



**THE REPUBLIC OF UGANDA
MINISTRY OF WATER AND ENVIRONMENT
DIRECTORATE OF WATER RESOURCES MANAGEMENT**

**INTEGRATED WATER MANAGEMENT AND DEVELOPMENT PROJECT
(IWMDP)**

TERMS OF REFERENCE FOR **LOT 4: CONSULTANCY SERVICES FOR TECHNICAL
SUPERVISION OF IMPLEMENTATION OF CATCHMENT MANAGEMENT MEASURES IN
MIDDLE/LOWER AWOJA SUB-CATCHMENT**

SEPTEMBER 2020

1 INTRODUCTION

Government of Uganda, with funding from the World Bank is implementing Integrated Water Management and Development Project which provides support to catchment management and activities in sub-catchments of Lwakhakha (Mpologoma catchment), Lake Okolitorom and Apeduru Apapai (Awoja catchment), Kochi (Albert Nile catchment), and Aswa II (Aswa catchment). The project supports implementation of catchment management measures, including soil and water conservation, eco-system protection and restoration; livelihood improvement for the affected communities and supporting stakeholder engagement and the establishment of micro catchment structures for sustainable management of the interventions.

Implementation of the IWMDP is fully integrated within the government structure. Thus, the water resources management component of the project is implemented by the Directorate of Water Resources Management (DWRM) through its various departments and the relevant Water Management Zones (WMZs). The task teams are composed of staff from DWRM, WMZs, relevant MWE departments and agencies, and other government ministries and agencies. The services and works for implementation of project activities will be outsourced to consultants and contractors.

These Terms of Reference are for technical supervision of implementation of catchment management measures in Apeduru-Apapai and L. Okolitorom sub-catchments in Awoja catchment in Kyoga Water Management Zone.

The Ministry intends to procure consultancy services for technical supervision of the implementation of catchment management measures in Apeduru-Apapai and L. Okolitorom sub-catchments. The selected consultant will carry out tasks associated with the execution of all obligations entrusted to him in accordance with the contract between the client and the consultant.

1.1 Sub Catchments Description

Apeduru-Apapai sub-catchment is located in the low lying areas of the Awoja Catchment in Teso sub region, bordering Opeta-Bisina to the south and Mt.Napak sub-catchment to the East. The entire sub-catchment covers a total area of 878km² which comprise of the Districts of Katakwi and Napak that occupy 93.6% and 6.4% of the total sub-catchment area respectively. Important to note is that section of Napak District is mainly covered by Irii community wildlife management area, Pian Upe Wild life reserve which are protected areas with no major settlements and issues. The sub-counties covered within Katakwi District include Ongongoja, Kapujan, Usuk, Katakwi, Magoro, Omodoi, Ngariam, Palam, and Katakwi TC.

Lake Okolitorom Sub Catchment is found in the mid lower part of Awoja Catchment, in vicinity of Opeta-Bisina, Chebonet-Atari, and Simu-Sisi Sub catchments, covering an area of 1035 Km². It is comprised of majorly the districts of Bukedea (76.4%), Kumi (10.9%), Sironko (7.5%), Bulambuli (5.2%) and Nakapiripiriti (0.01%).

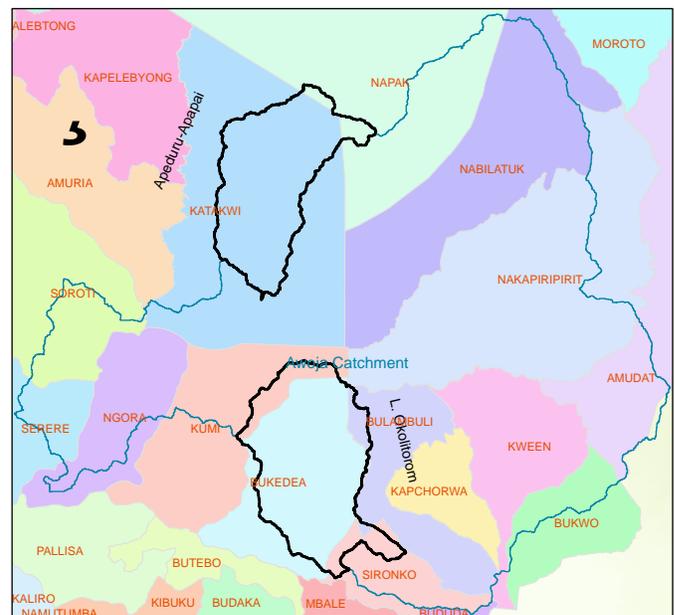


Figure 1-1: Extent of Apeduru-Apapai and L. Okolitorom Sub catchments (Districts that lie wholly / partially in the sub catchments)

1.1.1 Physical Environment

a) Climate

The climate in the project areas is characterized by two seasons i.e. wet season; March – October and dry season; November – February. The mean annual rainfall varies from 1000mm – 1500mm. The rainy season has a principal peak due around March- June and a minor peak around August – October. December and January are usually the driest months. The recent rainfall has however, been unreliable and unpredictable. The sub catchments sometimes register extremes of both very heavy rainfall and drought. In some cases, heavy rainfall is accompanied by hailstones. The Sub-catchment records a mean annual maximum temperature of 31.3°C and a mean minimum of 18°C.

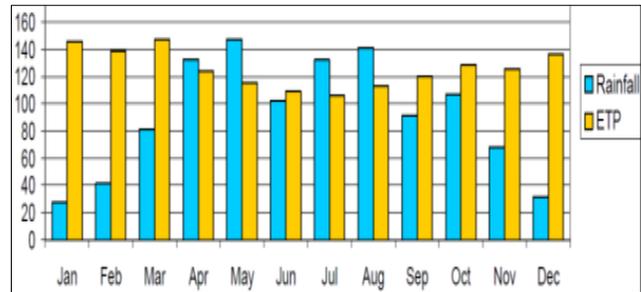


Figure 1-2: Mean monthly rainfall (mm) and ETP (mm) patterns for the Sub catchment.

b) Topography

Apeduru-Apapai sub catchment is largely flat with a few hilly areas in different locations of the sub catchment with the highest hills located at the tip of the catchment to the North East in Napak district. Generally, the sub-catchment comprises of undulating land, rocky outcrop, rivers, forests as well as wetlands. The sub catchment landscape is generally a plateau with gently undulating plains with hills and inselbergs in certain areas. The highest point of the catchment is located on top of the hills of Lotha in Napak at an elevation of about 1647 meters and the terrain reduces towards the South West to Magoro and Omodoi sub counties with the lowest point of the sub catchment at 1050 meters.

The relief of the L.Okolitorom sub catchment is dominated by the low-lying areas of the Bukedea region where most swamps are found. The highest point of the sub catchment is located on the ranges of Mt. Elgon in Bumalimba, Sironko district towards the South Eastern part of the sub catchment.

c) Soils

In Apeduru-Apapai sub catchment, the soils are mainly of ferralitic type (sandy sediments and sandy loam). They are well drained and friable. Bottomland contains widespread deposits of alluvium. The land resource is fertile and productive with the most fertile region being the area lying in the North to Eastern part of the sub-catchment.

In L. Okolitorom sub catchment, more than half of the sub catchment soils are sandy, posing a great risk of leaching and erosion especially when poor cultivation methods are used. With continuous cultivation of such soils, soil fertility is lost and yet farmers hardly add nutrients to the soil.

d) Hydrology

Surface water in Apeduru-Apapai sub catchment constitutes mainly rivers and wetlands. The major rivers in this sub-catchment are River Apeduru and River Apapai which converge and eventually discharge into Lake Bisina. These rivers typically flow from the North-East to the South-Western part of the sub-catchment, converging in Soroti district, where the catchment's outlet is situated. These rivers are used for domestic water, livestock watering, washing clothes, bathing and fishing. The rivers in the sub-catchment are surrounded by wetlands hence they are at a less risk to human interference. The key challenge affecting the rivers is riverine wetland encroachment

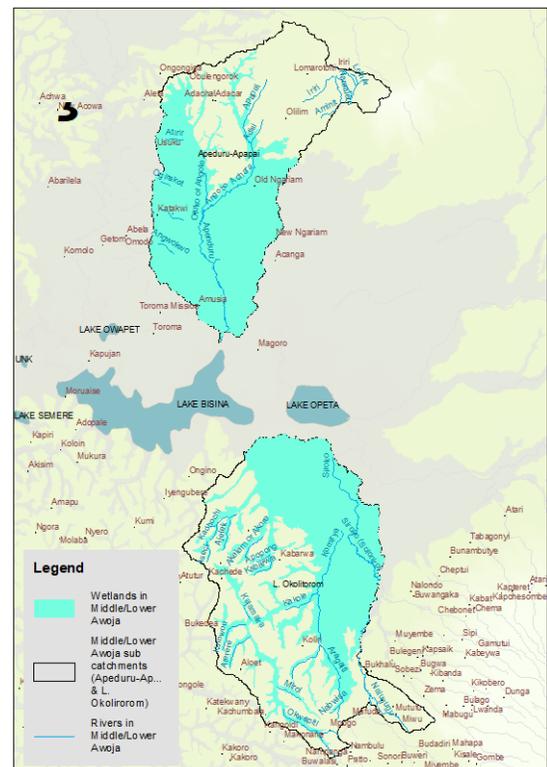


Figure 1-3: Rivers and Wetlands systems in Apeduru-Apapai and L. Okolitorom Sub catchments

and high levels of sediment deposition. The state of the river banks and the river siltation increase flood risk. Increased degradation of land through unfavorable land use practices, overgrazing and deforestation enhances the problem of flooding.

Lake Okolitorom sub catchment hydrological make up is largely underground water drainage system and very minimal surface water dominated by small streams flowing into various swamps of the greater Awoja wetland system in the Lake Kyoga basin. The water sources of the drainage systems are mainly surface flows from seasonal precipitation (rainfall), water sheds on the slopes of Mt Elgon and several other streams, as well as ground water discharge. Very limited open water bodies are available, the largest being Lake *Okolitorom* in Ongino Sub County, Kumi district, which is a marsh wetland dominated by grass-like vegetation and River Sironko which flows from Mt. Elgon.

1.2 Socio-Economic Environment

a) Population

According to the 2014 national housing and population census statistics, the population in the of the Apeduru-Apapai sub catchment is estimated at about 69,739 people, basing on the population records in the sub counties within the sub catchment, which is about 60% of the population of Katakwi district. Most of this population is located in the rural areas of the sub catchment and a few come to urban areas on a few occasions such as market days. The L. Okolitorom sub catchment population is estimated to be about 350,236 people, basing on the population records in the sub counties within the sub catchment. This population is mainly dominated by people in Bukedea with a small portion of the population in the sub catchment from Sironko district, especially the South Western part of the district.

b) Ethnicity

In the Apeduru-Apapai sub catchment, there are a variety of ethnic groups with the Itesots as the most dominant with about 90% of the population, with the other tribes like the Karamojong making up a minority contribution and they mainly settled in the highlands near the Napak hills at the tip of the sub catchment in the North East. About 95% of the Lake Okolitorom sub catchment is found in Bukedea district and the region is dominated by Itesots, with the Bagishu the minority ethnic group and are located in the South Eastern part of the catchment in Sironko district.

c) Economic Activities and Livelihood

Most of the rural population in the Apeduru-Apapai sub catchment mainly relies on subsistence farming as their main source of livelihoods. The main crops grown are rice, maize, ground nuts, millet and sorghum. The agriculture is largely rain-fed and production is entirely dependent on use of traditional implements, with limitations in the quality and quantity of production. The productivity for major crops has been fairly low and has decreased over time, probably due to declining soil fertility and soil erosion. This has created a trend where the farmers resort to opening land for agriculture, with wetlands and forests falling target to land use change and degradation. Rearing of cattle is another common activity in the sub catchment and this is one of the leading activities driving the increased wetland degradation practices.

In Lake Okolitorom Sub Catchment, over 80% of the population depends on agriculture as a major source of livelihood. The major crops grown include both perennial and annual crops. The perennial crops include coffee as the cash crop, and bananas as food crop. The annual crops grown include maize, beans, vegetables, peas, rice, fruits (passion fruits), and sun flower on small scale, ground nuts, Sweet potatoes, and cassava.

d) Land use and Land tenure

In the project area, the most common land tenure system is the customary land holding where the land is owned communally by mainly clans and families. Transfer of land ownership is usually through inheritance although cases where owners agree to sell to other parties have been noticed. Most of the population using the land for cultivation and animal grazing.

1.3 Biological Environment

a) Floral Characteristics

The vegetation of Apeduru-Apapai sub-catchment largely comprises of savannah grasslands dotted with shrubs and trees. It can generally be described as a wood land / shrub land grassland vegetation dominated by *Acacia* (*IUCN status - Least*

concern), *Conbretum* (IUCN status - not evaluated), *Piliostigma* (IUCN status - not evaluated), *Butyrosperum paradoxum* (IUCN status – Least concern) and *Hyperenia* species (IUCN status - not evaluated). Part of the sub catchment is located in the Karamoja cattle corridor which is typically a grassland comprised of long dry grasses such as spear grasses, elephant grasses, red oat grasses among others. These are common in the sub catchment due to the high temperatures in the area and the low rainfall rates within the region. There are a number of wetlands and therefore wetland vegetation such as wild palms, papyrus, reeds, ridges and shrubs are distributed between the different wetlands in the region. In L. Okolitorom sub-catchment, the vegetation is generally savannah. There are woodlands found at Malera, Kolir and Bukedea Sub Counties, as well as forest plantations and reserves. The sub catchment is among those areas with the lowest tree cover in the country (UBOS 2012). It has more of scanty woodlands than forests and with no gazetted natural forests. The existing woodlands are being cleared for settlements and agricultural production.

b) Faunal Characteristics

Animal species in the project areas are influenced by Mt. Elgon system that harbours among others a diverse number of wildlife like leopard (*Panthera pardus*, a threatened species), giant forest hog (IUCN status - Least concern), waterbuck (*Kobus ellipsiprymnus*, IUCN status - Least concern), bushbuck (*Tragelaphus scriptus*, IUCN status - Least concern), duiker (*Sylvicapra grimmia*, IUCN status - Least concern), black and white colobus monkey (*Colobus guereza*, IUCN status - Least concern), blue monkey (*Cercopithecus mitis*, IUCN status - Least concern), snakes and varieties of birds. Animal presence in the entire sub catchment, however, has been interfered with by human activities and settlements. On the lower altitudes, there is restriction of wildlife prominence due to human settlements and due to the location of the project areas within the cattle corridor, the sub catchments are dominated by nomadic pastoralists, and the locals have settled to rearing of cattle, goats, chicken, pigs and sheep.

1.4 Sub-catchment Management Issues

A number of issues were identified in Apeduru-Apapai and L. Okolitorom Sub catchments through using the methods explained in chapter 3 of this report. The issues that concern water for environment, which is of critical importance in project area include:

a) Deforestation and tree cutting

Deforestation is one of the leading activities of catchment degradation in the project area due to the search for fuel. Most severely affected sub counties are Bukedea, Kabarwa, Malera, Kangole, sub counties of Palam (bordering Karamoja), Katakwi and Omodoi, Bukiise sub county in Busate parish, and Bumalimba Sub County in Nandele parish. Main cause of deforestation is agricultural expansion as a result of the high population pressure. In addition, the artillery training school for the armed forces based in the area is said to be contributing to the loss of vegetation cover as trees are destroyed by the explosives during the army trainings. This has opened up the land to different land degradation practices, increased soil erosion along the slopes, and caused deep gullies, siltation in the rivers which as well can lead to river flooding, landslides, rivers and stream diversions.



Figure 1-4: Confiscated sacks of charcoal at Palam Sub County

b) Land degradation and soil erosion

The sub catchment has faced different kinds of degradation especially due to the poor agricultural practices that are being carried out by the different communities, the increased population which has led to the need for more habitable land and more land for agriculture. These activities have increased the occurrence of soil erosion which destroys crops especially those with soft root systems and increases the formation of gullies. Land degradation in the project area is linked to soil fertility



Figure 1-5: Soil erosion in Aelenyang village, Aliakamer parish in Katakwi S/C

depletion and soil erosion, poor agronomic practices and lack of soil and water conservation measures. This causes low soil cohesion, stability and particles are easily transported during rain. Although farmers are aware of reduced soil fertility and its effects, their capacity to address the issues is limited leading to poor yields. In Sironko district, severe erosion and gullies are most in the mountainous areas, specifically in the sub counties of Bukiise, Bumalimba, and Katakwi Sub County in the Parish of Aliakamer.

c) Riverbank degradation

Riparian vegetation plays an important role in the protection of the rivers from contamination and pollution from the terrestrial areas. Furthermore, they are habitats of semiaquatic creatures as well as other terrestrial animals and are host to a variety of river dependant plants. In Apeduru-Apapai, most of the wetlands have small rivers or streams flowing beneath the wetland vegetation which led to a conclusion of wetland degradation in these wetlands. People settle and as well carry out cultivation on the banks of these seasonal rivers which makes them lose their property especially during the rainy season when there is river flow.

In L. Okolitorom, riverbank degradation was mainly visible along the banks of River Sironko at the border of Bukedea and Bulambuli districts. At both sides of the river, there are gardens of bananas, ground nuts and sweet potatoes. The gardens go to the brim of the river and stretch along with the meandering. River diversion is also a very common practice being carried out in various areas of the sub catchment. Stream diversion is mainly carried out through diversion of water from the main flow into the gardens and farmlands via gullies. Gullies are usually established just before the beginning of the rainy season to enable flow of the water throughout the season and it is circulated within the plantations. Other diversion observed was carried out in wetlands to reduce the water in the wetland so as to accommodate the growth of certain food crops which require less water for growth. This has led to the drying of some of the wetlands which can bring up different consequences in the ecosystem.



Figure 1-6: Banks of River Sironko degraded while mining sand. Located within Sironko Town Council, industrial ward, Ginnerly village.

d) Water logging

Over 95% of Ngariam and 90% of Palam sub counties are affected by water logging. Since July this year (2018), it had not rained till October, but after it had rained for only two times, gardens were full of stagnant water or muddy soils because of water logging. About 50% of Usuk Sub County is affected by Water logging, and some parts of Katakwi town council. Water logging was reported in other sub counties while assessing and verifying other issues and their respective hotspots, but this was at smaller magnitudes. Water logging leads to a variety of negative effects such as absence of aeration in the root zones, blockage of access roads, and difficulty in cultivation among others.

e) Wetland degradation

Wetland degradation in the Apeduru-Apapai sub catchment is mainly noticeable through agricultural cultivation and animal grazing. The major crops grown include rice, sorghum, millet, maize and sweet potatoes. Communal grazing for cattle and goats is as well carried out in the wetlands. There are a few wetlands which have been encroached by settlements and these are due to their close proximity to the town council and the potential for further encroachment is high. Most of the people know about the illegality of carrying out the said activities in the wetlands but claim, the wetlands are their main source of livelihood in one way or another. Some of the wetlands have been fully destroyed due to the



Figure 1-7: Animal grazing in a wetland located in the Sagam village, Kotiokot Parish, Kabarwa Sub County, Bukedea District

said activities with massive restoration procedures required to rejuvenate them.

In Bukedea, wetland degradation was visible in the sub catchment especially through the agricultural activities such as cultivation and animal grazing. Crops cultivated are mainly rice, maize, peas and sweet potatoes, and animals reared include cattle and goats. In some wetlands, where the water levels have reduced, the degradation is very high with bush burning activities being carried out by the herdsmen especially in the dry seasons to eliminate the papyrus and allow regrowth of new grasses for the animals. The different activities carried out in the wetland at one point have caused flooding in other parts which sometimes cause blockage of roads and rendering them impassable.

f) Flooding

Floods frequently occur in low-lying areas, in areas along river banks and close to wetlands. Wetlands and Flood plains have been encroached on for mainly rice cultivation compromising their ecosystem services of flood regulation. Land degradation and deforestation play a large role in the onset of flood events. Homes and crops are always affected and in some incidences pit latrines collapse in, increasing the risk of waterborne diseases. Floods in Bukedea district mainly in the sub counties of Malera, Kangole and Kabarwa. In Sironko, floods are normally experienced during the months of April – June mainly in low-lying areas surrounding flood plains and R. Sironko. In Apeduru-Apapai, flooding occurs mainly in the sub counties of Usuk and Ngariam. Wetlands and floodplains have been encroached on for crop cultivation which compromises the flood regulating ecosystem service.



Figure 1-8: Blocked access road due to flooding in Ameritele Village, Aakun Parish, Usuk Sub County, Katakwi District

g) Poor water quality

The issue of poor water quality was attributed to the limited water access, hence communities resorting to alternative sources of water for domestic use through dependence on shallow spring wells and wetlands, which sometimes have poor quality water. Poor water quality issues were also mentioned to be caused by high dependence on pesticides, fungicides and fertilizers used by most of the farmers to boost the agricultural production which find their way into the river systems from the rainwater runoff. Almost all the water points within the sub catchment lack source protection measures and a bigger percentage dry up during dry seasons.



Figure 1-9: A borehole with no source protection in Aelenyang village, Palam S/C.

1.5 Scope of Implementation by Contractor to be Supervised

The Non-consultancy shall include the following major activities:

1. Restoration of 13.4 km (36 km on each side) of the degraded stretches of the major rivers in L. Okolitorom sub-catchment through use of catchment management measures
2. 992.5 ha of degraded Wetlands restored to perform their ecological and socio-economic functions in Apeduru Apapai and L. Okolitorom sub-Catchments
3. Restoration of 1448ha of degraded communal and individual land through tree growing (afforestation, reforestation and agroforestry)
4. Promote and support establishment of soil and water conservation measures on 320 ha of individual farmers/public land to restore degraded hotspots and reduce/control runoff to control soil erosion and siltation
5. Integrate livelihood options in the management measures

2 OBJECTIVE OF THE CONSULTANCY

The overall objective of the Consultancy is to assist the Ministry of Water and Environment to ensure high standards of quality assurance in the implementation of catchment management measures in Apeduru-Apapai and L. Okolitorom sub-catchments and completion of work within stipulated time and budget limits including knowledge transfer as much as possible.

3 NATURE OF ASSIGNMENT, SCOPE OF SERVICES, TASKS AND TIME OF DELIVERY

3.1 Nature of Assignment

The assignment covers activities related to technical supervision of the implementation of catchment management and restoration activities. The consultant will administer the implementation contract and ensure that the contractual clauses with respect to both quality and quantity of work are adhered to and the works are constructed in accordance with the provisions of the implementation contract.

The consultant will ensure coordinated and accurate communication of information to the beneficiary communities and local authorities especially on technical aspects.

The consultant shall provide suitable qualified and experienced staff for contract supervision duties during implementation works. Implementation supervision will involve duties and tasks associated with the execution of all obligations entrusted to the consultant in accordance with the contract between the client and the contractor.

There shall be an inception period of not exceeding 4 weeks during which the consultant shall mobilise staff, be introduced to project area, familiarize with the project documentation including the implementation contract and advise the client on any likely positive or negative aspects that may influence the contract implementation and remedies where applicable.

3.2 Scope of Services and Tasks

Implementation supervision will encompass all activities related to the project. Implementation supervision activities will cover three distinct phases:

- i. Pre-implementation and mobilization phase and;
- ii. Implementation phase; and

3.2.1 Pre-Implementation and Mobilization Phase

During the pre-implementation and mobilization phase, the consultant's task shall include, but not be limited to the following:

1. Review the contractor's work programme and method statements while highlighting areas that may pose a risk to timely and in-budget project completion.
2. Review contractor's deployment of staffing and equipment vis a vis those indicated in the bid.
3. Review and make recommendations to the contractor's procurement schedule.
4. Ensure that materials are checked at site to verify that they are of the required quality and specifications. If not, the materials should be rejected at site.
5. Establish sub-catchment and micro catchment structures and set up associated committees for coordinated planning and implementation of the Catchment Management measures in Lwakhakha sub-catchment.
6. Undertake a baseline situational assessment of the degraded hotspots so as determine and measure forest, grassland, and wetland coverage and condition using standardized methodologies as a proxy for ecosystem service provisioning related to specific catchment management measures
7. Develop an effective, sustainable and interactive monitoring and evaluation (M&E) system for tracking catchment management measures against baseline indicators

8. Ensure that the contractor meets environmental, health and safety standards. The contractor shall comply with the Uganda national regulations and World Bank safeguard policies as outlined in the Environmental and Social Management Framework (ESMF) of the project. Investments to be implemented are subjected to environmental and social screening following the OP 4.01 requirements and informed by the GoU requirements. The environmental and social screening will identify the environmental category and level of assessment needed and the type of instruments to be prepared (Full/simplified ESIA/ESMP). The consultant shall ensure the proper implementation of the developed ESMP.

3.2.2 Implementation Phase

The consultant shall represent the client on site and supervise the entire implementation of catchment management measures. During the entire implementation process, the consultant shall work in close cooperation with MWE's project team and specifically the DWRM team in Kyoga WMZ on assignment activities. The Consultant will be introduced to the DWRM teams in Kyoga WMZ. During the implementation period, the consultant's tasks shall include, but not be limited to the following:

1. Approve/suggest modifications in the contractor's work programme, method statements, materials sources etc.
2. Supervise the contractor's work progress versus the planned project time schedule and ensure that delays are being kept to a minimum and, that the contractor at their cost takes measures to make up for time lost and pull the project back to planned schedule. In addition, the consultant is required to keep a monthly updated work program in liaison with contractor.
3. Timely issue to the contractor of all the necessary correspondences related to information, instructions, clarifications and suggestions so as to ensure consistency in quality, positive progress and planned costs.
4. Inspect, determine and approve the part of works before, during and after construction of part and, or whole of the works to ensure all time compliance with the specifications and standards.
5. Supervise the contractor's implementation activities, ensuring that all implementation is undertaken as designed, or in accordance with client-approved variations to the original design, and that all quality standards are met.
6. If necessary, approve any amendments to designs and/or specifications from the contractor in consultations with the client.
7. Inspect and certify all completed activities. Certify payment certificates for payments of completed activities or parts thereof. Ad-measure and certify all quantities invoiced by the contractor. Prepare the contractor's payment statement including final certificate in accordance with General Conditions of Contract and Conditions of Particular application.
8. Periodically review the status of the contractor's real versus required staffing, equipment, insurance and recommend appropriate actions to the client.
9. State all methods and procedures that are intended to ensure robust quality control, execute all procedures accordingly, and report on all quality control undertakings and their results to the client.
10. In addition to continuous implementation supervision, schedule and organize weekly formal visitation, inspections and meetings with the Contractor's representative and agree with the Contractor on progress made within the given period.
11. Hold monthly site meetings with the contractor and client to review progress of implementation of project activities.
12. Develop and maintain a project progress reporting format that is both, concise and in accordance with the client's and the World Bank's requirements.
13. Report monthly progress to the client, and immediately report any issues identified that could impact on the project completion schedule.
14. Review and recommend action on any claims presented by the contractor during the course of the contract and prepare variation orders, if required, for approval by the Client. In the case of any work or event for which the Contractor may claim additional time or payment, record the relevant facts before any question of principle/approval has to be decided by the Supervisor.
15. Guide the Contractor on compiling guidelines for community maintenance works and shall forward 3 copies of the guidelines to the Client as shall be provided for in the implementation Contract. In liaison with the client, make necessary preparations for post implementation management arrangements ahead of completion. Such

shall include participation and guidance of stakeholders in identifying the best management strategy and all associated preparatory activities towards adoption of the preferred strategy.

16. Commission and approve completed measures and facilitate hand over to client.
17. Supervise production of final as built drawings produced by the contractor for the interventions.
18. Recommend final acceptance of the works to the Client upon satisfactory completion of the specified maintenance period.

3.2.3 Document Best Practices and Lessons Learnt

Support is need for documentation of all processes and share lessons learnt for probable scaling out catchment management measures. The consultant shall document of all project processes and share lessons learnt through;

- i. Production of project brief pull up banners, and posters
- ii. Production of intervention-specific video documentaries
- iii. Production of lessons learnt booklets for knowledge dissemination
- iv. Organizing and holding radio talk shows to create awareness to public on the ongoing activities
- v. Dissemination workshop on lessons learned and good practices documented for upscaling

3.3 Expected Time of Delivery

The estimated service delivery period is 24 calendar months tallying with the duration of the Implementation of the interventions by the contractor. The consultancy scheduling is as follows;

- i. 3.0 months for Pre-implementation and mobilization phase: including 1 month for inception, and undertaking activities described in section 3.2.1
- ii. 21 months for actual Implementation supervision (Implementation phase)
- iii. Monthly progress reporting

It is the responsibility of the consultant to establish a detailed work program within the above time estimates. The estimated staff time inputs should be provided in accordance with the consultant's professional judgment and knowledge of the local conditions and needs.

4 ORGANIZATION OF THE ASSIGNMENT

4.1 Contractual Arrangements

A time- based contract shall be used for the consultancy services. The consultant shall show the costs of the proposed services accordingly.

4.2 Staffing Requirements and Staff Qualifications

4.2.1 Staffing Requirements

Within the technical proposal, the consultant shall elaborate on the envisaged logistical setup and deployment of appropriate skills for the execution of the assignment. The consultant shall present the staffing schedule in a manner that clearly shows the stage and duration where each of the proposed team members is planned to be involved in the project. An organogram reflecting the responsibilities of each staff member and line management setup of the proposed team shall be part of the proposal.

The Consultant is however expected to provide a team, composed of the following key staff.

- i. 1No. Water/Environmental Management expert (Team Leader)
- ii. 2No. Community Development Specialist
- iii. 2No. Soil and Water Conservation Specialist

- iv. 2No. Forestry/Tree Planting Specialist
- v. 2No. Civil Engineer

In order to enhance the skills and experience, it is recommended that the consultant integrates local expertise into the project execution team. The consultant is free to propose additional skills as may be deemed necessary.

The above proposed staff bear different expertise and shall be expected on site for the duration of the specific interventions for which their expertise is required to ensure the works are done as per specifications and the logs are filled duly.

4.2.2 Staffing Qualifications

a) Key Experts

The key personnel shall have minimum academic qualifications and experience as stipulated below:

- i. 1 No. Water/Environmental Management expert (team Leader): A master's degree in Water or Environmental Engineering / Management / Science or related field with 8 years of general experience, 5 years of Specific experience in undertaking water related environmental assessments and in environment management planning. Experience in use of Geographical Information System tools will be an advantage.
 - i. He/She will be the Consultants' representative (and should be empowered to take decisions on behalf of the Consultants) and will coordinate the Services. He will be available during the implementation of activities when key decisions are expected to be taken or issues to be resolved.
 - ii. The Team leader should be competent in planning, designing, contractual management, resolving problems, quality maintenance, budgeting and financial control, progress monitoring, communication skills and documentation.
- ii. 2No. Community Development Experts: The Social Development Specialist shall hold a degree in social sciences, social works & administration, development studies or community psychology.
 - i. A minimum experience of 10 years, 5 of which should be in similar activities.
 - ii. He/She must have demonstrated experience in community mobilization and management in relations to development projects of a similar nature.
 - iii. The expert should have experience in undertaking impact, social and gender analysis.
 - iv. He/She should be knowledgeable in preparing appropriate awareness programs.
 - v. The specialist shall ensure communities are fully mobilized and sensitized during the project implementation process.
- iii. 2No. Soil and Water Conservation Specialists: The Soil and Water Conservation Expert should have a minimum Bachelor's degree in natural resources/water resources management, Agriculture, or related field.
 - i. A minimum experience of 10 years, 5 of which should be in similar activities.
 - ii. He/She must have demonstrated experience in preparation and implementation of soil and water conservation measures
 - iii. He/She must have demonstrated experience in community involvement and training farmers in catchment restoration measures will be needed.
- iv. 2No. Forestry/Tree Planting Specialists: The Forestry Specialist will have a minimum of Bachelor's degree in Forestry, Forest Ecology or a closely related discipline.
 - i. A minimum experience of 10 years, 5 of which should be in similar activities.
 - ii. He/She must have demonstrated experience in preparation and implementation of catchment restoration measures
 - iii. He/She must have experience in training farmers in tree planting and agroforestry at community level will be needed

- v. 2No. Civil Engineers: The Engineer should have a basic degree in civil engineering
 - i. A minimum 5 years of professional experience, 3 of which shall be in similar activities.
 - ii. He/she should have significant experience in design and construction supervision of basic water-related engineering infrastructure such as open-flow drainage systems and check dams/ gully plugs.
 - iii. He/She must have basic engineering survey experience (topographic survey, mapping, & map digitization).
 - iv. He/She must have basic experience in undertaking geotechnical assessments
 - v. He/She must be computer literate and proficient in at least Excel and Auto Land Map (GIS capability) or other relevant survey application.

Key Staff must obtain a score of at least 75% upon Evaluation. Key Staff who obtain a score of less than 75% shall be replaced if the Consultancy firm progresses to negotiation stage.

b) Mandatory Non-key experts

CVs of Mandatory Non-Key staff must be submitted along with the Proposals and the staff meet the following minimum requirements.

2 No. GIS Experts: Must have a degree or postgraduate qualification in geographical information systems (GIS), geography or computer sciences with 5 years of relevant experience in building and maintaining GIS databases and using desktop GIS software to analyze the spatial and non-spatial data and information and create relevant thematic maps and graphs.

Mandatory non-Key staff who are established not to meet fully the minimum requirements shall be replaced if Consultant proceeds to contracting stage.

All the experts shall have some experience in water resources and environment related programs. The Community Development Specialist should possess extensive experience in stakeholder engagement in Uganda. All Projects illustrating the expert's specific experience for the project (water resources/environment projects) and their experience in East Africa have to be clearly defined in the expert's CV (including Project name, Location, Country, Duration, Project value, experts' specific tasks, etc.).

In addition, the core expert team could be supplemented by short-term experts in other areas required for targeted input. These short-term personnel are expected to have demonstrated and appropriate technical experience (in the range of 10-15 years). Short term personnel are also expected to provide on-job training and to lead and carry out seminars and other training activities in their areas of expertise.

4.2.3 Firm Qualification

The consultant/firm shall demonstrate their capability and experience in undertaking similar assignments of the similar nature and overall magnitude over the last 5 years.

5 REPORTING AND MEETING REQUIREMENTS

5.1 Schedule of Reporting and Submissions

The consultant is required to submit the following reports to the client in English. All reports should be submitted as required below.

No.	Reports/Deliverable	Description	Timing	No. of Copies
1.	Inception report	This report should include state of mobilization, findings from review of project documentation, proposals for improvement of project implementation and revised programme among others.	One month after commencement of the assignment	4 copies plus a soft copy
2.	Sub-catchment and micro catchment structure formation report	Report summarizing the processes followed and the composition of the structures and their operational arrangements.	2 months after commencement of the assignment	4 copies plus a soft copy
3.	Baseline situational assessment of the degraded hotspots Report	Report detailing the forest, grassland, and wetland coverage and condition using standardized methodologies as a proxy for ecosystem service provisioning related to specific catchment management measures.	3 months after commencement of the assignment	4 copies plus a soft copy
4.	An effective, sustainable and interactive monitoring and evaluation (M&E) system for tracking catchment management measures against baseline indicators.	An effective, sustainable and interactive monitoring and evaluation (M&E) system for tracking catchment management measures against baseline indicators.	Within 3 months after commencement of the assignment	N/A
5.	Monthly progress reports	Report summarizing physical and financial progress to date, compared to programme and budget among others. They shall be submitted	within 7 days of the end of the period covered.	4 copies plus a soft copy
6.	Project completion report	The substantial completion report shall state the project scope, principal activities by the consultant and the contractor (including deployment of resources during project implementation), the contractor's performance, all project relevant observations of the consultant, major issues that were encountered during project implementation and how these were solved, the project schedule citing all delays if any, and financial information.	24 months after commencement of the assignment	4 copies plus a soft copy
7.	Variation Orders and Claims reports	In case the Contractor submit claims for extension of time and/or increased costs, the Consultant shall submit valuation reports to the Client for each claim.	as soon as practically possible but not exceeding 7 days after receipt by the Consultant.	4 Copies and soft copy (where possible)
8.	As built drawings.	Preparation of the As-built drawings for any infrastructure constructed e.g. gullies shall be largely the work of the Contractor, but the consultant shall be responsible for their final standard, accuracy and timely submission.	Within 30 days of provisional acceptance for the works contract.	4 copies plus a soft copy

9.	Guidelines for community maintenance works	The consultant shall ensure Guidelines for maintenance of the interventions by communities are prepared	Submitted to the client as soon as practically possible but not exceeding 7days after the establishment of the specific interventions.	4 copies plus a soft copy
10.	Documented Best Practices and Lessons Learnt	The reports and Video documentaries are intervention-specific and shall be prepared	Within 1 month after the completion of the implementation of a specific intervention.	4 copies plus a soft copy
11.	Training of Clients staff (Preparation of training report for client's staff attached to the project)	The completion of training report shall state the training obligations of the consultant and the contractor, as agreed with the client, the type and duration of training activities undertaken, the number of participants in each training and their professional background, training outputs and achievements, as well as recommendations for further/continued training if any.	Since on job training goes on throughout the project period, the final training report will be required at the end of the project, however, intermediate reports will be required every six months in order to monitor how the trainings are being conducted and address any upcoming issues	4 copies plus a soft copy

All reports will be submitted to:

The Director, Directorate of Water Resources Management,
 1st floor, Ministry of Water and Environment Headquarters
 Plot 3-7, Kabalega Crescent, Luzira

For the attention of: Dr. Callist Tindimugaya
 Commissioner, Water Resources Planning and Regulation Department
 1st floor, Ministry of Water and Environment Headquarters
 Plot 3-7, Kabalega Crescent, Luzira
 Email: callist.tindimugaya@mwe.go.ug, callist_tindimugaya@yahoo.co.uk

5.2 Meeting Arrangements

Following the submission of the inception report, the consultant will make a presentation and attend monthly implementation progress review meetings with the client during the entire project period. The review shall be for the purposes of:

1. Engaging the Ministry of Water and Environment and obtain guidance on the technical aspects of the assignment.
2. Assessing progress.
3. Providing information and data relevant for the successful accomplishment of the entire assignment.

The nature of the meetings, locations (e.g. site, MWE offices and consultant's offices) and agenda shall be agreed upon between the consultant's and the client's project managers.

For ensuring organizational and stakeholder wide appreciation and ownership of the project outputs, the consultant shall be required to organise coordination meetings/workshops for presentation of key reports after each project milestone to a

representative group of stakeholders that is to be agreed upon with the client. In addition, the consultant's representative shall be available whenever stakeholder visits to the project sites are arranged. The Consultant will therefore be required to include a provisional sum of 60,000 USD to meet costs of holding the workshops and meetings. The Client will pay the Consultant based on actual and approved expenditure of the Consultant's budget (for workshops and meetings) which will have been discussed and agreed to prior to commencement of the Consultancy. The basis for payment of participants by the Consultant will be full participation for the entire duration of the workshop together with an authentic invitation letter of the participant.

6 SERVICES AND FACILITIES TO BE PROVIDED BY CLIENT

The client will provide free of charge all existing information, data, reports and maps in the custody of the client. This will include the:

- Awoja Catchment Management Plan.
- Sub catchments' Hotspot Identification and Mapping Report
- Contract for the implementing Contractor
- Approved Environmental and Social Project Brief for the proposed Implementation of Priority Catchment Management Measures in Middle/Lower Sub-Catchments
- Relevant GIS maps

7 CAPACITY BUILDING AND SKILLS TRANSFER

For purposes of capacity building and skills transfer in supervision services and skills transfer and ensuring adequate direct involvement of the client in delivering the project, the client will assign 2 counterpart staff. The consultant shall as part of his financial proposal include the cost for involving the 2 staff in attending site meetings, review of as-built drawings, preparation and review of progress reports. The costing shall be in Consultancy firm's costs of providing the training. MWE shall provide the costs for the allowances and transportation costs including fuel for its Staff.

The proposal shall include the proposed methodology for the knowledge transfer throughout the assignment, the proposed training obligations of the consultant and the contractor, the type and duration of training activities to be undertaken, the optimum number of participants in each training, methodology for monitoring and evaluation of trainees, and any post training support and resources..