PROJECT: WATER SUPPLY AND SANITATION PROGRAMME PHASE II (WSSP II)

COUNTRY: UGANDA

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK SUMMARY

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E&S Team
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1. Introduction:

1.1 Uganda recognized the cross-benefits of access to safe drinking water and improved sanitation on other MDGs, and has made substantial access increase over the last decades raising coverage to safe drinking water from 42% in 1991 to 64% in 2014 and access to adequate sanitation from 51% in 2001 to 74.6% in 2014. The current coverage of water supply and sanitation in Uganda’s Central Region remains low and is constrained by the rapid population growth and increased urbanization (5.5%) linked to proximity to Kampala, the capital city. The central region under the WSDF-C has over 208 towns in 25 districts with coverage of about 69%. Uganda’s Ministry of Health (MOH) assessment shows that 75% of the country’s disease burden is considered preventable through improved hygiene and sanitation, vaccination, good nutrition and other preventive measures. It is therefore important to address safe disposal of waste water and solid waste while providing clean potable water. Strategic interventions through water and sanitation programs are therefore necessary to ensure a healthy labour force which is key for poverty alleviation in the country. It is important that the disease burden and the associated economic loss due to lost work man hours and cost of treatment are significantly reduced.

1.2 This ESMF (ESMF-II) is prepared in relation to the Water Supply and Sanitation Program Phase II (WSSP-II). The ESMF will be used in addressing environmental issues that apply to or might be triggered by the planned project activities of the phase II program, where the exact locations and potential adverse environmental and social impacts could not be identified prior to implementation of sub-projects. Potential significant environmental impacts will be addressed in the context of the lessons learnt from the implementation of WSSP-I ESMF and within this ESMF, and later on in the ESMP for the project at the implementation stage. The activities of the proposed program / project are more or less similar to the WSSP-I activities and therefore, it is not anticipated that this program will cause people to lose land involuntarily and as such no resettlement related planning is envisaged. On the basis of preliminary findings, this project has already been ranked as category 2 under AfDB’s ISS.

1.3 ESMF Objectives - It is the role of Project Implementation Units (PIUs) to safeguard the environment and social plight of affected communities. The objective of the Environmental and Social Management Framework (ESMF) is, among others to provide an environmental and social screening process for the Water Supply and Sanitation Program Phase II (WSSP II). It also provides guidance to WSSP II Implementation Staff, communities, and others stakeholders participating in WSSP II regarding the sustainable environmental and social management of sub-programs. In general this ESMF is prepared with the following
objectives:

i. Screen for potential environmental and social impacts of WSSP II components and sub-projects
ii. Identify possible impacts and propose appropriate mitigation measures
iii. Monitor implementation of the proposed mitigation measures
iv. Identify climate related impacts and Incorporate climate adaptation and resilience mechanisms at various stages of the WSSP II project cycle

2. Description of Program Operation:

The proposed WSSP II program has 3 components; i) Rural Water Supply and Sanitation (RWSS); ii) Urban Water Supply and Sanitation (UWSS) and iii) Sector Program Support (SPS).

2.1 Component 1: Rural Water Supply and Sanitation: (i) implementation of rural water supply infrastructure, including Large Gravity Flow Schemes (LGFS) and solar powered water schemes (ii) promotion and implementation of sanitation and hygiene development. Activities include software, construction and installation, baseline surveys, mobilization, community-based planning and monitoring, hygiene and sanitation education, Community Lead Total Sanitation (CLTS), gender awareness and, capacity building at user level for effective use and sustainable operation. The RWSS component is designed with a country wide spread, to construct 9 large/inter districts GFS in the east, northeast, north, central and western regions. The component will also provide 70 solar powered water schemes across the country ensuring that the schemes target areas not covered by the GFS. The GFS and solar powered schemes will provide access to water supply to an incremental target population of over 470,000 beneficiaries. The RWSS Component will construct 50 gender segregated and disability friendly sanitation facilities in public places and schools. The RWSS will also carry out a series of trainings for; (i) hygiene and sanitation promotion targeting at least 50% women; (ii) artisans and masons with at least 30% women and (iii) form and train the necessary Water User Committees (WUC) with at least one woman in the executive.

2.2 Component 2: Small Towns Water Supply and Sanitation: implementation of water supply and sanitation infrastructure for small towns and rural growth centres, awareness creation of improved water resources management and catchment protection, capacity building activities and regional sanitation promotional campaigns. Activities will also include the construction of public sanitation facilities, training of masons in construction and management, and beneficiaries’ training in proper use and maintenance of toilets. WSDF-C will also conduct regional sanitation campaigns in line with the Improved Sanitation and Hygiene (ISH) strategy, targeting the overall population of the Central Region (Small Towns and Rural Growth Centres under Implementation). The Urban Water Supply and Sanitation Component will be implemented by the Water and Sanitation Development Facility – Central (WSDF-C), which covers towns in 25 districts in Central and Mid-western Uganda. The WSDF-C will construct 24 piped water schemes in line with the agreed town selection criteria. The facility will take advantage of clustering
neighbouring towns in order to have a wider reach. The facility will further rehabilitate one town water supply scheme. The schemes are to provide increased access to a design population of 500,000. The WSDF-C will construct 125 gender-segregated & disability friendly public sanitation facilities in towns and selected Institutions (Primary Schools). It will also construct 2 regional faecal sludge treatment facilities and provide 4 Cesspool Emptiers and 4 Vacutags to ease the de-sludging and transportation challenge (from STs/RGCs and neighbouring schools there-in whose current short term solution is to sink new pits whenever the old ones fill-up). The Facility will also carry out a series of trainings for: (i) hygiene and sanitation promotion targeting at least 50% women; (ii) artisans and masons; and (iii) conduct gender sensitive town-specific sanitation surveys. It will establish and train Water Service Boards (with at least a woman at the executive level) for all the constructed town piped water supply systems.

2.3 **Component 3: Sector Program Support:** Implementation of capacity building activities for all relevant stakeholders including the MWE, WSDF-C, Water Authorities and Water Boards, and the Districts’ Water Engineer and Health Officer and Water and Sanitation Committees. Capacity building for Local Government by the Technical Support Units (TSUs), supporting management structures for rural piped water supply systems, supporting private sector involved in water and sanitation, stakeholder mobilization and training during and after construction of the water supply and sanitation systems, and raising awareness of the different types of ecological sanitation. The proposed programme will also support annual technical and financial audits as well as support sensitization and training on procurement for districts officers in line in line with PPDA capacity building strategy. The programme will treat water resources management as a cross-cutting issue and environmental and social issues in all districts. It will also provide support to the sector studies, including tracking and value for money studies. The Sector Programme Support (SPS) component will address both urban and rural facilities water sources and catchment protection for sustainability, put in place measures for Climate Change Resilience, conduct Community Mobilization for improved functionality of water supply systems and Institutional Support, It will also conduct monitoring and evaluation of rural and urban indicators. SPS will also address, (i) Skills development for women and youth for economic empowerment; (ii) Mainstream HIV/AIDS and create awareness about lifestyle diseases; (iii) conduct Sector Coordination and Programme Monitoring and (iv) Capacity development programme for the private sector, Local Government and staff of the Ministry of Water & Environment.

3. **Legal Framework**

3.1 Water resources and sanitation related projects fall under specific legislative and regulatory frameworks.
<table>
<thead>
<tr>
<th>Legislation/Policy</th>
<th>Applicability</th>
<th>Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Constitution of the Republic of Uganda, 1995</td>
<td>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.</td>
<td>Ministry of Water and Environment</td>
</tr>
<tr>
<td>The National Environment Act. Cap. 153.</td>
<td>Provides for projects to be considered for EIA Provides for EIA approval by NEMA EIA and Environmental Audit compliance.</td>
<td>NEMA</td>
</tr>
<tr>
<td>The National Wetlands Policy, 1995</td>
<td>Provides for conservation of Uganda’s wetlands in order to sustain their ecological, social and economic functions for the present and future generations: Implementation of environment impact assessment procedures on all development activities sited in wetlands.</td>
<td>Wetlands Management Department</td>
</tr>
<tr>
<td>The Land Act (Cap 227)</td>
<td>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. The Land Act also recognizes the provisions of the Physical Planning Act, 2010 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.</td>
<td>Ministry of Lands, Housing and Urban Development</td>
</tr>
<tr>
<td>The Public Service Act, Cap 288</td>
<td>Responsibility for environmental policy, Regulation, coordination, inspection, supervision and monitoring of the environment and natural resources.</td>
<td>Directorate of Environment Affairs (DEA)</td>
</tr>
<tr>
<td>The Health Act</td>
<td>Provision of clean and sanitary premises, Protection of public health and Prevention of public nuisance</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>The Occupational Safety and Health Act, 2006</td>
<td>Provision of Occupation Health and Safety of workers Inspection of places of works</td>
<td>Ministry of Gender, Labour &amp; Social Development</td>
</tr>
<tr>
<td>The Mining Act, Cap. 248, 2004</td>
<td>Regulates the acquisition of mining rights, prospecting for and extraction of minerals. Provides for decommissioning of mining works.</td>
<td>Department of Geology</td>
</tr>
<tr>
<td>Conduct and Certification of Environmental Practitioners Regulations, 2003</td>
<td>Registration and certification of EIA practitioners.</td>
<td>NEMA and Committee of Practitioners</td>
</tr>
<tr>
<td>The Environmental Impact Regulations S.I. No. 13/1998</td>
<td>Provides for preparation of project briefs; Provides for conducting Environmental impact studies in accordance with the terms of reference developed by the developer in consultation with NEMA and the lead agency</td>
<td>NEMA</td>
</tr>
</tbody>
</table>
### Legislation/Policy

<table>
<thead>
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<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Water Resources Regulations, S.I. No. 33/1998</td>
<td>Provides for sustainable management Provides for the protection of water sources.</td>
<td>DWRM</td>
</tr>
<tr>
<td>The Water (Waste Discharge) Regulations, S.I. No. 32/1998</td>
<td>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</td>
<td>DWRM</td>
</tr>
<tr>
<td>Wetlands, River Banks and Lake Shores Management) Regulations, S.I., No. 3 /2000</td>
<td>Provides for protection of Wetlands, River Banks and Lakeshore zones</td>
<td>NEMA</td>
</tr>
<tr>
<td>Protocol on Environment and Natural Resources Management, 2006</td>
<td>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 water resources; Cooperate to respond to the needs or opportunities for regulation of the flow of the waters of shared water resources.</td>
<td>EAC</td>
</tr>
<tr>
<td>Agricultural and Rural Development Policy for EAC, 2006.</td>
<td>Promotes private sector and community participation in the development of irrigation, water management and maintenance of irrigation infrastructure in East Africa.</td>
<td>EAC</td>
</tr>
</tbody>
</table>

3.2 These legal provisions are operationalized by a number of regulations such as:
- National Environment (Conduct and Certification of Environmental Practitioners) Regulations, 2003
- Protocol on Environment and Natural Resources Management, 2006

3.3 In preparation of this ESMF, operational safeguards as highlighted in the AfDB’s Integrated Safeguards System (ISS), have been taken into consideration as well and the potential of the WSSP activities to trigger some of these safeguards analysed.

<table>
<thead>
<tr>
<th>Operational safeguard</th>
<th>Triggered</th>
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<tbody>
<tr>
<td>OS 1: Environmental and Social Assessment</td>
<td>✓</td>
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<tr>
<td>OS 3: Biodiversity and Ecosystem Services</td>
<td>✓</td>
</tr>
<tr>
<td>OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency</td>
<td>✓</td>
</tr>
<tr>
<td>OS 5: Labour Conditions, Health and Safety</td>
<td>✓</td>
</tr>
</tbody>
</table>
4. Environmental and social baseline information at the national and regional level:

4.1 Location:
Uganda is located in Eastern Africa, west of Kenya, south of South Sudan and east of the Democratic Republic of the Congo. It is in the heart of the Great Lakes region, and is surrounded by three of them, Lake Edward, Lake Albert, and Lake Victoria. While much of its border is lakeshore, Uganda is landlocked with no access to the sea. Despite being on the equator Uganda is more temperate than the surrounding areas due to its altitude. The country is mostly plateau with a rim of mountains. Whilst the landscape is generally quite flat, most of the country is over 1,000m (3,280ft) in altitude. This has made it more suitable to agriculture and less prone to tropical diseases than other nations in the region. The climate is tropical; generally rainy with two dry seasons (December to February, June to August). It is semi-arid East Sudan savanna in north near Sudan.

4.2 Temperature:
Uganda has a tropical climate, with temperatures ranging from 21-25°C (70-77°F) and the mean annual temperature is expected to increase by 1–3.1°C by the 2060s and 1.4–4.9°C by the 2090s. Apart from in the mountainous areas, which are much cooler; the top of Mount Elgon is often covered with snow. The hottest months are December to February. Evenings can feel chilly after the heat of the day with temperatures around 12–16ºC (54-61°F). Most regions of Uganda, apart from the dry area in the north, have an annual rainfall of between 1,000mm and 2,000mm.

4.3 Rainfall:
There is a broad consensus that annual rainfall will increase by about 7 to 11 percent in the 2090s. Highest increases in rainfall will be in the “short rain” season (October to December), possibly leading to a shift in the seasonality of rainfall, with a more pronounced rain period in the autumn and the rest of the year being hotter and drier. This will most likely lead to an increased lack of reliability in water availability, even if total precipitation increases. Agriculture, which especially in the bimodal rainfall zone is dependent on stable rainfall seasons, will become more difficult, with higher risks of losing harvests due to too much or too little rain.

4.4 Land Resources:
Uganda covers a total area of 241,550 Km². Approximately 41,743.2 Km² or 17 percent of this area is covered by open water and swamps; and the remaining 197,610 Km², is land (UBOS 2011). Only 71,000 Km² is under commercial farming, settlements and conservation as wildlife and forest conservation estates. The current size of the conservation estate is 45,222 Km² representing 18.7 percent of Uganda’s total land area. According to UBOS (2011), the proportion of land covered by forests was 18.3 percent in 2005. This was a decline from the 21.3 percent forest cover in 1990.

4.5 Freshwater Resources:
The quality and quantity of surface and ground water resources of Uganda are threatened by the ever increasing population growth the country is experiencing as well as the natural variability and climate change uncertainties. Surface water levels of some of the major
water bodies, such as Lakes Victoria and Kyoga are on the decline. The recently completed ground water resources assessment also indicates a decline in groundwater levels. This has implications for the health and wellbeing of people, livelihoods and the economy. According to UBOS (2010), 17.3 percent of the surface area of Uganda is covered by open water and swamps; 15 percent is covered by open water.

4.5.1 Water Quality:
There are 119 monitoring stations in the National Water quality Monitoring Network. Recently 6 were added in the Greater Murchison Bay. The main source of pollution is waste water discharge from industry and the city. The largest quantity of this waste water is untreated sewage from Kampala. The level of compliance with national waste water discharge standards is estimated at only 40 percent (GOU 2010).

4.6 Biodiversity Resources:

4.6.1 Flora
The area of natural forests and woodlands is quickly reducing in Uganda as a result of change of land use to agriculture and grazing, high demand on timber, and fuel wood, and other land uses. By 2009, Uganda’s forest cover was 18%, having declined from 24% in 1990.

4.6.2 Fauna
It is estimated that the total number of species is 18,783 - 7.5 percent of mammals, 10.2 percent of bird species, 6.8 percent of butterflies and 4.6 percent of dragonflies which are globally recognized (NEMA 2009).

4.6.3 Aquatic Resources
Uganda’s wetland resources cover 13 per cent of the country’s land surface. Increasingly these wetlands are under pressure from reclamation for agriculture especially rice production.

4.6.4 Fish Biodiversity
Uganda’s extensive natural resources support over 350 fish species although the composition, relative abundance and distribution of the fishes in these water bodies has changed over the past two decades in tandem with the increase in the Nile perch stocks. Lake Victoria continues to be the most important water body in Uganda both in size and contribution to the total fish catch.

4.7 Demographic characteristics:
The population of Uganda has increased from the last population census of 2002 from 24.2 million to 34.9 million in 2014 and the central region accounts for 29% of the total population. The level of urbanisation is steadily increasing. In 2014, Uganda had 198 urban councils (Water and Environment Sector Performance Report, 2014). It should also be noted that the increase in population has been significant in urban areas due to an increase in economic activities and creation of new administrative areas which elevated some small towns to Town Council status. By end of 2013, there were 64 town councils and 409 RGCs
the WSDF-Central region (WSDF-C Regional Baseline Survey 2013). By the end of the current implementation phase, a total of 20 water supply systems will be completed. The second implementation period (2016-2020) will target 25 towns whose feasibility studies have been completed. Notwithstanding these interventions, a big number of towns will remain unserved.

4.8 Water Supply:
Adequate water supply and sanitation infrastructure remains a challenge for Uganda’s long term sustainable socio-economic development. According to the Water and Environment Sector Performance Report 2014, 64% of the population in rural areas and 72% in urban areas have access to safe water. The period 1991 – 2015 saw a rapid increase in the urban population, more than doubling from 2.92 million to 6.392 million people, an average increase of more than 6.5 % per annum. This increase is partly because of natural overall population increase (3.0% between 2002 and 2014), an increase in the number of urban centres and expansion in the geographical area of some urban centres. The four regional Water and Sanitation Development Facilities (WSDFs) remain the UWSS Department’s standard implementation mechanism for new piped water supply and sanitation interventions in STs/RGCs. By the end of the first implementation period WSDF-C will have constructed 20 new town piped water supply systems and improved capacities of 4 existing town water supply systems. (2030).

4.9 Sanitation and Hygiene
Access to basic sanitation stands at 74% and 84% for rural and urban settings respectively. The commonest type of sanitary facility being used at household level within the central region of Uganda is the ordinary pit latrine (77.8%) followed by VIP latrines (20.8%) (WSDF-C Regional Sanitation and Socio-economic baseline survey report 2013). Other sanitary facilities (1.4%) include urine diversion dry toilets (UDDT), pour-flush, and water closets. Approximately 61% of the households have access to improved sanitation. Access to sanitation facilities in STs/RGCs within the region is below the national averages for both rural and urban areas, and still far from the MDG target of 100% by 2015. Kalangala and Buvuma districts have the least number of households with improved sanitation. The proportion of people practising open defecation in the central region is estimated at 17.4% as compared to the national average of 10%. Provision of clean and safe piped water to STs / RGCs is expected to not only increase the safe water coverage but also help households, Institutions and the general public climb the sanitation ladder by adopting advanced sanitation systems such as water-borne toilets with septic tanks as opposed to ordinary pit-latrines that are mostly being used today. Establishment of faecal sludge management facilities at suitably selected locations within the region and sewerage systems in selected towns (based on sanitation needs assessment/analysis) will further improve the sanitation situation in STs and RGCs in the region.

4.10 CSOs in Water and Sanitation
NGOs and CBOs have continued to contribute to the water and sanitation subsector, by mobilising funds for the sector, by supporting water and sanitation infrastructure development, and by capacity building of communities to demand, develop and maintain water, sanitation and hygiene facilities. The national umbrella organisation of NGOs and
CBOs in the water and sanitation sector, the Uganda Water and Sanitation NGO Network (UWASNET), continues to register more NGO and CBO members joining the sector; with membership currently standing at 235. As of June 2015, CSOs’ total investment further increased from UGX Bn 37.8 to UGX Bn 49.30.

4.11 Key Stakeholders
Main institutions and officers that will be involved in the implementation of the proposed project include the Ministry of Water & Environment represented by the Directorate of Water Development Rural Water Department project team, District Local Government. Contractor, Resident Engineer, Environmental Regulating Institutions like NEMA, Environmental Officers and Consultants. The Water and Sanitation Development Facility (WSDF) is a funding mechanism of the Ministry of Water and Environment for water and sanitation investments at community level through a demand responsive approach.

5. Potential Environmental and Social Impacts

5.1 Positive Impacts of WSSP
The most significant positive impact of the program is the provision of safe drinking water along with appropriate sanitation facilities to the 2.4million people spread across the country in the undeserved priory being those from Water Stressed Areas. in terms of economic benefits, the proposed program will free women and girls of the burden of having to spend a lot of their time collecting and carrying water in the dry season often from sources distant from their houses. This reduction in burden allows women and girls time for other activities including furthering their education and participating in income generating activities. Other positive benefits are outlined below as follows:

- The program will have significant strategic benefits in reducing the burden on health care services for the people who can then switch their restricted resources towards health prevention work.
- The introduction of a complementary health and hygiene awareness programme targeted at women and children and including components on malaria, HIV-AIDS, and other Diarrhoeal diseases will considerably enhance the benefits of the program.
- Use of appropriate labour intensive methods for some of the construction programme (e.g. excavation for pipelines) will present employment opportunities to local people (including women) and generate direct income benefits to local households.
- The program will contribute to alleviation of poverty and improving the socio-economic and health status of highest concentrations of poor people in Uganda.
- The programme will promote the implementation of the Uganda National Development Plan (NDP) and contribute the achievement of the MDGs.
- Reduction in water-borne diseases such as dysentery,
- Reduction in the potential for outbreaks of epidemic infectious diseases such as cholera,
- Capacity building and training in the town or community, and resulting enhancement of organizational, financial and technical capacities of town,
- Provision of employment for construction and operation.

5.2 Adverse Impacts of WSSP
i) **Land acquisition** – This is likely to be the most significant adverse impact of the proposed program. It includes permanent land acquisition for construction of infrastructure and temporary access to land.

ii) **Increased incidences of diseases** - The increase of people involved in the program activities is likely to increase the incidences of diseases in the program area. The above situation will be aggravated by the entry of commercial sex workers into the area following the commencement of program activities. Consequently, there will be potential risk of contracting sexually transmitted diseases (STDs) especially the Human Immuno-deficiency Virus / Acquired Immuno-Deficiency Syndrome (HIV/AIDS) among the program workers and local communities.

iii) **Visual intrusion** – This will mainly arise from the erection of service reservoir tanks on hills and with regard to abstraction points in the upstream areas. In addition, visual intrusion will occur where program activities are likely to create disfigured landscapes in the program area especially around the sites of the quarries and borrow pits and other sites where construction activities result in deposition of large spoils.

iv) **Increased accidents and occupational hazards** - Implementation of the program will definitely increase volume of human and motor traffic in the program sites. The increase in human and motor traffic will be aggravated by the transportation of construction materials, water pipes and other equipment required in constructing the program facilities. This is likely to result in a higher risk of accidents and occupational hazards occurring in the area of operation. Factors that may exacerbate this situation are inadequate appropriate working gear for program workers including the helmets, overalls, boots and gloves.

v) **Disturbance in socio-economic activities** - Accessing economic and social public institutions, e.g. churches and market places might be blocked during the constructions of the physical infrastructure. Laying pipes, for instance, will pass through these institutions and might lead to temporary blocking of the areas. Population jobs and recreation activities and other aspects of wellbeing will be disturbed temporarily.

vi) **Increased soil erosion** - Increased soil erosion is likely to occur in the vicinity of program sites during the construction of the water intakes, water treatment works, waste treatment works, operations of borrow pits and quarries, installation of the water pipe reticulation and other related construction works.

vii) **Increased siltation of the aquatic habitats** - Some of the excavated sediments from the program site and the construction spoils emanating from excess excavated material and construction debris are likely to increase siltation of the nearby aquatic habitats associated with nearby rivers & streams wetlands and other sensitive ecological zones.

viii) **Ponding** - The program activities may lead to creation of stagnant water bodies in quarries, borrow pits and depressions created during the construction works. The resultant stagnant water bodies are likely to be suitable habitats for the breeding of mosquitoes and snails that are disease vectors for malaria and bilharzias respectively.
ix) Disturbance of floral and faunal communities – The program activities are likely to destroy vegetation with subsequent loss of some trees, shrubs and grasses from the area of operation albeit on a small scale. This is likely to cause loss of habitat and disturbance to faunal communities in the affected sites. This situation will happen in where abstraction points are located / situated in protected areas.

x) Increased noise levels - Noise levels are likely to increase in the program area during the construction phase of the proposed program. High levels of noise are likely to prevail in the program sites due to the use of heavy machinery in construction activities and operations at the quarries, borrow pits and crushing plants.

xi) Gaseous emissions - Pollution through gaseous emissions in the program area will emanate from exhaust pipes for vehicles and machinery used in the construction works. Dust pollution – Program activities have the potential to generate high levels of dust in the program area especially where construction is taking place. In addition, activities taking place in the quarries, borrow pits and crushing plant sites have great potential to generate high quantities of dust thus creating a hostile environment and a health hazard to the workers and the affected local community.

xii) Impacts on downstream users - The program will affect downstream users who may include rural communities, farmers and commercial enterprises that abstract water from rivers downstream of the program’s water supply intakes and the water users who abstract river water after receiving treated effluent from the installed sewage treatment facilities. The potential adverse impacts on the former group of water users will mainly due to adequacy of water especially during the dry season while the latter group will be concerned with pollution from the sewage effluent.

xiii) Impacts on water vendors - Whilst most households will receive real tangible benefits from the operation of the improved infrastructure, there is one social group, the water vendors, who are likely to have their livelihoods seriously undermined following program implementation. The water vendors are the men (very rarely are women) who currently collect water and sell it on to individual users.

5.3 A summary of potential Environmental and Social Impacts sanitation facilities as part the of WSSP component are presented below:

<table>
<thead>
<tr>
<th>System</th>
<th>Potential Adverse Impacts</th>
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</thead>
<tbody>
<tr>
<td>Latrines and other</td>
<td>• Impact on groundwater in situations where water table is shallow</td>
</tr>
<tr>
<td>individual sanitation</td>
<td>• Impact of potential improper sludge disposal</td>
</tr>
<tr>
<td>systems</td>
<td>• Health hazards associated with inappropriate sitting of sanitation systems in relation to water supply systems</td>
</tr>
<tr>
<td></td>
<td>• Health hazards associated with unreliable emptying services</td>
</tr>
</tbody>
</table>
6. Mitigation of Negative Impacts

6.1 Potential adverse impacts of the program during construction include:

i. Care in the location of tanks on hill tops, both in terms of minimising visual impact and checking if there are specific local issues with using such locations;

ii. As far as possible, try to use public road reserves for pipeline servitudes;

iii. Ensure that the location of proposed infrastructure conforms with the existing and proposed land use plans and zoning;

iv. Minimise visual impacts by careful siting, landscaping and planting of vegetation;

v. Locate treatment works sites in relation to the prevailing wind direction and the location of residential areas;

vi. Sites will need to be fixed that have adequate heavy plant access but are away from residential areas;

vii. Standardise on the selection and sizing of mechanical and electrical components;

viii. Use a modular approach for design to simplify operation and maintenance;

ix. Standardise hand pump selection and consider the ergonomics of them for use by women and girls;

x. Standardise on a wellhead design that minimises the risk of pollution;

xi. Explore opportunities for local people, especially water vendors.

xii. Take measures and provide temporary relocation in case of short term disturbance of the livelihood of people.

xiii. Continue to raise awareness of the sexual transmitted disease and water related diseases.

xiv. Public information and radio program on the program objectives, interventions and the expected impact.

xv. Develop guidelines to demonstrate the degree to which the interventions will reduce river flows and groundwater levels at the most stressed times of the year and lay the basis for drawing up a set of rules that guarantee a minimum base flow (or groundwater level) during the peak of the dry season.

xvi. Develop and formalise procedures for gaining access to the program sites, especially if physical work such as site investigation will need to be carried out.

xvii. During the construction stage, the contractors will implement EMPs for the works that they are contracted to carry out. The Contractor will undertake to implement the following general environmental and social obligations:

- Comply with any specific Environmental Management Plan (EMP) for the works he is responsible for. The Contractor shall inform himself about such an Environmental Management Plan (EMP), and prepare his work strategy and plan to fully take into account relevant provisions of that Environmental Management Plan (EMP)
- Prepare method statements indicating the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed;
- Adhere to the proposed activity implementation schedule and the monitoring plan/strategy to ensure effective feedback of monitoring information to program management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions;
- Implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in Environmental Management Plan (EMP);
- Provide temporary housing and services for skilled workers;
- Implement in line with the National HIV/AIDS policy and the Water and Sanitation HIV/AID strategy;
- Conduct health screening and management;
- Provide health and safety, statutory requirements, obligations and sound practice;
- Observe the recommended working days and hours;
- Reduce noise levels including the need keep within stated limits and the provision of personal protective equipment;
- Implement waste management policy and plans;
- Handling and maintenance of plant and materials;
- Minimisation of disruption to existing activities;
- Securing construction sites to deter public access (especially in relation to children);
- Implement traffic management, especially when constructing pipelines in existing road reserves;
- Implement dust management, including the sprinkling of water on access tracks;
- Draw up an Emergency Response Plan (ERP);
- Provide adequate accident and emergency facilities;
- Secure sources of materials following the legal requirements for quarrying and mining, including, rock, aggregate, sand and cement;
- Follow the requirements for the safe transport, storage and handling of explosives, including establishment of warning systems;
- Address issues of location, operation and management of crushing plants and batching plants and follow legal requirements to minimise the disturbance to the environment;
- Have a procedure in place for the managing of chance findings of cultural heritage, including the need to immediately cease work and call in the appropriate authorities;
- In collaboration with the Resident (Supervising) Engineer source appropriate supplies of water for pipeline testing;
- Reinstate landscape and plant appropriate species of trees, shrubs and grasses; and
- Set up an environmental monitoring and feedback mechanism for sound environmental management of the works.

6.2 Potential adverse impacts of the program during construction include:
   i. Minimise odour from water treatment plants by proper management and use of water treatment chemicals.
ii. Implement a disease awareness and management programme as part of the program’s public health and hygiene awareness component that covers malaria and bilharzias and includes detection facilities and treatment medication in addition to the provision of preventative measures, such as the use of treated mosquito nets.

iii. Set appropriate unified water quality standards across the county (Uganda), and particularly potable water for human consumption, water for acceptance into a wastewater treatment plant and water for discharge into a public watercourse (specifically from a wastewater treatment plant).

iv. Encourage development of MSF which will provide direct link program proponent/manager and the consumers.

v. Set up and manage a formalised monitoring and feedback system initiative in order to enhance significant learning process, particularly for integrated environmental management of the program interventions.

vi. Develop and implement integrated catchment management programmes and address the issues of pollution control around water points, livestock watering and pollution issues of vehicle washing and clothes laundering (possibly using phosphate loaded detergent).

7. Procedures to assess potential environmental and social impacts of sub-projects:

The sub-projects which require environmental and social impact assessment (ESIA) shall be structured into six steps, namely screening phase, scoping stage; ESIA 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 and the AfDB’s ISS. The detail of the environment and social assessment shall depend on the category of the project. All subprojects will undergo environmental and social assessment as early as possible. This shall be initiated at the project identification phase. When pre-feasibility studies are being undertaken, the screening process shall also begin. The subproject will undergo:

7.1 Phase I: Screening

Screening shall be undertaken during project identification and pre-feasibility studies. The purpose of screening is to categorize whether or not a project requires a full EIA, ESMP or no EIA.

<table>
<thead>
<tr>
<th>Item</th>
<th>National Legal Requirements</th>
<th>AfDB ISS Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>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.</td>
<td>Projects are likely to induce significant, irreversible adverse environmental and / or social impacts. These projects require an Environmental and Social Impact Assessment (ESIA) in the case of investment projects, leading to the preparation of an Environmental and Social Management Plan (ESMP). Projects can be included in Category 1 owing to potential cumulative impacts,</td>
</tr>
</tbody>
</table>
which will need to be addressed in the ESIA. Any project requiring a Full Resettlement Action Plan (FRAP) under the provisions of the Bank’s Policy on Involuntary Resettlement shall also be deemed to be Category 1 in which case the ESIA shall include, and may be limited to, the social assessment needed to prepare the FRAP.

| 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. | These projects are likely to have detrimental site-specific environmental and / or social impacts that are less adverse than those of Category 1 projects. They require an appropriate level of Environmental and Social Assessment (SESA for program operations or ESIA for investment projects) tailored to the expected environmental and social risk so that an adequate ESMP can be prepared in the case of an investment project or an Environmental and Social Management Framework (ESMF) can be designed and implemented by the borrower in the case of program operations to manage the environmental and social risks of sub-projects in compliance with the Bank’s safeguards. A Category 2 project can be reclassified as category 1 if OSs 1, 2 and 3 are triggered. |
| 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. | These projects do not directly impact the environment adversely and are unlikely to induce adverse social impacts. They do not require an environmental and social assessment. Nonetheless, it may be necessary to carry out gender analyses, institutional analyses, or other studies on specific, critical social issues in order to anticipate and manage unintended impacts on the affected communities. A Category 3 project can be reclassified as category 2 if OSs 1 and 2 are triggered. |
| 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 400m³ 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. | These projects involve Bank lending to Financial Intermediaries (FIs) who on-lend or invest in sub-projects that may produce adverse environmental and social impacts. This category 4 is not applicable to this Project. |

7.2 Project Brief Preparation and Review
A project brief shall be prepared for sub-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. For all other sub project the categorization will be done based on the AfDB’s ISS as shown in the table above.

7.3 Phase II: The EIA study Phase

The EIA Study process for water resources related projects shall comply with the National Environment Act Cap 153 and EIA Regulations 1998. In addition the study will ensure that the EIA process follows the AfDB process.

7.4 Scoping for Water Resources Related Projects

Scoping is an important component in EIA process. It determines the extent and approach of the EIA at an early stage in the planning process. If screening determines that a partial environmental assessment (Category 3) or a full EIA (Category 4) is required for a particular project, terms of reference (ToR) need to be developed for these studies. For Category IV projects, a scoping exercise will be carried out in order to identify issues and prepare the ToR for a full EIA Study. However, for Category 3 project, ToR can be inferred directly from the information provided in the project brief; therefore, a scoping exercise will not normally be required for the review. AfDB’s Category 1& 2 sub-projects will also go through scoping process with the difference being that the reports prepared at the end shall be an ESIA report and an ESMP respectively.

7.5 Terms of Reference for an EIA

The main output of the scoping exercise is to prepare the Terms of Reference (ToR). Taking into account findings from project scoping, the developer shall prepare ToR and submit to NEMA & the AfDB with a copy to DWRM. NEMA & the AfDB shall review the ToR in consultation with DWRM and any other relevant Lead Agencies before the EIS study is conducted. The reviews ensure that the assessment will be conducted in an agreed-upon and focused manner. Based on the tasks specified in the ToR, the developer shall then source and hire an experienced and multi-disciplinary team of EIA Practitioners and other relevant experts to undertake the different tasks specified in the ToR. NEMA & the AfDB in consultation with DWRM shall examine the ToR for the planned development and ascertain whether they address all pertinent issues on the basis of which, the developer shall be given a go-ahead to start on the study. In case the ToR is found to be deficient, NEMA & the AfDB shall point out the deficiencies and request the developer to revise and include them in the ToR.

7.6 Conducting Environmental Impact Study

Once the ToR are approved by NEMA in consultation with DWRM and other relevant lead agencies, the next step in the EIA process is to carry out a detailed study of the key impacts according to the scoping report and ToR. The EIA Study process for water resources related projects shall remain the same as stated in the National Environment Act Cap 153 and EIA Regulations 1998. Stakeholder involvement and consultation is an important part of the EIA process. The consultant should identify key stakeholders (key groups and institutions, environmental agencies, NGOs, representatives of the public and others, including those
groups potentially affected by the environmental impacts of implementing the programme, project or activities). Stakeholder consultations should be by notifying the public, soliciting their and experts’ comments, holding public and community meetings, and asking specific individuals for their input.

Operational Safeguard One (OS1) will be triggered and there will be a need to identify, assess, and manage the potential environmental and social risks and impacts of a project, including climate change issues. Where applicable, OSs 2-5 will support the implementation of OS1 and set out specific requirements relating to different environmental and social issues, including gender and vulnerability issues that are triggered if the assessment process reveals that the project may present certain risks. The environmental and social assessment covers all relevant direct and indirect cumulative and associated facility impacts identified during the scoping phase, including any specifically covered in OSs 2-5, for which there are specific requirements:

- OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement and Compensation
- OS 3: Biodiversity and Ecosystem Services
- OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency
- OS 5: Labour Conditions, Health and Safety

As needed, the assessment will lead to the development of a comprehensive and implementable ESMP with a realistic timeframe, incorporating the necessary organisational capacity (including further training requirements) and financial resources to address and manage the environmental and social risks that may occur during the full project cycle. Categorisation will follow the principle of using the appropriate type and level of environmental and social assessment for the type of operation.

7.7 Reporting
An EIA culminates in the preparation of an EIA report. The Environmental Management Plan is part of the information to be included in the EIA report but for AfDB’s Cat 2 subprojects, it is the main document and has the format shown in the ESMF (for a programme operation). The EIA Regulations, 1998 specifies how environmental information should be presented in an Environmental Impact Statement (EIS). Presentation depends largely on the importance of the various issues in the EIS. Where no significant natural resource issues arise, the EIS may simply refer to them in a general chapter on other environmental effects or information. Where natural resources issues are significant they should be addressed to the extent necessary in the main body of the EIS, although larger EIS may have separate volumes containing detailed information about specific issues.

Screening forms will be submitted by implementing agencies consistent with the draft form proposed in Annex. The report contents will be the following:

- A summary of Environmental and Social Screening reports, with a table summarizing which subprograms have been assigned each of the screening categories,
- A summary of ESIAs developed during the year;
A summary of environmental monitoring carried out on systems at both construction and operation phases.

7.8 Environmental Monitoring
The Environmental Impact Assessment Regulations 1998 requires that the developer carries out environmental monitoring in order to ensure that recommended mitigation measures are incorporated into the project design and that these measures are effective so that unforeseen impacts may be mitigated.

7.9 Environmental Audit
The Environmental Impact Assessment Regulations 1998 require that after the first year of operation, the developer must undertake an initial environmental audit. The purpose of the audit is to compare the actual and predicted impacts, and assess the effectiveness of the EIA, as well as its appropriateness, applicability and success.

8. Enhancement and Mitigation Programme

8.1 Enhancement of Beneficial Impacts
Formation of the MSFs will facilitate and enhance the involvement of the communities in the program. MSFs will be established prior to the design stage and are expected to raise other pertinent issues including technologies selected, ability and willingness to pay for service improvements and the way that tariffs are to be set, cost recovery and how to achieve increase in the service coverage among other issues. During construction stage, preference for employment opportunities for appropriate skills should be given to local community as far as it is possible. This should include paid employment to the water vendors who may lose their livelihood following the program implementation and also women.

8.2 Mitigation of Negative Impacts during Construction:
  i. Care in the location of tanks on hill tops, both in terms of minimising visual impact and checking if there are specific local issues with using such locations;
  ii. As far as possible, try to use public road reserves for pipeline servitudes;
  iii. Ensure that the location of proposed infrastructure conforms with the existing and proposed land use plans and zoning;
  iv. Minimise visual impacts by careful siting, landscaping and planting of vegetation;
  v. Locate treatment works sites in relation to the prevailing wind direction and the location of residential areas;
  vi. Sites will need to be fixed that have adequate heavy plant access but are away from residential areas;
  vii. Standardise on the selection and sizing of mechanical and electrical components;
  viii. Use a modular approach for design to simplify operation and maintenance;
  ix. Standardise hand pump selection and consider the ergonomics of them for use by women and girls;
  x. Standardise on a wellhead design that minimises the risk of pollution;
  xi. Explore opportunities for local people, especially water vendors.
xii. Take measures and provide temporary relocation in case of short term disturbance of the livelihood of people.

xiii. Continue to raise awareness of the sexual transmitted disease and water related diseases.

xiv. Public information and radio program on the program objectives, interventions and the expected impact.

xv. Develop guidelines to demonstrate the degree to which the interventions will reduce river flows and groundwater levels at the most stressed times of the year and lay the basis for drawing up a set of rules that guarantee a minimum base flow (or groundwater level) during the peak of the dry season.

xvi. Develop and formalise procedures for gaining access to the program sites, especially if physical work such as site investigation will need to be carried out.

xvii. During the construction stage, the contractors will implement EMPs for the works that they are contracted to carry out. The Contractor will undertake to implement the following general environmental and social obligations:

- Comply with any specific Environmental Management Plan (EMP) for the works he is responsible for. The Contractor shall inform himself about such an Environmental Management Plan (EMP), and prepare his work strategy and plan to fully take into account relevant provisions of that Environmental Management Plan (EMP).
- Prepare method statements indicating the period within which he/she shall maintain status on site after completion of civil works to ensure that significant adverse impacts arising from such works have been appropriately addressed;
- Adhere to the proposed activity implementation schedule and the monitoring plan/strategy to ensure effective feedback of monitoring information to program management so that impact management can be implemented properly, and if necessary, adapt to changing and unforeseen conditions;
- Implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in Environmental Management Plan (EMP);
- Provide temporary housing and services for skilled workers;
- Implement in line with the National HIV/AIDS policy and the Water and Sanitation HIV/AIDS strategy.
- Conduct health screening and management;
- Provide health and safety, statutory requirements, obligations and sound practice;
- Observe the recommended working days and hours;
- Reduce noise levels including the need keep within stated limits and the provision of personal protective equipment;
- Implement waste management policy and plans;
- Handling and maintenance of plant and materials;
- Minimisation of disruption to existing activities;
- Securing construction sites to deter public access (especially in relation to children);
- Implement traffic management, especially when constructing pipelines in existing road reserves;
- Implement dust management, including the sprinkling of water on access tracks;
- Draw up an Emergency Response Plan (ERP);
- Provide adequate accident and emergency facilities;
Secure sources of materials following the legal requirements for quarrying and mining, including, rock, aggregate, sand and cement;

Follow the requirements for the safe transport, storage and handling of explosives, including establishment of warning systems;

Address issues of location, operation and management of crushing plants and batching plants and follow legal requirements to minimise the disturbance to the environment;

Have a procedure in place for the managing of chance findings of cultural heritage, including the need to immediately cease work and call in the appropriate authorities;

In collaboration with the Resident (Supervising) Engineer source appropriate supplies of water for pipeline testing;

Reinstate landscape and plant appropriate species of trees, shrubs and grasses; and

Set up an environmental monitoring and feedback mechanism for sound environmental management of the works.

8.3 Mitigation Measures during Operation:

i Minimise odour from water treatment plants by proper management and use of water treatment chemicals.

ii Implement a disease awareness and management programme as part of the program’s public health and hygiene awareness component that covers malaria and bilharzias and includes detection facilities and treatment medication in addition to the provision of preventative measures, such as the use of treated mosquito nets.

iii Set appropriate unified water quality standards across the county (Uganda), and particularly potable water for human consumption, water for acceptance into a wastewater treatment plant and water for discharge into a public watercourse (specifically from a wastewater treatment plant).

iv Encourage development of MSF which will provide direct link program proponent/manager and the consumers.

v Set up and manage a formalised monitoring and feedback system initiative in order to enhance significant learning process, particularly for integrated environmental management of the program interventions.

vi Develop and implement integrated catchment management programmes and address the issues of pollution control around water points, livestock watering and pollution issues of vehicle washing and clothes laundering (possibly using phosphate loaded detergent).

9. Monitoring Programme for WSSP

9.1 Environmental and social monitoring will be mainstreamed in the overall Monitoring and Evaluation (M&E) system of the WSS Program. Environmental monitoring of sub-programs will be undertaken at different levels. In-house Environmental / Social Experts will be responsible for day-day supervision and monitoring of implementation of environmental and social safeguards. An external Consultant will be responsible for monitoring operations of the entire program during both construction and operation phases. He or she will also undertake both the mid-term and final environmental and social audits for the programme. The regulatory Agency NEMA will mainly carry out “spot checks” to ensure that implementation of mitigation measures is done satisfactorily. The Bank will also regularly visit the program area to review and ascertain that the clauses and conditions
stipulated in section 5 are adhered to. Mitigation of all the impacts identified has been integrated into the program design and will be included in the specific project designs, and in supervision and construction contracts. Monitoring activities are based on indicators that measure changes over time of key environmental and social components and will include the following:

<table>
<thead>
<tr>
<th>Action</th>
<th>Project Phases</th>
<th>Responsibility</th>
<th>Cost (UA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check adoption and effectiveness of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mitigation measure</td>
<td>PC C O PI</td>
<td>NEMA; AfDB &amp; MWE</td>
<td>10,000</td>
</tr>
<tr>
<td>Identification of unforeseen impacts</td>
<td></td>
<td>MWE</td>
<td>20,000</td>
</tr>
<tr>
<td>Report Preparation &amp; Quarterly &amp; annual</td>
<td></td>
<td>MWE</td>
<td>30,000</td>
</tr>
<tr>
<td>submission</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Audits - NEMA (annual), AfDB Bi-annual,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developer Quarterly</td>
<td></td>
<td>NEMA; AfDB &amp; MWE</td>
<td>30,000</td>
</tr>
<tr>
<td>Monitoring catchment water quality &amp;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution</td>
<td></td>
<td>MWE</td>
<td>120,000</td>
</tr>
<tr>
<td>Water Quality - (Incl. sedimentation)</td>
<td></td>
<td>MWE</td>
<td>120,000</td>
</tr>
<tr>
<td>pollution</td>
<td></td>
<td>MWE</td>
<td>20,000</td>
</tr>
<tr>
<td>Soil erosion</td>
<td></td>
<td>MWE</td>
<td>100,000</td>
</tr>
<tr>
<td>noise</td>
<td></td>
<td>MWE</td>
<td>20,000</td>
</tr>
<tr>
<td>Land acquisition</td>
<td></td>
<td>MWE</td>
<td>250,000</td>
</tr>
<tr>
<td>Water borne diseases incidences (HIV/AIDS;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaria, Bilharzia)</td>
<td></td>
<td>MWE</td>
<td>60,000</td>
</tr>
<tr>
<td>Health &amp; Safety incidences</td>
<td></td>
<td>MWE</td>
<td>20,000</td>
</tr>
<tr>
<td>Climatic Variables</td>
<td></td>
<td>MWE/NEMA</td>
<td>50,000</td>
</tr>
<tr>
<td>Visual intrusion</td>
<td></td>
<td>MWE/NEMA</td>
<td>20,000</td>
</tr>
<tr>
<td>Employment figures</td>
<td></td>
<td>MWE/GoU</td>
<td>20,000</td>
</tr>
<tr>
<td>Biodiversity</td>
<td></td>
<td>MWE/NEMA</td>
<td>20,000</td>
</tr>
</tbody>
</table>

PC – pre-construction; C – construction; O – operation; PI – post implementation

10. Measures to develop appropriate ESMPs for sub-projects:

As a measure to ensure that environmental integrity and plight of communities where the water supply / sanitation systems are to be implemented are not adversely affected, Environmental and Social Management Plan (ESMPs) for specific sub-projects (Water Supply and Sanitation Projects) will be developed by Implementing Units prior to commencement of the specific sub-projects. These project-specific ESMPs will be prepared in accordance with African Development Bank’s (AfDB’s) environmental / social assessment procedures and the Environmental and Social Assessment Framework (ESMF) for the program, and agreed upon by all key stakeholders including MWE and NEMA. The project-specific ESMPs will aim to ensure that implementation of projects / activities under this program is done with little or no harm to the environment / community at large. The proposed program ESMP is summarized in the matrix indicated here below.
<table>
<thead>
<tr>
<th>Environmental Impact</th>
<th>Enhancement/Mitigation Measures</th>
<th>Responsibility for Implementation</th>
<th>Site of Implementation</th>
<th>Implementation Schedule</th>
<th>Responsibility for Monitoring</th>
<th>Monitoring Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of safe drinking water</td>
<td>Set tariffs that will allow poorer members of the society to access the new water services for Large Gravity Flow schemes. Under the CBMS communities be able to maintain their point water source</td>
<td>Directorate of Water Development (DWD)</td>
<td>In the Small town, RGCs and benefiting communities across the country</td>
<td>Following the completion of the program</td>
<td>AfDB/ Rural and Urban Water and Sanitation</td>
<td>Improved Water Supply to the Rural and Urban Communities</td>
</tr>
<tr>
<td>Increased health and hygiene conditions</td>
<td>Provide complimentary awareness for public health and hygiene targeted at the women and girls’ needs and widen awareness to include measures for tackling malaria and other water related diseases</td>
<td>Directorate of Water Development (DWD)</td>
<td>In the Benefiting communities in rural and Urban areas across the country</td>
<td>Throughout the program cycle</td>
<td>Rural and Urban Water team and Environmental Expert</td>
<td>Increase in population practising good health/hygiene/sanitation</td>
</tr>
<tr>
<td>Increase in employment opportunities</td>
<td>Give preference for employment opportunities to local communities including women Provide paid employment to water vendors who are likely lose their livelihood following WATSAN improvements</td>
<td>Contractor</td>
<td>Program sites associated with the benefiting communities</td>
<td>During program construction stage</td>
<td>Implementation authority</td>
<td>Improved purchasing power</td>
</tr>
<tr>
<td>Reduction of pollution levels in the existing stream</td>
<td>Develop and implement an integrated catchment management programme (ICMP)</td>
<td>Directorate of Water Development (DWD)</td>
<td>In the catchment of the water sources</td>
<td>Development of ICMP during final feasibility study and subsequent implementation During the life of the program</td>
<td>Rural and Urban Water and Sanitation Environmental Expert</td>
<td>Improved water quality</td>
</tr>
<tr>
<td>Environmental Impact</td>
<td>Enhancement/Mitigation Measures</td>
<td>Responsibility for Implementation</td>
<td>Site of Implementation</td>
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<tr>
<td>Land acquisition</td>
<td>Provide a fair and prompt compensation to the affected people.</td>
<td>Implementation authority</td>
<td>Program sites in all the benefiting Communities in RGCS, Small towns and Rural Areas</td>
<td>Before commencing of construction activities During construction process</td>
<td>Implementing Authority Land Valuation Board (LVB), Environmental Expert</td>
<td>Number of people compensated Amount of money paid in compensation</td>
</tr>
<tr>
<td>Loss/damage to property</td>
<td>Determine the extent of property lost or destroyed and provide fair and prompt compensation to the affected people</td>
<td>Implementing Authority Supervising consultant Contractor</td>
<td>Program sites associated within the benefiting Communities and Local Governments</td>
<td>Before commencing of construction activities and during construction</td>
<td>Directorate of Water Development (DWD) Land Valuation Board (LVB), Environmental Expert</td>
<td>Number of people compensated Amount of money paid in compensation</td>
</tr>
<tr>
<td>Increased incidences of diseases (such as HIV/AIDS, Malaria and Bilharzia)</td>
<td>Raise awareness and support mechanisms to prevent and control spread of HIV/AIDS among the program workers and local communities. Implement disease awareness and management programme as part of the WATSAN public health and hygiene awareness component for Malaria and Bilharzia</td>
<td>Directorate of Water Development (DWD) Ministry of Health NGOs.</td>
<td>In all the proposed project areas</td>
<td>Before the commencement of program activities and throughout the program cycle</td>
<td>Implementing Authority (RWD and Urban Water) MOF, National AIDS Council Environmental Expert</td>
<td>Incidences of STDs among workers and local community Number of cases treated Number of condoms dispensed to workers and local community Number of meetings held to raise awareness on HIV/AIDS, Malaria and Bilharzia and other water related diseases</td>
</tr>
<tr>
<td>Environmental Impact</td>
<td>Enhancement/Mitigation Measures</td>
<td>Responsibility for Implementation</td>
<td>Site of Implementation</td>
<td>Implementation Schedule</td>
<td>Responsibility for Monitoring</td>
<td>Monitoring Indicators</td>
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</tr>
<tr>
<td>Increase in accidents and occupational hazards</td>
<td>Design and implement safety measures and emergency plans to contain accidents risks Provide workers with protective clothing (nose and mouth masks, ear muffs, overalls, industrial boots and gloves) and helmets as applicable</td>
<td>Contractors/</td>
<td>Sites where program activities will be taking place.</td>
<td>During construction and operation stages</td>
<td>IA/TPT Resident Engineer, Environmental Expert</td>
<td>Number complaints from workers and local community Number of traffic accidents Number and type of protective clothing and gear provided to workers</td>
</tr>
<tr>
<td>Pollution from labour camps</td>
<td>Use suitable human waste disposal systems including pit latrines as found appropriate Segregate solid wastes in the Resident Engineer, Contractor and labour camp units and arrange for subsequent disposal through either efficient incineration or disposal in a sanitary landfill.</td>
<td>Contractor</td>
<td>Resident Engineer/ Contractor camps and labour camp units</td>
<td>During program construction stage</td>
<td>Resident Engineer, Environmental Expert</td>
<td>Number of WC, pit latrines constructed Number of solid waste receptacles installed Number and type of incinerators installed Landfill facility identified, developed and utilized</td>
</tr>
<tr>
<td>Impacts on the downstream users</td>
<td>Carry out hydrology analysis to indicate maximum water abstractions during the height of dry season</td>
<td>Hydrology Consultant Environmental Expert</td>
<td>River catchments where program water intakes will be located</td>
<td>During the Feasibility Studies</td>
<td>TPT Environmental Expert</td>
<td>Amount of water flowing downstream at the height of dry season Complaints against upstream abstractions</td>
</tr>
<tr>
<td>Loss of livelihood for water vendors</td>
<td>Provide paid employment to water vendors who will lose their livelihood following WATSAN improvements</td>
<td>Contractor TPT</td>
<td>In all the benefiting Local governments and Small town / RGC Communities</td>
<td>During program operation stage</td>
<td>IA</td>
<td>Improved purchasing power Improved standards of living</td>
</tr>
<tr>
<td>Visual intrusion</td>
<td>Reduce visual impacts through change in design.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Copies of sensitive Engineering designs</td>
</tr>
<tr>
<td>Environmental Impact</td>
<td>Enhancement/Mitigation Measures</td>
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<td>Site of Implementation</td>
<td>Implementation Schedule</td>
<td>Responsibility for Monitoring</td>
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<td></td>
<td>Paint installed facilities an appropriate colour or screen them with planted vegetation</td>
<td>Resident Engineer Contractor</td>
<td>At the sites that have been affected by program activities.</td>
<td>During the program design and construction stages</td>
<td>Resident Engineer Environmental Expert</td>
<td>Facilities painted appropriate colours Number of sites landscaped and terraced Number and type of trees, shrubs and amount of grass planted.</td>
</tr>
<tr>
<td></td>
<td>Rehabilitate all degraded areas through landscaping and subsequent planting of suitable grass, shrubs and trees to blend with the environment.</td>
<td>Contractor</td>
<td>In areas where program activities are taking place.</td>
<td>During the construction and operation stages.</td>
<td>Resident Engineer Environmental Expert</td>
<td>Type of machinery and vehicles purchased for the program Complaints from local residents Noise levels recorded Number and type of protective hearing devices dispensed to workers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractor</td>
<td>Make changes at the design stage to address overall surface water drainage system in affected program sites Improve impeded drainage through landscaping and filling in the created depressions.</td>
<td>During construction stage.</td>
<td>Resident Engineer, Environmental Expert</td>
<td>Copies of sensitive designs Number of drains and depressions rehabilitated Malaria incidences in the program sites</td>
</tr>
<tr>
<td></td>
<td>Increase in noise levels</td>
<td>Contractor</td>
<td>In areas where program activities are taking place.</td>
<td>During the construction and operation stages.</td>
<td>Resident Engineer Environmental Expert</td>
<td>Type of machinery and vehicles purchased for the program Complaints from local residents Noise levels recorded Number and type of protective hearing devices dispensed to workers</td>
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<tr>
<td></td>
<td>Selection of appropriate machinery and regular servicing of machinery and vehicles. Use of protective hearing devices such as ear plugs and ear muffs among workers when noise levels exceed 80 dBA for 8 hours</td>
<td>Contractor</td>
<td>Make changes at the design stage to address overall surface water drainage system in affected program sites Improve impeded drainage through landscaping and filling in the created depressions.</td>
<td>During construction stage.</td>
<td>Resident Engineer, Environmental Expert</td>
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<tr>
<td>Increased soil erosion and siltation</td>
<td>Where applicable install silt traps to reduce sediment load directly entering riverine and lacustrine environments. Carry out terracing and landscaping of the disturbed sites as appropriate. Plant sediment binding grasses, shrubs and trees on the exposed slopes and other surfaces as found appropriate.</td>
<td>Contractor</td>
<td>In disturbed sites where there are cuts and fills especially around quarries, borrow pits and exposed slopes.</td>
<td>During construction stage</td>
<td>Environmental Expert, Resident Engineer</td>
<td>Number of silt traps installed, Number of sites landscaped, Levels of turbidity recorded in the receiving waters</td>
</tr>
<tr>
<td>Increase in dust levels</td>
<td>Limit levels of dust through good practice such as watering of access routes, construction sites, and other disturbed sites. Cover lorries transporting construction materials. Provide workers with appropriate dust protective gear including masks and overalls.</td>
<td>Contractor</td>
<td>In the vicinity of construction sites, at the quarries and borrow pit sites, crushing plants and other sites where program works are taking place.</td>
<td>During construction stage</td>
<td>Resident Engineer, Environmental Expert</td>
<td>Complaints from local residents, Number of shower trucks used, Number and type of dust protective gear supplied to the labour force.</td>
</tr>
<tr>
<td>Increase in gaseous emissions</td>
<td>Reduce gaseous emissions by selection of appropriate machinery and regular servicing of vehicles. Provide workers with appropriate protective gear including masks to cut down on gaseous emissions inhaled.</td>
<td>Contractor</td>
<td>At the sites where program works are taking place.</td>
<td>During construction and operation stages.</td>
<td>Resident Engineer, Environmental Expert</td>
<td>Complaints from program workers and local residents, Levels of nitrogen and sulphur oxides produced, Carbon monoxide produced, Occurrence of smog</td>
</tr>
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<td>Loss of habitat and disturbance to flora and fauna</td>
<td>Discourage any wanton destruction of vegetation and habitats beyond the designed program works. Restore lost biodiversity on the disturbed area through planting of appropriate grasses, shrubs and trees.</td>
<td>Contractor</td>
<td>In the vicinity of program sites where biodiversity has been disturbed or destroyed.</td>
<td>During construction and operation stages</td>
<td>Environmental Expert.</td>
<td>Number of key trees left intact. No. of tree nurseries established and seedlings planted in the disturbed areas No of disturbed sites rehabilitated.</td>
</tr>
</tbody>
</table>
11. Arrangements for monitoring and sub-project supervision:

**Monitoring and Evaluation**

Environmental and social monitoring will be mainstreamed in the overall Monitoring and Evaluation (M&E) system of the WSS Program. Environmental monitoring of sub-programs will be undertaken at different levels. In-house Environmental / Social Experts will be responsible for day-day supervision and monitoring of implementation of environmental and social safeguards. An external Consultant will be responsible for monitoring operations of the entire program during both construction and operation phases. He or she will also undertake both the mid-term and final environmental and social audits for the program. The regulatory Agency NEMA will mainly carry out “spot checks” to ensure that implementation of mitigation measures is done satisfactorily.

Monitoring and detailed auditing has been ongoing as a follow up of implementation of site-specific ESMPs for the different urban water supply schemes implemented under WSSP I. There were key observations that presented both challenges and opportunities for implementation of water supply and sanitation projects. These have provided some lessons to learn from and greatly informed the development of this ESMF for WSSP II. The challenges need to be addressed, while the good lessons need to be enhanced.

12. Requirements for training and capacity building to enable ESMF implementation:

**Capacity Building and Training**

In the course of implementation of WSSP11, the Local Governments, Urban councils, Water Boards and other stakeholders have gained some experience and progressively developed capacity. However, capacities in the Local Governments and towns councils are still low with regard to environmental and social management practices. Therefore, a special initiative is needed to develop the capacity of the Local Government staff, urban council staff, Water Boards and communities to support implementation of the Rural and Urban WSS Programs including social and environmental aspects.

**a) Developing Capacity on the ESMF Process**

The following institutions will need environmental training to ensure effective implementation of the ESMF:

- The main implementing agencies, about 50 individuals (staff members from each Respective Local Governments and Town councils or Authorities, directly involved in the implementation of the WSS program),
- Professionals involved in the WSS program at the Ministry of Water and Environment-Directorate of Water Development
- The National Environmental Management Authority (about 2 individuals and District Environmental Officers).

It is recommended to organize, prior to the WSSP-II kick-off, a three-day workshop where the ESMF will be presented and discussed.
b) Developing Capacity in Environmental Screening

Environmental screening is also clearly a domain where capacity of future program implementers remains low and also needs to be built. In this particular training engineers and technicians will also taking part.

Thus, environmental training to ensure effective implementation of the ESMF will be addressed in a proposed 6-day workshop targeting the above training of trainers and engineers/technicians. This workshop will be facilitated by MWE/DWD. The training will be delivered by the MWE and environmental and social specialists from NEMA, with the support from AfDB Environmental and Social specialists. The training will try to address the following topics:

- Review of the Ugandan environmental policies, laws, regulatory and administrative frameworks,
- Review of the World Bank’s safeguard policies,
- ESMP and environmental guidelines applicable to construction contractors,
- Environmental and social screening process (with one practical exercise on a real site),
- Assignment of environmental categories,
- Carrying out of the environmental work as discussed in the ESMF,
- Review and clearance of the screening results and separate ESIA reports,
- Preparation of terms of reference for carrying out ESIA/ESMPs
- How to monitor safeguard implementation
- Water quality management
- Waste management issues (safe disposal of domestic wastes, construction wastes etc.)
- Impacts and monitoring of groundwater and surface water
- Malaria measures with support from the Ministry of Health
- Social impacts as per the ESMF,
- compensation for minor income/property loses),
- The benefits of public consultation,
- AfDB’s Safeguard Policies and other requirements related with public consultation,
- Areas of the WSS sub programs where public consultation is required,
- Public consultation process in view of the ESMF requirements,
- Public consultations during sub-program design
- Case studies based on categorization of common cases (wells and groups of wells, pipelines, waste water treatment ponds, rehabilitation works),
- Discussion of, and amendments to, the environmental screening form.

This workshop should also aim at reviewing and refining some aspects of the process, particularly the forms, toolkits and guidelines proposed in this ESMF, in view of their smooth implementation by the different parties involved in the process of implementing the WSS sub programs.

a) Developing Awareness of the ESMF Process
- Representatives of Local Governments, Urban councils, Water Boards at least 2 from each program implementing utilities,
- Professionals involved with water supply and sanitation at the Local government/town council levels (at least 2 technical staff member for each WSSP-II District and Towns),
- Environmental focal persons at the community level (at least 1 for each of the WSSP-II).

b) Developing Capacity Environmental Screening

- Technical staffs (Social Scientists, Environmental Health officers, Engineers and technicians) and Environmental Specialists from the WSSP-II District and Towns (at least 1 from each implementing District or Town),
- Engineers and Technicians and Environmental Specialists in municipal authorities with potential involvement in water and sanitation issues (at least 1 individual from each WSSP-II District or Towns)
- Staff from construction supervision consultants and contractors, 1 from each (for each sub programs).

It is recommended to organize, prior to the WSSP-II kick-off, a workshop where this ESMF will be presented and discussed. This workshop should also aim at reviewing and refining some aspects of the process, particularly the forms, toolkits and guidelines proposed in this ESMF, in view of their smooth implementation by the different parties involved in the process of implementing the WSS sub programs. This workshop will be facilitated by the respective water bureaus, MWE/DWD and District Environment Officers (DEO).

13. Institutional Arrangement and Implementation Responsibilities

Institutional strengthening for all the components of the program has already been identified and forms an intrinsic part of the program. The capacity building component of the program includes support in community mobilisation before and during project implementation, water catchment management, hygiene and sanitation and other technical and institutional capacity building activities. All these activities support the enhancement and implementation of the program environmental and social management plan. The complementary awareness components for public health and hygiene focusing on hygiene and sanitation issues will be widened to include awareness of waterborne, water related and insect borne diseases, in particular the issues of malaria and also Gender and HIV/AIDS. The Implementing Authorities (IAs) will oversee the implementation of all mitigation measures, especially those integrated in the program design. The District Local Government councils and sub county local administrations will also make all necessary arrangements at all levels in the identification of sites and their acquisition. At this stage, a broader view of Environmental and Social Management Plan (ESMP) for the proposed program has been developed, but ESMP for each intervention will be formulated during the detail design for each sub-project. Main institutions and officers that will be involved in the implementation of proposed ESMP, include the Ministry of Water & Environment represented by the Directorate of Water Development Rural Water Department project team, District Local Government. Contractor, Resident Engineer, Environmental officers.
Regulating Institutions like NEMA, Environmental Officers and Consultants

<table>
<thead>
<tr>
<th>Institution</th>
<th>Mandate</th>
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<tbody>
<tr>
<td>National Environment Management Authority (NEMA)</td>
<td>Oversee, coordinate and supervise environmental management. NEMA’s overall goal is to promote sound environmental management and prudent use of natural resources in Uganda.</td>
</tr>
<tr>
<td>Ministry of Water and Environment (MWE)</td>
<td>The Ministry, through its Directorate of Water Development (DWD) and Directorate of Water Resources Management (DWRM) will monitor all activities and will be involved in the project as a key stakeholder from preconstruction to decommission phase. The MWE/DWD would be responsible for overall coordination and monitoring and evaluation of the program, facilitation of capacity building, and policy formulation. Capacity building will include full time specialists in social and environmental assessments review and monitoring and evaluation. They are also responsible to earmark budget and properly implement mitigation measures proposed by the general ESMP, ESIA study documents.</td>
</tr>
<tr>
<td>Ministry of Gender, Labour and Social Development (MGLSD)</td>
<td>The objectives of the MGLSD are to minimize Occupational Accidents, Diseases and Injuries, promote good Health of the Worker at the Workplace promote good Working Conditions, promote construction of Safe and Healthy workplaces, promote awareness of Occupational Safety and Health among Workers, Employers and the General Public through Training. The ministry, through its department of Occupational Health and Safety (OHS) will be responsible for registering the workplace and monitoring of conditions under which employees on the project are subjected.</td>
</tr>
<tr>
<td>Local Government Administration Structures</td>
<td>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 especially HIV/AIDS aspect.</td>
</tr>
<tr>
<td>District Local Governments represented by District Water Officers, Urban councils represented by Urban Water Officers</td>
<td>The Ministry if Water &amp; Environment/ DWD in collaboration with the respective Local Governments &amp; Urban councils will be primarily responsible for program planning, management and overall coordination within each District / Town Council Qualified Managers and staff will be responsible for management of their urban and rural programs, financial management, internal audit, procurement and contracting, capacity building, social/environmental assessment, and monitoring and evaluation. The assigned environmental and social personnel will also be responsible in conducting environmental and social screening, monitoring and following up of the implementation of the proposed mitigation measures. Also will be responsible for planning and managing their water supply systems.</td>
</tr>
<tr>
<td>District Environment Officers (DEOs)</td>
<td>DEOs are expected to review and approve ESIA documents, and oversee the safeguard component of the WSSP-II sub programs. They will carry out spot checks on programs to confirm that environmental and social screening and environmental management plans are properly done. They will also advise the TWBs sub-programs involving impacts beyond the generic issues, determining if the mitigation measures are acceptable or program redesign is required.</td>
</tr>
<tr>
<td>Water and Sanitation Committees</td>
<td>Water and Sanitation Committees will act on behalf of the community in planning and managing its water and sanitation facilities. Each Community Water and Sanitation Committee will be responsible for facilitating participatory planning and ensuring that implementation of mitigation measures are carried out.</td>
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</table>

The following table shows the proposed share of responsibilities between the different organizations involved in the implementation of the WSSP-II program in the implementation of the environmental management process.
<table>
<thead>
<tr>
<th>Level</th>
<th>Responsibilities</th>
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</table>
| Implementing Agencies        | • Contract consultants for ESIAs study of Category B2 sub Programs based on ToRs prepared for each programs and reviewed by the relevant institutions.  
• Designate focal staffs (at least 2 in each region and in the two city administrations) that will take responsibility for environmental screening and generally for environmental management and get trained accordingly- this staff will ultimately conduct Environmental and Social Screening and supervise the implementation of mitigation measures proposed by ESS, ESIAs, ESM and by the Guidelines for Construction Contractors  
• Designate technical supervisor of works, who, in the absence of the environmental focal staff mentioned above, will supervise the implementation of mitigation measures  
• Take responsibility for and supervise the implementation of environmental mitigation measures at construction and operation phases  
• Take responsibility for and supervise the implementation of monitoring measures  
• Provide an annual environmental monitoring report to the review of the Ministry of Water and Energy  
• Implement Environmental Guidelines for Construction Contractors  
• Take responsibility for and supervise the implementation of Environmental Guidelines for Construction Contractors  
• Develop ESIAs where required (Category B2 sub-programs)  
• Participate in the provisions of training for regional, District and community experts  
• Participate in the finalization of the screening forms based on this ESMF  
• Supervise the development of ESIAs by consultants where required, review Terms of Reference, draft ESIAs and participate in public consultations  
• Supervise the monitoring of environmental mitigations implemented by construction contractors  
• Supervise the implementation of this ESMF in the entire regions  
• Supervise and monitor the overall implementation of ESMF  
• As required, prepared the ESMF  
• Review and clear TORs and ESIAs for category B2 sub-programs  
• Facilitate and provide training for regional water bureaus’ and other institutions’ environmental and social specialists.  
• Provide assistance during environmental and social screening and monitoring processes  
• Review the draft ESMF  
• Review ESIAs for category B2 sub-programs  
• Monitor the overall implementation of ESMF, including the review of annual environmental reports provided by the MWE |
| Construction contractors     | Implement Environmental Guidelines for Construction Contractors  
| Construction supervision consultants | Take responsibility for and supervise the implementation of Environmental Guidelines for Construction Contractors  
| ESIA Consultants             | Develop ESIAs where required (Category B2 sub-programs)  
| DEO’s                        | Supervise and monitor the overall implementation of ESMF  
| Ministry of Water and Environment | As required, prepared the ESMF  
| AfDB                         | Review the draft ESMF  
|                              | Review ESIAs for category B2 sub-programs  
|                              | Monitor the overall implementation of ESMF, including the review of annual environmental reports provided by the MWE |

**Conclusion:**

This ESMF has been developed through a widely consultative process and basing on experiences and lessons learnt during implementation of WSSP I program. The ESMF will be helpful in addressing environmental issues that apply to or might be triggered by the planned project activities of the WSSP II program. Expected positive benefits of the project include reducing the burden on health care services; introduction of a complementary health and hygiene awareness programme targeted at women and children and including
components on malaria, HIV-AIDS, and other Diarrhoeal diseases will considerably enhance the benefits of the program; contribute to alleviation of poverty and improving the socio-economic and health status; promote the implementation of the Uganda National Development Plan (NDP) and contribute the achievement of the MDGs; employment opportunities for construction and operation.

Adverse Impacts of WSSP will include Land acquisition, Increased incidences of diseases, Visual intrusion, Increased accidents and occupational hazards, Disturbance in socio-economic activities, Increased soil erosion, Increased siltation of the aquatic habitats, Disturbance of floral and faunal communities, Increased noise levels, Gaseous emissions among others.

Project-specific Environmental and Social Management Plans (ESMPs) shall be developed in a manner that complies with the program ESMF, existing AfDB’s requirements / systems and NEMA guidelines for assessing and managing environmental and social risks to address the above projected adverse impacts but also to enhance the positive benefits of this project.

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