
CHAPTER TWO

OVERVIEW OF THE WATER SECTOR

2.1 Introduction

The water sector is one of the priority sectors in Uganda, as it directly impacts on the quality of life of the people and overall productivity of the population. Water supply and sanitation are among the key issues emphasized under the national Poverty Eradication Action Plan (PEAP), which is the key government framework for ensuring poverty eradication through creation of an enabling environment for rapid economic development and social transformation.

Water is a key strategic resource, vital for sustaining life, promoting development and maintaining the environment. Access to clean and safe water and improved sanitation facilities and practices are pre-requisites to a health population and therefore have a direct impact on the quality of life and productivity of the population. Besides domestic water supply, water is also vital for: Livestock Water Supply, Industrial Water Supply, Hydropower generation, Agriculture, Marine Transport, Fisheries, Waste Discharge, Tourism, and Environmental Conservation. Water, therefore, significantly contributes to the national socio-economic development and thus poverty eradication.

Despite Uganda's being well endowed with significant freshwater resources, the challenges of rapid population growth, increased urbanization and industrialization, uncontrolled environmental degradation and pollution are leading to accelerated depletion and degradation of the available water resources. Uganda is also faced with the challenge of low safe water coverage (59% rural and 65% urban, as of December 2003).

In order to meet the above challenges, government initiated reforms in the water sector, in 1997, to ensure that water services are provided and managed with increased efficiency and cost effectiveness. Comprehensive sector reform studies have been going on since 1998 and are due to be completed by August 2004. During these studies, detailed situation analysis of the sector was carried out resulting in the preparation of a comprehensive water sector Strategy, investment plans and time bound national targets for the sector up to 2015. In demonstrating its commitment to the reform process, government has already embarked on the process of implementing some of the strategic recommendations from these studies.

One of the key strategic outcomes from the reform studies is the adoption of a 'Sector Wide Approach to Planning (SWAP)' for the sector. The SWAP framework, which has been embraced by both government and the water sector development partners, has already proved to be the most appropriate mechanism for resources mobilization and implementation of the action plans. The SWAP framework also guarantees the participation of all stakeholders in the planning and implementation of water sector activities. This openness has resulted in increased confidence from the development partners who have

now agreed to finance water sector programs through the regular government budget, contrary to the project specific funding characteristic of the past.

Despite the significant progress highlighted above, the sector is still faced with a number of challenges. The major challenge is establishment of strong mechanisms for effective, efficient and sustainable delivery of water and sanitation services to the end users, on the basis of the strategies and funding mechanisms established under the SWAP framework. This challenge, coupled with the inherent financial and human resources constraints at both national and local levels pauses the greatest risk for the untimely achievement of the sector targets.

Improvement on the sector services will require enhanced capacity of the sector institutions, in particular the Directorate of Water Development (DWD), to assume its new role of planning, supporting and supervising water and sanitation programs through improvements in monitoring systems and procedures. Government is now focusing on building capacity of the water sector institutions and Local Governments as well as promoting increased private sector participation and effective community participation in all water sector activities. The policy of promoting community participation based on demand-driven approach is being emphasized. Hygiene and health education are actively being pursued as an integral part of the drive to improve household sanitation.

At a strategic level, government is also actively promoting the principles of Integrated Water Resources Management (IWRM) as an integral part of its strategy to ensure sustainable water resources management and development.

2.2 Water Sector Goal, Objectives and Targets

GOAL

The goal of the water sector in Uganda is:

“To manage and develop the water resources of Uganda in an integrated and sustainable manner so as to secure and provide water of adequate quantity and quality for all social and economic needs for the present and future generations with the full participation of all stakeholders.”

OBJECTIVES

The key water sector objectives include:

- 1) To promote coordinated, integrated and sustainable water resources management to ensure conservation of water resources and provision of water for all social and economic activities.
- 2) To achieve sustainable safe water supply and sanitation facilities, based on management responsibility and ownership by the users, to 100% of both the rural and urban population in Uganda.

- 3) To promote the development of water supply for agricultural production in order to modernize agriculture and mitigate effects of climatic variations on rain-fed agriculture.

TARGETS

The national targets for water supply and sanitation in both urban and rural areas are shown in **Box 2.1** below:

Box 2.1 - National Targets for Water Supply and Sanitation	
Urban Areas	Achieve 100% safe water coverage and 100% sanitation coverage in urban areas by 2015, with an 80%-90% effective use and functionality of facilities.
Rural Areas	Achieve 77% safe water coverage and 95% sanitation coverage in rural areas by 2015, with an 80%-90% effective use and functionality of facilities.

Definition of Coverage:

The definition of coverage relates to percentage of the population with access to an improved water source with in a walking distance of 1.5 Km in a rural area and 0.2 Km in the urban area. For sanitation, coverage refers to the percentage of the population with sanitation facilities in their place of residence.

2.3 Water Sector Policy and Legal Framework

The government has put in place a comprehensive policy and legal framework for the management of the water sector. The framework comprises of a set of policies and laws the most notable of which include: The National Water Policy (1999); The Water Statute (1995); The National Water and Sewerage Corporation Statute (1995), and the Local Government Act (1997).

Though most of the above policies and legislation have been in force for more than five years, a number of provisions are not yet fully operational, especially at the local government and local community levels. Further more, some of the legislation need to be revised to address the emerging issues in the sector like Private Sector Participation, Decentralization, and the SWAP.

2.3.1 National Water Policy

The National Water Policy (NWP), adopted in 1999, provides the overall policy framework for the water sector. The National Water Policy promotes the principles of integrated water resources management as a means to ensuring sustainable management and utilization of Uganda's water resources.

The policy also emphasizes the recognition of water as being both a social and economic good, whose allocation should give first priority to domestic use. The Policy is based on the principle of **“some for all, rather than all for some”** adopted from the 1990 “New Delhi Statement”. It anchors operation and maintenance as an important and integral part of all

water and sanitation programs to ensure their sustainability. The policy also highlights the key role played by women in all water management and development activities.

Guiding Principles

The National Water Policy adopts the guiding principles for water resources management emanating from the United Nations Conference on the Environment and Development (UNCED, Agenda 21, Chapter 18) as detailed in **Box 2.2** below.

BOX 2.2: National Water Policy Guiding Principles	
✓	Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment.
✓	Management of water resources at the lowest appropriate level.
✓	The role of Government as an enabler in a participatory, demand-driven approach to development.
✓	Recognition of water as a social and economic good with a value reflecting its most valuable potential use.
✓	Integration of water and land use management
✓	Recognition of the central role played by women in the provision, management and safe - guarding of water.
✓	The important role of the private sector in water management.

The National Water Policy also re-emphasizes the water resources management strategy as stipulated in the Water Action Plan (WAP)¹ whose preparation was based on the same objective and guiding principles. The key strategy elements are grouped into those supporting an enabling environment, those guiding institutional development and those supporting the upgrading of planning capacity and prioritization of water allocation and use.

Other Relevant Policies:

Other relevant policies include:

- ✓ The National Environment Management Policy (See chapter 6 for details);
- ✓ The National Wetlands Management Policy (See chapter 6 for details)
- ✓ The Fish Farming Policy (See Chapter 7 for details)
- ✓ ***The National Gender Policy, 1999*** – which recognizes women and children as the main carriers and users of water. It anchors the importance of gender responsiveness in terms of planning, implementation and management of water and sanitation initiatives.

¹ The Water Action Plan provides the overall guidelines and strategies for the protection and development of Uganda's water resources and a structure for their management at national, district and local levels. It also provided important inputs to the new water legislation and to formulation of the National Water Policy.

- ✓ **The Health Policy** – which reiterates that sanitation lies within the mandate of the health ministry, and notes that the war against poor sanitation has to be intensified and maintained in order to consolidate and improve on the gains made in this area. Key priorities include support to local governments and authorities to improve sanitation and general hygiene. The Policy recommends a review of the Public Health Act in order to enhance enforcement of public health regulations in the country.

2.3.2 Water Sector Legislation

The instruments that provide the enabling legal framework for the water resources management and development in Uganda are summarized in **Table 2.1** below:

Table 2.1: Major Legal Instruments relevant to the Water Sector

INSTRUMENT	OBJECTIVE
<i>The Constitution of the Republic of Uganda, 1995</i>	Provides the broad legal and policy framework within which all water sector legislation, policies and development plans are developed.
<i>The National Water Policy, 1999</i>	Provides the policy framework for water resources management and development in Uganda.
<i>The Water Statute, 1995</i>	Provides the legal framework for the use, protection and management of water resources and water supply.
<i>The National Environment Statute, 1995</i>	Provides the framework for coordinated and sound management of the environment including environmental impact assessment of water resources related projects and setting water quality and effluent standards.
<i>The Water Resources Regulations and Waste Water Discharge Regulations, 1998</i>	Provide for the regulation of water abstraction and waster water discharge through the use of permits.
<i>The local Government Act, 1997</i>	Provides for the decentralisation of functions, powers, responsibilities and services to Local Governments.

(1) THE CONSTITUTION OF THE REPUBLIC OF UGANDA, 1995

The Constitution of the Republic of Uganda lays the premise for all the laws that have a bearing on the water sector. The Constitution provides for the national objectives and principles of State Policy.

Generally, the Constitution makes provision for natural resources of which water forms an integral part. It clarifies that water resources management is the duty of the state unless otherwise decreed by parliament. Government, local or central, holds natural resources in trust for the people of Uganda in accordance with the provisions of the Constitutions. As trustee, government only has powers to grant concessions, licenses or permits in respect of the natural resources listed.

The specific constitutional requirements with a direct bearing on the water sector include:

- (a) Taking all practical measures to promote good water management systems at all levels;
- (b) Promoting sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations, and utilization of natural resources in such a way as to meet the development and environmental needs of present and future generations; and

(2) *WATER STATUTE, 1995*

The Water Statute, enacted in 1995, is the principle law for the water sector, which incorporates legislation for both water resources management and water supply and sanitation. The Water Statute is a modern water law, in that it is flexible, deferring details to regulations that can more easily be changed as conditions change and provides for delegation of powers and broad exemptions from regulation.

At the outset the Statute confirms that all water in Uganda is vested in the government and that rights to use water; to construct or operate any works; or to pollute water can only be conferred under the provisions of the Statute. Besides general rights to use water for domestic purposes, fire-fighting, subsistence garden irrigation, the Statute does not authorize allocation of permanent water rights, but rather provides for the issuance of time-bound permits to abstract water, to construct hydraulic works and to discharge waste.

The basic foundation of most of the Statute's provisions is the reconciliation between protecting the environment and ensuring the availability to the population of water of sufficient quality and quantity.

The main objectives of the statute are:

- (a) To promote the rational management and use of the waters of Uganda through:
 - ✓ Progressive introduction and application of appropriate standards and techniques for the investigation, use, control, protection, management and administration of water resources,
 - ✓ Co-ordination of all public and private activities which may influence the quality, quantity, distribution, use or management of water resources, and
 - ✓ Co-ordination, allocation and delegation of responsibilities among Ministers and public authorities for the investigation, use, control, protection, management or administration of water resources;
- (b) To promote the provision of a clean, safe and sufficient supply of water for domestic purposes to all persons;

- (c) To allow for the orderly development and use of water resources for animals, irrigation, industrial, commercial and mining uses, energy, navigation, fisheries, preservation of flora and fauna and recreation in ways which minimise harmful effects to the environment; and
- (d) To control pollution and to promote the safe storage treatment, discharge and disposal of waste which may pollute water or otherwise harm the environment and human health.

The Water Resources Regulations (1998), Waste Discharge Regulations (1998), Water Supply Regulations (1999) and the Sewerage Regulations (1999) give effect to the provisions of the Water Statute.

(3) *NATIONAL WATER AND SEWERAGE CORPORATION STATUTE, 1995*

The National Water and Sewerage Corporation (NWSC) Statute establishes the NWSC as a Water and Sewerage Authority and gives it the mandate to operate and provide water and sewerage services in areas entrusted to it on a sound commercial and viable basis. The Statute requires the Minister responsible for Water Affairs to enter into a performance contract with NWSC in relation to its operations in accordance with the provisions of the Water Statute. The Statute empowers the NWSC to own assets in its areas where it provides services without the need of compensation in respect of the transfer of such assets.

(4) *NATIONAL ENVIRONMENT STATUTE, 1995*

This National Environment Statute establishes the National Environment Management Authority (NEMA) as the overall body, charged with responsibility of coordinating, and monitoring all environment management issues in the country. The Statute empowers NEMA, in consultation with lead agencies, to issue guidelines and prescribe measures and standards for the sustainable management and conservation of natural resources and the environment in general. The Statute also provides for mandatory Environment Impact Assessments (EIA) to be conducted for any activity likely to have a significant effect on the environment.

(5) *WATER ABSTRACTION & WASTEWATER DISCHARGE REGULATIONS, 1998*

The Water Statute, 1995, provides for the establishment of regulations for controlling water abstraction and wastewater discharge through use of permits. The permit system ensures that use of water resources is environmentally friendly and promotes sustainable development. These controls also ensure that water is not treated as a free good but as a good with a value to be paid for. The different types of Permits provided for under the Regulations are given in **Box 2.3** below.

BOX 2.3: Types of Water Permits issued

- ✓ Surface water Abstraction Permit.
- ✓ Groundwater Abstraction Permit.
- ✓ Drilling Permit – For persons involved in drilling of Boreholes.
- ✓ Construction Permit - for a person who wishes to engage a driller to construct a borehole on his land for the purpose of using water or recharging an aquifer or fitting a motorised pump or borehole.
- ✓ Construction Permit - for impounding, damming, diverting or conveying any surface water and or draining any lands.

(6) *LOCAL GOVERNMENT ACT, 1997*

The Local Governments Act defines roles for different levels of government in provision and management of water and sanitation related activities. The Act stipulates that provision of water and maintenance of facilities is a role of Local Governments in liaison with the Ministry responsible for Water Affairs. The Act empowers the different levels of government to plan and implement development interventions according to identified local priorities.

(7) *LAND ACT, 1998*

The Land Act vests all rights to water resources in the Government. It empowers the Minister responsible for water to regulate the management and utilization of such water. The Act allows for reasonable use by the occupier or owner of a piece of land, of water for domestic and small-scale agricultural purposes.

The Act provides that the government or local government holds land in trust for the people and protects environmentally sensitive areas such as natural lakes, rivers, groundwater, natural ponds, natural streams, wetlands, forest reserves, national parks and any other land reserved for ecological and tourist purposes for a common good of the citizens of Uganda.

2.4 Water Sector Institutional Framework

Since the mid 1980s, Uganda has taken vigorous steps to revamp the water sector and establish a comprehensive institutional framework for the management and development of the country’s water resources. This has gone hand in hand with other national initiatives (i.e. Decentralization, Privatization, Gender Emancipation, etc) geared towards the redefinition of the roles of the different levels of government, with the central government creating the enabling environment for action by local governments, communities, and the private sector.

The National Water Policy provides for a dynamic framework for the management and development of the country’s water resources by providing for both short term and long

term strategies for the development of management capacity for the sector, based on an analysis of current sector priorities and management capacity levels.

As part of the overall water sector institutional framework, the Water Statute, provides for the establishment of an eleven-member multi-sectoral Water Policy Committee (WPC) as a principal advisory organ to the Minister responsible for water affairs and whose role also includes setting national policies, standards and priorities, including coordinating revisions to sector legislation and regulations.

The water statute also provides for the formation of Water and Sanitation Committees, Water User Groups, and Water User Associations, as local community level organizations, to ensure the sustainability of the water supply and sanitation facilities through proper management, operation and maintenance by the user communities.

Non Governmental Organizations (NGOs) involved in water sector activities have formed a network called Uganda Water and Sanitation Network (UWASNET) for improved coordination of their activities in the water sector. The network also provides a platform for constructive engagement with government and donors in the water sector and serves to promote sharing of experience between the members. There are currently (2004) over 180 NGOs and Community Based Organizations (CBOs) involved in water supply and sanitation activities in different parts of the country. **Table 2.2** shows the roles of the different institutions involved in water sector activities.

Table 2.2 – Institutions involved in the Water Sector

INSTITUTION	ROLE
Ministry of Water, Lands and Environment	Policy formulation, setting standards, strategic planning, coordination, quality assurance, provision of technical assistance, and capacity building.
Directorate of Water Development (DWD)	Lead agency responsible for policy guidance, coordination and regulation of all water sector activities including provision of oversight and support services to the local governments and other water supply service providers.
National Water and Sewerage Corporation (NWSC)	Autonomous entity responsible for the delivery of water supply and sewerage services in the major towns and large urban centers (a total of 16 service centers by June 2004).
Ministry of Finance, Planning and Economic Development	Mobilization and allocation of financial resources including co-ordination of donor inputs and the privatization process.
Ministry of Local Government	Establish, develop and facilitate the management of efficient and effective decentralized government systems capable of delivering the required services to the local people.
Ministry of Health	Promotion of hygiene and household sanitation.
Ministry of Education and Sports	Promotion of sanitation and hygiene education in schools.
Ministry of Gender, Labor and Social Development	Coordination of gender responsive development and community mobilization.
Ministry of Agriculture, Animal Industries and Fisheries	Planning, coordination and implementation of all agriculture development in the country including irrigation development, aquaculture, and livestock development.
Local Governments	Responsible for the provision and management of water and sanitation services in rural areas and urban areas outside the jurisdiction of NWSC, in liaison with DWD;
User Communities	Planning, implementation and operation and maintenance of the rural water and sanitation facilities. User communities are also obliged to pay for urban water and sanitation services provided by NWSC and other service providers.
Donors	Provide financial resources for implementation of water sector activities.
Private Sector	<ul style="list-style-type: none"> ✓ Valuable resource for design, construction, operation and maintenance of water and sanitation facilities. ✓ Conduct training and capacity building for both central and local government staff. ✓ Provision of other commercial services including mobilization of financial resources for water sector development activities.
Non Governmental Organizations (NGOs) and Community Based Organizations (CBOs)	<ul style="list-style-type: none"> ✓ Supplement the public sector efforts and ensure that concerns of the underprivileged/poor are catered for. ✓ Provision of financial and planning support to communities and local governments.

2.4.1 Directorate of Water Development

The Directorate of Water Development (DWD) is the government lead agency responsible for the oversight and coordination of all water sector activities.

MANDATE

DWD's mandate is to promote the provision of clean and safe water to all persons, and to investigate, control, protect and manage water in Uganda for any use in accordance with the provisions of the Water Statute, 1995.

FUNCTIONS

The major functions of DWD include:

- a) To promote the rational management and use of the waters of Uganda through:
 - ✓ Progressive introduction and application of appropriate standards and techniques for the investigation, use, control, protection, management of water resources;
 - ✓ Co-ordination of all public and private activities which may influence the quality, quantity, distribution, use or management of water resources;
 - ✓ Co-ordination of responsibilities for the investigation, use, control, protection, and management of water resources;
- b) To promote the provision of clean, safe and sufficient supply of water for domestic purposes to all persons;
- c) To allow for the orderly development and use of water resources for purposes other than domestic use, such as, the watering of stock, irrigation and agriculture, industrial, commercial and mining uses, the generation of hydroelectric or geothermal energy, navigation, fishing, preservation of flora and fauna and recreation in ways which minimise harmful effects to the environment;
- d) To control pollution and promote the safe storage, treatment, discharge and disposal of waste, which may pollute water or otherwise harm the environment and human health.

SET-UP

The Directorate of Water Development (DWD) consists of three technical Departments i.e. Urban Water Supply Department, Rural Water Supply Department, and Water Resources Management Department.

Urban Water Supply Department

The functions of the Urban Water Supply Department include:

- ✓ Supervision of Urban Water Authorities and provision of technical support to utility management through drafting of private operators' performance contracts and performance assessment of the contract holders;
- ✓ Planning, design, and development of urban water and sewage systems country wide; and
- ✓ Regulation of urban water supply and sanitation services development.

Rural Water Supply Department

The functions of the Rural Water Supply Department include:

- ✓ Strategic planning, regulation and quality assurance of rural water and sanitation interventions to ensure adherence to national policy, strategies, and development targets.
- ✓ Supervision and provision of technical support for implementation of water for production interventions (i.e. construction of valley dams and valley tanks);

Water Resources Management Department

The main goal of the department is to promote sustainable management of Uganda's water resources to ensure availability of water of adequate quantity and quality for domestic water supply, agriculture, industry, fisheries and other uses for both present and future generations.

The key functions of the department include:

- ✓ Monitoring the quantity and quality of surface and ground water resources in the country;
- ✓ Storing, processing and disseminating water resources data and information to all users;
- ✓ Conducting water resources assessment studies and providing guidance to water development programmes and to government based on study findings;
- ✓ Regulating water resources use through processing, issuing, monitoring and enforcing permits for water abstraction, waste water discharge, bore hole drilling and construction of hydraulic works;
- ✓ Formulating and reviewing national water resources management plans and frameworks.
- ✓ Providing advice to the Water Policy Committee (WPC) on transboundary water resources management issues to ensure their equitable use and adequate protection;
- ✓ Providing advice to the National Environmental Management Authority (NEMA) on standards for water quality and effluent discharge and through the review of environmental impact studies on water resources related projects and developments;
- ✓ Providing reference water quality analytical services.

2.4.2 Co-ordination of Water Sector Activities

The water supply and sanitation sector is coordinated through a number of committees and working groups, as shown in **Table 2.3** below:

Table 2.3: Water Sector Coordination Framework

COMMITTEE	COMPOSITION	ROLE
Water Sector Working Group	MWLE, NWSC, MFPED, MOH, MOLG, MOES, Development Partners and NGOs.	Established by the Ministry of Finance as a mechanism to promote a more consultative and participatory approach in the management of public funds, and to increase transparency and accountability in the planning and utilization of resources in the water sector.
District Water and Sanitation Committees	Representatives from Local Governments, NGOs, CBOs, and the private sector.	To improve co-ordination and management of RWSS programs at the local government level, including the interaction between the relevant departments and also with the private sector, NGOs and local communities.
Inter-district Co-ordination Committees	Local government officials from different districts.	To review progress of implementation of water supply and sanitation activities in neighboring districts and share experiences.

2.5 Emerging Sector Issues

The water sector, like other sectors of government, is faced with a number of challenges associated with the overall socio-economic situation in the country. Rapid population growth, increased urbanization and industrialization, uncontrolled environmental degradation and pollution are leading to accelerated depletion and degradation of the available water resources.

The challenge of providing safe water and sanitation services to all Ugandans is not only immense but also requires significant financial resources which cannot be met by the government alone. In order to meet these challenges, government has in the recent years embarked on the process of reforming the water sector not only to increase on efficiency of service delivery but also to provide an enabling environment to attract the required funding for the sector and to also enhance private sector participation in the sector.

2.5.1 Water Sector Reform

Government initiated reforms in the water sector, in 1997, to ensure that water services are provided and managed with increased efficiency and cost effectiveness, and to decrease the government's burden while maintaining its commitment to sustainable and equitable development.

In order to address the challenges the sector was faced with, the Ministry of Water, Lands and Environment, in consultation and collaboration with line Ministries, agencies and Development Partners agreed to undertake reform studies in the four sub-sectors

comprising (i) Rural Water and Sanitation, (ii) Urban Water Supply and Sanitation, (iii) Water for Production, and (iv) Water Resources Management.

The reform studies have been going on since 1998 and are due to be completed by August 2004. During these studies, detailed situation analysis of the four sub-sectors was carried out leading to the preparation of comprehensive investment plans and time bound national targets for the sector up to 2015. In demonstrating its commitment to the reform process, government has already embarked on the process of implementing some of the strategic recommendations from these studies.

RURAL WATER AND SANITATION (RWS) SUB-SECTOR REFORM STUDY

The rural water and sanitation sub-sector reform study was completed in 2001. The study established rural water and sanitation coverage and demand and also set short-, medium- and long-term targets for the sub-sector. One of the key outcomes of the study was a 15-year Strategic Investment Plan (SIP-15) for the sub-sector for the period 2001-2015. The SIP-15 has since undergone reviews and become the guiding document for the implementation of activities under the sub-sector. The 15-year investment requirements for the sub-sector are estimated to be about US\$ 951 million.

The reform study identified a number of constraints in the sub-sector as shown in **Box 2.4**:

BOX 2.4: Key Constraints in the RWS Sub-sector	
1	Low technical and functional capacities at District level.
2	Planning and budgets for water and sanitation are being done in isolation.
3	Community mobilization and capacity building gender mainstreaming is weak.
4	Full private sector participation is yet to be realised especially for simple technologies. Spare parts distribution through the private sector is reported as problematic. Borehole drilling capacity, whilst limited, is growing.
5	District level tendering, contract management, financial management as well as reporting were found to be under developed, thus leading to very substantial sector programme implementation delays and under-utilisation of allocated funds.
6	Operation and maintenance structures were found to be weak or non-existent and most Districts lacked back-up support for community based Operation and Maintenance especially for boreholes and Gravity Flow Schemes (GFS).

In order to address the above constraints the study among other things recommended adoption of a Sector Wide Approach (SWAP) towards implementation of the sub-sector activities. Implementation of the SWAP approach commenced in 2000 when a large proportion of the sub-sector funding, under the Poverty Action Fund (PAF), was transferred directly to the Districts as conditional grants for implementation of rural water and sanitation activities in their respective local governments.

Despite the significant progress made in the implementation of the reform recommendations, the sub-sector is still faced with a number of challenges as highlighted in **Box 2.5** below:

BOX 2.5: Key Challenges in the RWS Sub-sector	
1	Inadequate capacity of institutions involved in the sub-sector, particularly the local governments and DWD.
2	Poor hygiene practices and low sanitation coverage at household level and in schools.
3	Inadequate funding for the sub-sector.
4	Reducing 'value-for-money' due to increasing per capita investment costs due to low economies of scale characteristic of local government contracts.
5	District level tendering, contract management, financial management as well as reporting were found to be under developed, thus leading to very substantial sector programme implementation delays and under-utilisation of allocated funds.
6	Low sustainability of the installed infrastructure due to inadequate operation and maintenance provisions put in place by the user communities.

As part of the implementation of the SIP-15, a 5-year Operational Plan (OP5) has been developed for the RWS sub-sector for the period 2002 – 2007. The OP5 presents a detailed 5-year investment plan for the RWS sub-sector highlighting the technical and financial requirements to meet the set targets and the role to be played by the different stakeholders.

URBAN WATER AND SANITATION (UWS) SUB-SECTOR REFORM STUDY

The urban water and sanitation sub-sector reform study was completed in 2001. The study established urban water and sanitation coverage and demand and also set short-, medium- and long-term targets for the sub-sector. The key outcomes of the study include a proposed institutional framework for the sub-sector and a comprehensive Strategy and 15 year investment plan of the sub-sector. The 15-year investment requirements for the sub-sector are estimated to be about US\$ 481 million. Some of the key recommendations arising from the UWS sub-sector reform study are given in the **Box 2.6** below:

BOX 2.6: Key Recommendations from the UWS Sub-sector Reform Study	
1	Lumping of a number of small towns into one lease contract to be awarded to a private operator for a 10-year period. The lease is to be reviewed every five years.
2	Responsibility for water and sanitation service provision in the smaller towns should continue to be vested in the Local Governments (LGs). MWLE will enter into performance contracts with respective LGs. The contracts are to specify the performance standards and conditions for accessing central government subsidies. The LGs will in turn contract Local Private Operators to run the facilities on their behalf.
3	All water and sanitation assets established using public funds are to remain public property. Government is to set up a semi-autonomous Asset Holding Authority (AHA) for assets in larger towns, while the Local Governments shall hold the assets in smaller towns in trust for the public.
4	An independent regulatory body is to be established by government to set tariffs, protect consumers' interests and resolve any disputes that may arise between the private operators and the contracting parties.
5	Technical regulation will be delegated to DWD, AHA, and other relevant agencies with the necessary technical competence.

The study also recommended mechanisms for implementation of the proposed reforms and specifically for cross-subsidization and transition of towns from the non-lease to the lease group.

WATER FOR PRODUCTION SUB-SECTOR REFORM STUDY

The Water for Production (WfP) sub-sector reform study was completed in November 2003. The key outcomes of the study include a comprehensive Strategy for the sub-sector focusing mainly on improving rural household incomes through use of water for increased agricultural productivity and food security. The strategic interventions proposed by the WfP sub-sector reform study are given in the **Box 2.7** below:

BOX 2.7: Key Strategic Interventions proposed under the WfP Reform Study	
1	Improved access to water for livestock, especially in the cattle corridor.
2	Promotion of water harvesting for small-scale supplementary irrigation.
3	Promotion of small-scale aquaculture and culture-based fisheries in existing reservoirs.
4	Creation of an enabling environment for private sector investment in the sub-sector.

WATER RESOURCES MANAGEMENT SUB-SECTOR REFORM STUDY

The Water Resources Management (WRM) sub-sector reform study is expected to be completed in December 2004. The main objective of the study is “to establish an effective framework for water resources management in Uganda to ensure that water resources are managed in an integrated and sustainable manner.” During the study, a comprehensive analysis of the recommendations from the other three sub-sector reform studies will be carried out to ascertain their implications on the sustainable management and utilization of the country’s water resources.

The key expected outcome from the study is a Strategic (Investment) Plan for the transformation of the Water Resources Management sub-sector into a viable entity capable of meeting the existing water resources management challenges at national and regional level in an efficient and timely manner.

2.5.2 The SWAP Framework

The Sector Wide Approach (SWAP) is a mechanism where Government and development partners agree on a strategy to achieve improvement in sector performance and more effective use of financial resources through programs rather than projects. The SWAP is characterized by a highly consultative process where all stakeholders fully participate in the planning and implementation of all sector programs.

The SWAP framework, which has been embraced by the water sector, has already proved to be the most appropriate mechanism for resources mobilization and implementation of the agreed action plans. The SWAP framework has enhanced the participation of all stakeholders in the planning and implementation of water sector activities. This openness has resulted in increased confidence from the development partners who have now agreed to finance water sector programs through the regular government budget, contrary to the

project specific funding characteristic of the past. **Box 2.8** shows some of the key features of the water sector SWAP framework:

BOX 2.8: Key Features of the Water SWAP Framework	
1	Harmonised strategy for the sector and framework for common approaches.
2	A clearly defined institutional framework for all stakeholders to work in.
3	Use of existing government systems, thus increasing the capacity of government.
4	Improved value for money of services provided.
5	Improved monitoring, evaluation and reporting of sector activities and performance.
6	Improved sustainability of service delivery.

2.5.3 Gender Mainstreaming in the Water Sector

The Water Sector Gender Strategy encompasses the mainstreaming of gender and addressing women specific issues in all aspects related to water and sanitation and sets out clearly the way forward to mainstreaming gender in all the water sector activities.

The Strategy specifically addresses the plight of women who are faced, by among other constraints, the following: walking long distances to fetch water; inadequate participation in the decision making process e.g. low representation on Water User Committees; lack of access to relevant information, say regarding the possible technology options, rationale for levying of water user fees, etc; inadequate security at and to the water points for children and women who are vulnerable to rape, harassment and torture.

With regards to sanitation, particularly the issue on household latrines, there is a large aspect of cultural and traditional norms and values, which affect men and women differently. Men tend to have greater involvement in putting up latrines, because of their labor in digging the pits and procuring the slabs and constructing the physical structure. In addition, some cultural practices influence the use of sanitation facilities by women and children.

2.6 Financing of the Water Sector

Funding for the water sector has been increasing steadily over the past 10 years. The water sector, being one of the key priority sectors, has benefited significantly from the Poverty Action Fund (PAF) to which government has committed significant resources for the Poverty Eradication Action Program (PEAP). The key development partners in the water sector include DANIDA, World Bank, EU, France (AFD), Germany (GTZ/KFW), AUSTRIA, Sida, UNICEF, DfID, the Netherlands, Japan (JICA).

The past, current and projected funding for the water sector is shown in **Table 2.4** below.

Table 2.4: Water Sector Budget Projections (US\$ Millions)

		99/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Central Gov't	Wage	0.26	0.22	0.26	0.29	0.29	0.29	0.29
	Non Wage	0.30	0.25	0.27	0.29	0.24	0.28	0.30
	Dev't grants	8.96	7.56	16.21	11.87	14.89	15.39	15.54
	Donor Proj.	41.89	25.97	29.36	41.89	23.67	21.66	11.24
	Sub Total	51.40	33.99	40.85	54.34	39.09	37.62	27.37
	Gov't input	9.51	8.02	11.49	12.45	15.42	15.96	16.13
Local Gov't	O&M Grant	2.73	0.67	0.76	0.70	0.79	0.86	0.92
	Dev. Grant	0.00	11.87	14.04	13.27	14.02	14.82	16.83
	Sub Total	2.73	12.54	14.80	13.97	14.80	15.68	17.76
Total financing	54.13	46.54	55.06	68.31	53.89	53.30	45.13	
Government Contribution (%)	23%	27%	29%	39%	54%	59%	75%	
Donor Contribution (%)	77%	73%	71%	61%	44%	41%	25%	

(Source: DWD and National Budget)

Table 2.4 shows that donor financing, through direct project interventions, is still the major source of funding for the water sector though it is expected to go down to 25% by the year 2005. The table also shows that government funding is increasing significantly and is expected to reach 75% of the total water sector budget by 2005. This increased government funding for the sector is part of government's long-term commitment to fund most of the sector activities through locally generated resources as the economy improves. Most of the government funding to the sector is being channeled directly to the local governments as conditional grants for implementation of water supply and sanitation activities.

2.6.1 Funding under the SWAP Framework

Under the adopted SWAP framework, government and most development partners have agreed to finance the water sector through general budget support, which gives government a high degree of flexibility in allocating both local and donor financial resources according to the national priorities and development objectives. Whilst the SWAP framework does not explicitly stipulate financing through budget support, the current funding trends show that the primary instrument for sector financing over the medium and long-term will be budget support directly to the local governments.

Rural Water Supply and Sanitation Sub-sector - Funding for rural water supply and sanitation activities is provided to the local governments by the central government as unconditional, conditional and equalization grants. The unconditional grants cater for the local government staff salaries and operational costs, while the conditional grants are for the actual delivery of water supply and sanitation services agreed upon between the different local governments and the sector ministry (MWLE). The equalization grants are special funds meant for the least developed local governments, with inadequate revenue sources and where service levels are still very low.

Based on the experience from the above funding mechanism, government has developed a Fiscal Decentralization Strategy (FDS) aimed at streamlining the transfer of funds to the local governments using two systems i.e. Recurrent Transfer System (RTS) for recurrent expenditures and a Development Transfer System (DTS) for all development activities.

Urban Water Supply and Sanitation Sub-sector – Funding for the small towns water supply and sanitation development activities is still project based, though the central government provides the local governments with conditional grants for operation and maintenance of the systems. Government is also in the process of establishing a joint small towns development funding mechanism, where all government and donor funds are pooled for the development of all the small towns water supply and sanitation systems in the country. In the long-term, funding for small towns water supply and sanitation development activities will be made available through budget support.

The development funds for large towns are channeled directly to NWSC as government loans or grants.

Water Resources Management Sub-sector – Funding for water resources management activities is program based channeled directly as support to the sub-sector. However, there are still a few project based funding arrangements (e.g. LVEMP, MLKF, NBWRP), which are expected to phase out as the program based funding takes root.

Water for Production Sub-sector – Currently, all activities under the water for production sub-sector are wholly funded by the government through annual recurrent and development budget allocations by the Ministry of Finance.

2.7 Monitoring, Evaluation and Reporting

2.7.1 Monitoring, Evaluation and Reporting Framework

Government considers monitoring, evaluation and reporting (ME&R) as a key component of all national development programs. As part of the institutional set-up for the MWLE, a department of Planning and Quality Assurance was established to, among other functions, carry out periodic monitoring, evaluation and quality assurance of all ministry activities including water supply and sanitation. The department issues periodic quality assurance reports highlighting the performance of the different departments in the ministry against set targets and recommendations on corrective measures to be implemented during the next reporting period.

In addition to the above arrangement, the water sector has also established a joint Government/Development Partners Sector Review (JSR) held annually in September/October and attended by sector ministries, civil and political leaders, local government staff and representatives of development partners. During these reviews, a comprehensive review of the performance of the sector is carried out, shortcomings discussed and undertakings for addressing priority issues during the following year agreed upon. As part of performance monitoring process, mid-term joint technical reviews are also

carried out to assess the technical and financial performance of the sector. More detailed field visits are carried out during the technical review. Annual water sector performance reports are prepared and circulated to all stakeholders for review and information

The current reporting and monitoring framework has ensured coordinated and periodic reporting on all sector activities by the different stakeholders and has greatly improved on information flow between the central government, donors, local governments, NGOs and the private sector.

Besides the periodic reporting by different stakeholders, the framework also provides for periodic service delivery surveys, and specific independent surveys that are often conducted by different stakeholders. As part of this framework, the central government periodically issues policy benchmarks, national and local targets, performance indicators and monitoring and reporting guidelines and standards that have to be followed by all stakeholders in the water sector.

The key features of the current water sector monitoring and reporting framework are given in **Box 2.9** below.

BOX 2.9: Key Features of the Water Sector Monitoring and Reporting Framework	
1	Set short-, medium-, and long-term national and local targets based on national development priorities and objectives.
2	Establish performance targets and measurable indicators for the different stakeholders.
3	Submission of quarterly and annual progress reports by the District Water Offices and Urban Water Supply authorities, to respective local governments and DWD.
4	Submission of consolidated quarterly and annual progress reports by DWD to MWLE for onward transmission to Ministry of Finance and Office of the Prime Minister.
5	Submission of annual Policy Statement by MWLE to Parliament.
6	Quarterly monitoring and quality assurance visits to all local governments to get on-the-spot assessment of their performance and quality of outputs.
7	Submission of bi-annual reports by sector regulator to DWD, MWLE and Parliament.
8	Conduct annual service delivery surveys and periodic participatory poverty assessments and impacts.
9	Conduct comprehensive joint government/donor technical reviews and monitoring.
10	Conduct annual joint government/donor sector performance reviews.
11	Conduct (using independent consultants) independent service delivery audits, and special audits like “Value for money”, “Tracking Studies”, etc

2.7.2 Water Sector Monitoring Indicators

Some of the currently used monitoring indicators in the water sector are given in **Box 2.10** below.

BOX 2.10: Key Water Sector Monitoring Indicators	
Golden Indicators	
1	Percentage of people within 1.5 km (rural) and 0.2 km (urban) of an improved water source.
2	Percentage of improved water sources that are functional at time of spot check.
3	Average investment cost per beneficiary of new water and sanitation schemes.
4	Percentage of people with access to improved sanitation (households and schools).
5	Percentage increase in cumulative storage capacity available for water for production.
6	Percentage of water samples taken at point of collection that comply with national standards.
7	Mean Parish deviation from district average in persons per improved water point.
8	Percentage of people with access to hand-washing facilities.
Specific Indicators for Urban Water Supply and Sanitation	
9	Percentage of unaccounted for water.
10	Staff productivity (staff per 1,000 connections).
11	Collection/billing ratio.
12	Number of water and sewage connections.
13	Percentage of the urban population with on site sanitation facilities (septic tanks, Ecosan, pit latrines, etc).
14	Percentage of effective response to customer complaints within 24 hours.
Other Water Sector Indicators	
15	Average % of household expenditure paid for water and sanitation services.
16	Percentage of people that use improved sanitation (households and schools).
17	Percentage of men and women who are satisfied with water and sanitation services.
18	Average daily per capita total water consumption.
19	Percentage change in average ground and surface water levels.
20	Percentage of sector annual approved budgets that are actually spent on water and sanitation investment programs.
21	Percentage of staff positions in central and local government that are filled.

Source: MWLE (2004)

2.8 Progress Towards Achieving National Targets and MDGs

2.8.1 Progress towards achieving National WSS Targets

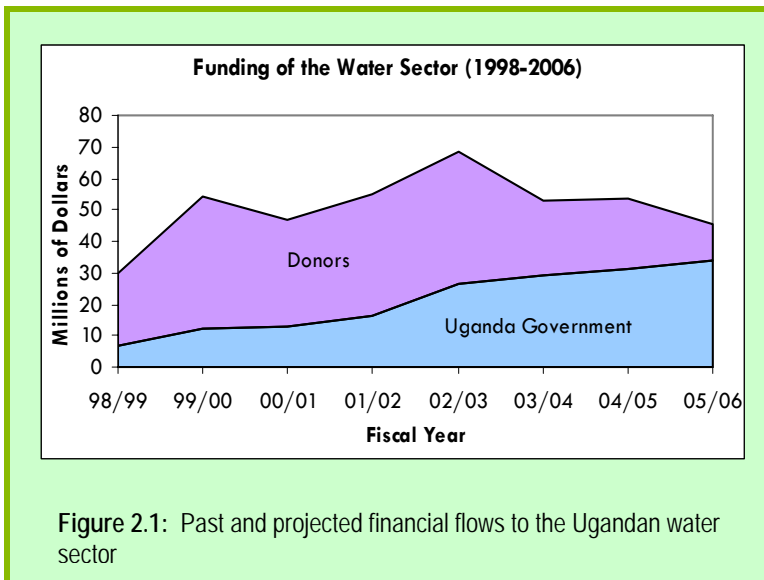
Considerable progress has been made in implementing the national policy and attaining national targets. In the water resources management sub-sector, the licensing of water withdrawals and effluent discharges has begun, water resources monitoring networks and assessment activities have been expanded and strengthened, a national water testing laboratory has been set up and national databases and information systems on water resources have been established.

In the rural and urban water and sanitation sub-sectors, there has been a steady improvement in service coverage over the years. Access to improved water sources in rural areas where over 80% of the population lives rose from 20.3 % in 1990 to 55% in 2002. Over the same period, access to improved sanitation in rural areas rose from 55.1% to 85%. Average annual growth rates in service coverage for the period 1990-2002 were 3.1% for improved water and 2.3% for improved sanitation.

Urban areas where only 12% of the population resides have for long had better social infrastructure and services than rural areas. Access to safe water fell from 72% in 1990 to 63% in 2002 while access to improved sanitation rose from 71.2% in 1990 to 96% in 2002. The trend with respect to safe water neither reflects zero investments in this sub-sector nor the breakdown of existing facilities. Rather, it shows that efforts to raise coverage have not matched the influx rate of people to town centres. Urban populations have been burgeoning owing to rural-urban migrations driven by biting poverty and unemployment in the countryside and the seemingly easy life in cities.

The above remarkable achievements have been made possible by substantial increments in government's financial allocations to the water sector. Funds for the water sector come from government's priority Poverty Action Fund (PAF). The achievements are also attributed to growing donor confidence in and support for Uganda. Uganda's development partners who have been active in the water sector are Denmark (through Danida), France (AFD),

Germany (GTZ and KFW), Austria, Sweden (SIDA), Britain (DfID), The Netherlands and Japan (JICA). External funds have also been received from the World Bank, European Union, UNICEF and a number of NGOs. The figure below shows that financial flows to the sector doubled from 30 million dollars in 1998/99 fiscal year to 68.3 million dollars in 2002/03 fiscal year.



The mobilization of required resources for planned actions has been made easier by the adoption of a Sector Wide Approach to Planning (SWAP). Estimates of total funds required to meet national targets for water supply and sanitation in the period 200-2015 are in the range of 1,100-1400 million US dollars.

2.8.2 Progress towards achieving MDGs

In September 2000 at the UN Millennium Summit, world leaders agreed to a set of time bound and measurable goals and targets for combating poverty, hunger disease, illiteracy, environmental degradation and discrimination against women. Placed at the heart of the global agenda, these goals (eight in number) are now called the Millennium Development Goals (MDGs). Progress towards attainment of the MDGs is measured with the aid of 18 quantitative targets and 48 performance indicators. One of the targets – target 10 – addresses water supply and sanitation and calls upon member states to “halve by 2015 the proportion of people without access to safe drinking water and basic sanitation”. Target 10 is monitored through indicators 30 and 31, which are the proportions of people with sustainable access to safe water sources and improved sanitation respectively. Using 1990 coverage levels, the MDGs for Uganda are 61.8% if the population with access to improved water, and 84% with access to improved sanitation by the year 2015. Water availability is also key to realisation of three other targets besides Target 10 (Box 2.11).

Box 2.11: MDGs Requiring Water

Target 2: Halve, between 1990-2015 the proportion of people who suffer from hunger.

Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.

Target 10: Halve, by 2015, the proportion of people without access to safe drinking water and basic sanitation.

Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.

Source: UNDP

Uganda endorsed the MDGs and committed itself to attainment of the 18 targets, which are in harmony with the country’s prime goal of eradicating poverty and improving lives.

Uganda’s national targets for water supply and sanitation are higher than Target 10 in the MDGs. The country recorded improvements in safe water and sanitation coverage between 1990 and 2002 that exceeded interim MDG targets for that period. There is likelihood of both national targets and MDGs being realized given past successes.

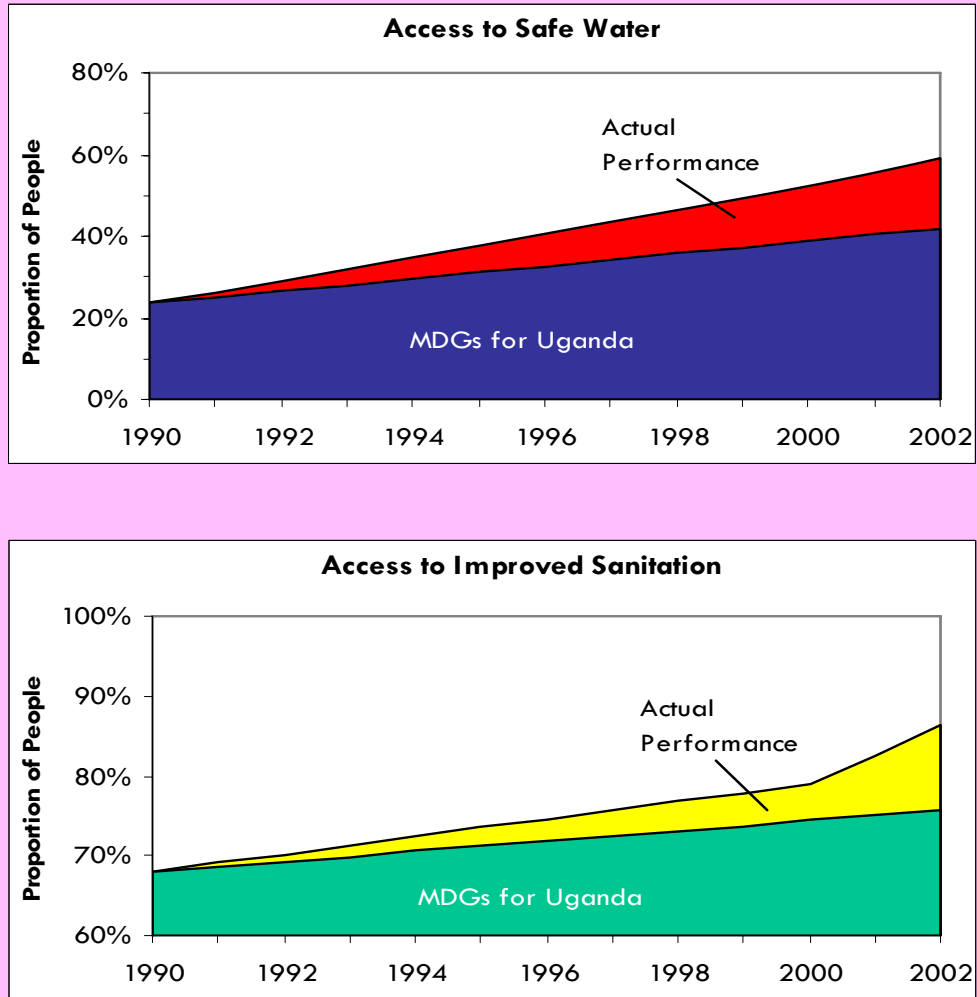


Figure 2.2 Progress towards the MDGs in water supply and sanitation in Ugandan. Trends have been constructed using 1990, 1996 and 2002 coverage data

2.9 Issues, Challenges and Opportunities

2.9.1 Issues

Key issues affecting the sector performance include:

- a) Inadequate financial resources: The investment requirement for rural water supply and sanitation, to meet the 2015 target, is about US\$ 951 million. The corresponding investment for the urban water supply and sanitation is estimated to be US\$ 481 million. The Government cannot finance this level of investment from local limited resources. The issue here, therefore, is how to raise the required financial resources to meet the 2015 targets for the water sector.
- b) Inadequate capacity at district and lower levels to plan and implement sector activities. This has consequently resulted in low absorption of funds by the local governments.
- c) Limited Private sector capacity to cope with the increased water and sanitation activities.
- d) Weak coordination and management at both national and local governments level.
- e) Inadequate involvement of local communities in the planning, financing, implementation, monitoring and management of community based water and sanitation developments.

2.9.2 Challenges

Despite Uganda's being well endowed with significant freshwater resources, the challenges of rapid population growth, increased urbanization and industrialization, uncontrolled environmental degradation and pollution are leading to accelerated depletion and degradation of the available water resources.

In addition, the major operational challenge for the water sector is establishment of strong mechanisms for effective, efficient and sustainable delivery of water and sanitation services to the end users, on the basis of the established strategies and funding mechanisms.

2.9.3 Opportunities

In order to cope with the above challenges, government has taken steps to revamp the water sector through comprehensive policy, legal and institutional reforms aimed at increasing the performance of the sector in terms of outputs but also the efficiency in service delivery.

The opportunities available to ensure this transformation of the water sector include:

- a) Poverty Eradication Action Plan (PEAP) – Which gives high priority to water supply and sanitation as one of the key intervention areas for poverty eradication.
- b) Water Sector Reform – whose objective is to ensure that services are provided and managed with increased performance, efficiency and effectiveness, while maintaining the government's commitment to equitable and sustainable provision of domestic water supply and sanitation services.
- c) Comprehensive Policy and Legal Framework – which guides the planning, implementation and monitoring of water supply and sanitation activities.

- d) Good governance in both the management of public resources (through multi-annual financial planning and budgeting under the MTEF) committed to water supply and sanitation activities.
- e) Private Sector Participation (PSP) which has brought in expertise and financing from the private sector to support government in the planning and implementation of water supply and sanitation activities.
- f) Commitment from government and development partners for continued support of water supply and sanitation activities.

2.10 Future Outlook for the Sector

Given the achievements made so far, the water sector is on the right track to meet both its medium-term and long-term objectives and targets. With the Sector Reforms expected to be completed in December 2004, the sector is bracing itself for a period of intensive activity as the reform recommendations begin to be implemented.

Implementation of the reform recommendations will not only be challenging but will also inevitably have heavy financial, technical and legal implications all of which have to be addressed to ensure successful and timely realization of set targets. All these pre-requisites have been addressed in details in the different sub-sector strategies and investment plans.

The biggest challenge to the future of the water sector is mobilizing the necessary financial resources as stipulated in the sub-sector investment plans and putting in place the necessary implementation and coordination mechanisms for the efficient delivery of services to the end users.

It is envisaged that the private sector and the Local Governments will play a more active role in the delivery of water and sanitation services in the new liberalized and decentralized water sector. The challenge in this case will be building the capacity of both the Local Governments and the private sector to enable them play their role effectively.

Increased stakeholder participation in the sector activities will also call for more effective coordination mechanisms and a coherent ME&R framework to ensure transparency and accountability in the sector and to minimize duplication of efforts and wastage of resources.

References

- Directorate of Water Development, 2003.** “Water Sector Gender Strategy”.
- Ministry of Water, Lands and Environment, 1999.** “The National Water Policy”.
- Ministry of Water, Lands and Environment, 1994.** “The Water Statute, Supplement No.7”.
- Ministry of Water, Lands and Environment, 1995.** “The Uganda Water Action Plan”.
- Ministry of Water, Lands and Environment, 1998.** “The Wastewater Discharge Regulations”.
- Ministry of Water, Lands and Environment, 1998.** “The Water Resources Regulations”.
- Ministry of Water, Lands and Environment, 1999.** “The Water Supply Regulations”.
- Ministry of Water, Lands and Environment, 1998.** “The Land Act”.
- Ministry of Water, Lands and Environment, 2002.** “The Nile Basin Initiative Act”.
- Ministry of Water, Lands and Environment, 2000.** “The Uganda Urban Water and Sanitation Sub-sector Reform Study – Draft Sector Reform Paper”.
- Ministry of Water, Lands and Environment, 2001.** “Rural Water and Sanitation Strategic Investment Plan 2000 – 2015”.
- Ministry of Water, Lands and Environment, 2003.** “Water Sector Reform: Water for Production Component – Water for Production Strategy 2003 – 2015”.
- Ministry of Water, Lands and Environment, 1998.** “The Water Resources Regulations, Statutory Instruments Supplement No. 20”.
- Ministry of Water, Lands and Environment, 2003.** “Long-term Strategy for Investment Planning, Implementation and Operation and Maintenance of Water Supply and Sanitation in Small Towns – Draft Final Report”.
- Ministry of Water, Lands and Environment, 2002.** The Water Sector Programme Support Phase 2 Water Sector Capacity Building Component Water Resources Management Sub-component”.

Ministry of Water, Lands and Environment, 2003. “The Uganda Water and Sanitation Sector Performance Measurement Framework – Draft Report”.

Ministry of Water, Lands and Environment, 2002. “User’s Manual for filling Surface water Permit Application Forms”.

Ministry of Water, Lands and Environment, 2002. “Rural Water and Sanitation Operational Plan: 2002 – 2007”.

Ministry of Water, Lands and Environment, 1995. “The National Water and Sewerage Corporation Statute”.

WRMD, 2003. “Strategy for Decentralization of Water Resources Management – Draft Final Report”.

WRMD, 2004. “Water Resources Management Sub-sector Reform Study – Draft Report”.

WRMD, 2003. “Support to Water Resources Management Department Phase 1 – Completion Report”.

WRMD, 2000. “Strengthening of Water Resources Monitoring and Assessment Services Project – Completion Report”.