	Directorate of Water Resource Management, MWE	Commissioner, Water Resources Planning and Regulation)	Callist.tindimugaya@mwe.go.ug 0772 521413
3	Chebet Maikut	Climate Change Department, MWE	Ag. Commissioner / UNFCCC NFP	chmaikut@gmail.com

				0752 609414
4	Paul Isabirye	Uganda National Meteorological Agency, MWE	Ag. Executive Officer, UNMA	Paul_isabirye@yahoo.com
5	James Kawesi	Policy and Planning Department, MWE	Ag. Commissioner, Policy and Planning Department, MWE	James.kawesi@mwe.go.ug and jkawesi11@gmail.com
6	Nikola Rass	OSS	Climate change expert	
7	Leuleseged Tadesse	OSS	Water resources expert	
8	Kidanemariam Jembere	GWPEA	Regional Program Manager	kjembere@nilebasin.org
9	Gerald Kairu	GWPEA	Regional Project Manager	gkairu@nilebasin.org

ANNEX IX Environmental and Social Management Framework

The Republic of Uganda
Ministry of Water and Environment

Environmental and Social Management Framework for "Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water in Uganda" Project

July 2015

This draft document was prepared by:

WSS SERVICES (U) LTD
Plot 17 Kakungulu Road, Building B, Ministers Village, Ntinda, Kampala
P.O. Box 27755 Kampala, Uganda;
Tel: +256-41570984 Cell: +256-782519315

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1. Background

Uganda occupies a total area of 241,038 square km, most of which is suitable for agriculture. The country's population grew by 3.7 per cent 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 per cent per annum between 2040 and 2050). The population remains predominantly rural (85 per cent in 2010). The poverty rate is down, but remains high 31 % in 2006 and 24.5 % in 2010.

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. Uganda's capacity to adapt to climate change is relatively weak. In general, livelihoods in most of Uganda and specifically in the study 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.

Uganda has developed its climate change response strategies that are linked to its overall development strategies of the country. It is also party to several regional and international agreements related to climate change and environmental protection. Uganda has been collaborating with several countries and institutions in taking actions that contribute to improving environmental systems and addressing climate change issues. Uganda, however, has not been very successful in mobilizing adequate resources particularly for implementing concrete climate change adaptation actions.

The proposed project "***Enhancing Resilience of Communities to Climate Change through catchment based integrated management of water and related resources in Uganda***" will be the first of its kind for Uganda in accessing funds from the Adaptation Fund.

The project proposal has been prepared by Uganda's Ministry of Water and Environment (Executing Agency (EA) of the Project) with significant contribution by the Global water Partnership Eastern Africa Region. The Regional Implementing Entity (RIE) of the project is the Sahara and Sahel Observatory (OSS). The project concept was endorsed by the Adaptation Fund Board Secretariat at its twenty-fifth (25th) meeting which took place on 9-10 April 2015 in Bonn, Germany.

This document which provides the Environmental and Social Management Plan (ESMP) of the proposed project is prepared as part of a requirement by the Adaptation Fund, Ugandan's Government and OSS to make sure that the implementation of the project will not have significant environmental and social impacts, but rather enhances positive environmental impacts.

The preparation and need for this proposed ESMP is in line with the Adaptation Fund Environmental and Social Policy (ESP), Environment Impact Assessment (EIA) for Uganda and the World Bank's environmental and social safeguard policies.

The Adaptation Fund's Environmental and Social Policy (ESP), approved in November 2013, ensures that projects and programmes supported by the Fund promote positive environmental and social benefits, and mitigate or avoid adverse environmental and social risks and impacts. Managing these risks is integral to the success of the projects/programmes and the desired outcomes which are described in the 15 environmental and social principles (principles) of the ESP. The 15 environmental and social principles that are part of the ESP form the basis for identifying and managing environmental and social risks. Not all projects/programmes are expected to encounter the issues addressed in each of the 15 principles. These principles provide end points for the Implementing Entities (IEs), but there may be various paths to achieving these outcomes. The ESP is operationalized at the Fund level at two key stages: during the process of accrediting IEs; and during the process of project and program review, both at the IE and the Adaptation Fund Board (the Board) levels.

The EIA process in Uganda shall also inform this ESMP, while applying the National Environment Act, Cap. 153 relevant sector guidelines such as national water sector EIA guidelines, etc.

The World Bank's environmental and social safeguard policies are described as cornerstones that support sustainable poverty reduction. The World Bank's Environmental and Social Standards, establish the standards that the borrower and the project will meet through the project life-cycle. The standards are consolidated to what is referred to as: Environmental and Social Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. These shall also inform this ESMP.

2. Project Description

2.2 BACKGROUND ON PROJECT SITES

Establishing an integrated water management framework 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 program on Integrated Water Resources Management to help reduce the losses from droughts and floods.

Climate change adaptation measures of the integrated water resources management program 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. The proposed project "Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water and Related Resources in Uganda" is aimed at contributing towards attaining the above.

Uganda is made up of 8 basins 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.

Based on the 8 hydrological basins, Uganda has been divided into four Water Management Zones (WMZs) namely Victoria, Albert, Kyoga and Upper Nile.

The proposed 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.

The combined effect of population increase and climate change in Uganda 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. 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 flood and landslides and the reduced capacity of the population to prevent, prepare and respond to those risks exacerbate this situation.

Degraded forests occupy about 18.2% (13,520ha) in Maziba catchment, 32.5% (71,500ha) in Awoja and 30% (51,300ha) in Aswa catchment. In Aswa catchment (31,000ha), wetlands constitute 7% (217,000ha) of the total land area of which 30% (65,100) is degraded. In Maziba catchment (74,100ha) degraded wetlands 30% (22,230ha) while in Awoja catchment 30% (83,170ha) out of the catchment area of 27,723ha are degraded. It is also estimated that at least 20% of river banks in each catchment are degraded.

Specifically, in Awoja, due to the increasing population pressure protected areas have been encroached upon for cropping, grazing and harvesting of natural resources. Harvesting of forest products is illegal in protected areas, but local people continue to harvest firewood and other forest products illegally. 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 increases flood risk.

In Maziba catchment climate change related challenges include rapid loss of vegetation cover, high rates of soil loss in some areas, poor water quality, reducing stream flow, changing rainfall patterns, floods, landslides and wetland degradation.

In Aswa catchment deforestation, encroachment on and degradation of wetlands and over exploitation of natural resources are major challenges.

The proposed project will undertake interventions aimed at improving the resilience of communities, agricultural landscapes and ecosystems in the three catchments to the impacts of climate change (such as increased variability of rainfall and heavy rainfall) by reducing the risk of floods, mud and landslides.

In order to effectively implement adaptation actions proposed by the project, field visits will initially be undertaken together with the Catchment Management Committee and other stakeholders to identify the actual sites of the 3 Micro-catchments in each catchment where the various activities/interventions are to be implemented. The aim is to identify for each catchment one micro-catchment in the highlands; one micro-catchment in the midlands and one micro-catchment in the lowlands.

2.3 PROJECT OBJECTIVES

The overall goal of the project is to increase the resilience of communities to the risk of floods and landslides of Awoja, Maziba and Aswa Catchments through promoting catchment based integrated, equitable and sustainable management of water and related resources.

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 of the changing climate.

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 systems including forests, wetlands, riverbanks and lakeshores in Awoja, Aswa and Maziba catchments
- Increase the resilience of agricultural landscapes by supporting stakeholders and communities in the development and implementation of sustainable water harvesting, soil bio-physical and flood control structures.

- Increase resilience of other livelihood systems by promoting new and off-farm activities through facilitating credit and market access
- Build the capacity of extension services and institutions at local, catchment, water management zone and national level to better support local stakeholders. Higher level capacity building to integrate climate change adaptation in national and sector-wide development plans and strategies.

2.4 PROJECT COMPONENTS

The project, with its three Components, will combine both policy and practice for resilience to climate change at national and local community levels. The project components include:

1. Establishing Frameworks for Climate Resilient Catchment Management in Awoja, Aswa and Maziba catchments
2. Implementing concrete adaptation actions for resilient and sustained ecosystems, agricultural landscapes and other livelihood systems
3. Building climate change adaptive capacities of institutions and communities and managing knowledge

3. Policy, Legal and Institutional framework

3.1 INTRODUCTION

The overarching policy document for the EIA practice in Uganda is the National Environment Management Policy 1994 whose overall goal is: sustainable social and economic development, which maintains and enhances environmental quality and resource productivity to meet the needs of present generations without compromising the ability of the future generations to meet their own needs. In addition, there are other sectoral and cross-sectoral policies, which have relevance to specific EIA activities.

The National Water Policy 1999 is for example a policy specific to water resources management and development. The policy advocates for the management and development of water resources in Uganda in an integrated and sustainable manner so as to secure and provide water of adequate quality and quantity for all social and economic needs for present and future generations with the full participation of all stakeholders.

The National Environment Act Cap 153 provides for the establishment of the National Environment Management Authority (NEMA) as the principal agency in Uganda for the management of the environment. NEMA was established in 1996 with the functions to coordinate, monitor and supervise the sustainable management of the environment. NEMA may delegate, by statutory instrument, any of its functions to a lead agency, a technical committee or any other public officer. The Act addresses national and district level environmental planning, environmental regulation and the establishment of environmental regulations and standards.

3.2 ENVIRONMENTAL AND SOCIAL POLICY OF THE ADAPTATION FUND

As prescribed by the Adaptation Fund Social and Environmental Policy all projects/programs supported by the Fund shall be designed and implemented to meet the environmental and social principles, although it is recognized that depending on the nature and scale of a project/program all of the principles may not be relevant to every project/program.

Therefore, the following15 environmental and social principles form the basis for identifying and managing environmental and social risks.

i. ***Compliance with the Law:-*** Projects/programs supported by the Fund shall be in compliance with all applicable domestic and international law.
ii. ***Access and Equity:-*** Projects/programs supported by the Fund shall provide fair and equitable access to benefits in a manner that is inclusive and does not impede access to basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions, and land rights. Projects/programs should not exacerbate existing inequities, particularly with respect to marginalized or vulnerable groups.
iii. ***Marginalized and Vulnerable Groups:-*** Projects/programs supported by the Fund shall avoid imposing any disproportionate adverse impacts on marginalized and vulnerable groups including children, women and girls, the elderly, indigenous people, tribal groups, displaced people, refugees, people living with disabilities, and people living with HIV/AIDS. In screening any proposed project/program, the implementing entities shall assess and consider particular impacts on marginalized and vulnerable groups.
iv. ***Human Rights:-*** Projects/programs supported by the Fund shall respect and where applicable promote international human rights.
v. ***Gender Equity and Women's Empowerment:-*** Projects/programs supported by the Fund shall be designed and implemented in such a way that both women and men (a) are able to participate fully and equitably; (b) receive comparable social and economic benefits; and (c) do not suffer disproportionate adverse effects during the development process.
vi. ***Core Labor Rights:-***Projects/programs supported by the Fund shall meet the core labour standards as identified by the International Labor Organization.
vii. ***Indigenous Peoples:-***The Fund shall not support projects/programs that are inconsistent with the rights and responsibilities set forth in the UN Declaration on the Rights of Indigenous Peoples and other applicable international instruments relating to indigenous peoples.
viii. ***Involuntary Resettlement:-*** Projects/programs supported by the Fund shall be designed and implemented in a way that avoids or minimizes the need for involuntary resettlement. When limited involuntary resettlement is unavoidable, due process should be observed so that displaced persons shall be informed of their rights, consulted on their options, and offered technically, economically, and socially feasible resettlement alternatives or fair and adequate compensation.

ix. ***Protection of Natural Habitats:-*** The Fund shall not support projects/programs that would involve unjustified conversion or degradation of critical natural habitats, including those that are (a) legally protected; (b) officially proposed for protection; (c) recognized by authoritative sources for their high conservation value, including as critical habitat; or (d) recognized as protected by traditional or indigenous local communities.

x. ***Conservation of Biological Diversity:-***Projects/programs supported by the Fund shall be designed and implemented in a way that avoids any significant or unjustified reduction or loss of biological diversity or the introduction of known invasive species.

xi. ***Climate Change:-*** Projects/programs supported by the Fund shall not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.

xii. ***Pollution Prevention and Resource Efficiency:-*** Projects/programs supported by the Fund shall be designed and implemented in a way that meets applicable international standards for maximizing energy efficiency and minimizing material resource use, the production of wastes, and the release of pollutants.

xiii. ***Public Health:-***Projects/programs supported by the Fund shall be designed and implemented in a way that avoids potentially significant negative impacts on public health.

xiv. ***Physical and Cultural Heritage:-*** Projects/programs supported by the Fund shall be designed and implemented in a way that avoids the alteration, damage, or removal of any physical cultural resources, cultural sites, and sites with unique natural values recognized as such at the community, national or international level. Projects/programs should also not permanently interfere with existing access and use of such physical and cultural resources.

xv. ***Lands and Soil Conservation:-*** Projects/programs supported by the Fund shall be designed and implemented in a way that promotes soil conservation and avoids degradation or conversion of productive lands or land that provides valuable ecosystem services.

3.3 SCREENING OF PROJECT AGAINST ENVIRONMENTAL AND SOCIAL PRINCIPLES

Checklist for Environmental and social principles		
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 domestic law and policies (see chapter 3.4)	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 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.	Some activities of the project, such as the livelihood improvement projects are not intended to provide a benefit for all, but target those livelihoods in need as well as the livelihoods which are involved in restoration activities due to their proximity to the natural resources which are to be protected. The project will closely monitor the targeting of all project beneficiaries to assure equal access of men, women youth and the most vulnerable. Indicators in this regard are included in the M&E scheme.
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 users 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. Indicators in this regard are included in the M&E scheme.
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 access of 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.	All project activities have been screened and analysed in order to take gender aspects into consideration (see Annex VI). An in depth gender analysis of the involvement of men and women in the in options proposed as concrete adaptation activities will be undertaken in the initial project phase.
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

	communities exist different tribes, but no sharp distinction between indigenous and non-indigenous people can be made.	resource use rights and land use rights particularly with regards to water and forest resources will be undertaken in the initial project phase.
Involuntary Resettlement	The project will not be involved in major resettlement activity of communities. However, people that might have encroached on natural resources such as riverbanks and wetlands will be asked to move out of the area and be involved in restoration activities as well as activities for alternative income generation to assure their livelihoods.	The project will closely monitor the targeting of the project beneficiaries, particularly to assure that those people who have encroached on protected natural resources have access to the revolving fund and are involved in income generating activities. Indicators in this regard are included in the M&E scheme.
Protection of Natural Habitats ***Conservation of Biological Diversity***	The protection of wetlands and its natural habitats and biological diversity is a core objective of component 2 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. Indicators in this regard are included in the M&E scheme.
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. The training centers will provide example of efficient resource use through the application of cooking stoves and energy efficient methods.	
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 reducing smoke out of traditional cooking stoves, improving living environment (healthy surroundings). However, Water harvesting, storage and irrigation facilities may aggravate some diseases such as malaria.	During the implementation of the project awareness raising activities will be undertaken on malaria and other water related diseases.
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, reduction of land degradation through supporting terraces, afforestation and catchment management is a core objective of component 2 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.

3.4 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Water resources and climate change related projects fall under specific legislative and regulatory frameworks. Developers should thus ensure that these legislation and regulatory frames are consulted to ensure that the proposed water resources related project establishment, and activities therein, are in line with the national laws. Relevant international conventions, treaties and protocols also need to be looked at in certain areas e.g. Ramsar Sites, World Heritage Sites, and transboundary water resources and ecosystems.

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.

Below are some of the key legislations that apply to the water resources and climate change related projects.

Legislation/Policy	**Applicability**	**Institutions Responsible**
Constitution of the Republic of Uganda, 1995	Article 14 provides that every Ugandan has a duty to clean and protect a healthy and clean environment. Under Article 39, every Ugandan has a right to a clean and healthy environment. Article 27 (The Environment) further recognizes the need for sustainable management of water and land resources, and utilization of natural resources to meet development and environment needs and conservation of natural resources.	Ministry of Water and Environment
The National Environment Act. Cap. 153.	Provides for projects to be considered for EIA Provides for EIA approval by NEMA EIA and Environmental Audit compliance.	NEMA
The Water Act, Cap 152, 2000.	Management of water resources, Regulation and issuing of water use, abstraction and wastewater discharge permits; Prevention of water pollution. Managing and monitoring and regulation of water resources	DWRM
The National Wetlands Policy, 1995	Provides for conservation of Uganda's wetlands in order to sustain their ecological, social and economic functions for the present and future generations:	Wetlands Management Department

	Implementation of environment impact assessment procedures on all development activities sited in wetlands.	
The Land Act (Cap 227)	Article 44(1) of this Act provides that the Government or a local government shall hold in trust for the people and protect natural lakes, rivers, ground water, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land reserved for ecological and touristic purposes for the common good of the citizens of Uganda. Section 45 of the Land Act stipulates that any use of the land shall conform to the provisions of the Town and Country Planning Act and any other laws. The proposed project would be compatible with the land-use planning in the area. For this matter, there will be no need to apply for a change in land use at the project site.	Ministry of Lands, Housing and Urban Development
The Public Service Act, Cap 288	Responsibility for environmental policy, Regulation, coordination, inspection, supervision and monitoring of the environment and natural resources.	Directorate of Environment Affairs (DEA)
The Health Act	Provision of clean and sanitary premises, Protection of public health and Prevention of public nuisance	Ministry of Health
The Occupational Safety and Health Act, 2006	Provision of Occupation Health and Safety of workers Inspection of places of works	Ministry of Gender, Labor and Social Development
The Mining Act, Cap. 248, 2004	Regulates the acquisition of mining rights, prospecting for and extraction of minerals. Provides for decommissioning of mining works.	Department of Geology
National Environment (Conduct and Certification of Environmental Practitioners) Regulations, 2003	Registration and certification of EIA practitioners.	NEMA and Committee of Practitioners
The Environmental Impact Regulations S.I. No. 13/1998	Provides for preparation of project briefs ; Provides for conducting EI Studies in accordance with ToR developed by the developer in consultation with NEMA and the lead agency	NEMA
The Water Resources Regulations, S.I. No. 33/1998	Provides for sustainable management Provides for the protection of water sources.	DWRM
The Water (Waste Discharge) Regulations, S.I. No. 32/1998	Specifies what quality is acceptable in terms of effluent released into rivers. Water pollution prevention Provides for effluent discharge in aquatic and sewerage system standards	DWRM
The National Environment (Wetlands, River Banks and Lake Shores Management) Regulations, S.I., No. 3 /2000	Provides for protection of Wetlands, River Banks and Lakeshore zones	NEMA
Protocol on Environment and Natural Resources Management, 2006	Article 13. Provides for Management of Water Resources by the Partner States: Cooperate in the management of shared water resources, which may include the establishment of joint management mechanisms; Cooperate with regard to the management and execution of all projects likely to have an effect on hared	EAC

	water resources; Cooperate to respond to the needs or opportunities for regulation of the flow of the waters of shared water resources.	
Agricultural and Rural Development Policy for EAC, 2006.	Promotes private sector and community participation in the development of irrigation, water management and maintenance of irrigation infrastructure in East Africa.	EAC

1.1 Environmental Impact Assessment processes for water related projects

Introduction

The environmental impact assessment (EIA) process for water resources related projects are structured into six steps, namely screening phase (planning/project conception), scoping stage (pre-feasibility study); EIA study phase (Feasibility study); Contract procurement (compensation and resettlement); defects liability period (environment monitoring); and operation and maintenance phase (compliance audit). It is mandatory that the EIA process for any applicable water resources related development project conforms to the provisions of the National Environment Act, Cap 153 and the accompanying Regulations.

Water Resources Related Projects Requiring EIA

The Third Schedule of the National Environment Act Cap 153 lists projects to be considered for environmental impact assessment. Under that categorization, most water resources related projects fall under two ground and surface water resources. These include projects that may have a focus different from water, but still have a considerable impact on the water resources. For groundwater resource projects it is necessary that in order to avoid excessive abstraction or pollution of the available ground water resources, an assessment be carried out for all those water use projects that are likely to impact on such groundwater resources. These include rural and small towns' water supply projects e.g. Borehole drilling and gravity flow schemes. Examples of surface water resources projects that require EIA include Industrial and commercial water supply and discharge projects.

Environmental Impact Assessment (EIA) should be linked with the project cycle as early as possible. This should be initiated at the project identification phase. When pre-feasibility studies are being undertaken, the screening process should also begin. The basic components of the EIA Process in Uganda consist of three interconnected phases: screening, environmental impact study, and decision making. The three phases are:

Phase I: Screening

Screening is undertaken during project identification and pre-feasibility studies. The purpose of screening is to categorize whether or not a project requires a full EIA, partial EIA or no EIA at all. This is important as it enables the application of an EIA only to those projects, which generate significant impacts. This is because certain projects may have less impact than others. Water resources related projects have four screening categories namely:

Category I	Small projects which do not have potential significant impacts and for which separate EIAs are not required, as the environment is the major focus of project preparation. These could include borehole drilling, hand augured shallow wells, protected springs and earth reservoir construction.
Category 2:	Environmental analysis is normally unnecessary, as the project is unlikely to have significant environmental impacts. A project brief is enough. This could include project location in less sensitive areas or where many such schemes are in the same locality and their synergetic effects have potential impacts.
Category 3	A limited environmental analysis is appropriate, as the project impacts can be easily

	identified and for which mitigation measures can be easily prescribed and included in the design and implementation of the project. Projects in this category could include: rural water supply, large earth reservoirs, but not located in very sensitive areas, big gravity flow schemes, all category one projects located in sensitive areas etc.
Category 4	An EIA is normally required because the project may have diverse significant impacts. Projects in this category could include: water projects requiring water to a level more than $400m^3$ in any period of twenty four hours, or projects requiring using motorized pumps; storage dams, barrages, weirs, valley tanks and dams; river diversions and inter-basin water transfer among others.

According to this scheme, the water related activities of the project "Enhancing Resilience of Communities to Climate Change through Catchment Based Integrated Management of Water in Uganda" Project would fall into category 1.

Project Brief Preparation and Review

A project brief is necessary for some development projects that are listed in the Third Schedule of the National Environment Act (NEA) Cap 153, for NEMA to determine the category of the project. This arises out of the screening process which assesses the cost or benefit of the particular project. The developer has the responsibility to prepare a project brief.

It is a requirement that any developer intending to develop a water resources related project submits a project brief to NEMA, containing a prescription of the activity being considered. The project brief shall be screened by NEMA in consultation with DWRM. The review process shall remain the same as stated in the National Environment Act Cap 153 and EIA regulations 1998. After the review, NEMA shall make a decision whether:

- the project is exempt from any further assessment through EIR or EIA and consequently;
- a conditional or unconditional approval for the project shall be granted; or
- where it is envisaged that the project is likely to lead to significant impact on the environment, it shall require that an EIR or a full EI Study be carried out.

Phase II: The EIA study Phase

The EI Study process for water resources related projects shall comply with the National Environment Act Cap 153 and EIA Regulations 1998. The main steps to be followed in the EI Study phase include:

- Scoping which involves identification-what will happen as a result of the project?
- Prediction - what will be the extent of the changes?
- Evaluation - do the changes matter?
- Mitigation - what can be done about them?
- Monitoring - how can critical impacts and the compliance of mitigation measures be monitored?
- Documentation-how can the decision makers be informed of what needs to be done?

2. Environmental and Social Management Framework

2.1 INTRODUCTION

The proposed project activities 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 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 and social 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.

During the preparation of the full project proposal, the approach of environmental and social impact assessment for the proposed project has been approved by the National Environmental Management Authority (NEMA). At this project preparation phase, an Environmental and Social Management Plan/Framework has been prepared for the project while a detailed assessment will be carried out for certain specific projects depending on their size, location and type during inception phase. Further consultation and guidance will be given by NEMA and other relevant sectors during the preparation of detail assessments for certain activities in a participatory stakeholders' approaches as per the Uganda regulation requirement.

2.2 OBJECTIVES OF THE ESMP

The main objective of the Environmental and Social Management Plan (ESMP) is to provide an environmental and social screening process for the project. It also provides guidance to the Ministry of Water and Environment, the lead execution agency, on the sustainable environmental and social management of the proposed project.

The specific objectives of the ESMP include:

- screen for potential environmental and social impacts of the project components and activities;
- identify possible impacts and propose appropriate mitigation measures; and
- monitor the implementation of these measures.

2.3 METHODS APPLIED IN THE PREPARATION OF THE ESMP

a) REVIEW OF PROJECT RELATED DOCUMENTS

Relevant documents on the project Enhancing Resilience of Communities to Climate Change through catchment based integrated management of water resources in Uganda were reviewed. These include the project concept, the project document and other study reports.

b) REVIEW OF RELEVANT POLICIES, PROCLAMATIONS AND REGULATIONS

A review of the relevant environmental and social management policies, proclamations and regulations in Uganda was conducted. Additionally, the Adaptation Fund and World Bank's environmental and social safeguards were also referred to. The information from the review was useful in addressing the gaps identified from the discussions held with stakeholders. These are listed in this ESMP to serve as references for the preparation and implementation of environmental and social management plans.

c) CONSULTATIONS WITH KEY STAKEHOLDERS

This ESMP has been developed by the Ministry of Water and Environment with guidance from National Environment Management Authority (NEMA), and in consultation with the three selected Water Management Zone (WMZ) staff, the Climate Change Department, the Directorate of Water Resources Management, and other key national stakeholders. NEMA provided guidance regarding the required social and environmental impact assessments per Ugandan law, and cleared the TOR and processes of conducting environmental and social impact assessments

The extensive consultation process followed by the Ministry of Water and Environment during the preparation of the Full Project Proposal, also identified some of the environmental and social issues in relation to the new project.

The list of institutions consulted during the project development process include:

- *Government Organizations* including the Ministry of Finance Planning and Economic Development, the Ministry of Water and Environment (MWE), the National Environmental Management Authority (NEMA), the Uganda National Meteorological Authority (UNMA), Directorate of Environment Affairs, MWE, Directorate of Water Resources Management, MWE, Climate Change Department, MWE, and Policy and Planning Department, MWE
- *Non-Government Organizations* including International Union for Conservation of Nature (IUCN), Environment Alert/ENRsNET (Environment and Natural Resources Network of CSOs) and ECOTRUST
- Development Partners and other programs such as UNDP-Country Office-Uganda, FAO- Country Office-Uganda, Austria Development Agency and CDKN
- The three Water Management Zones of Kyoga, Upper Nile and Victoria where the three catchments of the proposed project fall

- The districts from the targeted catchments such as Soroti, Sironko, Napak, Bulambuli, Kapchorwa and Kumi in Awoja catchment; Abim, Gulu, Aleptong, Lira in Aswa catchment; and Kabale, Kisoro and Ntungamo in Maziba catchment
- The Catchment Management Committees that represents different government sectoral offices, NGOs, representatives of women, youth and local government. The Project Design Team also paid field visits to the different parts of the three catchments and made consultations with the local communities and also appreciated the challenges and possible interventions.

d) CONSULTATIONS WITH AND GUIDANCE FROM THE NATIONAL ENVIRONMENTAL MANAGEMENT AUTHORITY (NEMA)

During the preparation of the full project proposal, the approach of conducting environmental and social impact assessment for the proposed project has been approved by the National Environmental Management Authority (NEMA) such that at this project preparation phase, an Environmental and Social Management Plan/Framework will be prepared, while a detailed assessment will be carried out for certain specific projects depending on their size, location and type. Further consultation and guidance will be given by NEMA and other relevant sectors during the preparation of detailed assessments for certain activities in a participatory stakeholders' approaches as per the Uganda regulation requirement.

2.4 ENVIRONMENTAL AND SOCIAL CONTEXT AND BASELINE CONDITIONS

Characteristics and baseline situations of the three catchments that are selected for project implementation			
Sub-catchments/ Climatic zone representation	***Exposure to risks***	***Livelihood/social system***	***Ecosystems and other environmental resources***
1. **Awoja catchment**			
▪ Mount Elgon region ▪ Mountain/highland	▪ Landslides	▪ Farming on high slops due to population pressure ▪ Poor access to market and rural credit services ▪ Poor capacity & access to early warning information ▪ High poverty level ▪ Poor farming practices ▪ inadequate enforcement of environmental laws	▪ Mountain protected ecosystem degradation due to encroachment-transboundary (Kenya and Uganda) ▪ Mount Elgon region: Land degradation, deforestation, landslides
▪ Midlands	▪ Flood	▪ Mostly mixed (crop and livestock) farming systems. ▪ Poor access to market and rural credit services ▪ Poor capacity & access to early warning information	▪ Land degradation in most places of the catchment ▪ Soil erosion and deforestation ▪ inadequate enforcement of environmental laws
▪ Lowlands	▪ Flood	▪ Unregulated fishing practices ▪ mixed (crop and livestock) farming systems. ▪ Poor access to market and rural credit services ▪ Poor capacity & access to early warning information	▪ Wetlands, lake shorelines and riverbanks degradation ▪ Poor capacity and limited awareness of communities on environmental and climate change issues ▪ inadequate enforcement of environmental laws
2. **Aswa catchment**			
▪ part of Karamoja region ▪ Dry land part	▪ Drought/-especially Karamoja region	▪ Livestock based farming ▪ Poor access to market and rural credit services ▪ Poor capacity & access to early warning information ▪ High poverty level	▪ Land degradation in most places of the catchment ▪ Soil erosion and deforestation ▪ Overgrazing in the cattle corridor ▪ inadequate enforcement of environmental laws
▪ Midlands	▪ Flood ▪ Erratic rainfall	▪ mostly mixed (crop and livestock) farming systems with poor farming practices ▪ area affected by armed conflict and social instability until recent past. reliant on food aid ▪ Low level of rural community services/structures ▪ Poor capacity & access to early warning information ▪ Poor access to market and rural credit services	▪ Land degradation in most places of the catchment ▪ Soil erosion and deforestation ▪ inadequate enforcement of environmental laws
▪ Lowlands	▪ Flood	▪ Unregulated fishing practices	▪ Wetlands, lake shorelines and riverbanks degradation

	▪ Erratic rainfall	▪ Mixed (crop and livestock) farming systems with poor farming practices ▪ Low level of rural community services/structures ▪ Poor capacity & access to early warning information ▪ Poor access to market and rural credit services	▪ Poor capacity and limited awareness of communities on environmental and climate change issues ▪ inadequate enforcement of environmental laws
3. **Maziba catchment**			
▪ Highlands	▪ Landslides in mountain terrain	▪ Mixed (crop and livestock) farming systems with poor farming practices on mountain hills ▪ High poverty level ▪ Poor capacity and no access to early warning information ▪ Poor access to market and rural credit services	▪ Farming in very high slop areas ▪ Loss of natural vegetation (vegetation now dominated by eucalyptus plantation) ▪ Land degradation due high population pressure-land shortage
▪ Midlands	▪ Flood	▪ Mostly mixed (crop and livestock) farming systems with poor farming practices ▪ Poor capacity and no access to early warning information ▪ Poor access to market and rural credit services	▪ Farming in high slop areas (though midland-it is still too sloppy for farming) ▪ Loss of natural vegetation (vegetation now dominated by eucalyptus plantation) ▪ Land degradation due high population pressure-land shortage
Lowlands	▪ Flood	▪ Unregulated fishing practices ▪ Mixed (crop and livestock) farming systems with poor farming practices ▪ Poor capacity and no access to early warning information ▪ Poor access to market and rural credit services	▪ Wetlands, lake shorelines and riverbanks degradation ▪ Poor capacity and limited awareness of communities on environmental and climate change issues ▪ inadequate enforcement of environmental laws

2.5 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF THE PROJECT

The implementation of the project is expected to have the following positive environmental and social impacts:

1. Establishing Catchment Management Plans that integrate issues of climate change for Awoja, Aswa and Maziba catchments will contribute to climate resilient and sustainable management of water and other natural resources
2. Strengthening the catchment management structures of communities will contribute to increase the capacity to adapt to climate change
3. Training and awareness raising on environmental and climate change issues will contribute to better management of environment
4. Water harvesting and storage facilities will contribute to recharging groundwater help environmental rehabilitation, and increase the resilience against the risk of floods and landslides
5. Rehabilitating fragile areas such as degraded lands, wetlands, riverbanks, will contribute to ecosystems restoration and increase the resilience to floods and landslides
6. Establishment of 3 demonstration center to facilitate learning and experience sharing activities regarding ecosystems resilience will increase capacity of extension services and rural institutions and promote decentralized service provision and innovation
7. Overall capacity building on environmental and climate change issues of government and other institutions strengthens capacities to manage the environment and build adaptive capacity to the changing climate
8. Introduction of improved cooking stoves will reduce deforestation and generate income
9. Introducing other livelihood systems (other than agriculture) will contribute to reduction of pressure on natural resources

The following negative environmental and social impacts may also be expected if the project is implemented:

1. Delineation of degraded areas for rehabilitation may shift the pressure to non-degraded areas
2. Some conservation measures (if not carefully selected) may aggravate degradation
3. Water harvesting, storage and irrigation facilities may aggravate some diseases such as malaria
4. Selection of project beneficiaries might cause some conflicts
5. Promoting indigenous forest tress to replace plantation forests (eg. Eucalyptus in Maziba) may cause conflict
6. Overall activities related to project implementation may contribute to disturbance of natural systems

2.6 ENHANCEMENT AND MITIGATION PROGRAMS

The proposed project will take measures that will enhance positive environmental impacts as described in section 5.5. Similarly, it will make sure that there will be no significant adverse impacts by taking mitigation measures

The following Matrix summarizes the enhancement and management programs of the proposed project.

Item	Environmental Impact	Enhancement/Mitigation Measures	Responsibility for Implementation	Site of Implementation	Implementation Schedule	Responsibility for Monitoring	Monitoring Indicators
Enhancement of Program Positive Impacts							
1	Increase in alternative livelihood opportunities	Introducing livelihood systems that will contribute to reduction of pressure on natural resources	Directorate of Water Resources Management	Project sites associated with the benefiting communities	After first year of project implementation till the end of the of project and thanks to revolving fund continuous activity after project closure	District Social Officer	Improved incomes Livelihoods created
2	Rehabilitation of degraded environments	Rehabilitating fragile areas such as Forests, wetlands, riverbanks, will contribute to ecosystems restoration and reduce the risk of floods and landslides	Directorate of Water Resources Management, NEMA, MOAgriculure	In the three project catchments	Throughout the program cycle	District environmental, water and agricultural officers	Area of rehabilitated environments
3	Enhance recharging of water sources through water harvesting and storage systems	Increased water infiltration will reduce the risk of floods and landslides	Directorate of Water Resources Management	In the three project catchments	Throughout the program cycle	District environmental, water and agricultural officers	Number of structures established
4	Reduction of deforestation	Introduction of improved cooking stoves to reduce deforestation	Directorate of Water Resources	In the three	Throughout the	District environmental,	Area of reforested areas

		Reforestation and nursery sites establishment	Management, NEMA, NFA	project catchments	program cycle	water and Forest officers	
5	Strengthened capacity for environmental management	Programs for training and awareness raising on environmental and climate change issues	Directorate of Water Resources Management, NEMA, NFA	In the three project catchments	Throughout the program cycle	District environmental, water and Forest officers	No. trainers trained Number of trainings conducted Number of people trained and with better awareness
Mitigation of Program Negative Impacts							
1	Aggravating environmental degradation	Take action not to cause pressure on presently non-degraded areas due to delineation of degraded areas for rehabilitation Properly select methods and technologies that do not cause degradation	Directorate of Water Resources Management, NEMA, NFA	In the three project catchments	Throughout the program cycle	District environmental, water and Forest officers	Area of environment that is protected
2	Increased incidences of diseases such as Malaria	raise awareness of health workers and communities on malaria and other water related diseases	Directorate of Water Resources Management	Around project sites where water storage, harvesting and irrigation facilities	Throughout the program cycle	District Health officers	Reduction in malaria
3	Use of non sustainable tree species	Promote conservation of local indigenous species and raise awareness of the negative impact of Eucalyptus trees	Water Management Zone Manager	In the three project catchments	Throughout the program cycle	DWRM, District water officers	Reduction of Eucalyptus trees planted
5	Resistance/conflicts between communities	Properly consult communities in the selection process of project beneficiaries. Strengthen local management processes	Ministry of Agriculture, NFA	All the three catchments and Maziba specifically for Eucalyptus replacement	Throughout the program cycle	MOA and District Agriculture and Forest officers	Resistance and conflicts in communities contained

Note: At this stage, a broader view of Environmental and Social Management Plan (ESMP) for the proposed project has been developed. Further detailed ESMP for each intervention will be formulated during the inception phase of project implementation.

2.7 MONITORING PROGRAMME

The monitoring activities of the project's ESMP will be undertaken by the Executing Agency both at national and project levels. The National Environmental Management Authority (NEMA) may also undertake surveillance of the implementation of the ESMP. The OSS will also regularly visit the project area to review and monitor the implementation of the ESMP. It is very useful to understand that the Enhancement and Mitigation programs described in the above table are part and parcel of the project design, including budget. The overall project budget including the implementation of the ESMP is USD 7.7 Million. Activities for undertaking the ESMP are included in the M&E budget, which amounts to 218,215 USD.

Monitoring activities are based on indicators that measure changes over time of key environmental and social components and will include the following:

- Check the extent to which the mitigation and benefit enhancement measures have been adopted and their effectiveness in practice;
- Provide a mechanism whereby unforeseen or unexpected impacts during the ESIA study can now be identified and provide measures to mitigate the unexpected negative impacts;
- Prepare periodical reports and liaise relevant bodies and authorities through an established forum in order to discuss and resolve issues arising from the monitoring process; and
- Prepare the annual Environmental and Social Audit (ESA) report to the relevant environmental watchdog institutions like NEMA in Uganda,
- Monitoring of key environment parameters such as changes in water quality; increase in pollution; soil erosion; level of awareness; incidences of diseases including water-borne diseases and malaria and bilharzia; climatic variables; changes in human population and social dimensions; changes in employment characteristics; changes in biodiversity; and any other relevant changes in ecological, socio-economic and environmental attributes.

2.8 INSTITUTIONAL ARRANGEMENTS FOR ESMP IMPLEMENTATION

Institutional strengthening for all the components of the project has already been identified and forms an intrinsic part of the program. It includes support at community, catchment, district, water management and national levels to properly implement the environmental and social management plan of the project.

The following table summarize roles of various institutions

Institution	Mandate
National Environment Management Authority (NEMA)	Oversee, coordinate and supervise environmental management. NEMA's overall goal is to promote sound environmental management and prudent use of natural resources in Uganda.
Ministry of Water and Environment (MWE)	As described in the proposal document
Local Government Administration Structures	District and Local Council Administrations (LC1-5) are stakeholders in the Project and had input into the EIA and ESMP process and will be involved in implementation of the project as well as subsequent monitoring. They will also take part in grievance mechanisms and sensitization of communities
Water Management Zones	As described in the proposal document
District Water, Environment, Forest, Agriculture, Social, etc Officers	DOs are will carry out spot checks on programs to confirm that environmental and social screening and environmental management plans are properly done.

ANNEX X: Approval of TOR and Methodology for Environmental and Social Impact Assessment

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

NEMA House
Plot 17,19 & 21, Jinja Road.
P.O.Box 22255, Kampala, UGANDA.

Tel: 256-414- 251064, 251065, 251068
342758, 342759, 342717
Fax: 256-414-257521 / 232680
E-mail: info@nemaug.org
Website: www.nemaug.org

NEMA/4.5

30th July 2015

The Permanent Secretary,
Ministry of Water and Environment,
P.O. Box 20026
KAMPALA.

RE: TERMS OF REFERENCE FOR AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP) FOR THE UGANDA CLIMATE CHANGE ADAPATATION PROGRAMME (UCCAP) –ENHANCING RESILIENCE OF COMUNITIES TO CLIMATE CHANGE THROUGH CATCHMENT BASED INTEGRATED MANAGENT OF WATER AND RELATED RSOURCES IN UGANDA

Reference is hereby made to the approval of the Terms of Reference (ToR) by this Authority, for the above mentioned project on 22nd July 2015.

The approval of the ToR allows you to start the process of environmental assemement so as to prepare Environmental and Social Impact statements for the various projects that are going to be implemented under the programme once it has commenced.

Since you have not yet started the environmental assessments, pending receipt of funding for the programme; you are advised to submit an Environmental and Social Management Framework (ESMF), for approval and Environmental Impact Assessment (EAI) will be done at a later stage during implementation of the various components under the ESMF.

We look forward to your cooperation and receipt of the ESMF report for our further consideration.

Waiswa-Ayazika, Arnold
For: EXECUTIVE DIRECTOR

cc: The Permanent Secretary
Ministry of Agriculture, Animal Industry and Fisheries
ENTEBBE.

Page **1** of **2**

" The Director
Directorate of Water Resources Management
ENTEBBE.

" The Commissioner
Climate Change Department
Ministry of Water and Environment
KAMPALA.

30/7/15

ANNEX XI: Approval of the ESMP of the project

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

NEMA/4.5

3rd August, 2015

The Permanent Secretary
Ministry of Water and Environment
P.O. Box 20026
KAMPALA.

NEMA House
Plot 17,19 & 21, Jinja Road.
P.O.Box 22255, Kampala, UGANDA.

Tel: 256-414- 251064, 251065, 251068
342758, 342759, 342717
Fax: 256-414-257521 / 232680
E-mail: info@nemaug.org
Website: www.nemaug.org

RE: REVIEW OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF) FOR "ENHANCING RESILIENCE OF COMMUNITIES TO CLIMATE CHANGE THROUGH CATCHMENT BASED INTEGRATED MANAGEMENT OF WATER AND RELATED RESOURCES IN UGANDA" PROJECT

The review of the Environmental and Social Management Framework (ESMF) for the above named project has been finalised.

In general terms the framework is adequate and should serve as a guide for environmental and social impacts that are likely to arise when individual project developments are implemented.

In recognition of the key environmental and social concerns associated with a project of such magnitude, you should therefore take the necessary steps to:

(i) Fulfill public consultations and disclosure requirements through undertaking adequate consultations to fully involve the beneficiary communities and other interested stakeholders at all levels in the formulation and development of proposed sub-projects/ activities;

(ii) Carry out environmental and social impact assessments (EISAs)/Screening for each of the proposed projects, as part of detailed design process of the sub-projects, in all the benefiting areas/communities, and ensure that environmental impacts statements/project briefs are submitted to this Authority for review and approval;

(iii) Compensate and resettle the affected persons adequately where applicable, and ensure that the Resettlement Action Plans (RAPs) describe this activity;

(iv) Address issues pertaining to land ownership and acquisition, and implementation/construction of project activities/infrastructure with due consideration to the land tenure system in the areas; and

(v) Liaise with District Local Governments in the respective project areas to amicably address any concerns that may be raised by the community.

This is, therefore, to issue formal **APPROVAL** of the Environmental and Social Management Framework for the project.

I look forwarded to our continued collaboration,

Dr. Gerald Musoke Sawula
Ag. EXECUTIVE DIRECTOR

Cc: The Permanent Secretary
Ministry of Agriculture, Animal Industry and Fisheries
ENTEBBE

" The Director
Director of Water Resources Management
ENTEBBE

" The Commissioner
Climate Change Department
Ministry of Water and Environment
KAMPALA.

Page **2** of **2**

ANNEX XII: TOR Social and Environmental Impact Assessment

Sahara and Sahel Observatory

TERMS OF REFERENCE (TOR)

FOR THE SOCIAL IMPACT ASSESSMENT OF THE UGANDA CLIMATE CHANGE ADAPTATION PROGRAMME (UCCAP) IN ACCORDANCE WITH ITS ENVIRONMENTAL AND SOCIAL IMPACT MANAGEMENT FRAMEWORK

ENHANCING RESILIENCE OF COMMUNITIES TO CLIMATE CHANGE THROUGH CATCHMENT BASED INTEGRATED MANAGEMENT OF WATER AND RELATED RESOURCES IN UGANDA

IMPLEMENTED BY OSS AS THE REGIONAL IMPLEMENTING ENTITY (RIE) AND EXECUTED BY THE MINISTRY OF WATER AND ENVIRONMENT IN PARTNERSHIP WITH THE GLOBAL WATER PARTNERSHIP EASTERN AFRICA REGIONAL OFFICE

Concept note endorsed at the 25th meeting of the adaptation Fund Board in April 2015

1. Introduction

This TOR is developed to engage a consultant to undertake an Environment and Social Impact Assessment for the Uganda climate change adaptation programme "Enhancing resilience of communities to climate change through catchment based integrated management of water and related resources in Uganda". The concept note of this programme was submitted to the Adaptation Fund Board by the Sahara and Sahel Observatory (OSS) as the regional implementing entity for the Uganda Ministry of Water and the global water partnership eastern Africa regional office as the executing entities. The concept note was endorsed at the 25th meeting of the Adaptation Fund Board in April 2015.

The Adaptation Fund is a finance mechanism provided for under Kyoto protocol of the United Nations Framework Convention on Climate Change (UNFCCC) of which Uganda is a signatory. The Operational and Policy Guidelines of the Fund requests that for each project funded by the Fund a grievance mechanism is established, which provides people affected by the programme with an accessible, transparent, fair and effective process for receiving and addressing their complaints about environmental or social harms caused by the programme. The mechanism can be preexisting, national, local, or institution- or project specific. The Fund's Environmental and Social Policy (ESP), an annex to the Operational Policy and Guidelines (OPG) requires that all projects/programmes supported by the Fund shall be designed and implemented to meet certain environmental and social principles.

In its decision B.25/8 the Adaptation Fund Board decided that 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 the fully developed proposal should present an overall project Environmental and Social Management Plan.

This consultancy is meant to undertake a risk screening and an environmental impact assessment of all envisaged project activities and to develop an Environment Social Management Plan (ESMP) for the programme and to propose a grievance mechanism.

1.1 Background

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.

The project has the following five components:

1. Supporting communities to identify and implement water security and climate adaptation actions
2. Establishment of water resources monitoring networks for use in flood early warning systems and for testing the quality of water
3. Establishing functioning management structures for Awoja, Aswa and Maziba catchments
4. Strengthening capacities of stakeholders
5. Knowledge management

Draft Catchment Management Plans have been prepared for Awoja, Aswa and Maziba catchments. However these plans do not address climate change and groundwater issues and provide insufficient linkages between water and land management.

On the one hand the project intends to improve theses plans through the integration of climate change and ground water resources and to strengthen the community level structures/catchment management committees. On the other hand the project will implement concrete activities proposed in those catchment management plans.

According to Environmental Impact Assessment (EIA) Regulation (1998) and Sectorial EIA Guidelines of Uganda and in line with the Environmental and Social Policy of the Adaptation Fund, it is necessary to undertake an environmental and social impact assessment of the proposed activities as well as to prepare an Environmental and Social Management Plan of the entire project.

II. SCOPE OF WORK

Under the supervision of the RIE and under the guidance of the National Environmental Management Authority of Uganda and in close collaboration with the Eastern Africa Global Water Partnership Office in Uganda the Consultant will undertake the following tasks:

1. Review relevant documentation and literature related to the programme including the programme document and analysis the programme against the principles of ESP as provided by the Adaptation Fund Board
2. Consult with the Global Water Partnership about the process envisaged for the development of the full project proposal in order to prepare the Environmental and social management plan alongside with the development of the full project proposal;
3. Develop a screening procedure to identify potential environmental and social effects of specific activities, and to determine whether such effects are minor and can be summarily addressed and managed; or whether there are any potentially significant effects upon natural habitats, physical or cultural resources at particular project works sites, which would require further and separate analysis due to these complexities;
4. Visit all the project sites and engage with the relevant stakeholders of the programme, to assess the potential risks of the proposed project interventions against the 15 Principles of the ESP of the Fund and in accordance with the national regulations of risk assessments
5. For those risks where applicable undertake an assessment of their impacts
6. Compile the finding into an Environmental Social Impact Assessment (ESIA) report, which
    a. contains an executive summary that clearly outlines the information necessary for the general public to understand the decision making process leading to the proposed project
    b. summarizes the applicable domestic and international law,
    c. explains which principles have been triggered during the screening
    d. describes the screening procedure,
    e. includes graphics and pictures.
7. Submit the ESIA document to public consultation.
8. Document and summarize the findings of the screening/assessment process and categorization, to develop the final version of the Proposal Section II.K., including completing the checklist provided in that section of the proposal. Detailed information on the screening process and findings should be made available as an annex.
9. Develop an Environmental Social Management Plan (ESMP), which may be a single plan or a collection of plans to manage those risks and/or impacts that are identified in the assessment process, and that cannot be avoided. The ESMP will be formulated in keeping with the prescribed format, content and quality required by the Adaptation Fund Board ES Policy. This includes the following tasks and addresses the following factors:

    a) Analyse in detail and document each of the safeguards (in line with the ES Policy of the Adaptation Fund) triggered by the programme and propose a management regime for the triggered safeguards, each of the safeguards will be presented as a section of the overall ESMP report.
    b) Identify the positive and negative aspects/impacts occasioned by the planned activities of the project and propose ways of managing each of the aspects/impacts and present in a matrix.

c) Map (report) the stakeholders of the UCCAP and prepare a stakeholder participation report/plan/mechanism including roles and responsibilities and incorporating gender and special needs, and define specific activities so that all vulnerable groups benefit from participation in project implementation;

d) Undertake an assessment in line with the National safeguards as well as safeguards principles of the adaptation fund and World Bank and identify and recommend the activities that may require application of the National safeguards (EIA) due diligence process.

e) For those project interventions, which at the time of the project development are still to be defined (i.e. the establishment of climate smart projects for alternative income generation) develop a process for identifying environmental and social risks for the unidentified sub-projects (such as a screening tool/checklist for use in screening of community projects to assist communities identify project impacts in order to develop mitigation measures suitable for incorporation into project activities) and, when needed, develop commensurate environmental and social management elements that will complement and be integrated in the overall ESMP. The programme ESMP will specify any other related procedures, roles and responsibilities.

f) Develop and present an Environment Mitigation Plan (EMP) for each of the triggered safeguards and the project activities and a monitoring (MP) plan for implementing and an Environment and Social Management Plan (ESMP) for the ESMF.

g) Analyse the institutional capabilities/and gaps for ESMP implementation and develop an institutional structure and system for incorporation of ESMP into the programme and indicate clearly how this will fit into the NEMA safeguard structure and systems.

10. In line with the OPG of the Adaptation Fund develop a grievance mechanism which provides people affected by the programme with an accessible, transparent, fair and effective process for receiving and addressing their complaints about environmental or social harms caused by the programme. The mechanism can be preexisting, national, local, or institution- or project specific

11. Enrich the Section II.H. of the project proposal with the documentation of the consultation process undertaken in the context of this consultancy

12. Develop a monitoring program commensurate with actions identified in the ESMP and include the proposed M&E programme in the final section III.C of the Proposal at the fully-developed proposal stage

13. Consolidate all the elements of the process of complying with the ESP and of demonstrating that compliance in a single separate document (final report), which has the following structure:

    a. summary description of the project/programme,
    b. screening and categorization,
    c. environmental and social impact assessment,
    d. environmental and social management plan,
    e. monitoring and evaluation arrangements, and
    f. description of the grievance mechanism

This document should also include the details of consultations and their outcomes, and the institutional, operational and financial arrangements for the environmental and social safeguarding activities.

III. EXPECTED DELIVERABLES

The expected deliverables of this assignment are:

I. An inception report inclusive of a detailed work plan and a stakeholders consultation plan: five days after the signing of the contract;

II. An Environmental Social Impact Assessment (ESIA) report, which will be submitted for public consultation

III. Final version of the Proposal Section II.H., II.K. and III.C .

IV. Environmental and Social Management Plan

V. Final report

IV. SPECIFICATIONS OF THE CONSULTANCY

- Type: The type of consultancy is an individual consultant or a firm
- Duration: The entire consultancy will be undertaken in close collaboration with the Executing Entity and the team in charge of developing the full project document. The assessment should be undertaken parallel with the consultation processes undertaken by the executing agency necessary to develop the full project proposal. Since the assessment can only be completed after finalization of the full project document the duration of the assignment will span over a long time period. However, the number of working days is estimated to cover 20 days.
- Qualifications:
    a. post-graduate degree in Development Studies, Environmental Management or related discipline;
    b. at least 5 years' proven experience in the conduct of social and environmental assessments and demonstrated knowledge of development of an ESMF for a programme of a related nature;
    c. excellent knowledge of the English language (both spoken and written) and excellent communication skills;
    d. good knowledge of EMCA related safeguards and the systems in place for implementation;
    e. knowledge and/or familiarity with the social dynamics in Uganda and/or of rural communities such as those where the works may be located;
    f. Ability to work well with Government officials and community personnel in Uganda;
    g. Experience in implementing international social safeguards

policies/standards (e.g. World Bank, IFC or IADB) considered an advantage

V. REPORTING/ COORDINATION

The consultant shall forward all the reports to the RIE coordinator at the OSS, and liase closely with NEMA of Uganda and the Global Water Partnership Eastern Africa Regional Office.

VI. FOR CONSULTATION

- Project Document
- Guidance document for Implementing Entities on compliance with the Adaptation Fund Environmental and Social Policy [available online at: https://www.adaptation-fund.org/sites/default/files/ESP%20Guidance%20document_0.pdf]
- Risk management framework for the adaptation fund [available online at: https://www.adaptation-fund.org/sites/default/files/AF%20risk%20management%20framework_Board%20revised.pdf
- Operational Policies and Guidelines [available online at: https://www.adaptation-fund.org/sites/default/files/OPG%20amended%20in%20October%202014%20final.pdf]
- Uganda Environmental Impact Assessment Regulation (1998)
- Guide to theEIA process in Uganda (2001)

ANNEX XIII : Excerpt of Maziba sub-catchment management plan

Kabale district, Uganda on Gender analysis P. 110-11

(b). Addressing gender concerns

This section highlights how the identified gender issues will be addressed (namely ease of access to and utilization of resources like water, tree products; access to micro-credits and productive resources and technologies; participation in planning and decision making, lack of capacity, etc.). Key gender concerns will be addressed through the following actions:

- Representation and participation of both women and men in decision making
- Building capacity of women and men to effectively perform their roles and responsibilities in the development, use and management of the catchment's resources
- Women empowerment by increasing their access to micro-credits and other catchment resources
- Participation of both women and men in problem identification and planning for land use and enterprise development and management
- Affirmative action to ensure equitable and fair access to and benefit from proposed catchment management and development interventions

The catchment governance arrangements will be established to ensure representation and participation of both women and men in decision making over the development, use and management of the catchment. Affirmative action will be ensured to establish highly representative governance structures composed of men, women, elderly, youth, PWD; with at least 30% being women. Tailor-made training programmes will be conducted to build the capacity of the women to become operational and effectively do their work. Such trainings will develop women's capacity and skills in leadership, decision making, negotiation, problems identification and planning in land use and enterprise development and management.

To support their further empowerment, access to, and use of the catchment's resources, affirmative action will be ensured for women to administer and access micro-credit through the proposed revolving Catchment Management Fund (CMF). Gender-sensitive programming across sectors in the sub-catchment will be ensured through both affirmative action and the gender-representative governance arrangements proposed above, such that any activity, project or programme development processes involve the perspectives of both women and men. Affirmative action will then be ensured to guarantee equitable and fair access to and benefit from proposed catchment management and development interventions, e.g. both women and men, the poor and other disadvantaged groups also benefit from modern farming technologies introduced, access micro-credits for livelihood improvement, etc.

Additionally, considering that gender issues are cross-cutting in nature, they have also been addressed and budgeted for across all the other three (3) objectives of the sub-catchment management plan as highlighted below:

Under objective 1 that seeks to promote SLM, it is proposed that appropriate, gender-friendly technologies will be promoted that do not discriminate against women or men. SLM trainings and learning exchange visits will also be organised for both men and women to participate.

Under objective 2 that seeks to improve the quality and quantity of natural resources; it is expected that promoting energy-saving technologies will reduce the burden on women who will now require less firewood from otherwise distant sources. Introduction of affordable alternative renewable sources of energy e.g. low-cost solar panels and biogas will equally reduce the household energy demands on women. Gazetting and rehabilitating critical riverbank and wetland sections will allow natural regeneration of wetland vegetation which often provides women with nearby sources of craft material and woody biomass for firewood e.g. papyrus and reeds. Planting of agro-forestry trees and woodlots will also increase woodfuel availability and further reduce the burden on women and avail them more time to engage in other productive work.

As part of objective 3 that seeks to build social, economic and ecological resilience of the livelihoods of the population in the sub-catchment; promoting family planning and change in attitudes towards large families will ultimately reduce the burden of caring for large families among both women and men in the households. Building the capacity of women's economic groupings and cooperatives; e.g. women economic groups; will improve production, marketing and savings among women, and thus improve their incomes and livelihoods. Supporting savings and small-scale local lending schemes among such women groups will increase access to micro-credits; and will increase their access to productive assets like land; and will thus address poverty among them. Refurbishing non-functional water sources and construction of new ones (including rainwater harvesting) will increase access to safe water and thus reduce the burden among women. They will walk shorter distances and save time to again engage in other productive on- and off-farm activities.

In terms of the overall budget, interventions that address gender issues total up to US$ 8,432,500, equivalent to 37.7% of the total budget. It is therefore hoped that if this budget is indeed committed to implementation of gender-responsive options and sub-options, the catchment management plan will go a long way in addressing the key gender issues identified.

ANNEX XIV Grievance Mechanism

The proposed project will essentially be guided by the OSS grievance mechanism that aims at providing persons affected by adverse environmental or social impacts resulting from OSS projects or programs with an accessible, transparent, fair and effective process for the submission and processing of their complaints (http://www.oss-online.org/en/grievance-mechanism).

According to this grievance mechanism the implementing entity is obliged to record and acknowledge the receipt of any request, within five working days following receipt of the request. Within thirty working days of registration of the application the implementing entity will post on its website an assessment of the feasibility of the grievance resolution activities. The assessment will also include recommended actions, if any, that the implementing entity will be prepared to undertake or facilitate to encourage the pursuit of the resolution of the dispute under consideration, or she will conclude on the uselessness of the resolution of the dispute at this level and close the case. Once the process of resolution of dispute is completed, the implementing entity will submit its report, including settlement (if applicable) and all recommendations for additional actions to all involved stakeholders and post the report on the website.
Grievance mechanisms are proven tools in helping institutions minimise harm to communities and ecosystems by protecting existing rights, obligations, and standards. By facilitating transparency and stakeholder participation, grievance mechanisms also help ensure that policies and projects are legitimate and effective, and promote sustainable development.

This grievance procedure is a harmonized set of mechanisms applied, to solve or address the preoccupations or apprehension of a party involved or not involved in the consultation. It is vital to have a grievance procedure when it is probable that some of the vulnerable or affected group may not be consulted or their views could not truly be reflected in the implementation of the projects. The grievance mechanism is designed to define the mechanism of solving the problems to restore a dialogue between the applicant and all interested persons, to solve the problems at the origin of a query.

In line with the principles for non-judicial grievance mechanism, elaborated by John Ruggie, UN Special Representative of the Secretary General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises this grievance mechanism aims to consider the following standards:

- Effectiveness, in providing timely and meaningful recourse;
- Legitimacy, which requires independence from political influence;
- Accessibility, particularly for complainants;
- Predictability, by way of clear and known procedures and monitoring of implementation;
- Equitability, by ensuring aggrieved parties can engage in a process on fair and equitable terms;
- Transparency of process and outcome;
- Rights compatibility to ensure consistency with internationally recognised human rights standards;
- Participation, at all relevant stages of the decision-making process.

To be effective, the grievance mechanism must, at a minimum, have the authority to consider complaints and issue recommendations. It should be able to monitor and assess compliance with the relevant rules. To do this, it should have the capacity to engage in fact-finding. It should also have the power to award remedies such as just compensation, remediation, and/or injunctive relief.

The highest authority to consider complaints lies with the Adaptation Fund and the Implementing Entity, since at the 17th Board Meeting of the Adaptation Fund, in consideration of the recommendation of the Ethics and Finance Committee, it has been decided that the Adaptation Fund will set up Mechanisms for Handling Complaints. Accordingly, a dedicated AF website (https://www.adaptation-fund.org/projects-programmes/programme-complaints/ provides the contact persons from the Adaptation Fund as well as from the implementing entities in charge of receiving complaints, as well as of providing links to the key procedures that the IEs apply with regard to issues such as fraud and corruption. Any complaints related to fraud and misuse of project funds and resources will be directly followed up and eventually sanctioned by those authorities.

The core functions of those authorities are fact-finding, compliance assessment, and awarding remedies. These authorities are sufficiently independent from in-country political processes and provide therefore also the necessary legitimacy to judge and to decide upon the award of remedies such as just compensation, remediation, and/or injunctive relief. Furthermore they have the necessary expertise to ensure consistency with internationally recognized human rights standards.

During the stakeholder consultation in the project preparation phase all stakeholders have been informed about the existence of this grievance mechanism set up by the Adaptation Fund. The information will also be spread during the launching workshop and made accessible at the project website, which will be established. The website will be regularly updated and inform all stakeholders about the mechanism, procedures and possibilities to enter in face-to-face contact with the implementing entity. This will provide predictability, by way of clear and known procedures and monitoring of implementation. All complaints and their follow-up will be published on the website, to assure transparency of process and outcome.

To assure participation, at all relevant stages of the decision-making process public consultation and stakeholder consultation will continue to play an important role in the project implementation. In fact component 1 of the project explicitly aims to support local communities to participate in and fully own the management of the catchments. This component will not only support the establishment and strengthening of well-functioning catchment management structures assuring equitable and sustainable management of water and other natural resources. Moreover, multi-stakeholders' platforms will be established and operationalized as part of catchment management structures.

The multi-stakeholder platforms will be important institutions to assure accessibility by receiving and channeling complaints. In addition a complaints letter-box will be set up at the local project execution offices in Mbale, Lira and Kabale. These are important communication channels established by the implementing entity to assure that limited access to internet does not restrain communities at local level to express their complaints. Furthermore, the implementing entity will include the request for complaints and grievances in all their field missions and consider complaints and issue recommendations.

Considering that complaints are often most effectively and efficiently addressed at the level where the harm occurs, multi-stakeholder forums will also serve as a forum for conflict

disputes and resolution at local level. In order to facilitate the resolution of disputes or grievances at local level, the process will allow some flexibility in the use of different techniques depending on the requirements of the case or specific contexts. The resolution of the disputes involves voluntary participation of various stakeholders in a consensual process of management of grievances by mediation, conciliation, facilitation, negotiation, or by other similar means. Any effort to resolve disputes must be based on the consent of all key stakeholders. The motivations to participate in these processes can vary considerably, depending on the different contexts. Therefore, complaints expressed at local level, via the letter-box or by oral expression at the forum can include a request for assistance by a neutral facilitator ensuring aggrieved parties can engage in a process on fair and equitable terms. The project liaison officers at the local project execution offices will receive training in this regards so that they can act as mediators and assist with dispute resolution at local level if adequate. If necessary, an independent project external mediator can be requested.

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: *12 April 2016*	Tel. and email: Tel. +216 71 206 633 boc@oss.org.tn
Project Contact Person: Nabil BEN KHATRA, Mourad BRIKI	
Tel. +216 71 206 633 Email: nabil.benkhatra@oss.org.tn; mourad.briki@oss.org.tn	

Telephone : 256 41 4707 000
: 256 41 4232 095
Fax : 256 41 4230 163
: 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

7th August, 2015

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" REVISED ESTIMATE US$7,751,000

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 seven hundred and fifty one thousand (US $7,751,000) only as a result of project review.

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,

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. Chebet Maikut
UNFCCC National Focal Point
Ministry of Water and Environment, Kampala