Government of Uganda

Ministry of Water and Environment

Directorate of Water Development

Environmental and Social Management Framework (ESMF) for the OBA in Water Supply in Uganda's Small Towns and RGCs

Main Report: Environmental and Social Management Framework/Project Brief

January 2007

COWI

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Table of Contents

Table of Appendices

List of Tables

List of Figures

List of Abbreviations and Acronyms

Abbreviation / Acronym	Meaning
CBO	Community Based Organisation
COMESA	Common Market for East and Southern Africa
DBO (Form of Contract)	Design-Build-Operate
DWD	Directorate of Water Development
DWSCC	District Water and Sanitation Co-ordination Committee
EAC	East African Community
EIA	Environmental Impact Assessment
EIS	Environment Impact Study / Statement
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
GoU	Government of Uganda
GPOBA	Global Partnership for Output Based Aid
HIV/AIDS	Human Immune deficiency Virus/Acquired Immune Deficiency Syndrome
IGAD	Intergovernmental Authority on Development
LC	Local Council
MoU	Memorandum of Understating
MOWE	Ministry of Water and Environment
NEMA	National Environment Management Authority
NGO	Non-governmental Organisation
NWSC	National Water and Sewerage Corporation
OBA	Output Based Aid
PEAP	Poverty Eradication Action Plan
PHC	Primary Health Care
PO	Private Operator
PWP	Public Water Points
RGC	Rural Growth Centre
RPF	Resettlement Policy Framework

RTWSP	Rural Towns Water and Sanitation Programme
ST	Small Town
STDs	Sexually Transmitted Diseases
TOR	Terms of Reference
TSU	Technical Support Unit
UBOS	Uganda Bureau of Statistics
UGX	Uganda Shillings
UPE	Universal Primary Education
VIP (Latrine)	Ventilated Improved Pit (Latrine)
WA	Water Authority
WAP	Water Action Plan
WB	World Bank
WSC	Water and Sanitation Committee
WSS	Water Supply and Sanitation
WTP	Willingness to Pay
WUA	Water User Association
WUG	Water User Groups

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Our special thanks to the various resource centres in the Ministries where we obtained literature especially on sectoral policies.

In order to meet both The World Bank and National requirements the report is called an Environmental and Social Management Framework and Project Brief respectively.

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Date: 09th January 2007

Executive Summary

The Government of the Republic of Uganda through the Ministry of Water and Environment (MoWE) has requested The World Bank through the Global Partnership on Output Based Aid (GPOBA) to improve the efficiency of infrastructure service delivery in the water and sanitation sector in small towns and rural growth centres in Uganda. The Project will support the installation of a total of about 2000 new water connections targeting a total of about 45,000 consumers in about six small towns and four rural growth centres (RGCs). The project activities will be located throughout Uganda.

The project is implemented by the Directorate of Water Development (DWD) on behalf of Government of Uganda. OBA gives opportunity to private operators who manage local water boards to participate in decision making at an early stage of the project cycle by sharing the demand projections, system design and construction risks and coming up with systems that are cost effective. The costs passed on to the consumers are expected to come down due to improved operations and management efficiencies.

The project activities will include water source site selection, vegetation clearance and excavations. In the case of groundwater sources, drilling of boreholes will be carried out. Physical water treatment infrastructure like water weirs, clarifiers and sedimentation and chlorination tanks will be constructed. The electricity grid and access roads will be extended to the water treatment works.

The implementation of the project is not expected to lead to adverse environmental impacts and social concerns; these, if any, are expected to be minor, localized and readily managed. The main benefits of the project will be improved rural water supply, sanitation, hygiene and decrease the incidence of waterborne diseases. Environmental impacts will include but not limited to the following:

- Construction, and transportation of equipment may cause vegetation destruction and soil erosion, thus, the use of labour-intensive technology, and, activities confined – as possible – to on-site locations should reduce adversity, while vegetative propagation and tree replanting will restore land degradation.

- Construction spoils, and waste residues will be removed, and properly disposed of at selected sites.

- Loss of agricultural land, and/or crops will be minimized as possible, through appropriate engineering design, and location of pipelines and wells / borehole sites, in addition, compensation will be provided as necessary.

- Water source contamination will be reduced by appropriate water treatment and chlorination.

- Encroachment of well sites and water sources will be reduced by fencing, and demarcating well site boundaries.

- The incidences of STDs & HIV/AIDS transmission could be minimized by promoting awareness and education to the contract workers and communities particularly women and youth. The Federation of Ugandan Employers has an excellent HIV/AID manual, which should be adapted.

The Environmental Social Management Framework (ESMF) will guide the grant beneficiaries i.e. the local communities, local authorities, water boards, the private water operators, and DWD to minimize or mitigate any possible environmental impacts and social concerns. The ESMF will be used as a framework to guide all sub projects under the Project, through the Environmental Assessment (EA) process of initial environmental review, screening, scoping and finally undergoing a detailed Environmental Impact Assessment, if the need be.

The OBA Project will trigger two major World Bank safeguards policies i.e. Environmental Assessment OP/BP 4.01 and Involuntary Resettlement OP/BP 4.12. Even though the safeguard policies on Natural Habitats and Physical Cultural Resources are not triggered, the screening checklist has been designed in such a way that questions relevant to these safeguards are included to detect whether there have been impacted. Most of the requirements for land or right of way for pipelines would be freely given by the beneficiaries of the sub-projects.

The ESMF confirmed that the social and environmental benefits of the Project would outweigh any potential adverse environmental or social concerns and, further, that any potential adverse concerns can be prevented or minimized by the preventive actions and mitigation measures recommended in the EMP.

The ESMF confirmed that the OBA Project is classified as Category 'B' i.e. projects whose impacts are site specific, few if any, can be prevented, minimised, mitigated or compensated and environmental performance can be improved. For the RGCs, there may be limited safeguards concerns under World Bank safeguard policies, but the finding is mostly that there are no significant, cumulative or irreversible environmental impacts from the project.

The ESMF confirmed that the overall environmental impact of the project should be positive. The potential adverse impacts the ESMF identified can be prevented or minimized by simple preventive actions and mitigation measures

incorporated into the planning, design, construction and operation and maintenance phases of the project.

The EMP outlines the appropriate preventive actions and mitigation measures for addressing the potential adverse environmental and social impacts identified by the ESMF for the project activities. The environmental screening criteria and procedures to be used in the project have been specifically identified and will be referenced in the Project's Operations Manual.

This ESMF is in three volumes: the first volume is the main ESMF report; the second volume is the Environmental Management Plan (EMP) and the third volume is the Resettlement Policy Framework (RPF).

1 Project Description

1.1 Introduction to the OBA Project

The Government of Uganda is seeking different ways of improving the efficiency in infrastructure service delivery, including involving the private sector in the service delivery and letting the private sector drive the technical design and implementation on a commercial basis. Output Based Aid (OBA) is one of the possible solutions. OBA is being pioneered in Uganda under a GPOBA funded pilot project. GPOBA[1] (Global Partnership on Output-Based Aid) is a multi-donor trust fund administered by the World Bank.

OBA is a strategy for explicit performance based subsidies for delivery of basic services (here water supply):

- Explicit – because it is explicitly recognized why the subsidy is provided, who is receiving the subsidy, what is being subsidized and with how much.

- Performance based - because the payment of the subsidy is directly linked to the output (for example, the establishment of connections for eligible households) rather than the input.

The objective of the Project is to support an output-based aid component of the private sector management of water supply services in small towns aimed at expanding access to piped water supply. The Project will support the installation of a total of about 2000 new water connections targeting a total of about 45,000 consumers in about 6 small towns and 4 rural growth centres (RGCs). The project activities will be located throughout Uganda, but concentrated in the South and East. The towns have been selected from a short-list of 19 provided by the Directorate for Water Development (DWD) of the Ministry of Water and Environment (MOWE) based on criteria such as demand, willingness to pay, availability of water, local authority interest and capacity, and private sector interest.

The project targets the introduction of the Output Based Aid (OBA) to support private sector management of water supply services in small towns and rural

[1] Please visit the website of the Global Partnership on Output Based Aid (GPOBA) at http://www.gpoba.org/

growth centres (RGCs). The immediate goal is to expand access to piped water supply by increasing the number of active connections and extending the distribution networks, and, where necessary, increasing the production and/or storage capacity. In RGCs, the scheme will involve the design, construction, operation and maintenance of new piped water supply systems.

The OBA scheme is to enhance provision of affordable water supply services to new customers and users amongst the poorer segments of society while promoting effective implementation, value for money and private sector participation.

Improved hygiene and sanitation will be encouraged amongst the beneficiary communities in compliance with the GoU policies on sanitation. For example, the beneficiaries may be required to have improved pit latrines and bath shelters, or to construct communal VIP latrines, in order to benefit from the water supplies.

1.1.1 The Objective of ESMF

The objective of this ESMF is to ensure that the implementation of the OBA project will be carried out in an environmentally and socially sustainable manner. The ESMF will provide a framework to enable communities/beneficiaries screen sub-projects and institutional measures to address adverse environmental and social impacts. The ESMF will outline remedial measures and preventative and control strategies for potential negative environmental and social impacts due to proposed project activities; measures to address the World Bank Safeguard Policies on Environmental Assessment and Involuntary Resettlement; and actions to improve positive impacts of the project.

Under the World Bank's safeguard policy Environmental Assessment OP/BP 4.01, the project is classified as B i.e. projects whose impacts are site specific, negative impacts can be prevented, minimized, mitigated, or compensated and environmental performance can be improved. Under the Environment Act Cap 153, projects that are likely to have environmental impacts are listed in the Third Schedule. In the Ugandan EIA cycle, it is anticipated that most of the sub projects will at least reach the environmental screening stage. Only those with potential negative impacts will go to the environmental scoping stage. A detailed EIA is most unlikely for sub projects of this size and magnitude. In the event that an EIA is inevitable then the Ugandan EIA Regulation and the World Bank Environment Assessment OP/BP 4.01 will be used.

The ESMF is presented in three reports. The first volume which is this volume is the Main ESMF Report; the second volume is An Environmental Management Plan (EMP) and the third volume is Resettlement Policy Framework (RPF). This main report should be read along with the two other reports. The ESMF identifies project activities, likely impacts; mitigation; monitoring and capacity building. The EMP summarizes institutional arrangements for the implementation of mitigation measures, the monitoring of the implementation of mitigation measures, and capacity building needs as well as cost estimates and time horizons for such activities and monitoring indicators. Identified potential

socioeconomic impacts that need resettlement and compensation will be solved through the RPF.

1.1.2 Methodology used to prepare the ESMF

The present ESMF was prepared based on existing general literature, among them: The Constitution of Uganda, National Policies and their supporting laws and regulations: Water, Environment, Decentralization, Health, Land and Land Use, Poverty, Gender and the World Bank's Safeguard Policies. Besides these documents, consultations have been had with the Client (DWD) and Funding Agency (The World Bank).

1.1.3 Overview of the World Bank's Safeguard Policies

Out of the ten World Bank's safeguard policies designed to ensure that the projects financed are environmentally and socially sustainable, only two are trigged:

- OP 4.01 Environmental Assessment;
- OP 4.12 Involuntary Resettlement;

OP 4.01 Environmental Assessment
The objective of OP 4.01 is to ensure that projects financed by the Bank are environmentally and socially sustainable, and that the decision making process is improved through an appropriate analysis of the actions including their potential environmental impacts. Environmental Assessment (EA) is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property); and transboundary and global environmental aspects. EA considers natural and social aspects in an integrated way.

OP 4.01 is triggered if a project is likely to present some risks and potential adverse environmental impacts in its area of influence. Thus, in the case of OBA Project, potential negative environmental and social impacts due to construction and operation activities are likely to be minor, localized and manageable. The ESMF has been designed to ensure that in the event potential impacts do occur, then there is system to address the issues.

The safeguard policies on Natural Habitats and Physical Cultural Resources are not triggered; however, the screening check list has been designed in such a way questions relevant to these safeguards have been included, so as to detect whether they have been impacted.

OP 4.12 Involuntary Resettlement
The objectives of this operational policy are to:

i) Avoid or minimize involuntary resettlement, where feasible and explore all viable alternative project designs;

ii) Assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them;

iii) Encourage community participation in planning and implementing resettlement, and

iv) Provide assistance to affected people regardless of the legality of land tenure.

The policy does not only cover physical relocation, but any loss of land or other assets resulting in:

i) Relocation or loss of shelter;

ii) Loss of assets or access to assets; and

iii) Loss of income sources or means of livelihood, whether or not the affected people must move to another location.

This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons. In the event of land acquisition, the OBA will implement the provisions of the Resettlement Policy Framework (RPF) which has been prepared as a separate document.

1.1.4 Introduction to the ESMF of the OBA Projects

The project will consider and design the appropriate contractual arrangements for private sector participation. In the small towns, where the water authorities own the assets and the private operators run the systems through management contracts, the majority of the output-based subsidy will be paid after connections (yard taps and stand-posts) of agreed quality are delivered, although some of the subsidy payment will be withheld until several months of reliable service has been demonstrated.

In the RGCs, where there is no existing system and therefore operator, a design-build-operate arrangement will be introduced through competitive procurement, and payments to the operator will be phased, including after delivery of appropriate design of the system, raw water intake, storage, etc. A certain percentage of the subsidy payment to the operators will be withheld until after the connections (of basic agreed minimum standards) have been made.

In the case of the small towns, boreholes with submersible pumps, other sources with hand pumps, and springs currently exist to supply the water supply systems. These systems meet Ugandan environmental standards (some of the

original investments were World Bank financed). The existing systems are generally well under capacity, and therefore it is not expected that new sources will be required, except in one small town, Rukingiri. In the four RGCs however, the competitively selected operator will in three cases be constructing systems that involve ground water sources and pumping, and in one case construct a system that relies on gravity flow systems with limited treatment.

Hygiene and sanitation elements are not directly part of the OBA scheme but shall be planned for and executed as part of the sensitisation of the communities by DWD, the Private Operator and the local authorities. The principles of improving hygiene and sanitation are that households that will benefit from the supply of water will be required to:

- Ensure that there is an improved pit latrine[2] in the household. The pit latrine should have a simple hand washing facility such as a tippy tap, jerry can or pot with water. The latrine should have a pit cover.

- Have a simple solid waste disposal system such as recycling of biodegradable waste through composting and a waste pit.

- Have a kitchen utensils drying rack and

- Have adequate cooking facilities separate from the main house.

Assessment of the above criteria and those specific to the towns and RGCs as agreed by the community (and approved by the World Bank / GPOBA and DWD), will be carried out during the application process before the final beneficiaries are selected.

At the tap stands, each tap shall have a drain and soak pit (which can be planted with sucker plants such as bananas or yams). They should also be fenced and be well maintained. The community at the tap should have a register of users.

1.2 Projects: Eligibility Criteria

The criteria for selecting the 12 towns and RGCs from the initial 19 included the following:

- Access to water supply and the quality of the services at the towns and RGCs, including the presence of a private operator;

- Access to water supply and the quality of the services, including the number of connections presently serving the town, capacity of the network and the population;

[2] An improved pit latrine is defined as one with a wall and sufficient privacy for the users. The walls should preferably be of mud and wattle, sun dried bricks or burnt bricks. A door or wall can provide the privacy required. A roof is preferable, but not essential.

- Demand, ability and willingness to pay for improved services. This includes the collection efficiencies of the private operator, the level of household income and cost of operation and maintenance.

- Investment and financing costs required for the setting up of the systems, or for extending them;

- Scope, coverage and cost efficiency of the current operations;

- Estimated subsidies for the whole project based on the current and future tariffs as set by the regulator or government.

These criteria were analyzed in detail in the OBA Transaction Design Report (COWI, August 2006) and enabled a selection of the towns suitable for OBA pilot phase to be selected. The Table below is an extract of the selection criteria used in that report.

Table 1.1 Selection Criteria for the OBA Pilot Towns

Criteria applied on a portfolio basis	
1. The portfolio of pilot projects should be balanced between Small Towns and RGCs	
2. The portfolio of pilot projects should include Greenfield pilots as well as pilots where systems exist and there is no incumbent or the contract is about to expire	
Criteria to individual Small Towns and RGCs	Weight
A Technical feasibility (20%)	
A.1 Quality of existing project documentation (existence of Feasibility Study, availability of Business/investment Plan, etc.)	10%
A.2 Appropriateness and sustainability of proposed (or identified) technical solution	10%
B Financial feasibility (30%)	
B.1 Cost recovery (present tariff covers O&M plus)	15%
B.2 Quality of incumbent operator (unit cost, collection efficiency, access to financing, management capacity)	5%
B.3 Total investment cost compared to increased capacity (expressed in add m3 produced) and improved access (number of additional people served)	10%
C Socio-economic feasibility (30%)	
C.1 Willingness to connect and potential for user contribution to the connection charge	15%
C.2 Required subsidy per new household given access to safe water	10%
C.3 Longer term development potential of town / RGC (proximity to good road or larger population centre, population growth rate)	5%
D Institutional feasibility (20%)	
D.1 Existence and quality of WA, local support to project if RGC	5%
D.2 Interest among Private Operators in providing service in Town / RGC	15%

1.3 Types of Project

The sub projects are divided into two categories – small towns and RGCs. There are 12 potential pilot projects (Section 1.3.1); There are six small towns in Group I which will be in the first phase; two small towns in the second phase Group II and four RGC projects. Group II of the small towns projects may potentially be added to the pilot phase, although the 10 (six small towns and four RGCs) are the most likely for the second phase.

1.3.1 Projects in Small Towns

Sub-projects in small towns are divided into Group I with no incumbent providers or where the contract is up for re-bidding (expiry of current contract in brackets) and Group II that have contracts running to 2008 for the Private Operators. The small towns in Group I may be procured competitively without violating existing Incumbent Operator contracts and are included in the GPOBA pilot scheme.

Group I

1 Kachumbala, Bukedea District (No incumbent provider);

2 Wakiso, Wakiso District (Dec. 2006);

3 Luwero, Luwero District(Jan. 2007);

4 Wobulenzi, Luwero District. (Mar. 2007);

5 Rukungiri , Rukungiri Distric(Jun. 2007);

6 Kalisizo, Rakai District. (Jun. 2007).

Group II

7 Busembatia,

8 Bugiri.

1.3.2 Projects in Rural Growth Centres

Greenfield projects in RGCs (which involve construction of new water treatment works, reservoirs and distribution mains) with no incumbent provider:

9 Sipi, Kapchorwa District.

10 Namutumba, Namutumba District.

11 Magale, Manafwa District.

12 Masafu, Busia District.

1.3.3 Projects in Small Towns that may be included in the Pilot

The towns below are suitable for the OBA Pilot but have contracts running to 2008 for the Private Operators:

13 Busembatia,

14 Bugiri.

1.4 Planned Location of Projects

The 12 projects are located as shown on the map below.

Figure 1.1 Location of the 12 Towns for the OBA Pilot Phase

1.5 Institutional Implementation of the OBA Project

1.5.1 Contracts for Operation of the Systems

In the pilot 6 small towns, the local private operators shall provide a specific number of connections, which will most likely be in the form of a yard tap. In addition, the private operator will be required to establish a specified number of public water points (PWPs), based on the size of the project coverage area and the present service level to ensure that all households are within a reasonable distance from a PWP. In some cases, in order to meet the expected demand of these new connections and to ensure a viable and continuous service, the private operator would have to expand production or storage capacity. In all cases, some extensions of the network – beyond basic communication pipes to add new connections – will probably be required. All connections require meters.

In the pilot 4 RGCs, since there is no existing system, the private operator will be expected to construct an entire water supply system, including drilling / searching for appropriate water sources, production, storage, conveyance, and final connections. All connections require meters. In some cases, since only a few local private operators have more intensive construction experience, local private operators might need to form joint ventures with construction companies.

In all 10 pilot areas, the local private operator will operate, maintain and manage the water supply systems and ensure a safe and reliable supply to all connections. This shall be embedded in the contract to ***build upon the existing contractual arrangements in the sector***. Under the OBA arrangement, the existing management contracts will be enhanced to 'Enhanced Operations and Maintenance Agreements' and will include a component for expansion and/or construction. The existing contracts cover a three-year period, while the enhanced contracts will be for a 5-year period in small towns, and between 5 and 10 years in RGCs. All of the OBA pilot towns and RGCs will utilize performance-based arrangements where the private operator's revenue/payment is linked to the revenue billed and collected – already in place in some small towns.

1.5.2 Competitive Tendering

The sub-projects under the pilot will be competitively tendered under World Bank procedures. The **small towns will be bid out based on lowest subsidy required per connection and a fixed tariff** embedded in the contract with appropriate cost pass-through mechanisms. The **RGCs will be bid out based either on the lowest subsidy required and a fixed tariff** (including appropriate cost pass-through mechanisms for the tariff in the contract), **or on the lowest tariff required, based on a fixed investment subsidy per connection**, and including appropriate cost pass-through mechanisms. The actual tendering mechanism for the RGCs is still to be decided.

1.5.3 Targeting the Poor

Poverty is prevailing in the target area of the OBA pilot. Therefore, the pilot relies on **geographic targeting**. Targeting the poor will also be partly ensured through the **defined subsidy mechanism**, since for the most part, the relatively 'well-off" in the small towns already have their own connections. Therefore, relying on connection subsidies as opposed to consumption subsidies is likely to better exclude the relatively well off. In addition, the pilot will utilize **self-selection targeting** by ensuring that each town or RGC is equipped with a few PWPs. PWPs do not require an up-front connection fee of UGX 50,000 (equivalent to more than half the monthly income of the average household in RGCs). The poorest will rely on PWPs or on selling from yard taps.

1.6 Outputs and Subsidy Disbursement

An independent Monitoring and Verification Agent appointed by the DWD (with a required No Objection from GPOBA/World Bank) will certify each output per the Project Operational Manual and related agreements.

In the Small Towns, ninety (90) percent of the subsidy per connection will be released for all connections made against a certificate of commissioning and user test of connections. Verification of connections will be made after 50% and 100% of connections have been made. Ten (10) percent of the total subsidy payment will be released against water sold from new connections after the first 12 months of operation.

In the case of the four RGC green-field operations, payments will be made in four instalments as follows:

- A flat payment of 15% of the pre-determined GPOBA grant a detailed design for the tendered water supply system works;
- 35% against the raw water intake, pump installations and power supply facilities;
- 20% against the distribution network and installation of storage tanks; and,
- 30% of the predetermined GPOBA grant divided by the agreed number of connections will be released against commissioned certificates and user tests after all connections are made.

The figure below describes how the various sources of funding will flow to the private operators. The Government of Uganda will continue to provide Conditional Grants to the small towns and RGCs, and these will be counted as co-financing. These Conditional Grants will be clearly demarcated and transferred into agreed escrow accounts.

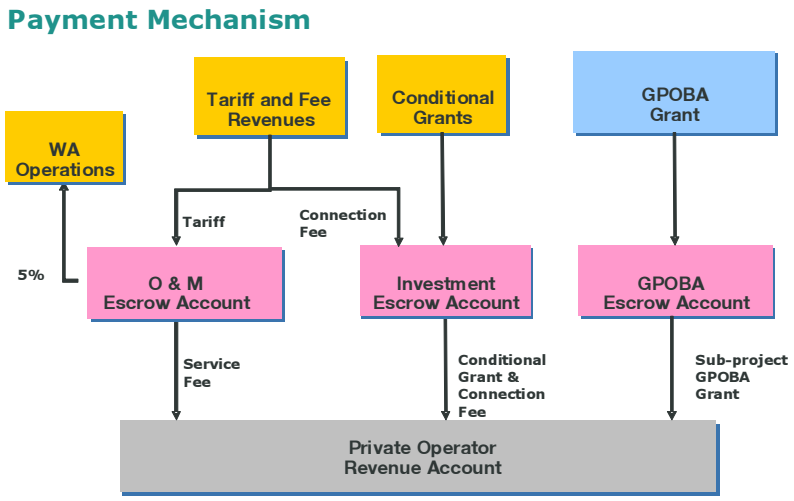

Figure 1.2 Payment Mechanisms

1.7 Project Implementation

GPOBA (through the World Bank) and a private institution (acting as Fiduciary Agent), will be the signatory parties of the Grant Agreement. The Grant Agreement will outline the roles and responsibilities between the Fiduciary Agent and the other key implementing stakeholders through ancillary agreements (annexed to the Grant Agreement). While the Fiduciary Agent will bear full responsibility and risk for overseeing and compliance of the execution of the project**, it will delegate key implementing functions to DWD** through an Implementation Agreement. The relationships are outlined in the diagram below.

In addition to the Grant Agreement and the Implementation Agreement, a Memorandum of Understanding will be signed between GPOBA and the DWD, on behalf of the MOWE. This agreement sets up the rules assigning specific roles to DWD and other implementing stakeholders (Water authorities, Sub-counties, Town Councils, District Techncial Support Units (TSUs) and the Private Water Operators) in relation to the planning, management, execution and monitoring and supervision of all environmental and social aspects and performance indicators of the OBA Project. One critical function for DWD will be procurement and supervision of the transaction process, for which GPOBA will provide recipient-executed transaction support. The sub-projects under the pilot will be competitively tendered under World Bank procedures.

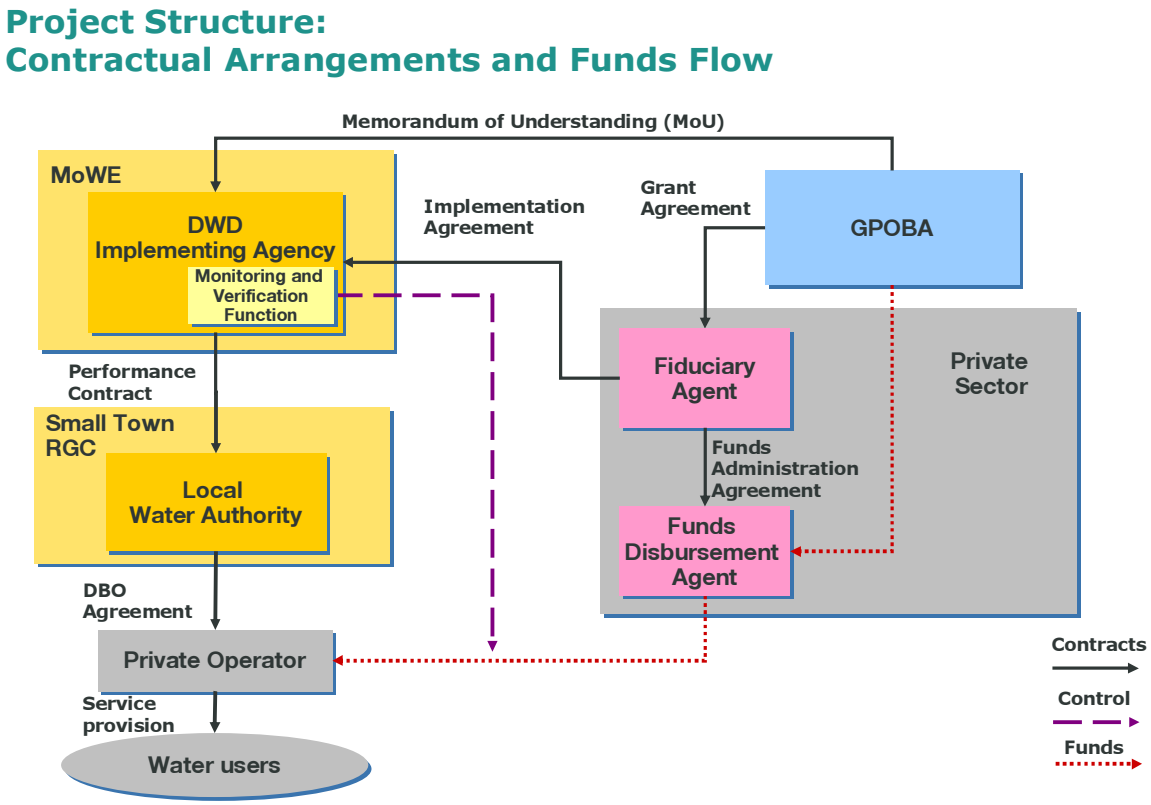

Figure 1.3 Project Structure for Contractual Funds Flow

1.8 Timeline

The Fiduciary Agent is to be selected late in 2006, and the Grant Agreement between the Fiduciary Agent and GPOBA to be signed soon after. The tender process for selection of operators for the six small towns and four RGCs shall take place from November 2006 to January 2007, with contracts signed in January 2007. Disbursement of subsidies is expected from April 2007 to September 2008 for small towns and from April 2007 to April 2009 for RGCs. Contracts will expire after 5 years from signing for Small Towns and between 5 and 10 years from signing for RGCs.

1.9 Analysis of Alternatives

The environmental regulations in Uganda require an analysis of alternatives where there may be significant impacts expected from the proposed project. Alternatives in this case would be alternative location of certain structures such as water treatment works, reservoir tanks, distribution mains and pump stations. Alternatives would also include the source of water (ground water or surface water or similar), and whether the project should not be implemented at all. These alternatives are considered in a generic way below.

1.9.1 Selecting the Locations of Project Structures

The design Team of the Private Operator must consider all possible, reasonable alternatives for the town water supplies. This is to ensure that the least cost and greatest benefit is obtained, taking into account the environmental and social concerns. Sensitisation of the community is essential in ensuring ownership of the selected solution. Use of participatory rural appraisal techniques is recommended.

During the sensitisation, the community should prepare community maps for the proposed construction sites of the water supply infrastructure (water treatment works, reservoir tanks and distribution mains) guided by the Private Operator. This will indicate the land where the structures will be located and using simple cost estimates and local knowledge, the best alternatives should be chosen.

1.9.2 Selecting the Type of Source

The types of water sources envisaged for the towns and RGCs are groundwater sources (boreholes, springs or shallow wells) or surface sources (rivers or lakes). The cost, environmental and social concerns, and technical feasibility should all be examined in detail before the final choice is selected using PRA techniques.

1.9.3 Technical, Financial, Managerial and Institutional Capacity of the Private Operators

The technical, financial, managerial and institutional capacity of the private operator and the community (local) institutions should be assessed so as to ensure that the project will be viable. Ability and willingness to pay for the proposed services by the community, willingness to contribute land, supervisory effort and operation and maintenance efforts should also be assessed.

1.9.4 The 'No Project' Option

The justification for the OBA projects is that the community will benefit from a resource that will improve their livelihoods – better access to safe and improved water supplies. However, should the project costs, environmental and social impacts and the private operator selection prove prohibitive or untenable, then the 'No Project' Option may be considered. In this case, alternative towns or RGCs should be considered for the OBA funding.

1.10 Implementation Challenges

Implementation of the OBA project is being piloted in a few towns in Uganda. The successes and challenges of the process will be adopted when the OBA project is extended to other towns and RGCs and other sectors in Uganda and abroad. Documentation of the challenges and successes is therefore vital in en-

riching the institutional memory of the World Bank/GPOBA, DWD, Consultants and other stakeholders and interested parties.

The main challenges identified to the stage of the ESMF include:

1.10.1 Procurement of the Works

Procurement of the works will involve the 'new' concept of OBA with which most contractors are not familiar. Both the private operators (who already have contracts with DWD) and the contractors for the works are not familiar with the requirements of the OBA concept and shall need to be trained. Fortunately, sister organisations of the OBA, DWD and the GPOBA have committed themselves to ensure that the potential applicants for OBA funding are properly trained[3].

DWD is also committed to ensuring that the communities, local governments' at all relevant levels and other stakeholders in the sector are sensitised in the OBA scheme. This should be done with care to ensure that the OBA project succeeds.

1.10.2 Supervisory Capacity at the District / Local Government and DWD

The WA is the local owner of the OBA project and is the contracting authority. DWD may take over some of their roles in the interim period, but not for long. The WAs are made up of politicians of the LC III level and most of them have limited knowledge and skills to be able to contract outsiders for large contracts. Moreover, they are prone to political manipulation and integrity problems owing to the poor remuneration. There is therefore a need to ensure that these statutory members of the WA are sensitised and trained in the OBA project. There is also a need to have a superior supervisor who is technically competent to oversee the implementation of the project and leave the WA in political supervisory role only. The WA should therefore not interfere with the day-to-day implementation of the project.

DWD Urban Authorities Unit is the main supervisor of the whole OBA process. It has two engineers and is to cover more than 65 WA where private operators are engaged. It however does not have a direct supervisory role over the private operators, but only over the WA (on behalf of the Minister of Water and Environment). This set up does not bode well for closer supervision, and for the purposes of the OBA project, the MoU should include explicit roles for DWD in the OBA process.

Capacity improvements of the Urban Authorities Unit would be essential, in the form of staffing and equipment and transport. Consultants could also be used since it is not always possible to recruit into the Uganda Public Service.

[3] The International Finance Corporation (IFC) is currently (Dec. 2006) carrying out training of contractors for the OBA in Kampala.

1.10.3 Availability of Potential Providers / Bidders

The market for contractors in Uganda is large and several of the contractors were found to be capable of performing works up to US 500,000 before payment is effected. Private operators on the other hand, are not many and even the few that are there are not experienced. Most of the PO firms were formed a few years ago specifically to bid for the PO jobs with DWD. Many have not branched out to other activities. They are poorly staffed and poorly capitalised.

The POs are therefore the weak link in the OBA process and need to be strengthened to be able to bid. If these firms join up with the large contractors, they are likely to be swallowed up and can not make themselves be felt, yet they would not be able to compete with the large contractors. It is therefore a delicate process to be accomplished.

The requirements of competition in the procurement process dictate that the market forces determine the outcome of the process. Formulation of the transaction process was done by the Consultant and the GPOBA and DWD. This process should be fine tuned to ensure that some of the above fears are obviated.

2 Environmental Context and Baseline Conditions

2.1 Overview of the Selected Small Towns and Rural Growth Centres

The following overview details for the small towns and RGCs are taken from the Transaction Design Report by COWI, August 2006.

2.1.1 Population and Water Supply Situation

The 10 towns and RGCs have a population of approx. 100,000 people based on projections for the next 15 years. The baseline population is based on a combination of Uganda Bureau of Statistics (UBOS) census figures and interviews with local officials.

Table 2.1 Existing Water Supply

	District	Population in target area	Existing water supply				
			Piped water supply	Boreholes with submersible pump	Other sources with hand pump	Open sources	Springs
Group I (ST)		73,257					
Kachumbala	Kumi	5,000	x	X			X
Wakiso	Wakiso	12,800	x	X			X
Luwero	Luwero	20,000	x	X	x		
Wobulenzi	Luwero	16,157	x	X	x	X	
Rukungiri	Rukungiri	10,600	x	X			X
Kalisizo	Masaka	8,700	x			X	X
Group II (RGC)		19,020					
Sipi	Kapchorwa	2,300	(x)			X	X
Namutumba	Namutumba	6,000			x	X	X
Magale	Manafwa	5,200			x		X
Masafu	Busia	5,520			x		X

Key: x present

2.1.2 Operation of Existing Piped Water Systems

All the piped water supply systems in the 10 towns and RGCs have operators, except for Kachumbala, where no operator has been appointed. There are some 2,300 connections in the STs and 830 connections in the RGCs (see Table 2.2).

Table 2.2 Operation and coverage of existing piped water system.

Small town	Operator	Expiry of contract	Connections		Size and coverage			
			House/ yard connec-tions	Public Water Points (PWPs)	Popula-tion in present target area (no.)	Coverage by exist-ing con-nections (no.)	Water supplied (m3 per year)	Water con-sumption (lpcd)
Group I			2,353	61	73,257	57,300	251,800	app. 15
Kachumbala	not selected	No op.	50	0	5,000	1,500	no rec.	app. 15
Wakiso	BIKA	Dec. 2006	358	8	12,800	10,024	44,273	12
Luwero	Kalebu	Jan. 2007	783	10	20,000	14,464	55,808	11
Wobulenzi	George & Co	Mar. 2007	432	26	16,157	14,538	45,708	9
Rukungiri	WSS	Jun. 2007	441	8	10,600	9,732	53,606	15
Kalisizo	WSS	Jun. 2007	289	9	8,700	7,042	52,405	20

The table below gives the billing and collection efficiencies of 10 STs and RGCs. It also gives the operation and maintenance costs for 2004/05 and the present official tariff for domestic consumption.

Table 2.3 Performance indicators for existing piped water system

Small town	Operator	Total billed 2004/2005 (UGX mill.)	Collection efficiency	UAW	O&M cost 2004/2005 (UGX mill.)	Unit O&M cost 2004/2005 (UGX/m3)	Present (2006) tariff house/yard connections (UGX/m3 excl. VAT)
Group 1							
Kachumbala	not selected	No records	no records	no records	no records	no records	partly free
Wakiso	BIKA	42.7	79%	10%	36.6	826	897
Luwero	Kalebu	82.5	95%	14%	71.8	1,286	1,017
Wobulenzi	George & Co	39.2	99%	14%	38.9	852	1,000
Rukungiri	WSS	52.9	85%	21%	43.7	814	897
Kalisizo	WSS	48.7	98%	21%	64.3	1,227	1,000

Table 2.4 Cost of Water to Consumers

Small town / RGC	Tariff for Piped Water (excl. VAT)		Cost of water to consumers (UGX equivalent per 20 liter jerry can)				
			Tariff for Piped Water (incl. VAT)		Market price for Non-piped Water		
	House / yard connections	PWPs (before operators margin)	Connec-tions	PWPs (after operators margin[4])	Collect at well / spring	Buy from neighbor's connection	Vendors
Group 1							
Kachumbala	no tariff	Na	free	Na	"free"	no info	200
Wakiso	897	559	20	25	"free"	50	200-300
Luwero	1,017	1,017	24	50	"free"	50-100	200-300
Wobulenzi	1,000	1,271	24	33	"free"	33-50	200-300
Rukungiri	897	586	24	25	"free"	33-50	200-300
Kalisizo	1,000	1,000	28	50	"free"	50	200
Group 2							
Sipi					"free"	na	no info
Namutumba					0-100	na	200-400
Magale					"free"	na	25-200
Masafu					"free"	na	50-100

[4] A mark-up is charged by the PWP operator (often a private individual) on top of the gross tariff paid to the water company.

3 Policy, Legal and Institutional Framework

3.1 The Uganda Constitution, 1995

In Uganda, the implementation of the OBA project and Environmental and Social Management Framework is supported by a number of crosscutting policies, legislative and institutional framework. The 1995 Constitution of the Republic of Uganda provides the main stem of this framework. Relevant parts of the Constitution that support ESMF include Article 39 which proclaims that all citizens shall have a right to live in a clean and healthy environment. The Constitution requires Uganda to promote sustainable development and public awareness related to land, air and water resources management. It also provides for sustainable utilisation of Uganda's natural resources to meet the development and environmental needs of the nation and prevention of damage and destruction to land, air and water resources resulting from pollution and other causes. Sections XIII and XXVII and Article 237(2) specifically provides for the **protection of natural resources** by the state on behalf of the people. The Constitution empowers government to hold in trust and protect natural lakes, rivers, wetlands, forest reserves, national parks and any land to be reserved for ecological and tourism purposes.

Relevant sections of the Constitution that support water supply include Objective XXI which provides that the state shall take all practical measures s to promote a good water management system at all levels and Objective XIV provides that the State shall endeavour to fulfil the fundamental rights of all Ugandans to social justice and economic development and shall in particular, ensure that all Ugandans enjoy the rights and opportunities and access to education, health services, **clean and safe water**, work, decent shelter, adequate clothing, food security, pension and retirement benefits.

The implementation of OBA Project is within line the constitutional Objective XXI of provision of clean and safe water while the ESMF is supported by Objective XXVII which protects and preserves the environment. Therefore the project will enable the Government of Uganda (GoU) through the GPOBA grant to fulfil its constitutional obligation of providing clean and safe water to the target 100,000 beneficiaries.

3.2 Policies

The National Environment Management Policy, 1995; the National Water Policy, 1999; the Decentralisation Policy; the National Gender Policy, 1997; the National Health Policy, 1999 and the Poverty Eradication Action Plan (PEAP) are the key instruments that cover environmental and social management in all the sectors of development. These policies and their supporting laws and institutions are discussed in detail below.

3.2.1 The National Environmental Policy (1994)

Since the National Environment Action Plan of 1994, Uganda has made significant progress in the area of developing the necessary instruments, tools and processes for environmental management and planning. A number of downstream environmental tools and planning processes such as the National Environment Policy, the National Environment Act, 1995, assessments, standards, regulations and mainstreaming the environment in development plans, has been undertaken.

The environment policy is a multi-sector crosscutting policy that is found in nearly every other policy. The National Environment Policy overall goal is 'to encourage sustainable development by wise use of natural resources while enhancing environmental quality without compromising the ability of future generations to meet their own needs'. The policy has six policy objectives, 18 guiding principles, 14 cross-sector policies and 4 (four) sector policies.

The key objectives of the policy are to:

- Enhance health and quality of life through sustainable development, sound environmental management and wise use of natural resources;
- Encourage participatory integration of environmental concerns in all development policies, planning, and activities at national, district and local levels;
- Conserve, preserve and restore ecosystems and maintain ecological processes and life support systems, especially conservation of national biological diversity;
- Optimise resource use and achieve a sustainable level or resource consumption;
- Raise public awareness, sensitisation and advocacy for a linkage between environment and development;
- Ensure individual and community participation in environmental improvement activities.

The key underlying principles that support the policy include: - every person has a constitutional right to a clean environment; sustainable natural resource

use; security of land tenure; the use of environmentally friendly technologies; enforcement of environmentally friendly laws, involvement of gender and vulnerable groups, integration of environmental concerns in all sectors, involvement of the communities in decision making and meeting international and regional obligations.

The Environmental Policy provides an enabling environment for the execution of the OBA project, for instance the objective of Policy 3.5 on Water Resource Conservation and Management is 'to sustainably manage and develop the water resources in a coordinated and integrated manner so as to provide water of acceptable quality for all social and economic needs'. The ESMF is supported by Policy 3.8 on Environmental Impact Assessment whose policy objective is 'to provide a system of Environmental Impact Assessment (EIA) and environmental monitoring so that adverse impacts can be foreseen, eliminated or mitigated'.

3.2.2 National Water Policy, 1999

A National Water Policy was approved by Government in April 1999. The Policy adopts the objectives and strategies formulated under the Water Action Plan (WAP). The policy takes into account the Government's overall goals for socio-economic development and its policy of decentralization. Amongst other things, it promotes an integrated approach to water resource management; the realization that while all Ugandans have a right to safe water (the social value of water) it also has an economic value; participation of all stakeholders, including women and the poor, in the planning, implementation and management of the water and sanitation sector.

In addition, the Policy is consistent with the National Environment Act, 1995 (Cap 153 Laws of Uganda) and the National Objectives of water and environmental management set out in the Constitution of the Uganda, 1995. The Policy covers water management and water development use. In relation to water development and use, the policy covers the objectives, principles and strategies for the development and use for water i.e. domestic water supply. The Policy further diversifies the management and ownership of water facilities to the users.

The four main guiding principles for water supply under the policy are:

- Full participation of women.
- Community management of water supply facilities and services.
- Financial viability of utilities and services.
- Demand approach to provision of water.

The Policy covers the following strategies in relation to a number water supply and water resources management listed below:

- Financing, subsidies and tariffs.
- Operation and maintenance.
- Sustainability and ownership aspects.

The OBA project is consistent with the Policy. Both will compliment each other because their purpose is to provide clean and safe water.

3.2.3 Policies and Guidelines for Rural Towns Water Supply

Policy and guidelines for the development and management of rural towns' water supply have been developed under the Rural Towns Water and Sanitation Programme (RTWSP). The objective of the RTWSP is to assists all rural towns to provide basic water and sanitation while encouraging the higher levels of service for those who can afford it. Other objectives of the RTWSP are to increase the capacity of the communities and the private sector and government to provide and maintain sustainable water supply and sanitation facilities in small towns; to promote better health; and to ensure gender issues are addressed in such away that both men and women are involved in water supply and sanitation as decision makers.

The Policy and guidelines emphasise the operation, maintenance and sustainability of water supply systems. This is a major policy shift from Government's decentralization approach of water supply services. The Policy and guidelines take into account the mandate of DWD, provided under the Water Act, 1995 and Local Government Act, 1997.

The main elements of the Policy and guidelines is to encourage community-based negotiation-driven approach to development of water supply projects and beneficiary user communities, through their water and sanitation committees (WSCs), water user groups (WUGs) and water user associations (WUAs) to determine the type of water and sanitation facilities that will give them the highest level of service they want, can afford and can maintain. This Policy provides the necessary enabling environment for the OBA project to be implemented. Both the policy and the project main focus is the provision of water supply in small towns.

3.2.4 Policies and Guidelines for Rural Water Supply

The main elements of this Policy and guidelines is to promote the provision of safe drinking water and adequate sanitation that will improve health and human productivity through the reduction of water borne diseases; increase the efficiency of water sector investments and its financial self-sufficiency; and planning for proper developments and utilisation of water resources.

The Sector Strategy stresses that rural water supply subsidies are to be minimized through community participation in construction and maintenance; decentralisation and devolution of water supply functions and powers to lower

levels of government; beneficiaries should contribute to the development of water systems; the community should maintain the systems; and the promotion of private sector participation in the provision of services, operation and maintenance. The implementation of OBA project operationalises the promotion of private sector participation in the sector.

3.2.5 National Health Policy, 1999

The National Health Policy (1999) reiterates that the struggle for improved sanitation has to be intensified and maintained in order to consolidate and improve on the gains and the key priorities including support to local governments and authorities to improve sanitation and general hygiene. The Policy recognises that poverty is the main underlying cause of poor health. In response to this difficult situation, the GoU embarked on a major Poverty Eradication Programme with emphasis on the modernization of agriculture, Universal Primary Education (UPE), Primary Health Care (PHC) and the provision of Water supply and Sanitation.

The OBA small towns and RGCs water supply and sanitation project will contribute to Government's long held policy of addressing the increasing burden of disease resulting from poor environmental health, particular by placing emphasis on rural areas where the population has low access to water and latrine coverage is poor. This will be achieved through the promotion of personal, household, institutional, community and food hygiene. Provision of water is the major cornerstone for achieving this objective and meeting the targets of the Millennium Development Goals.

3.2.6 Poverty Eradication Action Plan, 2004

The Poverty Eradication Action Plan (PEAP) is Uganda's national planning framework that guides public action to promote economic growth and eradicate absolute poverty. It establishes the overall national development goals and the guiding principles for managing economic growth and equity. The ultimate goal is to contribute to the transformation of the economy from being a largely rural population dependant almost entirely on subsistence agriculture. PEAP strategies and programs identify the water and sanitation sector as one of the priority areas for poverty eradication. The review of PEAP in 2004 identified five pillars, namely

i) Strong economic management,

ii) Enhancing production competitiveness and incomes,

iii) Strengthening security, conflict resolution and disaster management,

iv) Strengthening governance, and

v) Strengthening human development.

Water supply and sanitation are included as priorities under pillar v. The implementation of the OBA project will improve the health of the rural poor by reducing the incidence of water borne diseases, which in turn will have a cascade effect of liberating man power and monetary resources into meaningful productive which otherwise who have been loss due to ill health and its associated treatment costs. Increased productivity will translate into people lifting themselves out of poverty.

3.2.7 The Land Use Policy, 2004

In support of the national objectives on poverty eradication and economic growth, while at the same time ensuring sustainable utilisation of natural resources including land and water, the National Land Use Policy main goal is 'to achieve sustainable and equitable social and economic development through land utilisation in Uganda'.

The specific goals of the Policy are to:

- Adopt improved agriculture and other land use systems that will provide lasting benefits for Uganda, and to alleviate adverse environmental affects at local national, regional and global levels;
- Promote land use activities that ensure sustainable utilisation of natural resources for national socio-economic development;
- Ensure planned, environmentally friendly and well-distributed human settlements for both rural and urban areas; and
- Update and harmonise all land use related laws, and policies and strengthen institutional capacity at all levels of Government.

The principles that govern the National Land Use Policy are a reflection of the fact that sustainable, equitable and integrated natural resources utilisation and distribution are essential for natural social and economic development. The Policy emphasises among others environmental friendly practises, community based participatory planning; gender and land ownership.

The OBA Project is in perfect harmony with the Policy provided water abstraction for domestic supply is sustainable. ESMF will operationalise the Policy Statement 22 which calls for the provision of environmentally friendly infrastructure and services in human settlements.

3.2.8 The Land Policy, 2004

This Policy aims at regulating the tenure, ownership, and general aspects of land management in Uganda. The Policy advocates for a firm ownership of land by the people of Uganda.

3.2.9 The Decentralization Policy, 1993

The rationale for the Decentralisation Policy is to democratise society and give power to the people. Uganda's Decentralisation Policy is outlined in Chapter 11 of the 1995 Constitution and is amplified and operationalised by the Local Governments Act, 1997. The 1997 reform of the Policy intended to make Local Governments centres of self-governance, participation, local decision-making, planning and development.

The main objectives of decentralisation are to:

- Transfer real power to local governments and reduce the work load on remote and under resourced central officials;
- Bring political and administrative control over services to the point of delivery in order to improve services to the point of delivery in order to improve accountability and efficiency;
- Free local managers from central constraints and allow them to develop organisational structures tailored to local circumstances;

The Policy has been implemented by a conceptual mixture of matrices that include De-concentration, Delegation, Devolution and Privatisation. Privatisation means the giving up by government, primarily for reasons of efficiency, of certain functions and services to various sections of the private sector, namely business, community groups, co-operatives, associational groups, NGOs and CBOs. This option favours the OBA water supply and sanitation in small towns and RGCs project, because it allows private water operators to takeover the entire project circle of water supply and sanitation.

3.2.10 The Uganda National Gender Policy, 2005

The National Gender Policy is a crossing cutting policy that forms an integral part of the national development. It is a framework for redressing gender imbalances as well as a guide to all development. The aim of this Policy is to guide all levels of planning, resource allocation and implementation of development programmes with a gender perspective. The emphasis on gender is based on the recognition that 'gender' is a development concept useful in identifying and understanding the social roles and relations of women and men of all ages, and how these impact on development.

The Policy gives a clear mandate to the Ministry in-charge of Gender and other line Ministries to mainstream gender in all sectors. It sets target areas of action at the National, Sector, District and Community levels. The ultimate objective of the Policy is to evolve a society that is both informed and conscious of gender and development issues and concerns. Sustainability of development needs maximum and equal participation of both men and women in economic, political and socio-cultural development.

Gender is no longer an issue of negotiation and persuasion of stakeholders. It has gone through documentation, capacity building, organisation and reorganization of the National Machinery for gender mainstreaming and women's advancement. In the recent past it has re-examined its strategies and is moving towards gender and development. Today, gender mainstreaming is no longer optional but an obligation. The OBA Project must at the onset integrate gender issues at the planning, design and implementation of the project.

3.3 Relevant Legislation

3.3.1 National Environment Act, Cap 153 and Environmental Regulations

The ***National Environment Act*** provides tools for environmental management that hitherto had not been deployed, including EIAs. The Act imposes a mandatory duty on a project developer to have an environmental impact assessment conducted before embarking on a project.

The Third Schedule to the Act made under Section 18 of the Act specifies the types of projects to be subjected to EIAs. An EIA should be conducted for planned activities that may, are likely to, or will have significant impacts on the environment. The EIA required should be appropriate to the scale and possible effects of the project, and therefore the National Environment Act and the ***Environment Impact Assessment Regulations, 1998*** recognise three levels of EIA:

- An environment impact review shall be required for small scale activities that ***may*** have significant impact;
- Environmental impact evaluation for activities that are likely to have significant impacts; and
- Environmental impact study for activities that will have significant impacts.

Determination of the level of the EIA required is done through the screening stage, and the EIA Guidelines provide a checklist where environmental factors potentially affected are listed. This is a useful tool in the first stage to see which category the project falls under. However, since the OBA project and its sub-projects are anticipated to have no/minor environmental impacts the sub-projects may be subjected to environmental screening, a project brief or environmental scoping only.

It is anticipated that this ESMF report will have identified the most likely environmental impacts and the Environmental Management Plan found hereunder will settle most to the environmental issues that may arise in the entire project circle of the sub-projects

The Act is further strengthened with the adoption of several multilateral environmental concluding:

- United Nations Convention to Combat Desertification (UNCCD) (1994);
- United Nations Convention to Combat Desertification (UNCCD) (1994);
- Convention on Biological Diversity (CBD); Cartagena Protocol on Bio-safety;
- United Nations Framework Convention on Climate Change (UNFCCC);
- Kyoto Protocol to the UN Convention on Climate Change (1997);
- United Nations Convention on the Law of the Sea (1982);
- Convention on the Continental Shelf (1958);
- Convention on Fishing and Conservation of the Living Resources of the High Seas (1958);
- Convention on the Territorial Sea and the Contiguous Zone (1958);
- Convention on the High Seas (1958);
- Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (1963);
- Convention on the Conservation of Migratory Species of Wild Animals (1979);
- Agreement on the Conservation of African-Eurasian Migratory Water Birds (1999);
- Convention on Wetlands of International Importance especially as Water-fowl Habitat (RAMSAR) (1971);
- Convention for the Protection of World Cultural and Natural Heritages (1972);
- African Convention on the Conservation of Nature and Natural Resources (1968);
- Nuclear Non-Proliferation Treaty (1968) and
- Comprehensive Nuclear Test-Ban Treaty, CTBT (1994).

Uganda is a signatory to number of regional groupings that have environmental components these include The East African Community (EAC); Intergovernmental Authority on Development (IGAD) and Common Market for East and Southern Africa (COMESA).

3.3.2 Environmental Impacts Assessment Regulations 1998

The EIA Regulations gives a systematic EIA procedure in Uganda. It gives EIA a legal mandate, thus paving the way for an enabling environment for it to use as a tool for environmental protection. The regulation also has punitive measures to offenders. It recognises three levels of EIA:

- An environment impact review shall be required for small scale activities that ***may*** have significant impact;
- Environmental impact evaluation for activities that are likely to have significant impacts; and
- Environmental impact study for activities that will have significant impacts.

This regulation is complimentary to the World Bank Safeguard Environmental Assessment OP/BP4.01. It high lights which projects should carryout an EIA and those that need an initial review. This ESMF will be reviewed under this regulation and OP/BP 4.01.

3.3.3 The Water Act 1995, Cap 152

The Water Act was enacted in 1995 to provide the legal basis for the use, protection and management of water resources and supply; to provide for the constitution of water and sewerage authorities; and to facilitate the devolution of water supply and sewage undertakings.

The basic foundation of the Act's provision is the reconciliation between protecting the environment and ensuring the availability to the population of water of sufficient quality and quantity. Promotion of the provision of a clean, safe and sufficient supply of water for domestic purposes to all persons is a major objective of the Act (Part III).

The Act also sets up and gives powers, functions and mandates to persons and institutions in the management of water resources. Among these include the Water Policy Committee, The Minister in charge of Water, The Director of Directorate of Water Development, Water and Sewerage Areas and Authorities and Water Users Groups and Associations (see under institutional arrangement).

Part III of the Act provides the necessary legal entry point for the OBA project because it stipulates the requirements for the formation and functions of Water and Sewerage Authorities, water user groups and Associations; the management of water utilities by performance contracts signed between the Minister and Water Authorities (Section 48); construction of water works (Section 53); recovery of capital cost (Section 54); the distribution of water (Section 57), construction of sewage works (Section 62) and financial management (Division 13).

The environment is protected by the issuance of water permits (Division 4) which intends to limit and control water abstraction and Waste Discharge Permits (Division 5) which controls pollution. Since the Water Act was deliberately formulated as an enabling law, its implementation required supporting regulations issued by the Minister in charge of Water. So far two regulations, one for water resources and another on wastewater discharge, have been gazetted and discussed below.

3.3.4 Water Regulations, 1998

The Water Supply Regulations 1998 apply to any water supply area declared by the Minister (responsible for Water or Natural Resources) pursuant to section 45 (1) (a) of the Water Statute, 1995. The main purpose of these Regulations is essentially to enable WAs to carry out their day to day operations relating to water supply. The Regulations give WAs wide powers to facilitate the provision of water supplies within designated water supply areas. These powers include the following:

- Private water connections at the direction of WAs pursuant to section 56 of the Water Statute, 1995 including the procedure that must be followed by the WAs (Regulations 4-6);
- Private water connections at the request of land owners including prescribed application forms, procedures, plumbing and drainage plans, etc. (see Regulations 7-18);
- Installation and charges for water meters including water supply estimates (see Regulations 19-21);
- Provision for temporary water supplies including application forms and connection fees (see Regulation 22);
- Power to interrupt water supplies for repair or maintenance and other works (see Regulations 23-25);
- Offences for waste or misuse of water (Regulations 26-27);
- Power to levy water charges for private and other water connections and supply including penalties for non-payment of water charges; and
- Prescribed forms.

3.3.5 Water (Waste Discharge) Regulations 1998

The regulation establishes the standard off effluents that should be discharged in the receiving environment. It prohibits environmental pollution from discharged effluents. The regulation authorises the Director of DWD to issue waste discharge permits in accordance with established standards.

3.3.6 Land Act, Cap 227

The Act provides for the tenure, ownership and management of land. Land is to be utilised in accordance with the various laws listed in section 43 including the Uganda Wildlife Act, the Water Act and the National Environment Act. Section 44 reiterates the constitutional provision creating a trust over environmentally sensitive areas as stipulated in Article 237(2) of the Constitution.

Section 44(4) prohibits Government or a local government from leasing out or otherwise alienating any natural resource referred to in this section. Government may in terms of section 44(5), grant concessions or licences or permits in respect of such land subject to any law. The permit would authorise use of the land in a manner stipulated by the relevant laws but would not confer ownership of the land. Use of land must conform to the provisions of the Town and Country Planning Act and any other law (Section 45).

3.3.7 The Public Health Act, Cap 281

This Act consolidates the law regarding the preservation of public health. It empowers local authorities under section 103 to take lawful, necessary and reasonably practicable measures for preventing any pollution dangerous to health of any supply of water which the public within its district has a right to use and does use for drinking or domestic purposes. Measures for purifying any such supply which has become so polluted is also provided by this law.

3.3.8 Local Governments Act, Cap 243

The ***Local Governments Act*** provides for the system of local governance. Local government shall be based on the district as a unit under which there shall be lower local governments and administrative units (section 3). This system provides for elected councils. The Chairman nominates executive committees of each council. The functions of the Committee as stipulated in section 16 include:

- Initiating and formulating policy for approval of council;
- Overseeing the implementation of the government and councils, policies, and monitor and coordinate activities of non-governmental organisations in the district; and
- Receiving and solving disputes forwarded to it from lower local governments.

According to section 9 of the Act, a local government council is the highest political authority within its area of jurisdiction and shall have legislative and executive powers to be exercised in accordance with the Constitution and this Act.

Local Governments also appoint and manage private operators for urban schemes outside the jurisdiction of National Water and Sewerage Corporation (NWSC). District governments are being encouraged to set up District Water and Sanitation Co-ordination Committees (DWSCCs) to oversee and provide effective coordination of water sector activities in the respective Local Governments.

Local Governments (Districts, towns, Sub-Counties) are empowered by the Local Governments Act (1997) to provide safe water. They receive grant funding and may mobilise local resources for implementing rural water supply and sanitation (WSS) programs and to support small town WSS.

3.3.9 Town and Country Planning Act, Cap 246

Though the Act provides for the orderly and progressive development of land, towns and other areas whether urban or rural, the planning areas that form the basis of intervention by the Town and Country Planning Board are planning areas declared as such under section 5 the Act. The planning areas are urban areas some of which are listed in the First Schedule to the Act.

Provision is made for the development of outline schemes in rural areas if so requested by the local authority. Outline and detailed schemes as provided for in sections 10 and 15 of the Act and the Second Schedule to the Act provides the outlay for an area including roads, amenities, public utility services, transport and communication, buildings and other structures.

3.3.10 Investment Code Act, Cap 92

The ***Investment Code Act*** sets out the procedure for acquisition of an investment license and the kind of information to be included therein in Part III of the Act. It makes provision for the Investment Authority as a corporate body and distinguishes between foreign and non-foreign investors. The Act in section 18 (2) (d) requires the investor to take necessary steps to ensure that the operations of the business enterprise do not cause injury to the ecology or environment.

3.4 Institutional Framework in the Environment Management and Water Resources Sectors

3.4.1 Environmental Management in Uganda

The National Environment Management Authority (NEMA) was formed under the Environment Act 1995 is the principal agency in Uganda for the management of the environment. It role is to coordinate, monitor and supervise all activities in the field of the environment. NEMA is under the Ministry of Water and Environment, and has a cross-sectoral mandate and is also to review and approve EIS submitted to it.

NEMA has issued guidelines on EIAs (NEMA 1997), and the Environmental Impact Assessment Regulations (1998) was approved by the Ugandan Parliament. The actual implementation of the EIA process remains a function of the relevant line ministries and departments, the private sector, NGOs and the general public.

The National Environment Management Authority (NEMA) is the institution responsible for overseeing and conducting all aspects of the environment and in particular the review of Environmental Impact Statement (EIS) reports.

NEMA reviews environment impact study (EIS) reports in collaboration with relevant lead agencies. In the case of the OBA Project, the major lead agency is the DWD, which falls under the Ministry of Environment and Water. Other lead agencies that would participate in the review are the Ministry of Local Government and local governments. This study must conform to the requirements of NEMA on EIA and any other environmental management regulations.

3.4.2 Water Management in Uganda

There are number of institutions and individuals involved in the management of the water sector. Government provides the main framework. Its responsibility is to provide an enabling environment by providing facilitation, policy formulation, standards development, monitoring and setting sector priorities. Most of the responsibility of Government is delegated to the Minister and Ministry in-charge of Water.

The primary function of the Minister is to act has a custodian of rights in water resources which are vested in Government (The Water Act, Cap 152, Section 5). The Water Policy Committee is an inter-departmental committee chaired by the Permanent Secretary, Ministry of Water with the Director of Water Development as the Secretary. Its mandate is to co-ordinate policy issues, liaise with NEMA, set standards, review national action plans and resolve conflicts in the water sector.

The Inter-Ministerial Steering Committee was formed in 1990 to address hygiene education, mobilization, sensitization and education of the user communities for behavioural charge, promotion of sanitation and good environmental practices. It brings together all key stakeholders in the water sector. These include Permanent Secretaries, Directors, Commissioners, Donor Agencies, NGOs and Civil Societies.

The executive arm of MoWE for the water sector is the Directorate of Water Development (DWD), which is responsible for managing water resources, co-ordinating, and regulating all sector activities and provides support services to the local governments and other service providers. DWD is primarily a national regulatory and supervisory agency. Its responsibility as an implementing agency is slowly being devolved to the districts, water authorities and the private sector.

The OBA project is in fact a policy shift for DWD being the implementing agency to the private sector through the private water operators. Most of the mandate of DWD is invested in the Director. The Director has wide powers in relation to control, investigation, protection, and management of water resources. The power includes water sector planning, inventory, issuance of water permits and water discharge permits, authorization of the construction of water and sewage works.

NWSC formed in 1973 is an autonomous parastatal body, also falling under MoWE and is responsible for the delivery of water supply and sanitation services on commercial basis, in the country's fifteen large urban areas, including Kampala and Entebbe. It has intensive powers under the National Water and Sewerage Corporation Act 1995.

Water User Groups and Associations are the lowest form of water management units. They were formed under the Water Act 152 (Section 50-52) and their role is to promote community participation in relation to the planning and management of local point source water supply systems. They operate through Water and Sanitation Committees whose function is to promote sanitation and hygiene and collectively plan and manage local water systems.

Local Governments under the Local Government Act 1997 run parallel water management units. Schedule II provides for involvement of Local Council in the management of water, wetlands, lakes, streams and the protection of the environment.

4 Screening of Sub Projects

4.1 The Environmental and Social Screening Process

The sections below illustrate the stages (Steps 1-7) of the environmental and social screening process (the screening process) leading towards the review and approval of OBA's activities to be implemented. The purpose of this screening process is to determine which activities are likely to have negative environmental and social impacts; to determine appropriate mitigation measures for activities with adverse impacts; to incorporate mitigation measures into the project as appropriate; to review and approve the project's proposals; to monitor environmental parameters during the implementation of activities.

Despite the environmental setting of each sub project, each one of them has to undergo screening, environmental impact review and if the need be scoping and detailed EIA as recommended in the Environment Act Cap 153, EIA Regulations, EIA Guidelines for Uganda and the World Bank Environmental Assessment OP/BP 4.01. The extent of this environmental work for each sub project will depend on the outcome of the screening process described below.

4.2 The Screening Steps

The process of screening can be broken down into the following steps:

4.2.1 Step 1: Screening of OBA's activities and sites

The initial screening for each sub project will be carried out by an independent Environmental Consultant registered with NEMA. The consultant will be sub contracted by the Water Board as the Developer. The Environmental Consultant together with the Private Water Operator will interview members of the village and the Local Council LC 1 will complete the Environmental and Social Screening Form (Appendix 1).

Completion of this screening form will facilitate the identification of potential environmental and social impacts, determination of their significance, assignment of the appropriate environmental category, proposal of appropriate environmental mitigation measures, and conduct an Environmental Impact Assessment (EIA), if necessary. To ensure that the screening form is completed cor-

rectly in the various project locations, environmental and social training will be provided to the local beneficiary.

4.2.2 Step 2: Assigning the Appropriate Environmental Categories

The assignment of the appropriate environmental category to a particular sub-project activity will be based on the information provided in the environmental and social screening form (Appendix 1). The Environmental Consultant, will be responsible for categorizing a sub-project activity either as A, B, or C.

- Category A: activities requiring an environmental impact assessment,
- Category B: activities requiring an environmental impact statement or the implementation of simple mitigation measures compiled in an environmental scoping report.
- Category C: activities neither requiring an environmental impact statement nor an environmental impact assessment. This will be compiled into a project brief and submitted to NEMA for approval.

The assignment of the appropriate environmental category will be based on the provisions in OP 4.01 Environmental Assessment. Consistent with this operational policy, most activities under OBA Project are likely to be categorized as B, meaning that their potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other natural habitats – are site-specific, few if any, and impacts can be reversible, mitigated, minimized and manageable.

Some activities (i.e. extension of distribution mains, addition to water reservoirs etc.) might be categorized as “C” if the environmental and social screening results indicate that such activities will have no significant environmental and social impacts and therefore do not require additional environmental work. Thus, if the screening form has only “non” impacts, the proposed activity will not require further environmental work. In this case a project brief will be submitted to NEMA for approval before the project can proceed.

4.2.3 Step 3: Carrying out Environmental Work

After analyzing the data contained in the environmental and social screening form and after having identified the correct environmental category and thus the scope of the environmental work required, the Environmental Consultant will make a recommendation to establish whether: (a) no environmental work will be required; (b) the implementation of simple mitigation measures will be enough; or (c) a separate environmental impact assessment EIA will be carried out. According to the results of the screening process, the following environmental work can be carried out:

(a) Use of the environmental and social check list (Appendix 1)
The environmental and social check list (Appendix 1) will be completed by the Environmental Consultant of the project. Activities categorized as simple category B activities might benefit from the application of simple mitigation measures outlined in this checklist. In situations where the screening process identifies the need for land acquisition, qualified service providers would prepare a RPF, consistent with OP 4.12.

(b) Carrying out Environmental impact assessment EIA (Appendix 2):
In some cases, the results of the environmental and social screening process may indicate that the activities scheduled are more complex and they consequently require conducting a separate EIA. The EIA will be conducted in accordance with the Environment Act Cap 153, the EIA Regulation and EIA Guidelines for Uganda summarised in Appendix 2. The EIA will be conducted by the consultancy firms authorized/agreed in coordination with NEMA. These consultancy firms will be recruited by the Water Authority. The findings of the EIA should have contents outlined in Appendix 3.

The following will be the roles of each stakeholder:

- The Water Authority as the Developer will: (i) ask for expression of interest for environmental consultancy, (ii) draft EIA terms of reference and send them to NEMA for approval, (iii) tender (iv) contract an independent Environmental Consultant (iv) submit the consultancy report to NEMA and the World Bank.

- The Private Water Operator will: (i) supervise the Environmental Consultant, (ii) integrate the findings of the consultant into the design and project implementation and operation.

- NEMA will review the consultancy report[5] and send to DWD for comment as the lead agency. However, since DWD is already an interested party NEMA will appoint an independent reviewer. NEMA will integrate comments from DWD and the Independent Reviewer and make recommendations for the consultant to consider in the final consultancy report. Within four weeks of receipt of the final report NEMA will accept or reject the final report. The project will be approved by NEMA by issuing a certificate.

- The World Bank will review the EIA using this ESMF and the safeguard policies on Environmental Assessment OP/BP 4.01 and Involuntary Settlement OP/BP 4.12. On receipt of a satisfactory final consultancy report the World Bank will give a no objection and the project will proceed.

[5] Note the consultancy report may be a project brief, environmental screening report, environment impact review report, environmental scoping report or an EIA/EA depending on the level of impacts and the extension of the environmental assessment.

- The District Environmental Officer and the Independent Reviewer will review the consultancy report and make recommendations and forward them to NEMA.

The report will identify and assess the potential environmental impacts for the planned activities, assess the alternative solutions and will design the mitigation, management and monitoring measures to be proposed. These measures will be quoted in the Environmental and Social Management Plan (ESMP) that will be prepared as part of the consultancy report for each activity. The preparation of the consultancy report and the ESMP will be done in collaboration with the concerned parties, including the people likely to be affected. The consultancy report will follow the national procedure established in the framework of the Environmental Framework Law.

4.2.4 Step 4: Review and Approval

Review:
The consultancy report will be viewed at the District level by the Environmental Officer, at the Lead Agency level by DWD, at the National Level by NEMA and at Donor Level by the World Bank. Due to the fact that DWD is an interested party an independent reviewer will be appointed by NEMA.

Approval/Disapproval:
Based on the results of the above review process, the onus is on NEMA and the World Bank for approval/disapproval of the review results and proposed mitigation measures. On approval NEMA will issue a certificate.

4.2.5 Step 5: Public Consultations and Disclosure

Public consultations will also take place during the screening process, and the results will be incorporated into the draft consultancy report. Further public consultation will be during the scoping period and the preparation of the Environmental Impact Assessment. The results of the public hearing should be taken into account when a decision is taken whether or not a certificate is to be issued.

These consultations should allow for the identification of the main issues and determine how the concerns of all parties will be tackled in the terms of reference for the EIA. The results of the consultations will be included in the EIA report and made available to the public by the Water Authority, through it NEMA.

4.2.6 Step 6: Environmental Monitoring and Follow Up

Environmental monitoring aims at checking the effectiveness and relevance of the implementation of the proposed mitigation measures. See details under Section 7.3.

4.2.7 Step 7: Monitoring Indicators

In order to assess the efficiency of OBA's sub-project activities, we propose to use Environmental and social monitoring indicators below for which details are given in Appendix 6.

- Water quality meets local standards
- Safe waste management related to construction works
- Reforestation and land restoration
- Compliance with the Environmental Guidelines for Contractors (See separate report Environmental Management Plan)
- Best practice in the implementation of project activities
- Ground Water levels and recharge rates
- Presence of and conditions of pit latrines
- Waste water disposal facilities
- Gender participation
- Community awareness and education on environment, sanitation and hygiene matters.

5 Environmental and Social Impacts

Typical project activities to be implemented under the OBA Project are broadly categorised into:

- Planning and design;
- Construction and rehabilitation;
- Operation and maintenance; and
- Decommissioning and closure phases.

Minor environmental impacts are expected of the proposed OBA sub-projects because the project activities include minor civil works for the construction of new/or rehabilitation of water treatment works and water mains distribution, drilling boreholes for groundwater abstraction and extension of already existing water distribution mains.

However, impacts like decline in water quality and quantity, soil erosion, noise, dust, land degradation, pollution, crop loss, loss of biodiversity, loss of farm land and other assets, solid waste from construction debris, oil spill from motorised construction equipment, vehicle may occur.

5.1 Likely Sub-project Activities

5.1.1 Projects in Small Towns

Small towns with no incumbent providers or where the contract is up for re-bidding (expiry of current contract in brackets):

- Kachumbala (No incumbent provider), Bukedea District.
- Wakiso (Dec. 2006), Wakiso District.
- Luwero (Jan. 2007), Luwero District.
- Wobulenzi (Mar. 2007), Luwero District.

- Rukungiri (Jun. 2007), Rukungiri District.
- Kalisizo (Jun. 2007), Rakai District.

The above towns have functional water supply systems and the OBA will finance activities related to expansion of production capacity and extension supply to new areas:

- Excavations and ground clearance at the sources;
- Drilling of boreholes and construction of source structures and controls;
- Clearing of land for treatment plants, reservoir tanks and related structures;
- Clearing of land and trenching for distribution pipelines;
- Fencing of treatment plants, tank areas and pumping stations;
- Extension of power supplies to the pumping stations;
- Security lighting and
- Access roads to the pumping stations, tanks and treatment plants.

Depending on the town, socio-economic activities may be undertaken to sensitise the communities of their roles, responsibilities and for formation of community groups such as WUAs and water user groups (WUGs).

5.1.2 Projects in Rural Growth Centres

Greenfield projects in RGCs with no incumbent provider:

- Sipi, Kapchorwa District.
- Namutumba, Namutumba District.
- Magale, Manafwa District.
- Masafu, Busia District.

The above towns do not have reticulated water supply systems (except for Sipi, which is poorly maintained and too small) and will have the full scope of the works:

- Community sensitisation, community training and formation of community groups such as WUAs and WUGs;
- Siting of the sources (ground water or surface water);

- Valuation and acquisition of land, right of way and compensation of the land owners or preparation of land agreements (voluntary donation or sale of land);
- Excavations and ground clearance at the sources;
- Drilling of boreholes and construction of source structures and controls;
- Clearing of land for treatment plants, reservoir tanks and related structures;
- Clearing of land and trenching for distribution pipelines;
- Fencing of treatment plants, tank areas and pumping stations;
- Extension of power supplies to the pumping stations;
- Security lighting and
- Access roads to the pumping stations, tanks and treatment plants.

5.1.3 Projects in Small Towns that may be included in the Pilot

The towns below are suitable for the OBA Pilot but have contracts running to 2008 for the Private Operators:

- Busembatia, Iganga District and
- Bugiri, Bugiri District.

The above towns have functional water supply systems and the OBA will finance activities related to expansion of production capacity and extension supply to new areas:

- Excavations and ground clearance at the sources;
- Drilling of boreholes and construction of source structures and controls;
- Clearing of land for treatment plants, reservoir tanks and related structures;
- Clearing of land and trenching for distribution pipelines;
- Fencing of treatment plants, tank areas and pumping stations;
- Extension of power supplies to the pumping stations;
- Security lighting and
- Access roads to the pumping stations, tanks and treatment plants.

Depending on the town, socio-economic activities may be undertaken to sensitise the communities of their roles, responsibilities and for formation of community groups such as WUAs and WUGs.

5.2 Likely Impacts of Project Activities

The following impacts are likely following the implementation of the project activities:

- Clearance of vegetation cover and excavation: soil erosion, dislocation of fauna, damage to delicate flora environment and damage to crops in the farmed environment;

- Construction of roads and access points: soil erosion, displacement of people, damage to farms, denial of usage of areas, road accidents to pedestrians, noise and dust;

- Fencing of treatment plants, tanks and pumping stations: denial of use of the land (access denied), security issues with unauthorised access and accidents when people may be cut by barbed or sharp wires.

5.3 Environmental Impacts

Identification of negative impacts occurs at either the construction, operational phase Appendix 4. Details are given below:

(i) Construction impacts

- Vegetation destruction is likely to occur due to site clearance for the construction of water treatment works, water reservoirs, distribution mains and creation of access roads for transportation of drilling rigs, equipment and installation of pipeline and other associated activities. This may lead to loss of biodiversity.

- Soil erosion may occur on construction sites and areas were construction material like sand, stones, cement have been extracted.

- Farmland and crops will be lost, due to incompatible activities and land use conflict. Cultural sites like graveyards and traditional religious/ritual sites may be the best-located sites for the installation of the water supply systems.

- Improper location of well sites in relation to pit latrines, burial sites, waste dumps and other sources of contaminants may lead into ground water pollution.

- Production of drilling wastes and construction spoils like oil spillage may occur. However, that is not expected to have significant impact on land and ground or surface water sources.

- Accidents, health & safety of workers may be at risk during construction.

- Incidence of STD & HIV/AIDS is likely to increase due to presence of construction workforce in the rural communities.

- Noise and dust during the construction may be nuisance to the neighborhood.

(ii) Operation impacts

- Ground water over-extraction may lead into land instability, tectonic effects and disruption of hydrological balance.

- Excessive water abstraction from rivers, may lead rivers drying up thus causing disruption of ecosystem services of downstream aquatic communities.

- Water treatment waste, which contain aluminum residues (toxic) used in the coagulation and chloride used in disinfection of water, will be hazardous to the environment.

- Water abundance at the homestead without a corresponding sewerage system to evacuate it will lead to cross contamination and water logged conditions.

- Stagnant water may cause cross contamination leading to water borne diseases like typhoid and cholera or breeding ground for mosquitoes which cause malaria.

- Occupational health and safety of workers of the Private Water Operators like exposure to hazardous water treatment chemicals and accidents that are associated with operation and maintenance.

(iii) Decommission impacts

- Decommissioned of the water treatments works, storage reservoirs and the distribution mains will generate a lot of construction spoils, metal, wood and plastics.

- Noise, dust and the unsightly feature of the demolished infrastructure will be a nuisance to neighbours and the aesthetic beauty of the location will be lost.

5.4 Social Impacts

The main positive social impact arising from the project will be a possible increase in the social economic status of the people living within the selected project areas - arising from increased access to safe water and better hygiene and sanitation. Like many parts of Uganda, an increase in access to safe water has the attendant benefits of:

- Reducing the incidences of disease associated with the consumption of unsafe water. Uganda is one of the countries with a high Infant Mortality Rate (IMR) of about 86 per 1000. Over 75% of premature deaths result from preventable water borne diseases, like diarrhoea. The successful execution of the proposed sub projects will contribute to improved hygienic practices and sanitation as a key to reduction of Infant Mortality. This in turn will translate to:

- Reduction of the burden to health services and national expenditure on health.

- Reduction of the time spent on collection of water and thereby allowing women and children, more time to engage in other productive activities. The girl child will particularly be liberated from the associated risks of collecting water far away from home and thus enabling them to attend school.

- Reduction in inadequacy in school sanitation, a big concern for girl pupils, and is one of the major reasons many of them drop out early. The outputs of this project will be able to add value to education, by enabling the girl child to remain in school longer.

- Provision of employment opportunities to the youth, attraction of further settlement and economic activity within the small towns and RGCs.

In spite of the positive impacts, the following effects are likely to impact on the population in varying but insignificant proportions, particularly arising from the project demands on land.

Permanent dispossession of land use arising from installations.
The water tanks, boreholes and work works require land for installation where this is applicable. The average amount of land required for each of these is:

- Water tanks require land area - inclusive of a fence not exceeding approx. 100 m^2 each.

- Boreholes would require land area - inclusive of a fence not exceeding 100 m^2 each. This area also accommodates the pump house. In the event that surface water is to be abstracted, this area only covers the pump house.

As a general practice, the local authorities and community leaders have an obligation to provide land free of encumbrances as indicated in the RPF, including land for access (a road) to the installations.

Water supply systems are associated with few installations that do not place considerable demand on space and land. Most Small towns and RGCs will require about 1 water tank, probably not more than 3 boreholes (and an equivalent number of pumping stations). Considering the average size of land each of these requires occupying, an insignificant proportion of land within a Small town or RGC may be required.

It is therefore quite unlikely that several households will be affected or that large portions of land will be affected. While this may cause loss of land for other productive activities, these demands cannot cause a significant effect on the need for resettlement or compensation.

Restrictions to land use arising from installations
Of all the installations arising from the project, only electrical installations and water pumps have the potential of being dangerous if located close to settlements. Both pumping houses and electrical installations will be located far from settlements and; communities will be sensitised to desist from settling close to them. However land surrounding these installations can still be utilised for agricultural purposes where it's productively suits this purpose.

Short run dispossession of land arising from installations
In order to maximise access to water, the project will require the installation of an intricate network of water pipes to reach out to households in the selected project areas. Land has got to be available for this sometimes passing over agricultural land (destroying crop and vegetation cover), roads and pathways and across compounds. These distribution lines are normally installed not less than 1 meter deep.

Because it causes displacement of crop cover and creation of earth piles, this can be a nuisance to land use! However, once handled well this lasts a short time and the impact arising from this is very temporal becoming insignificant over time.

Effects to occupants of land where there is a natural source of water
Where a surface water source for abstraction is located on private land, the process of abstraction may interfere with the statutory right to use of water. Apart from the water supply installations, the need for protection of the water body will require elaborate measures to prevent contamination to the detriment of the occupant of the adjoining land. Where this is possible, such an occupant should be allowed to benefit from the development as far as it compensates for the loss. Only in points of absolute disagreement should compensation be sought in accordance with the provisions of the RPF and the relevant provisions of the Water Statute.

5.5 Mitigation

Since the anticipated impacts of the sub-project will be minor, localised and manageable the proposed mitigation measures are put in place to assist the project implementers just in the event potential negative impacts do occur this ESMF has remedial mitigation measures in place to address these impacts as outlined in Appendix 5. Below is description of each mitigation intervention:

Access roads shall be properly constructed to avoid soil erosion and drainage impediment. Land acquisition should follow the Resettlement Policy Framework (RPF) in separate report to solve land issues, compensation of property and crop loss. There must be documentary evidence of land transfer either

through a notarised sales agreement or donation agreement. Proper land titles should be acquired. Any loss of livelihood should be adequately compensated using RPF based on this ESMF.

The quantity of water abstraction should be assessed against water availability from the water source so as not to exceed the yield of aquifers in the case of groundwater or impairment of downstream ecosystem functions and impact on biodiversity in the case of surface water sources. At both site clearance and construction phase traffic should be regulated to avoid accidents by constructing road humps.

Dust should be minimised by sprinkling water, while noise should be mitigated by making sure motorised construction equipment and vehicles have sound silencers. Stripped top soil from the construction sites should be stockpiled and later used in rehabilitation and landscaping the excavated sites. Soil should be compacted and the construction sites planted with indigenous grasses to prevent soil erosion. Construction debris and drilling waste should be collected as solid waste and either re-used or sent for recycling.

To avoid loss of biodiversity the number of trees cut should be minimised and the size of the water treatment works and storage reservoirs should be at an optimum minimum but not losing sight of future expansion of the small towns and RGCs. The contractors should take the duty of care to ensure all areas where construction materials have been excavated e.g. sand mines; stone quarries; limestone quarries for cement manufacture are landscaped and re-afforested to restore their aesthetic beauty and prevent soil erosion. In order to protect the environment the implementers of the project should use guidelines outlined in the Operators Manual in the Environmental Management Plan Report.

As a measure to enforce these guidelines, they should become part of the contractual obligation of the implementers of the project especially during the construction stage. At the construction and operation phase all workers should use Personal Protective Equipment to mitigate or minimise work related accidents.

The chances of STD & HIV/AIDS transmission can be minimized by promoting awareness and education to the contractor’s workers. The Federation of Ugandan Employers has an excellent HIV/AID manual, which should be adapted. Campaigns among the rural communities, especially women & youths should be done. The number of workforce should be to technical & skilled labor only. The rest of workforce should come from the rural communities. The construction camp should be located far away from the village settlement.

Treatment waste should be incinerated and the waste buried at a solid waste dumpsite. Cross contamination of water in distribution can be avoided by making sure pipe bursts and leakage are detected and repaired in time, while there should be no stagnant water near stand pipes.

6 Environmental and Social Management Plan

6.1 Strategy

The OBA Project Environmental and Social Management Plan are based on the following principles:

- The OBA in water supply in Ugandan's small towns and RGC's involves relatively small-scale public works projects (water treatment works, water reservoirs, distribution mains, stand pipes and drilling of bore holes) that can be designed, implemented and managed by private water operators using standardised published guidance, and with the technical supervision of DWD staff. It is anticipated that the technology used for water supply will be the state of the art; however the public works will be labour intensive and artisanal.

- Environmental management will be integrated with project planning and implementation.

- The Local Water Authority is the Developer, GPOBA (a World Bank administered trust fund) is the Funding Agency and Private Water Operators are the project executants (Consultant and Contractor).

- The Local Water Authority will be responsible for monitoring environmental issues. They will give Terms of Reference to the Private Water Operator to carry out consultancy on the sub projects environmental impacts.

- The design of the water supply and sanitation works will be guided by the technical materials which will incorporate recommended measures designed to minimise adverse impacts and encourage positive environmental effects.

- Capacity building in ESMF and environmental issues will be provided principally to the Local Water Authority and local communities.

It is anticipated that the environmental and social impacts in the STs will be minor, localised and readily manageable hence the projects are classified by the World Bank Environmental Assessment BP/OP 4.01 as Category C i.e. projects

which are likely to have minimal or no adverse environmental impacts. Projects in the RGCs may have limited safeguards concerns and are categorised as 'B'.

These sub projects do not need Environmental Assessment beyond initial screening. This is in agreement and consistent with the Ugandan Environment Act, sub projects of this size and magnitude are not listed in the Third Schedule in the Environment Act where Environmental Impact Assessment is mandatory. Under the Ugandan law such projects may carry out and provide a project brief.

6.2 Environmental Management Plan

The Environmental Management Plan (EMP) is an instrument that allocates actions, measures and responsibility to be undertaken to eliminate or offset adverse environmental impacts of projects. An EMP Matrix for the OBA Project is given in Appendix 4. The EMP for OBA sub projects should follow the Guidelines for Environmental Impact Assessment in Uganda and the Environmental Assessment OP/BP 4.01 of the World Bank Appendix 2.

The key players here include GoU which provides an enabling environment, while the Ministry in charge of Environment and Water (MOWE) provide the policy function. NEMA and DWD as the executive arm will enforce the laws and regulations. The Local Water Authority as the Developer should give the TOR to the private water operator who should carry out the environmental review. The local communities as key stakeholders and beneficiaries should be consulted and their views integrated in the final design and implementation of the sub projects.

Initially each sub project should be screened for environmental impacts. This can be done by using the checklist given in Appendix 1. The purpose of the screening process is to:

- Determine whether future projects are likely to have potential negative environmental and social impacts;
- Give an indication of appropriate mitigation measures for activities with adverse impacts;
- Incorporate mitigation measures into project design, and
- Monitor environmental parameters during project implementation.

Since most sub project activities involving public works will be mainly artisanal, it is anticipated that the environmental impacts will be minor, localized and manageable. It is envisaged that for most sub projects the EIA process will stop at the screening stage, only requiring a project brief for NEMA approval. In the event some potential negative environmental impacts are identified this will go on the next stage of the EIA process, which is Environmental Scoping. Here the potential significant environmental impacts are identified and distinguished from insignificant ones.

The insignificant impacts are eliminated and a full EIA is done on the significant potential environmental impacts. In the EIA, the magnitude and extent of the potential significant negative environmental impacts should be quantified. Mitigations measures of the potential negative impacts will be assessed and recommendations developed. Alternatives to the project including no objection will be reviewed and recommended. As check balance an EMP will be made to ensure the project executants will protect the environment. The EMP will include the following: -

- A description of the possible adverse effects that the EMP is intended to deal with;
- A description of planned mitigation measures and how and when they will be implement;
- A programme for monitoring the environmental effects of the project both positive and negative.
- A description of who will be responsible for implementing the EMP; and
- A cost estimate and source of funds.

A detailed EMP is given as a separate report.

6.3 The Resettlement Policy Framework

The Resettlement Policy Framework (RPF) clarifies resettlement principles, organizational arrangements and design criteria to be applied to subprojects to be prepared during project implementation.

The RPF provides a guiding framework to manage resettlement through appropriate compensation in the event that involuntary resettlement cannot be avoided and acquisition of land and other assets cannot be minimized.

The underlying principle in determining compensation is that resettlement activities be conceived in consultation with the affected persons and executed as sustainable development programs, providing sufficient investment resources to:

- Enable the affected persons to share in project benefits.
- Improve the livelihoods of affected persons to restore them to pre-displacement levels.

Affected persons will be compensated for affected property that includes land housing, crops, or thriving business enterprises situated in the area identified for development.

The criteria for selection and compensating affected persons will emphasise the existence of evidence of formal legal, customary or cooperative rights to land or a claim to such land or assets where such claims are lawfully recognized in Uganda or become recognized through a process identified in the RAP.

A detailed RPF is also given as a separate report.

6.4 Monitoring

Environmental monitoring will be done during the construction and operational phase of the OBA Project (Appendix 6). The main objective of monitoring is to ensure that the identified negative impacts and their mitigation measures are implemented by those responsible.

Monitoring will act as a check balance between environment and development i.e. to determine whether the mitigation measures have been successful in such a way that the pre- program environmental and social condition have been restored, improved upon or worst than before and to determine what further mitigation measures may be required. The responsibility for monitoring and evaluation of the mitigation measures is assigned at two different levels i.e. the local and national level.

At the local level the main actors will be the beneficiary communities. Through their Local Coincil LC1 environmental committee the members will use the Environmental Check list developed by the Ministry of Local Government as the private water operator begins the construction. The District Environmental Officer will be responsible for reviewing and making comments on the project brief/or environmental scoping/or EIA submitted to NEMA.

At the national level NEMA will be responsible of approval of the project brief/or environmental scoping/or EIA after it has received comments from the Local Government and Lead Agency in this case DWD. DWD will play the regulatory role by issuing the water permit, making sure the water authorities are properly constituted and review the project brief/or environmental scoping/or EIA.

Blow is a list of some of the indicators;

- Safe waste management related to construction works
- Reforestation and land restoration
- Compliance with the Environmental Guidelines for Contractors
- Best practice in the implementation of project activities.

Key monitoring indicators for use are indicated in Appendix 5 and a detailed monitoring plan is given in Appendix 6.

7 Capacity Building for the Environmental and Social Management Framework

The ESMF will as much as possible be implemented using available capacity existing within the DWD, local governments and private operators. These institutions face a number of challenges that need to be addressed by deliberate capacity building efforts.

The ESMF brings on board the need for environment and social impact analysis and mitigation measures. This level of analysis requires the development of professional knowledge and skills specifically tailored for this purpose. In the event that local capacity has to be tapped, it is important that orientation and short training courses be developed in order to support existing staff in the implementation of the ESMF.

Various capacity building efforts already exist particularly within the DWD and the local governments that address building the capacity of key actors. The DWD has got funds from several funding agencies and has already conducted training needs assessments as well as capacity building activities targeting private operators and Water Authorities[6] . The capacity building activities proposed in this ESMF therefore, will be incorporated into already existing capacity building initiatives both at DWD and at the Local Governments.

7.1 Institutional Capacity Building Assessment

7.1.1 The Fiduciary Agent

The Fiduciary Agent is expected to play a main role in the implementation of the project. The Fiduciary Agent will bear full responsibility and risk for overseeing compliance of the execution of the project and disbursement of funds for the project.

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[6] See 1) ***Training Needs Assessment of Water Authorities and Private Operators*** Ministry of Water, Lands and Environment Uganda /Danida, Directorate of Water Development May 2003.
2) **NB**: All the Project area districts implement capacity building programs supported through the Capacity Building Finds provided by the Ministry of Local Government. Integrating ESMF Capacity Building needs to these programs is healthy for sustainability purposes.

But DWD will be delegated the key responsibility of ensuring that the project complies with Ugandan environmental and social laws, and that the project adheres to this ESMF. DWD will also be responsible for validating resettlement claims and ensuring that fairness in compensation is achieved, and will be responsible for providing evidence of this to the Fiduciary Agent.

Sufficient understanding of the mechanisms for implementing the ESMF need to be provided to members of the Fiduciary Agent's team directly assigned the duty of overseeing the management of the project, even though the key responsibility rests with the DWD in the Ministry of Water and Environment.

This will be important to support this team appreciate its role in providing supervision, monitoring and evaluation.

7.1.2 The DWD and the Environment Division of MOWE

The system of management of water supply by private operators has slowly but surely picked momentum in Uganda. From a few water supply systems to coverage of nearly all the country! This increase is placing strain on the supervisory capacity of the DWD[7].

It may be beyond this ESMF to suggest staffing needs for the DWD. However, coupled with the need to cope with the requirements of both the OBA and the ESMF, the following actions need to be undertaken to build capacity of the DWD

1 Conduct an orientation training that will provide additional knowledge on integration of ESMF into the current Supervisory role of the directorate.

2 Introduce Environment officers to the OBA concept. Since the sister division handling Environment shares the same ministry, Environment Officers will also need to be introduced to the concept of OBA in relation to the ESMF to beef up the capacity of the DWD to implement the ESMF in the project districts.

It is recommended that the relevant DWD staff and Environmental Officers be provided training in Water related Environmental and Social baseline study methods to create a basis for mentoring and guiding the process of Environmental screening.

7.1.3 The District Local Governments

The custody and implementation of policies on water supply directly falls in the hands of local governments through existing WA. While the DWD may take over some of their roles in the interim period, this will not be sustained for long. The continuous need to mitigate environment impacts must be well con-

[7] DWD Urban Authorities Unit is the main supervisor of the whole OBA process. It has two engineers and is to cover more than 65 towns and RGCs!

ceptualised and understood by main actors within the Local Government setting. This includes the Town Clerks/Sub County Chiefs, the Town Council/Sub County Executives and the Water Officers.

A training manual needs to be developed and the Environment officers be trained as Trainers of Trainers for future capacity building. This is important for WAs given that the latter comprises of elected leaders whose term of office easily expires with the onset of fresh elections. Sustainable capacity for enhancing knowledge and skills of these statutory bodies must be generated even beyond the project life cycle.

It has already been shared that one of the challenges that WAs present is that they comprise of politicians from the LC III level. Most of them have limited knowledge and skills in contracting leave alone Environment and Social management. And yet the responsibility of overseeing the implementation of the ESMF and the RAP falls on their shoulders.

There is therefore a need to ensure that these statutory members of the WA are sensitised and properly trained especially in the application of the Entitlement matrix and Entitlement Inventories.

7.1.4 Private Water Operators

It has been highlighted that Procurement of the works will involve the 'new' concept of OBA with which most contractors are not familiar. The application of Environmental safeguards need to be integrated into a training programme on OBA for water supply to provide private operators with basic knowledge and skills on Environment mitigation measures in accordance with the EMP drawn against this ESMF:

7.1.5 The Local Community Leadership

Recipient communities need to appreciate the ESMF as part of the OBA for water supply in Small Towns and Rural Growth. One of the most immense tasks in the project is to mobilize community support for the project as well as provide communities with commensurate education on consuming and using water in an environmentally friendly manner.

The faster way of doing this is to ensure that community leaders understand the whole concept of OBA and the ESMF in order to be able to translate the role of the community in implementing the ESMF. The Local community leaders must ensure active and effective consultation and participation of the affected persons in the preparation and implementation of the Resettlement action plans.

Particular attention will need to be taken to drive home the principles of managing resettlement and the application of the Entitlement matrix and Inventories.

The importance of this lie in the fact that Community leaders are expected to guide in the implementation of the RPF, mentor the implementation of the

ESMF as well as arrange to sensitize the recipient communities on the components of the project.

7.2 Capacity Building Requirements for the ESMF

In order to build commensurate capacity for effectively implementing the ESMF for the OBA in Small Towns and Rural Growth Centres, all the key actors will need to understand and appreciate its relevance to the project as well as the specific components to which their roles and responsibilities are strongly highlighted.

In order to provide Capacity building for the ESMF, the training activities must be able to articulate the following course content:

A. Overview of the OBA for Water supply in small towns and RGCs

- Principles of the OBA in implementing Water Supply in small towns and RGCS.
- Selected projects and likely sub-project activities.

B. Likely Impacts of Project Activities

- Environmental impacts
- Social Impacts

C. Relevance of the ESMF in addressing likely impacts

- What are the basic principles underlying the ESMF?
- Enabling Policy, Legal and Institutional Framework for the ESMF, EMP and the RPF
- Environmental and Social Screening Process
- The screening steps

D. Environmental Management Planning

- Guiding principle (Environment must not be adversely affected and likelihoods must be avoided, minimized or compensated where appropriate)
- Key parameters for the Planning process and monitoring mechanisms

E. Resettlement Planning and Management

- Guiding principles and procedures
- How to prepare an Entitlement matrix and Inventories
- Preparation of a Resettlement Action Plan

F. Supervision, monitoring and Evaluation methodologies and framework
This course content will be applied with varying emphases for each of the key actors based on their role inclinations.

The Details pertaining to the ESMF capacity building requirements and cost Estimates are provided in Appendix 7.

Appendix 1: Environmental and Social Screening Form

7.2.2 Introduction

This Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of planned construction and extension activities under the Out Based Aid (OBA) in water supply and sanitation in Uganda. The form will assist the project implementers and reviewers to identify environmental and social impacts and their mitigation measures, if any.

It will also assist in the determination of requirements for further environmental work (such as EIA), and social work (such as RAP) if necessary. The form helps to determine the characteristics of the prevailing local bio-physical and social environment with the aim of assessing the potential impacts of the construction and extension activities on the environment. The ESMF will also assist in identifying potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation.

7.2.3 Guidelines for Screening

The Consultant should undertake the assignment after:

- Gaining adequate knowledge of baseline information of the area.
- Gaining knowledge of proposed project activities for the area.
- Having been briefed / trained in environmental and social screening.

Part A: General Information

Project Name	Estimated Cost Ug Sh
Project Site	Funding Agency
Project Objective	Proposed Main Project Activities
Name of Evaluator	Date of Filed Appraisal

Part B: Brief Description of the Proposed Activities

Provide information on the type and scale of the construction/extension activity (e.g. area, land required and approximate size of structures).

Provide information on the construction activities including support/ancillary structures and activities required to build them, e.g. need to quarry or excavate burrow materials, water source, access roads etc.

Describe how the construction/extension activities will be carried out. Include description of support/activities and resources required for the construction/extension.

Part C: Environmental Baseline Information of the Project Site

CATEGORY OF BASELINE INFORMATION
• Geographical Location • Name of small town/Rural growth Centre • Location of the proposed project
• Land Resources • Topography • Geology • Soils • Land use
• Water Resources • Surface water (quality and quantity) • Ground water (quality and quantity)
• Biological Resources • Flora (include threatened/endangered/endemic species). • Fauna (include threatened/endangered/endemic species). • Fragile ecosystems (national parks, forest reserves).
• Climate • Temperature • Rainfall

Part C Screening Criteria for Impacts during Construction

1.0 Screening Criteria for impacts during project planning and design

No	Areas of Impact Will the project affect the following environmentally sensitive areas	Impact Evaluation					Potential Mitigation Measures
		High	Medium	Low	Non	Un-known	
1.1	National parks and game reserve						
1.2	Wet-lands						
1.3	Productive traditional agricultural /grazing lands						
1.5	Areas with rare or endangered flora or fauna						
1.6	Areas with outstanding scenery/tourist site						
1.7	Within steep slopes/mountains						
1.8	Dry tropical forests						
1.9	Along lakes , along beaches, riverine						
1.10	Near industrial activities						
1.11	Near human settlements						
1.12	Near cultural heritage Sites						
1.13	Within prime ground water recharge area						
1.14	Within prime surface run off.						

2.0 Screening for impacts during implementation and operation

No	Areas of Impact Will the implementation /operation generate the following externalities/impacts?	Impact Evaluation					Potential Mitigation Measures
		High	Medium	Low	Non	Unknown	
2.1	Deforestation						
2.2	Soil erosion and siltation						
2.3	Siltation of watercourses, Dams						
2.4	Environmental degradation arising from mining of construction materials						
2.5	Damage of wildlife species and habitat Increased exposure to agro-chemical pollutants						
2.7	Hazardous wastes, Asbestos, PCB's						
2.8	Nuisance - smell or Noise						
2.9	Reduced water quality						
2.10	Increase in costs of water treatment						
2.11	Soil contamination						
2.12	Loss of soil fertility						
2.13	Salinization or alkalinisation of soils						
2.14	Reduced flow and availability of water						
2.15	Long term depletion of water resource						

2.16	Incidence of flooding						
2.17	Changes in migration patterns of animals						
2.18	Introduce alien plants and animals diseases						
2.19	Increased incidence of plant and animal						

3.0 Screening Criteria for Social and Economic Impacts

No	Areas of Impact Will the implementation/operation of the project generate the following impacts	Impact Evaluation					Potential Mitigation Measures
		High	Medium	Low	Non	Unknown	
3.1	Loss of land/land acquisition for human settlement, farming, grazing						
3.2	Loss of assets, property, houses, agricultural produce etc						
3.3	Loss of livelihood						
3.4	Require a RAP or ARAP						
3.5	Loss of cultural sites, graveyards, monuments						
3.6	Disruption of social fabric						
3.7	Interference in marriages for local people by workers						
3.8	Spread of STIs and HIV and AIDS, due to, migrant workers						
3.9	Increased incidence of communicable diseases						
3.10	Health hazards to workers and communities						
3.11	Changes in human settlement patterns						
3.12	Conflicts over use of natural resources e.g. water, land, etc						
3.13	Conflicts on land ownership						
3.14	Disruption of important pathways, roads						
3.15	Increased population influx						

3.16	Loss of cultural identity						
3.17	Loss of income generating capacity						

Appendix 2: Basic Components of EIA

This part presents specific guidelines for each level of EIA, and also provides guidance to the general public who are interested to know basic elements of the overall EIA process, including the procedure for screening and scoping.

The basic components of the EIA Process in Uganda consist of three interconnected phases: **screening, environmental impact study,** and **decision making.** The relevant components of the EIA process can be applied to policies and projects during the conceptual and design stages, or after completion of policy and/or project formulation and design but before actual implementation. The basic components of the EIA process, including outputs and inputs, are illustrated in Figure 2-1. Briefly, the three phases include:

2.1 Phase I: screening

Not all development projects may necessarily cause adverse effects on the environment due to differences in scale of the operation, nature of the proposed project and its location. Thus, not all proposed projects requiring EIA shall undergo the entire EIA process, nor necessarily the same level of assessment.

The objective of the screening phase therefore is to determine if a proposed project has or does not have significant impacts. If it is determined not to have potential to cause significant environmental impacts, it shall be categorically excluded from further environmental impact assessment, and an appropriate decision shall be made to approve and implement the project, with, where appropriate, recommendations to the developer, for sound environmental management of the project.

If, however, it is not exempt, and is found to have the potential for significant environmental impacts, further screening is conducted to determine if mitigation measures can readily be identified through further Environmental Impact Review (EIR) or a full Environmental Impact Study (EIS) shall be required. If in conducting the EIR adequate mitigation measures are incorporated for the identified impacts, the environmental aspects of the project can be approved.

If, on the other hand, adequate mitigation measures are not identified, the project shall be subjected to further detailed Environmental Impact Study (Phase II).

The screening process, therefore, assists in determine whether a proposed project:

- Clearly does not require EIA i.e.; exempt category,
- Has significant environmental impacts for which mitigation measures can readily be identified either directly or through environmental impact review, or

- Has significant environmental impacts whose mitigation measures cannot readily be identified, hence requiring a detailed Environmental Impact Study.

If a decision is made at the screening stage to exempt a project, or to approve its environmental aspects on the basis of identified mitigation measures, such a decision shall be contained in a **Certificate of Approval of the Environmental Impact Assessment** issued by the National Environment Management Authority.

If, however, after screening, it is determined that the project requires a detailed Environmental Impact Study (EIStudy), such a certificate shall only be issued after approval or disapproval of an Environmental Impact Statement (EIS).

2.2 Phase II: Environmental Impact Study

2.2.1 Scoping:

The initial step in the Environmental Impact Study (EIStudy) is to determine the scope of work to be undertaken in assessing the likely environmental impacts of a proposed project. Scoping involves identification of potentially significant environmental impacts and/or elimination of insignificant impacts, and is applied to all activities which require a full Environment Impact Study. Usually this includes meetings with relevant agencies and stakeholders to obtain their comments on what/should be included in the study and what alternatives should be considered.

Agency/Interested Party Coordination

The scoping exercise should, to the extent possible, involve consultation with potentially affected communities, relevant government agencies, representatives of other interested parties including Non-Governmental Organizations (NGOs), the private sector, independent experts and all other stakeholders including the general public. Usually this will include meetings to obtain their comments on what should be included in the study and what alternatives should be considered in order that an adequate Environmental Impact Study shall be conducted.

The responsibility for scoping shall be that of the developer, but the Authority, Lead Agency and other interested parties shall be consulted. The developer shall undertake to prepare a scoping report which summarizes the results of scoping, and which shall also constitute part of the Terms of Reference for the study. The Terms of Reference shall therefore define the scope of the EIStudy. Such Terms of Reference shall be submitted to the Authority, that shall in-turn forward them to the appropriate lead agencies for comment. The Terms of Reference shall be reviewed by the Authority, in consultation with the responsible Lead Agencies before an Environmental Impact Study is conducted.

During scoping, the developer, in consultation with the Authority, Lead Agency, and other appropriate and interested parties, stakeholders and the members of the general public, shall determine the following, among others:

- Suggested delineation of the appropriate boundaries to be considered in the EIStudy;
- Questions about the proposed project which should be answered through the EIStudy;
- Identification of the potentially significant impacts of the project which shall be addressed in the EIStudy;
- Alternatives to the proposed action;
- The full range of stakeholders to be consulted and suggestions for full public involvement in the process;
- Identification of the full range of stakeholders who may be affected or are interested in the. Proposed project;
- Other technical aspects related to the proposed action; and
- Identification of other past, present, or foreseeable future projects in the area that may be impacted upon by, or will impact on the proposed project.
- How the proposed project conforms to existing laws, policies and regulations.

Where the Lead Agency is the developer, it shall prepare the Terms of Reference for the study and these shall be reviewed by the Authority.

Identification of significant impacts during scoping
The identification of potentially significant impacts is left to the discretion of all the parties involved in the scoping exercise. Significance is a project and site, specific determination, depending upon the context of the project and its associated activities, its scope and magnitude, and the nature of the proposed project site.

In identifying potentially significant environmental impacts, participants in the scoping exercise shall use their own experience, expertise and knowledge of the project area/site, or they may utilize a Checklist (Appendix 3) to assist them in identifying the potentially significant impacts. Participants with little knowledge of the project area/site may consider visiting it to acquaint themselves with the site conditions prior to the scoping exercise. The participants shall also consider direct and indirect impacts, as well as cumulative and any likely growth inducing impacts of the proposed actions.

Once the potentially significant impacts are identified, the participants shall review the proposed alternatives and suggest, if necessary, other alternatives which should be assessed. Impacts which the participants agree must be addressed to protect the environment shall be considered potentially significant.

The scoping exercise shall conclude with the identification of the relevant inter-disciplinary expertise necessary to address the identified significant impacts. The names and qualifications of the experts identified to undertake the Environmental Impact Study shall be approved by the Authority.

2.2.2 Conducting EIStudy and preparation of the Environmental Impact Statement (EIS)

Based on the information from the scoping exercise as contained in the Terms of Reference, an Environmental Impact Study shall be conducted and an Environmental Impact Statement (EIS) will be prepared. The developer shall submit ten copies of the EIS to the Authority that shall in-turn forward copies to the Lead Agency and to other stakeholders and interested parties for comment and review, before approval is considered. Any comments received shall be taken into account in making a decision on the EIS.

2.3 Phase III: Decision Making

Either on the basis of a finding that a project is exempt, appropriate mitigation measures have been incorporated for identified potential environmental impacts, or the preparation of an Environmental Impact Statement, a decision shall be made to approve or disapprove the environmental aspects of a proposed project. If approved, the necessary action shall be taken by the developer. The basic steps in the approval process for the EIS include the following:

2.3.1. Review of Environmental Findings

The Authority, in consultation with an appropriate Lead Agency, shall review the contents of the EIS, paying particular attention to identified environmental impacts and mitigation measures related thereto, as well as the level of consultation and involvement of the affected stakeholders in the EIStudy process. In this review, the level of address of the Terms of Reference set out for the study shall be considered. The Lead Agency, stakeholder and public comments shall be taken into account in making a decision by the Authority to approve or disapprove the EIS.

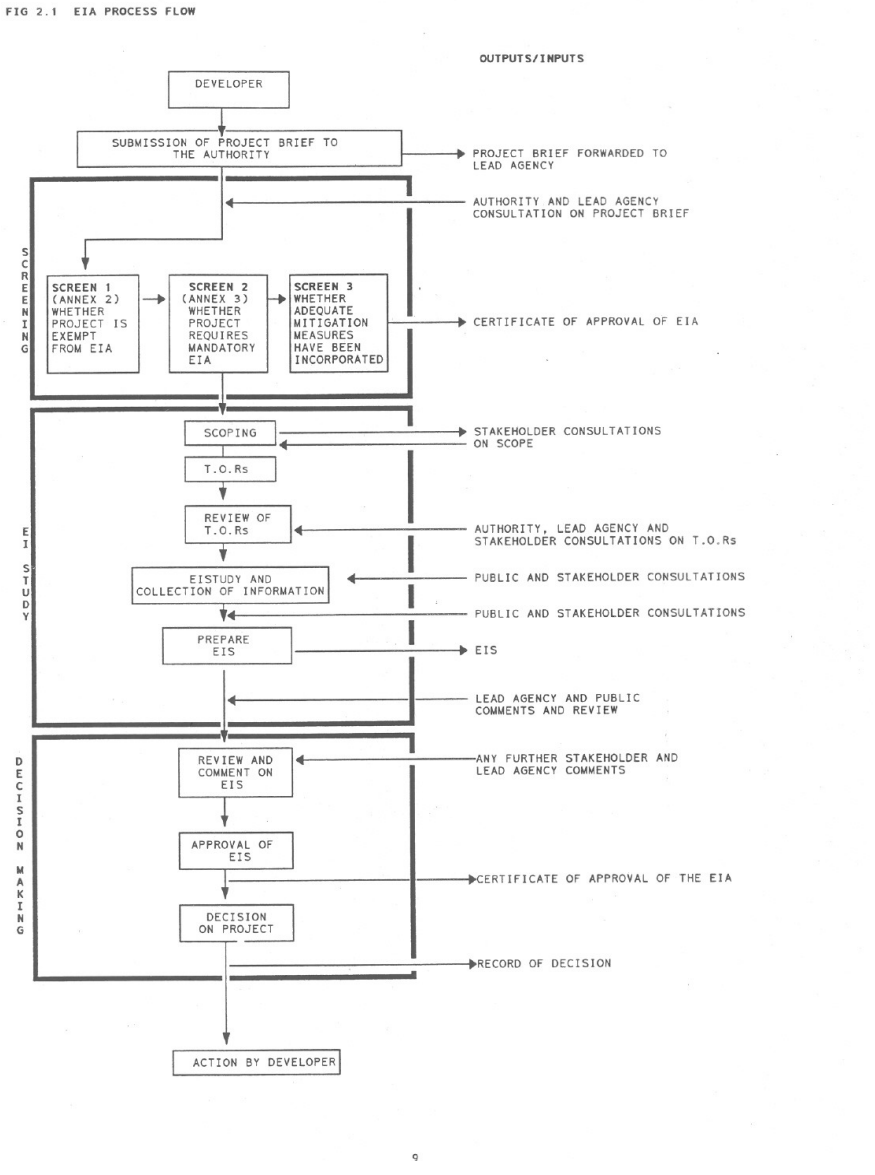
2.3.2. Approval of the EIS by the Authority

Based on the contents of the EIS, and taking into account the Lead Agency review findings and the stakeholder and public comments on the EIS, the Authority shall, undertake to approve or disapprove the environmental aspects of the project, or part thereof, and issue a Certificate of Approval of the Environmental Impact Assessment. The Authority may also issue such approval subject to such conditions it deems necessary.

2.3.3 Decision on project and record of decision

After approval or disapproval of the environmental aspects of the EIS by the Authority, the Lead Agency decision makers and licensing authorities, will then take appropriate action to approve or deny the project based on all of its merits (environmental, social, economic, political or other factors), and a Record of Decision shall be prepared.

After reaching a decision on the proposed action, if it is approved, the developer will be licensed or permitted to implement the project in accordance with the mitigation measures stipulated in the Environmental Impact Statement and any other terms and conditions attached to the approval. If it is denied, the developer may, if such denial is based on environmental considerations that can further be improved, be urged to revise the proposed action to eliminate adverse impacts.



The EIA Process Flow in Uganda

Appendix 3: An Outline of the EIA/EA Report

The Table of Contents

- Acknowledgement
- Executive Summary
- Introduction
- EIA object and methodology
- Project Description
- Policy, legal and institutional framework
- Environmental Background of the project area
- Potential environmental impacts and mitigation
- Environmental Management Plan
- Conclusion and recommendation

Appendix 4: Potential Project Impacts

Tick as appropriate	Socio-economic			Aesthetic / Cultural				Biological				Physical				
Stage of Project Related Activities	**Income**	**Employment**	**Displacement**	**Landscape**	**Local pref-er-ence s**	**Gender**	**Cultural sites**	**Plants**	**Animals**	**Human**	**Ecologically sensitive areas**	**Water**	**Land**	**Air**	**Noise**	**Other**
Planning and Design																
Mobilization of stake-holders																
Site identifi-cation																
Surveying of the Project Site																
Project De-sign																
Construction and Rehabilitation																
Mobilization of construc-tion materi-als																
Land clear-ing																
Water source de-velopment																
Tank, pump house, treatment plant and borehole construction																
Latrine in-stallation																
Water pipes and tap stand instal-lation																
Operation and maintenance																
Catchments protection																
Water ab-																

Tick as appropriate	Socio-economic			Aesthetic / Cultural				Biological				Physical				
Stage of Project Related Activities	**Income**	**Employment**	**Displacement**	**Landscape**	**Local pref-er-ence s**	**Gender**	**Cultural sites**	**Plants**	**Animals**	**Human**	**Ecologically sensitive areas**	**Water**	**Land**	**Air**	**Noise**	**Other**
straction																
Water treat-ment and supply																
Operation of infrastructure																
Maintenance of water sources																
Provision of employment																
Decommissioning and closure																
Demobilize resources																
Close con-struction																

Appendix 5: Mitigation Plan

The Table below gives the mitigation plan for the minimal compensation / destruction that may be occasioned during implementation of the sub projects. Approximate costs are also given in US $ at current rates[8].

Potential Negative Impact	Mitigation Measure	Institutional Responsibility	Cost/Ug Sh
Vegetation loss due to site clearance, construction of access roads, excavation of water distribution mains	Minimise size of project area, avoid areas with trees, replant trees Avoid destruction of expensive structures	The Private Water Operator (Contractor).	Negligible costs for compensation typically in the range of $100 – 500 to cover fruit trees, plantations etc. Restoration of roads and pavements may cost from $200 – 500.
Soil erosion as a result of site clearance, extraction construction materials and access roads.	Soil compaction after excavation, improve drainage, plant glass Avoidance of steep slopes or trenching along contours, not across them.	The Private Water Operator (Contractor).	Minimal costs for the restoration of planted or grassy areas. Borrow pits restoration costs in the range of $100 – 300 owing to the limited size/depths.
Loss of farmland, property and crops	Appropriate land acquisition using the Resettlement Policy Framework. Avoidance of expensive or settled areas during planning and design	District Land Office	Limited compensation expected for land for treatment plants and pumping stations. Costs in the range of $100 – 500.
Ground water pollution as result of sources near pit latrines	Site all boreholes away from latrines at least 100m Sensitise the community not to build near the boreholes	Ground water consultant and Driller.	Incremental costs for pipe laying range from $1000 – 5,000 per km. Cost - benefit to be analysed
Construction site waste and drilling waste	Reuse or recycle. In the case drilling waste spread them on used land.	The Private Water Operator (Contractor) and Driller.	Most of the waste is not poisonous except for the oils and lubricants. Disposal of these is covered

[8] The determination of the value of assets, cost of damage to properties and levels of compensation, is vested in the Chief Government Valuer, backed by the relevant laws of Uganda. Where there is a dispute, independent valuers may be engaged, and court may also be called in to determine the disputes on land issues. Land tribunals at district and lower levels will determine the most cases in the communities.

Potential Negative Impact	Mitigation Measure	Institutional Responsibility	Cost/Ug Sh
			in the Drilling Contract. Negligible costs.
Accidents, health and safety of workers at both construction and operational phase	Provision of First Aid kits, warning signage, provision of Personal Protective Clothing. Prompt treatment of injured persons and compensation of deaths and permanent injuries.	The Private Water Operator (Contractor).	Cost of insurance of workers covered under the Workman's Compensation Act, 2000. Insurance costs are added to the Client, usually at 2% of the wages.
Increase of STDs and HIV/AIDs due to the presence of construction workers	Awareness campaigns to the most venerable i.e. women and youth. Provision of condoms, counselling services and ARVs (for infected individuals).	District Medical services and the Uganda Federation of Employers.	Most of the services are available free near urban centres. Procurement of treatment services and condoms may cost from $500 – 1000; support services can be integrated into the contractor's plans.
Noise and dust made by vehicles and construction equipment.	Fit silencers on noise making equipment and sprinkle water to reduce dust	The Private Water Operator (Contractor).	Minimal additional cost to the contractor for silencers. Sprinkling of water is covered in the construction costs.
Groundwater over-extraction and excessive river water abstraction	The designed capacity should not exceed the yield in the case of groundwater and water availability in the case of rivers. Obtain a Water Abstraction Permit from DWD, which has its conditions	The Directorate of Water to issue water permits that allow optimum water abstraction without affecting the environment.	No additional cost if the contractor adheres to the conditions of the Permit. DWD regulates the use and disposal of water and waste water.
Water treatment waste like aluminium sludge is toxic to the environment.	Water treatment waste should be dried and incinerated. The clinker should be disposed in a land fill.	The Private Water Operator.	Amounts of aluminium sludge are small; however, there are few incinerators available in Uganda.
Cross contamination of water in the distribution mains	Link detection Repair burst pipes and linkages	The Private Water Operator and utility users.	No additional costs except for enforcement of hygiene and cleanliness standards by the com-

Potential Negative Impact	Mitigation Measure	Institutional Responsibility	Cost/Ug Sh
	Drain stagnant water near stand pipes.		munity workers (civil servants).
Contamination of reservoir tanks and tanks at the clients' premises.	Regularly clean the tanks and disinfect with chlorine.	The Private Water Operator and utility users.	Cost of disinfection built into the cost of water. No additional costs incurred.
Construction debris after decommissioning	Proper collection, sort debris according to category. Reuse or recycle.	The Private Water Operator (Contractor). Water Authority	No additional costs to the Private Operator. Contractor clears his debris. Solid waste collection will be on a fee basis.

Appendix 6: Monitoring Plan

The Table below gives the Monitoring Plan and the responsible persons for the parameters to be monitored.

Parameter to be monitored	Unit of Measure	Phase in the Project circle	Responsibility
Vegetation loss	No. of trees cut or sq. meters of grass removed.	Construction	LC1 Secretary for Environment. District Environmental Officer. National Environment Management Authority
Soil erosion	m^3 Length of eroded sections	Construction	LC1 Secretary for Environment. District Environmental Officer. National Environment Management Authority
Loss of farmland, property and crops	Hectare (Ha)	Construction	LC1 District Land Board District Land Tribunals Courts of Law
Ground water pollution.	Faecal coliform counts	Construction and Operation	Contractor (during construction) The Private Water Operator
Construction site waste and drilling waste	m^3 Tons	Construction	District Environmental Officer Drilling Supervisor (Consultant or DWD)
Accidents, health and safety of workers at both construction and operational phase	Number of accidents or near misses	Construction and Operation	Contractor (during construction) The Private Water Operator
Increase in STDs and HIV/AIDS due to the presence of construction workers	No. of reported of STDs and HIV/AIDS cases.	Construction	Contractor Private Water Operator District Health Services
Noise and dust made by vehicles and construction	bd, kg/m^3	Construction	Contractor LC1 Secretary for

Parameter to be monitored	Unit of Measure	Phase in the Project circle	Responsibility
equipment.			Environment. District Environmental Officer. National Environment Management Authority.
Groundwater over extraction and excessive river water abstraction	m^3/day	Operation	DWD
Water treatment waste like aluminium sludge is toxic to the environmental.	Kg	Operation	The Private Water Operator
Cross contamination of water in the distribution mains	Faecal coliform counts	Operation	The Private Water Operator
Contamination of Reservoirs tanks and tanks at the clients' premises.	Faecal coliform counts	Operation	The Private Water Operator
Construction debris after decommission.	Kg	Decommissioning	NEMA

Appendix 7: ESMF Capacity Building Requirements and Cost Estimates

CAPACITY BUILDING ACTIVITY	TRAINEES	TRAINERS	MEANS OF VERIFICATION	TIME ALLOCATION	COST ESTIMATES (US D Million)
ESMF Orientation Workshop ***One Workshop centrally organized***	Fiduciary Agent, DWD Officials, Environment Officers Town Clerks/Sub county Chiefs, Water Officers, Private Water Operators, Water Board	Consultant, SSP (World Bank)	The following oriented: 3 Fiduciary Agent staff, 4 DWD Officials, 12 Environment Officers 12Town Clerks/Sub county Chiefs, 12 Water Officers, 12 Private Water Operators	2 days	10,000
ESMF Training of Trainers Workshop ***One Workshop centrally organized***	Environment Officers	Consultant, SSP (World Bank) DWD	12 District Environment Officers trained (one from each of the project area districts)	4 days	20,000
ESMF Orientation Workshop for Project area Local Governments	CAOs	Consultant,	The following trained:	3 days each	20,000

CAPACITY BUILDING ACTIVITY	TRAINEES	TRAINERS	MEANS OF VERIFICATION	TIME ALLOCATION	COST ESTIMATES (US D Million)
3 Workshops organized at regional levels proximal to a cluster of 4 project area districts	LC 5 Chairperson, Respective Sec at LC 5, Town Council Executives, Sub County Executives, and; County Water Officers	DWD, SSP (World Bank) Environment Officers	12 CAOs 12 LC 5 Chairperson, 12 Respective Sec at LC 5, 12 Town Council Executives//Sub County Executives, and; 12 County Water Officer		
Training of Project Area Community Leaders on implementation of the ESMF ***12 Workshops organized at each project area***	Local Council leaders, Opinion leaders	Consultant, DWD, Environment Officers	At least 20 local leaders trained from each sub project locality	4 days each	20,000