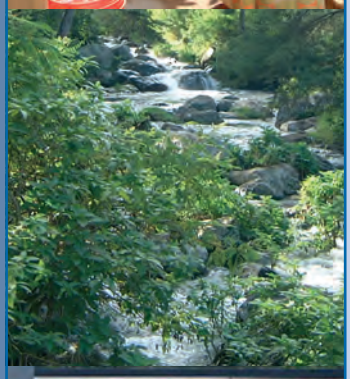
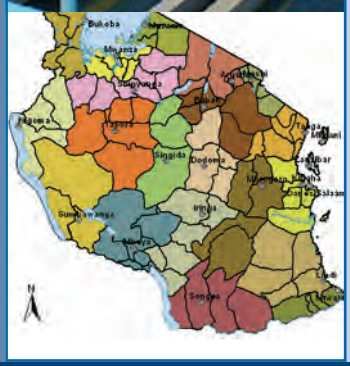
The United Republic of Tanzania
Ministry of Water and Irrigation

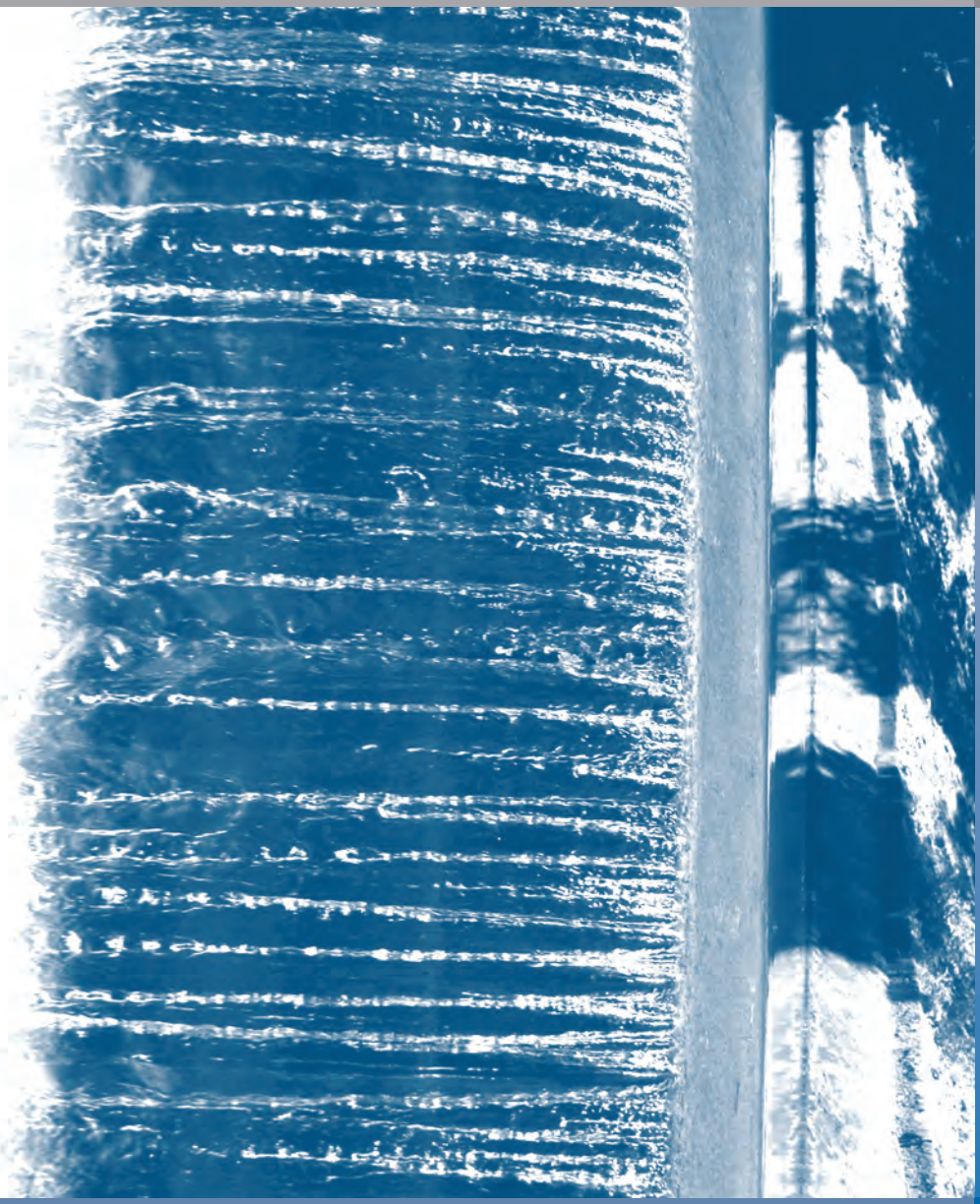




NATIONAL WATER SECTOR DEVELOPMENT STRATEGY

2006 to 2015

Mtwara region, pumping station below Newala on the Ruvuma river valley floor



FOREWORD

In keeping up with the changing global trends in the Water Sector, and taking into account other national policy reforms, the Government launched a revised National Water Policy in July 2002. This sets out the future direction for the Water Sector in achieving sustainable development and management of the Nation's water resources for economy-wide benefits and an increase in the availability of water supply and sanitation services. The water resources aspects of the National Water Policy have implications for all water using key sectors of the economy, such as agriculture, energy, industry, livestock, mining, environment, tourism and fisheries, as well as for domestic supply.

The Policy embodies the principle that water basins should be the planning and management units rather than regions, and the principles of decentralisation and devolution of water supply management to the lowest appropriate level. Prior to this launching, the Water Sector had suffered from uncoordinated strategies and programmes that often resulted in unsustainable water utilisation, threats to past investments in costly infrastructure, and, ultimately, unsatisfactory services. Following the launching of the National Water Policy, which has proclaimed a new era for the Water Sector, the National Water Sector Development Strategy has been prepared in order to further develop the Policy aspiration and define an implementation framework.

Unsatisfactory development of the Water Sector has revolved around inadequate understanding and appreciation of the central role water plays in key sectors of the economy, the vulnerability of the economy to climate variability (floods and drought), lack of clarity with regard to the institutional framework for water resources development and management, inadequate and inequitable provision of services, and insufficient financing.

The Ministry has started to restructure its institutions to be compatible with the requirements of the country's decentralisation and reform policies through measures that are in line with the National Water Policy of 2002, taking into account the provisions of the Local Government Reform Policy. The National Water Sector Development Strategy has been developed to support re-alignment of other water related key sectoral policies of energy, irrigation, industry, mining, and environment. The Urgent Actions *on land degradation and water catchments, and the protection of marine, lakes, rivers and dams environment* prepared by the Vice President's Office provide important guidance for the implementation of comprehensive and prioritised water conservation and environmental protection measures. This Strategy focuses on specific roles of the various actors, through clearly defining roles and responsibilities and hence the removal of duplications and omissions. Further, the institutional framework underscores separation of service delivery and regulation to ensure fair play among the various actors and sectors.

This National Water Sector Development Strategy is, therefore, a blueprint for prioritised timely and appropriate interventions to address the Water Sector challenges in the process of achieving all the targets narrated in the National Strategy for Growth and Reduction of Poverty by 2010, the Millennium Development Goals by 2015, and contribute towards achieving the Tanzania Development Vision targets by 2025. Furthermore the Strategy leads to reshaping and increasing sector financing through a smooth and manageable institutional arrangement.

It is my sincere hope that, with the National Water Sector Development Strategy having been developed through a consultative process involving stakeholders and now in our hands, we will all recognise the opportunity offered so that the National Water Policy of 2002 can be implemented. To increase our hopes and confidence, we need to improve co-ordination and full participation internally between the Nation's cross-sectoral interests in the Water Sector. We also need to contribute to regional efforts spelt out under the African Union's Water Facility, the New Partnership for Africa's Development, SADC's Regional Indicative Strategic Development Plan, and the East African Community Water Sector Development Strategic Plan.

September 2008

Prof. Mark J. Mwandosya (MP)
MINISTER FOR WATER AND IRRIGATION

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

CBO	Community Based Organisation
COWSO	Community Owned Water Supply Organisation
DP	Development Partner
DUWSA	District Urban Water and Sewerage Authority
EAC	East African Community
EIA	Environmental Impact Assessment
EWURA	Energy and Water Utilities Regulatory Authority
GDP	Gross Domestic Product
GoT	Government of Tanzania
IWRM	Integrated Water Resources Management
LGAs	Local Government Authorities
MDGs	Millennium Development Goals
MoHSW	Ministry of Health and Social Welfare (formerly Ministry of Health – MoH)
MoWLD	Ministry of Water and Livestock Development
MTEF	Medium Term Expenditure Framework
NAWAPO	National Water Policy, 2002
NEMC	National Environment Management Council
NGO	Non-governmental Organisation
NPES	National Poverty Eradication Strategy
NSGRP	National Strategy for Growth and Reduction of Poverty
MKUKUTA	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania
NWSDS	National Water Sector Development Strategy
NWSSIP	National Water Sector Strategic Implementation Plan
PHAST	Participatory Hygiene and Sanitation Transformation
PMO-RALG	Prime Minister's Office, Regional Administration and Local Government
PRS	Poverty Reduction Strategy
PSP	Private Sector Participation
RWS	Rural Water Supply
RWSP	Rural Water Supply Programme
SADC	Southern African Development Community
SWAP	Sector Wide Approach to Planning
Tshs	Tanzania Shillings
UWSA	Urban Water and Sewerage Authority
WCA	Water Consumers Association
WUA	Water Users Association
WRM	Water Resources Management
WSS	Water Supply and Sanitation
WSSA	Water Supply and Sewerage Authority

EXECUTIVE SUMMARY

Water is fundamental to life and sustaining the environment, and plays a central role in the social and economic development of Tanzania. It touches all spheres of life including domestic, agriculture, livestock, fisheries, wildlife, industry, energy, recreation and other social and economic activities. Water plays a pivotal role in poverty alleviation through enhancing food security and domestic hygiene security, and the environment for sustenance of ecosystems. Availability of adequate water supply of good quality reduces time spent in fetching water and increases health standards. Use of contaminated water poses health risks to the population as evidenced by the prevalence of water-borne diseases such as diarrhoea and cholera.

The Water Sector has been included among priority sectors in the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA). Despite its importance to human survival and development, water in the country is poorly distributed in time, space, quantity and quality and, generally, it is a finite and vulnerable resource that has to be managed and used on a sustainable basis.

NATIONAL WATER POLICY

The main aim of the National Water Policy, 2002, is to provide a comprehensive framework for sustainable development and management of the Nation's water resources, in which an effective legal and institutional framework for its implementation will be put in place. The National Water Policy has the following overall objectives:

- to address cross-sectoral interests in water, watershed management and participatory integrated approaches in water resources planning, development and management;
- to lay a foundation for sustainable development and management of water resources in the changing roles of the Government from service provider to that of co-ordination, policy and guidelines formulation, and regulation;
- to ensure full cost recovery in urban areas with considerations for provision of water supply services to vulnerable groups through various instruments including lifeline tariffs; and
- to ensure full participation of beneficiaries in planning, construction, operation, maintenance, and management of community based water supply schemes in rural areas.

The framework for water sector policy, strategies and financial planning in Tanzania stems from Vision 2025 and the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA), which provide the overall guidance. These existing policy and strategy documents contain operational targets to be achieved in terms of level and timescale for improving water resources management, and water supply, sewerage and sanitation. Consideration of these targets was one of the starting points for developing the National Water Sector Development Strategy.

ROLE OF THE STRATEGY IN THE NATIONAL DEVELOPMENT PROCESS

The National Water Sector Development Strategy (NWSDS) sets out how the Ministry responsible for Water will implement the National Water Policy to achieve the NSGRP (MKUKUTA) targets. This will, in turn, guide the formulation of the Ministry's Harmonised National Water Sector Development Plan and the Water Sector Development Programme as inputs into the Medium Term Expenditure Framework financial planning process.

The previous situation indicated that initiatives within the Ministry responsible for Water and its sub-sectoral projects had moved away from the normal logical progression of the policy – strategy – legislation - planning continuum. These initiatives include preparation of the National RWSS Strategy and Investment Program and the National Strategy for Improvement of UWSS Delivery; and the review of water resources, urban water supply and sewerage, and rural water supply legislation.

Whilst the various on-going initiatives have required consideration of some of the issues that should have been included in a NWSDS, they had not been examined on a harmonised basis across the sub-sectors, and this has resulted in a number of potential duplications or omissions.

PREPARATION OF THE STRATEGY

The NWSDS has been prepared by a Task Force that has included experts from the various departments of the Ministry responsible for Water, the Ministry of Health, and the Prime Minister's Office Regional Administration and Local Government.

The guidance given to the Task Force was that the NWSDS should:

- pay particular attention to issues such as human resource development, capacity building and investment;
- be based on realistic targets, should be sustainable, and should address the role of women;
- pay attention to the truth that, although rural water supply is very important, expanding sanitation, particularly in urban areas will prevent future public health disasters;
- adopt appropriate rather than sophisticated technical solutions, using realistic planning, sound management of implementation, timely use of available funds, and maximum local input;
- as water covers all sectors, take a broad approach and include strategies for disasters and crises;
- clearly set out the initial implementation steps;
- be in two parts: Water Resources Management and Water Supply and Sanitation. This means the current separation of urban and rural water supply would not be continued, thus avoiding current gaps and duplications;
- reflect sanitation as this has not been adequately considered so far; and
- include institutional frameworks as a pre-requisite.

Particular attention was given to the new institutional frameworks for Water Resources Management and Water Supply, Sewerage and Sanitation to ensure that these reflected adequately changing role of the Government from service provider to that of co-ordination, policy and guideline formulation, and regulation, as set out in the National Water Policy. The new institutional frameworks also take into account the devolution and decentralisation of responsibilities for water supply, sewerage and sanitation to Local Government Authorities under the Local Government Reform Programme.

The NWSDS formulation process has been participatory. Stakeholders were involved in providing comments at each stage of the process and participated in stakeholder workshops.

The strategies set out in this National Water Sector Development Strategy take into account the comments, both written and verbal, on the Circulation Draft and the results of discussions with the Local Government Reform Programme.

CONTENT OF THE STRATEGY

The NWSDS has been developed to support re-alignment of the water related aspects of other key sectoral policies (for example, energy, irrigation, industry, mining, and the environment) with the National Water Policy, and to provide a focus on specific roles of the various actors through clearly defining roles and responsibilities and hence the removal of duplications and omissions.

Further, the new institutional frameworks underscore separation of service delivery and regulation to ensure fair play among the various actors and sectors through measures that are in line with the National Water Policy of 2002, taking into account the provisions of the Local Government Reform Policy.

In interpreting the NAWAPO into a strategy for the years 2006 to 2015, the NWSDS is constructed in eleven sections as follows:

- Introduction;
- Sector Overview and Situation Analysis;
- Water Resources Management – containing the new institutional framework and ten strategic statements;
    - Water Resources Assessment,
    - Integrated Water Resources Planning,
    - Water Resources Development,

- Environmental Protection and Control,
- Water Quality and Pollution Control,
- Water Conservation and Demand Management,
- Water Utilisation and Allocation'
- Trans-boundary Waters'
- Disaster Management, and
- Water Resources Management Legislation.

- Water Supply, Sewerage and Sanitation Services – containing the new institutional framework and twelve strategic statements;
  - Demand for Water Supply Services,
  - Demand for Sewerage and Sanitation Services,
  - Managing Demands,
  - Service Levels,
  - Services to Low Income Groups,
  - Community Ownership and Management,
  - Integration of Water Supply, Sanitation and Hygiene Education,
  - Appropriate Technology,
  - Rehabilitation Requirements,
  - New Works and Expansion Requirements,
  - Private Sector Participation, and
  - Water Supply, Sewerage and Sanitation Legislation.
- Water for Poverty Alleviation;
- Planning and financing Mechanisms – containing five strategic statements;
  - Planning,
  - Capital Investments,
  - Water Resources Management Recurrent Costs,
  - Water Supply and Sanitation Recurrent Costs, and
  - Tariff Structures.
- Performance Monitoring and Regulation – containing two strategic statements;
  - Performance Monitoring and Evaluation, and
  - Regulation.
- Capacity Building – containing seven strategic statements;
  - Organisation Development,
  - Water Resources Management,
  - Water Supply, Sewerage and Sanitation,
  - Stakeholder Participation in Water Resources Management,
  - Stakeholder Participation in Water Supply, Sewerage and Sanitation,
  - Gender Sensitivity, and
  - HIV/AIDS.
- Communications and Advocacy
- Co-ordination and Collaboration
- National Water Sector Strategic Implementation Plan

The NWSDS concludes with a Logical Planning Framework and the National Water Sector Strategic Implementation Plan - Five Year Prioritised Activity Schedule.

INSTITUTIONAL FRAMEWORKS

Water is a national and international resource, which cuts across villages, districts, regions, national and international administrative boundaries and can only be effectively managed on the basis of water basins through Basin Boards and Catchment Committees. Representation from district councils and lower local government authorities to these Boards and Committees is arranged so as to ensure the presence of the elected voice of the people during core decision making regarding water resources conservation, management, allocation, development and utilisation.

Provision of water supply, sewerage and sanitation services is based on the local government structures, but delegation of responsibilities through establishment of "clustered" Water Supply and Sewerage Authorities, with sanitation being the responsibility of local government authorities.

Clustering is envisaged because provision of water supply and sewerage services solely at the levels of individual district or village councils will not only be financially unsustainable but also could create excessive demands on individual local government authorities.

Community Owned Water Supply Organisations are considered the best options for achieving both commercial viability and scheme sustainability in villages or groups of villages. These will be accountable to local government authorities at the district and village level.

STRATEGIC STATEMENTS

The NWSDS contains 39 strategic statements covering the full range of issues arising from the National Water Policy, and other policies and strategies of the Government. Each strategic statement contains five elements:

- Background
- Problem Statement
- Policy Direction
- Goal
- Strategy

PRIORITISATION OF ACTIVITIES

The Logical Planning Framework considers each of the strategic statements and the Goal to be achieved in terms of:

- Indicators – describe the means of determining achievement of the Goals, linked where appropriate to the targets of the NSGRP (MKUKUTA) or other targets of the Government;
- Summary Main Activities – set out those actions necessary to implement the strategic statements;
- Responsibility – identifies the government bodies responsible for implementation of the main activities, which may be supported by the private sector and NGOs as considered appropriate;
- Timescale – identifies whether the activities have to be carried out in the Short Term (up to two years); Medium Term (up to five years); Long Term (up to 2015); or On-going.

FIVE YEAR PRIORITISED ACTIVITY SCHEDULE

In the Five Year Prioritised Activity Schedule the summary main activities necessary to implement the NWSDS over period up to Financial Year 2010/2011are identified and linked in a logical sequence, recognising inter-dependencies. The prime responsibilities for implementation of each activity and achievement of the key milestones are assigned based on the Logical Planning Framework. Within the Ministry responsible for Water, the prime responsibilities are assigned to the respective functions of the Ministry.

The prioritised activity schedule will be developed into a National Water Sector Strategic Implementation Plan (NWSSIP), which will contain input requirements and estimates of financial resources required for implementing each activity. The sub-sectoral capital investment plans being prepared in parallel to the NWSDS under the Water Sector Development Programme will need to be brought into line with the NWSDS and harmonised with the NWSSIP to establish an overall National Water Sector Development Plan as the base line for a Sector Wide Approach to Planning.

LEGISLATION

In order to provide the enabling legislative framework for implementing the NWSDS, and in line with the Strategy, two separate Bills for Water Resources Management and Water Supply and Sanitation are under preparation so that implementation of the activities can proceed in a coherent manner in accordance with the timescale set out in the Strategy.

SECTION 1: INTRODUCTION

1.1 INTRODUCTION

Water is a shared common resource fundamental to life and in sustaining the environment and plays a central role in the social and economic development of Tanzania. It touches all spheres of life including domestic, agriculture, livestock, fisheries, wildlife, industry, energy, recreation and other social and economic activities. Water is vital for sustainable socio-economic development as a strategic primary input playing a pivotal role in poverty alleviation through enhancing food security, domestic hygienic security, hydropower, industrial development, mining, navigation, and the environment for sustenance of ecosystems. Availability of adequate water supply of good quality reduces time spent in fetching water, increases health standards, and ensures a favourable environment for increased children's school attendance. Use of contaminated water poses health risks to the population as evidenced by the prevalence of water-borne diseases such as diarrhoea and cholera. It is against this background that the Water Sector has been included among priority sectors in the National Strategy for Growth and Reduction of Poverty (NSGRP/MKUKUTA). Despite its importance to human survival and development, water in the country is poorly distributed in time, space, quantity and quality and, generally, it is a finite and vulnerable resource.

Tanzania faces a water stress situation in some parts of the country, as water demands exceed available resources. Today, water scarcity is experienced in many places thereby raising concerns on issues related to its use, quantity and quality. The use of water is increasing due to hydropower and agricultural expansion that have led to increasing competition for water. Past uncoordinated planning for water use, inadequate water resources data, and inefficient water use have resulted into water use conflicts between the energy and irrigation sectors, between irrigation and the water ecosystems, hydropower and the ecosystem, and between upstream and downstream users. Furthermore, industrial and municipal effluents are progressively degrading the quality of water resources.

The impact of low water supply coverage falls primarily on the poor. In urban centres inadequately served by the formal sector, the poor make their own, often insufficient, arrangements to meet basic survival needs. Many fetch water from long distances or end up paying high prices to water vendors for small quantities of water and often of poor quality. Low water supply service coverage in rural areas manifests itself in low agricultural production and poor quality of life.

In July 2002, the Government published a revised National Water Policy (NAWAPO), which sets out the future direction for the Water Sector in achieving sustainable development and utilisation of the Nation's water resources and the increase in the availability of water supply, sewerage and sanitation services. The NAWAPO also embodies the principles of decentralisation and subsidiarity of water supply management whereby this should be devolved to the lowest appropriate level. This also conforms to the public sector reforms currently being undertaken by the Government.

This National Water Sector Development Strategy (NWSDS) sets out how the National Water Policy, 2002, will be implemented and describes the institutional and legislative changes necessary so that the specified actions contained in the NWSDS can be implemented.

Within the context of the NWSDS, the Water Sector is considered as covering water resources management, including the planning, development, and protection of resources and control of pollution; water supply and sewerage services; and the provision of on-site sanitation.

After a sector overview and situation analysis, the strategies are set out under the following headings:

- Background
- Problem Statement
- Policy Direction
- Goal
- Strategy

The Strategy concludes with a Logical Planning Framework, which sets out the goal, indicators, main activities, responsibilities and timescale for each strategy statement, and the proposed implementation schedule for the first five years.

1.2 HISTORICAL BACKGROUND

The history of the Water Sector in Tanzania dates back to the 1930s when water supply was confined to urban areas and farming settlements owned by settlers. The policy of the Government from then was to enhance participation of beneficiaries through contributing 25% of water supply scheme capital investment costs while local governments contributed 75% of the costs. In order to redress the urban bias in water supply service provision, in 1971 the Government of the United Republic of Tanzania proclaimed a 20-year Rural Water Supply Programme (RWSP) that aimed at providing access to adequate, safe, dependable water supply within a walking distance of 400 metres from each household by the year 1991. Under this programme, water was provided freely by the Government. In response to the Government's resolve, a number of Development Partners (DPs) extended support to the Programme. It was within this programme that Regional Water Master Plans were prepared for all regions (except for Dodoma, Morogoro and Singida).

A mid-term review of the RWSP conducted in 1985 revealed that only 46% of the rural population had access to water supply service. The reasons for this poor performance were *inter alia* non involvement of the beneficiaries, use of inappropriate technologies, use of a top-down approach, and lack of decentralisation as a result of abolishment of local government authorities in 1972.

In order to redress this situation, in 1991 the Government adopted the first National Water Policy which among others placed emphasis on community participation, decentralised management, use of appropriate technologies (i.e. which are affordable, adaptable and acceptable to the beneficiaries), cost sharing for rural water supply, and cost recovery for urban water supply.

A Water Sector review conducted in 1993 revealed that the 1991 National Water Policy failed to address the:

- non-involvement of the private sector;
- involvement of beneficiaries being limited to provision of free labour;
- inadequacy in legal and institutional framework; and
- more emphasis was on water supply than water resources management.

This review called for prudent Water Sector reforms that were eventually initiated through the Urban Water Supply Project in Moshi, Tanga and Arusha. This culminated in reshaping the whole urban water sub-sector through institutionalisation of autonomous Urban Water Supply and Sewerage Authorities and the Dar es Salaam Water Supply and Sewerage Authority in 1997. The experiences gained from rural water sub-sector reform projects such as the Health, Sanitation and Water Supply Project, the Hai District Water Supply Project, the East Kilimanjaro Rural Water Supply Project, the Lindi and Mtwara Rural Water Supply Project, and the Southern Highlands Rural Water Supply Project, helped reshape the rural water supply sub-sector.

In addition, the Rapid Water Resources Assessment Study (1994) underscored the need for putting in place an integrated approach to water resources management and this led to the commencement of implementation of this approach within the priority river basins of Pangani and Rufiji. Integrated water resources management and development, including smallholder irrigation, was mostly advocated and implemented through the River Basin Management and Smallholder Irrigation Improvement Project, which included a review of the National Water Policy of 1991 that, in turn, led to the National Water Policy, 2002, (NAWAPO). The NAWAPO is believed to have rectified all the previous policy shortfalls and has introduced decentralisation of water supply management in line with Agenda 21 of the United Nations Environment Meeting held in Rio de Janeiro in 1992, which emphasised the "*subsidiarity principle"* whereby water supply management should be at the lowest appropriate level.

Tanzania has adopted a practical and phased approach in improving the arrangements for managing its water resources. The reform actions commenced with the Water Sector Review and the Rapid Water Resources Assessment Study, continued through the implementation of Study findings and recommendations, including policy review and institutional restructuring at the basin level, and are continuing through development of this National Water Sector Development Strategy, revisions to the current legislation, and preparation of a National Water Sector Strategic Implementation Plan.

In parallel, key water using sectors have also promoted water resources development and the conservation and management of the environment. Through the support of the Global Environment Fund, three lake basin management programmes have been supported for Lakes Nyasa, Tanganyika and Victoria. The Ministry of Agriculture, Food Security and Cooperatives has prepared a National Irrigation Master Plan and is drafting an Irrigation Bill. In the energy sector, several hydropower plants have been built, and a new Energy Policy has been prepared.

1.3 RATIONALE FOR THE NATIONAL WATER SECTOR DEVELOPMENT STRATEGY

1.3.1 National Water Policy Aims and Objectives

The main aim of the National Water Policy, 2002, is to develop a comprehensive framework of sustainable development and management of the Nation's water resources, in which an effective legal and institutional framework for its implementation will be put in place.

The main objectives of the National Water Policy, 2002, are to:

- address cross-sectoral interests in water, watershed management and participatory integrated approaches in water resources planning, development and management;
- lay a foundation for sustainable development and management of water resources in the changing roles of the Government from service provider to that of co-ordination, policy and guidelines formulation, and regulation;
- ensure full cost recovery in urban areas with considerations for provision of water supply services to vulnerable groups through various instruments including lifeline tariffs; and
- ensure full participation of beneficiaries in planning, construction, operation, maintenance, and management of community based domestic water supply schemes in rural areas.

1.3.2 Links to Other National Policies

The framework for Water Sector policy, strategies and financial planning in Tanzania stems from Vision 2025 and the Poverty Reduction Strategy Paper, providing guidance to the revised National Water Policy. A number of these existing policy and strategy documents contain targets to be achieved in terms of level and timescale for improving service availability to the urban and rural populations. Consideration of these targets is one of the starting points for developing the NWSDS.

The target of the National Development Vision 2025 for water and sanitation sector is universal access to safe water by 2025 through involvement of the private sector, empowering local government and communities, and promotion of broad based grass root participation in mobilisation of resources, knowledge and experiences, with a view to stimulating initiatives at all levels of society.

The National Strategy for Growth and Reduction of Poverty (NSGRP)[1], or Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania (MKUKUTA), is derived from Vision 2025 and the Poverty Reduction Strategy Paper and identifies the close relationship between water resources management and the desired outcomes:

Growth and reduction of income poverty

- *Sustainable growth* calls for the protection of existing water resources and the development of new resources because they are vital inputs to the nation's productive sectors.
- *Equity.* Inequitable and unjust water allocation practices and ill-defined water rights that restrict access to and control over water resources pose a major obstacle to poverty reduction. Planning processes that alienate affected communities from decision making and from sharing benefits of water development projects foster social stratification and limit the prospects of poverty reduction through economic growth.

Improved quality of life and social well-being

- *Human health*. Good water management reduces exposure to waterborne diseases by increasing access to clean water and adequate sanitation; reduces exposure to toxic

[1] Vice President's Office - National Strategy for Growth and Reduction of Poverty, 15 January 2005

chemicals by policing the disposal of industrial, mining, and agricultural wastes; and controls vector-borne diseases, such as malaria, by better management of standing water bodies and floodwaters.

- *Sustainable livelihood*. The livelihoods of poor people who depend on land, water, forests, fish, livestock, and biodiversity will be enhanced if they secure reliable access to water resources through well-enforced water allocation and pollution control procedures in which they have had a role.
- *Security and vulnerability*. The poor are particularly vulnerable to floods and droughts since they often live in areas such as floodplains or steep slopes. People's vulnerability to climate variability and resource degradation would be reduced by investing in strategies that limit and control floods and provide water storage for droughts.

Good Governance and accountability

- *Empowerment.* Helping people to plan and manage their own water resources by ensuring participation in decision-making, creating user organizations, and transferring operations and maintenance responsibilities to the basin level will increase empowerment and promote good governance.

The NSGRP/MKUKUTA strategies on water resources management, water supply and sanitation are:

- promote rainwater harvesting incorporating small, medium and strategic large-scale dams and reservoirs;
- increase access to reliable water as a resource for economic production with the aim of increasing the contribution of water in the GDP, and ensure sustainable management of water catchments areas and maintenance of forest cover in critical highland catchments;
- improved land management and adoption of water conservation technologies, and implementation of national plans to halt desertification and land degradation, and restore degraded lands;
- increase sustainable access to inexpensive and reliable sources of water in both rural and urban areas;
- ensure access and affordability of safe water, especially in rural areas, focusing on vulnerable households, including older people headed household; and
- ensure improved access to reliable water supplies for livestock development through promotion of small-scale rainwater harvesting.

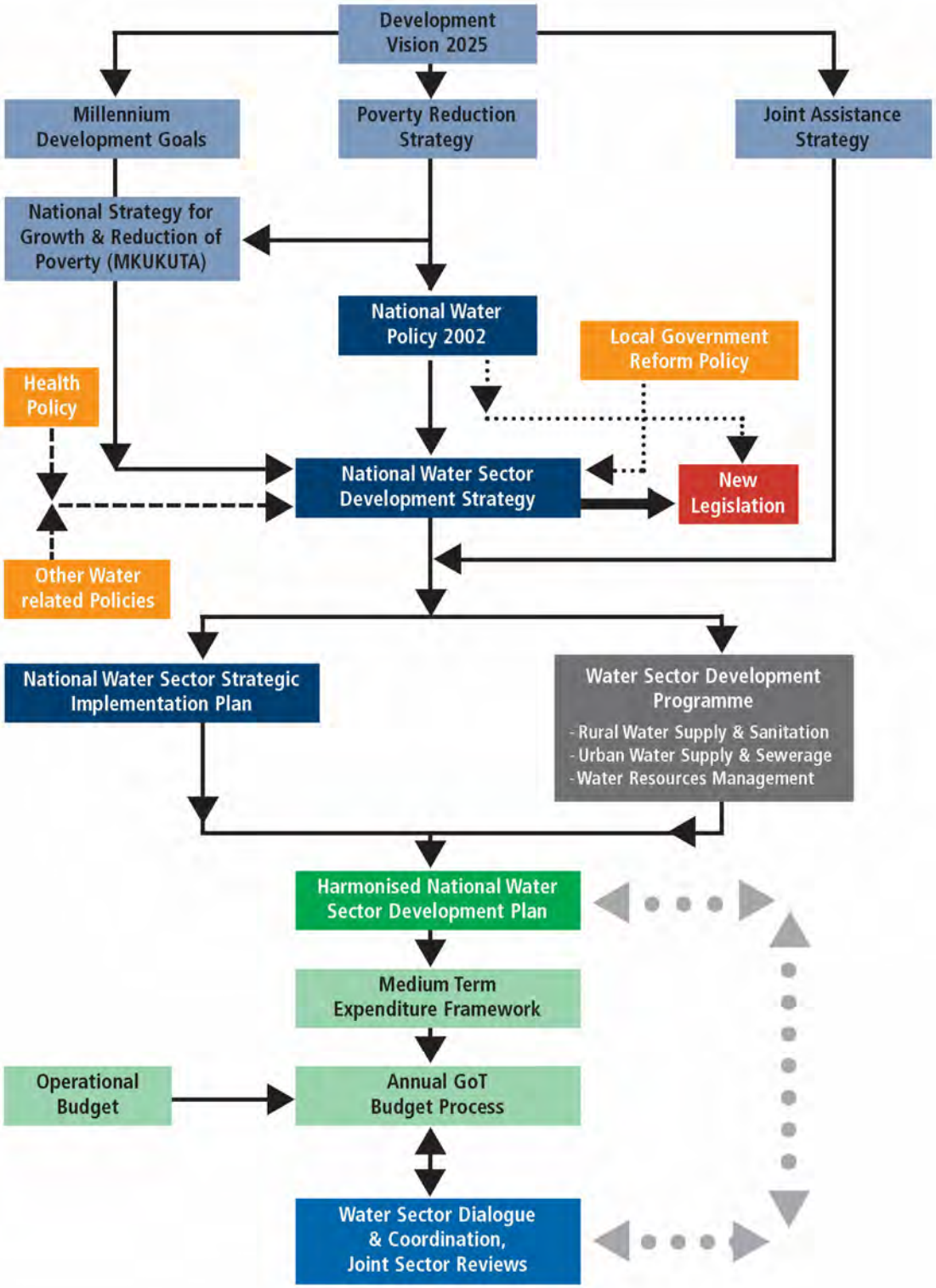
The operational targets are:

- reduced water related environmental pollution levels from 20% in 2003 to 10% in 2010/11;
- hydrological and hydrogeological surveys and investigation to identify, assess and facilitate the development of new water sources for all users carried out by year 2010/11;
- water resources in all basins are properly used and equitably allocated by 2010/11;
- the National and Regional Programmes for integrated water resources development and management established and supported by 2010/11;
- increased proportion of rural population that has access to clean and safe water from 53% in the year 2003 to 65% by the year 2010/11 within 30 minutes of time spent on collection of water;
- increased urban population with access to clean and safe water from 73% in 2003 to 90% by the year 2010/11;
- increased access to improved sewerage facilities from 17% in 2003 to 30% in 2010/11 in respective urban areas; and
- 95% of people with access to basic sanitation by 2010/11.

The NWSDS sets out how the National Water Policy, 2002, will be implemented to achieve these targets and outcomes. This will, in turn, guide the formulation of the National Water Sector Strategic Implementation Plan and the sub-sectoral investment programmes under the Water Sector Development Programme as inputs to a Harmonised National Water Sector Development Plan (NWSDP). These will then feed into the Medium Term Expenditure Framework financial planning process. Sector reviews will be carried out periodically to monitor progress against the targets.

The interrelationship of the NWSDS with the most critical national policies, the National Water Sector Development Plan, and the financial planning frameworks is shown in Figure 1.1 below.

FIGURE 1.1: INTER-RELATIONSHIP OF THE NWSDS WITH OTHER POLICIES AND STRATEGIES



1.4 AIM AND OBJECTIVES OF THE NATIONAL WATER SECTOR DEVELOPMENT STRATEGY

The current situation in respect of strategy formulation, particularly in respect of the development of a NWSDS, indicates that the on-going initiatives within the Ministry responsible for Water and its sub-sector projects have moved away from the normal logical progression of the policy – strategy – planning continuum. These initiatives include preparation of the Rural Water Supply and Sanitation Programme; the Urban Water Supply and Sewerage Strategic Programme; the Water Resources Management Investment Programme; and the review of water resources, urban water supply and sewerage, and rural water supply legislation.

The main objective of the NWSDS is to develop a coherent, holistic and integrated strategy for the Water Sector in order to implement the National Water Policy. This will then allow the on-going sub-sectoral initiatives and projects to be set within the overall strategic and planning framework for the sector, supported through a Sector Wide Approach to Planning (SWAP).

Preparation of the NWSDS has underscored the complex multi-sectoral linkages in water resources management and highlighted the fact that other water-reliant sectors will benefit significantly from improved water resource management. Therefore, the NWSDS will support harmonisation and re-alignment between the National Water Policy, the consequent Water Sector legislation, and the policies and legislative provisions of other key water related sectors, such as agriculture, energy, and industry,

An important objective of the NWSDS will be to bring the inter-sectoral linkages of water resources management to the fore through public education and awareness programs, as well encouraging inclusion of the issues in the education curricula in schools. These will be important tasks of the Water Sector institutions implementing the NWSDS.

The NWSDS is designed to cover the period from 2006 to 2015 and will be subject to a comprehensive review in the year 2011 in order to take into account progress and experiences during the first five years of implementation.

1.5 THE PROCESS OF FORMULATING THE STRATEGY

Preparation of the National Water Policy, 2002, was based on a review of the National Water Policy of 1991, together with particular attention being paid to enhancing participation of communities, local government authorities, and the private sector, in respective areas in investing and running rural water schemes, and meeting cost recovery principles through promotion of total tariff payment compliance by all urban customers. This policy provides advocacy and guidance in implementation of reforms in the Water Sector.

However, the legal, institutional and strategic frameworks required for effective implementation of the Policy are weak. Therefore, the Ministry responsible for Water considered it important that the policy-strategy-planning process was followed so as to establish a holistic strategy for development of the Water Sector.

The Government started preparation of the NSWDS for nation-wide implementation of the National Water Policy 2002 through a Task Force launched by the Permanent Secretary of the Ministry in December 2003.

The NWSDS formulation process has been participatory. Stakeholders were involved in providing comments at each stage of the process and participated in stakeholder workshops.

1.6 DEFINITIONS

Throughout the National Water Sector Development Strategy the following definitions apply to specific terms:

Aquifer: An underground geological formation, or group of formations, which contain water and are sources of groundwater for wells and springs, and which are not necessarily contained within water basin boundaries.

Authority: An autonomous organisation established by or under an Act of Parliament to carry out specific functions within defined areas, accountable to a Minister through a Board of Directors.

Board: Particularly means the Board of Directors of a statutory body or company, i.e. a non-executive Board. Can also mean an autonomous organisation established by or under an Act of Parliament to carry out specific functions within defined areas, accountable to a Minister through a Board of Directors, i.e. an executive Board.

Catchment: An area drained by a stream, lake or other body of water. Can also refer to an area which drains into a dam.

Clustering: The grouping of water supply and sewerage services in a number of local government areas under one statutory / autonomous body in order to achieve commercial viability. Clustering can be based either on regional and local government boundaries or water basins, depending on the number of local government authorities, potential viability, social / cultural factors, and geographical proximity.

Commercial: Ownership of water supply assets is transferred to autonomous legally established organisations (c.f. Authorities) with responsibility for the provision of water supply and sewerage services and the collection of revenues, and the organisations have full responsibility and accountability for the maintenance, protection and expansion of the assets.

Community: A group of households, hamlets or villages which are served by a common water supply facility.

Community Owned: Ownership of water supply assets is transferred to legal entities established by communities (c.f. Water Consumer Associations) and the communities have full responsibility and accountability for the maintenance and protection of the assets.

Cost Recovery: Reimbursement to providers of water supply and sewerage services of both recurring and non-recurring costs associated with operation, administration and maintenance. Costs include but are not limited to the costs of design, development, upgrades, equipment and any other costs associated with capital investment.

Drainage Basin: A hydrological area consisting of part of the surface of the earth covered by a drainage system made up of surface water streams, or bodies of impounded surface water and the tributaries.

Household Connection: Water supply connections to domestic properties having internal plumbing.

Peri-urban Areas: Emerging settlements outside the formal housing areas of an urban area. In these settlements there is lack of basic services such as water supply and sanitation facilities. Generally the people living in these areas are in the low income group with limited ability to pay for water and sanitation services.

Public Tap: A tap or water distribution point which is used by a number of different consumers who pay for water drawn, and which is commonly found in peri-urban areas, informal settlements, and rural water supplies.

Rainwater Harvesting: A technology used for collecting and storing rainwater from land surfaces, rock catchments or rooftops using simple techniques such as jars and pots as well as more complex techniques such as charcos dams.

Regulation: The activities involved in ensuring consumers receive the most cost effective level of service that they have been led to expect and are prepared to pay for. Specifically this involves: protecting consumers; assuring a demand driven approach; improving efficiencies and effectiveness of service providers; protecting assets; and promoting competition.

River Basin: An entire geographical area drained by a river and its tributaries (also referred to as a watershed).

Sanitation: Whilst a broad definition of sanitation covers the state of cleanliness of the environment and includes a wide range of waste management activities, within the context of this Strategy sanitation is defined as the provision of appropriate facilities and services for the on-site disposal of human excreta and waste waters, and public education on water related hygienic principles.

Sector Wide Approach to Planning (SWAP): A situation where financial resources for capital investment, from both Government and Development Partners, are provided in support of jointly agreed expenditure strategies and plans, under Government leadership.

Service Provider: An institution or organisation with actual or delegated responsibility for providing water supply and sewerage or sanitation services to consumers. Service Providers can include *inter alia* Local Government Authorities, Water User Associations, Water User Trusts, Non-Government Organisations, and private operators.

Sewerage: Human excreta disposal systems relying on water as the waste transporting medium.

Township: Secondary emerging settlements (mainly in rural areas) that have transformed from village status into township status.

Stakeholders: Any and all organisations and persons having a direct interest in the Water Sector.

Trans-boundary Waters: The water resources contained within Drainage or River Basins which cross the geographical boundaries of more than one sovereign country.

Urban Area: Urban Area means an area within the jurisdiction of an authority established or deemed to have been established under and governed by the Local Government (Urban Authorities) Act, 1982; and the Local Government (District Authorities) Act, 1982.

Water Basin: An extent of land which contains water resources in the form of surface or groundwater within defined hydrological boundaries

Water Consumers Association (Vikundi vya Huduma ya Maji): A legal entity established by communities for the ownership, management, operation and maintenance of water supply services.

Water Scarcity: The situation occurs when demand for water exceeds the available amount during a certain period or when poor quality causes restrictions, and calls for better management of the limited water resources.

Water Users Association (Vikundi vya Watumiaji Maji): A legal entity established by the users of water resources within a specified area to manage the allocation of water resources and resolve conflicts amongst water users within that area.

Yard Connection: Water supply connections to domestic properties which have a tap in the compound of a property or attached to the property, but with no internal plumbing.

SECTION 2: SECTOR OVERVIEW AND SITUATION ANALYSIS

2.1 WATER RESOURCES AVAILABILITY, UTILISATION AND DEMAND

2.1.1 Overview of the Country Water Resources

Tanzania is endowed with numerous and diverse water resources in the form of rivers, lakes, wetlands and aquifers. The country is divided into five major drainage systems, and these are: the Indian Ocean Drainage System; the Internal Drainage of Lakes Eyasi, Natron and Bubu Depression; the Internal Drainage of Lake Rukwa; the Atlantic Ocean Drainage; and the Mediterranean Sea Drainage system. These systems have further been divided into nine river and lake basins for ease of management of the country's water resources on a "Water Basin" basis. These are: Pangani, Wami/Ruvu, Rufiji, Ruvuma and the Southern Coast, Lake Nyasa, the Internal Drainage basins of Lake Eyasi, Manyara and Bubu depression, Lake Rukwa, Lake Tanganyika and Lake Victoria, and are illustrated in Figure 2.1.

Tanzania shares eleven international lakes and rivers with other nations including the three East African Great Lakes (Victoria, Tanganyika and Nyasa), and Lakes Chala, Jipe, and Rivers Kagera, Mara, Pangani, Umba, Ruvuma and Songwe. Each of these water bodies exhibit unique characteristics and a complex range of water resources management and development issues and challenges.

With its numerous water bodies, Tanzania is perceived to have abundant surface and groundwater resources for meeting its present consumptive and non-consumptive needs. The reality is that severe and widespread water shortages exist in many areas both because of climate variability, poor distribution of the resource in time and space, and inadequate management of the water resources. As a result, it has experienced frequent and intense water shortages and water use conflicts.

Tanzania is relatively dry with more than half of the country receiving, on average, less than 800 mm of rainfall per year. It depends upon air circulation patterns and the movement of convergence zones in the region. The semi-arid central and northern parts of the country, including areas immediately south of Lake Victoria receive less than 700 mm of rainfall per annum and are dry for an average of seven consecutive months a year. River flows in these areas are intermittent. In the southern, western and northern highlands, which receive more than 1,000 mm/year of rainfall, rivers are perennial, and some of these experience frequent floods.

In 1999, the availability of renewable freshwater resources, both surface and groundwater was estimated[2] to be about 2,700 m^3/capita/year. By 2002, this estimate was reduced to 2,300 m^3/capita/year due to increased population alone. The average figure is significantly above the level of 1,700 m^3/capita/year set by the United Nations as denoting water stress, or 1,000 m^3/capita/year denoting water scarcities. However, due to projected population growth alone, Tanzania's annual renewal rate is projected to drop to 1,500 m^3/capita/year by 2025, thus categorising the country as water stressed.

2.1.2 Water Resources Availability

On the whole, Tanzania has sufficient surface and ground water resources to meet most of its present needs. However, differences in topography, rainfall pattern and climate account for the existing variation in the availability of water in different parts of the country. In the densely populated Pangani and Rufiji Basins, these variations have already resulted into water stress.

[2] SADC, IUCN, SARDC, World Bank, Sida, - Environmental Sustainability in Water Resources Management in Southern Africa, 2002

FIGURE 2.1: WATER BASINS OF TANZANIA

2.1.2.1 Surface Water Resources

It is estimated that the annual surface runoff from Tanzania to the world's oceans is about 74 x 10^9 m^3. The Rufiji, which drains a 177,000 km^2 area, contributes over 50% of the runoff[3]. Typical annual runoffs are shown in the table below for some of the principal rivers of Tanzania.

Table 2.1: Mean Annual River Discharges for some of the principal Rivers of Tanzania

River	Mean Annual Discharge (Million m^3/yr)
Rufiji (at Steiglers Gorge)	22,250
Kilombero (at Swero)	14,470
Malagarasi (at Taragi Ferry)	5,060
Ruvu (at Moro Bridge)	1,370
Wami (at Mandera)	3,280
Ruhuhu (at Kikonge)	5,600
Kiwira (at Kyela)	1,900
Kagera (at Kyaka)	7,064
Mara (at Mara Mines)	1,971
Pangani (at Hale)	627

The most abundant surface water resources exist in Lakes Victoria, Tanganyika, Nyasa, Chala and Jipe, as well the Kagera, Mara and Songwe rivers, which are trans-boundary waters. The use of these abundant surface water resources for water supply, irrigation and other purposes is still limited.

Tanzania is also rich in wetland systems that are areas which, for part of the year, have enough water to enable the development of types of plants and animals adapted to these conditions. These include the lakes of the Western and Eastern Rift Valley system, Lake Victoria, numerous small lakes, riverine flood plains and permanent swamps, coastal mangrove and deltaic systems, and a number of artificial impoundments and reservoirs and fish ponds. There are numerous permanent and seasonal freshwater swamps and flood plains distributed in almost all of the country's major drainage basins, which account for some 2.7 million hectares. The largest in this category are found in the Rufiji/Ruaha river system and in the Malagarasi/Moyowosi system, while other river systems are the Kagera River, along the Ugalla River, Suiwe River, Mara River, Pangani, Wami and Ruvu Rivers. The principal wetlands of Tanzania constitute one of the country's richest and most durable resources.

2.1.2.2 Groundwater Resources

Groundwater potential in the country is variable. However, it is one of the major sources of water, particularly in the semi-arid zone. About 75 % of the country is underlain by the Pre-Cambrian Basement Complex which is hard, consolidated and occasionally metamorphosed. Secondarily developed features of the Basement Complex, such as weathered zones, joints, fractures, faults and dykes allow borehole development and yield ranges up to 3 litres/sec. The remainder of the country is underlain by much younger sedimentary and volcanic formations such as:

- Karroo sediments, which include sandstones and conglomerates, and have yield ranges between 0.1 and 5 litres/sec;
- coastal sedimentary formations yielding between 1 and 6 litres/sec in limestone and up to 2.5 litres/sec in sandstone;
- volcano-pyroclastics yielding an average of 11 litres/sec; and
- alluvial deposits yielding between 0.2 and 2 litres/sec.

[3]Tanzania Water Sector Study, January 1997, The World Bank

2.1.3 Water Quality

2.1.3.1 Surface Water Quality

Water quality varies significantly in the country. In the semi-arid regions (including Dodoma, Singida, Tabora, Shinyanga, and Arusha), colour and turbidity levels are a problem during the rainy season. Rivers in the fluoride belt (including Arusha, Kilimanjaro, Singida, and Shinyanga regions of the Rift Valley, and extending to the Pangani and Internal Drainage basins) have naturally high fluoride concentrations. Lakes Tanganyika and Nyasa have good water quality except in the vicinity of urban areas where effluent and storm water cause local contamination. Water quality in Lake Victoria is poor; high turbidity and nutrient levels lead to frequent blooms of blue-green algae and infestations of water weeds. There are also local instances of toxic contamination from mining and industrial wastes.

The National Water Quality Monitoring Programme commenced in 1970, and has included:

- establishment of the Temporary Effluent Standards in 1972;
- establishment of the rural Water Quality Standards (temporary) in 1973;
- establishment of the Central Water Quality Laboratory in Ubungo, Dar es Salaam and Regional Water Quality Laboratories; and
- launching of a training programme for water quality technicians in 1978.

Systematic ambient water quality monitoring has been established during implementation of the River Basin Management and Smallholder Irrigation Improvement Project in the two pilot basins of Pangani and Rufiji Basins.

The main known surface water quality concerns in Tanzania are colour, turbidity, fluoride and bacterial contamination. High turbidity values of more than 500 NTU (17 times the Tanzania temporary standard) are common in many surface sources during the rainy season, particularly in the semi-arid regions. During the dry season, turbidity values of about 80 NTU are normally observed in most rivers. In some rivers in the fluoride belt, high fluoride levels of up to 32mg/l have been observed (four times the Tanzania temporary standard). Bacteriological contamination is a major problem in most rivers.

2.1.3.2 Groundwater Quality

The quality of groundwater in Tanzania is generally good, and acceptable for most uses. The main problems are salinity and high fluoride concentrations which may exceed 14mg/l. Some areas, such as Mtwara and Lindi, have corrosive groundwater, especially along the coast due to presence of carbon dioxide, resulting in pH values of 4.0. High salinity also occurs along the coast, due to the presence of brackish or saline waters or saline intrusion through over-pumping of aquifers.

2.1.4 Water Resources Utilisation

The major water uses in Tanzania are irrigation and domestic. Irrigation is by far the largest consumptive use comprising about 89% of the total, with domestic water supply comprising 9% and industrial water use 2%[4]. Hydroelectric power generation can be considered a non-consumptive use except for the considerable evaporation losses that occur from reservoirs. Flow requirements for hydropower generation depend on the installed capacities at power plants, which are mostly located in areas within a basin that restrict other uses upstream.

2.1.5 Role of Water Resources in Socio-economic Development

The water resources of Tanzania, comprising of surface and groundwater and water-based ecosystems such as lakes and wetlands, are essential for the sustenance and health of all human, animal and plant species. As a source of natural capital, water is a primary input for a whole array of human needs and economic development activities. Water is fundamental for food security, domestic supply and sanitation, for generation of hydropower, for industrial and mining development, for livestock, for ecology (wildlife, riverine habitats including fish, forests, swamps and marsh lands, and

[4] Defining and Mainstreaming Environmental Sustainability in Water Resources Management in Southern Africa, SADC Technical Report, 2002

wetlands), for recreation and tourism, and for navigation. Many benefits accrue from harnessing and utilising water. As a sink, water sources are used as receptors for wastewater discharges from municipal, industrial and agricultural sources. Freshwater also sustains the integrity of ecosystems, which serve important ecological and hydrological functions.

These cross-sectoral linkages are shown in Table 2.2

Table 2.2: Cross-sectoral Linkages

Social and Environmental	**Economic**
Domestic water supplies	Hydropower production
Domestic hygienic security	Industrial production
Enhancing food security	Irrigated agriculture
Sustenance of ecosystems	Livestock keeping
Recreation	Mining and mineral processing
Navigation	Tourism
Land use	Fisheries
Ecology	Forestry

The different sectors are aligning themselves in accordance with their policy objectives to achieve the Tanzania Development Vision 2025, the Millennium Development Goals, and are striving to participate fully in the National Strategy for Growth and Reduction of Poverty process. Water is one of the most important cross-sectoral resources necessary to achieving the stated objectives. However, most of the sectoral activities are highly vulnerable to the erratic nature of rainfall, floods and droughts and thus suffer from insecure water resources. The requirement for the country's water resources to meet the growing sectoral demands includes the provision of the underlying infrastructure, accompanied by commensurate wastewater treatment measures. The economy depends significantly on rain-fed agriculture, which still accounts for a 47.5% share of the GDP[5], about 85% of total exports, and engages about 80% of the national work force. The majority of the population is still dependent upon subsistence farming, herding, and fishing, all of which are entirely dependent upon seasonal and sometimes irregular rainfall.

In 2002, the population of mainland Tanzania was reported as being 33.6 million, of which 26 million lived in rural areas and 7.6 million in urban areas. Overall population growth was still high, although it had reduced from 3.2% per annum in the 1978-1988 period, to 2.9% per annum in the 1988-2002 period. Urban population was, however, growing faster with an average growth of 6.0% per annum during the period 1988-2002, while rural population growth was only 1.9 % per annum[6].

By 2015, assuming that population growth continues at the rates reported in 2002, water services will need to be provided to approximately 15 million urban inhabitants and 32 million rural inhabitants. This population growth constitutes a major challenge and will not only have an impact on water supply demands for human consumption, but also on the other water uses, for example, irrigation, power generation and industry. Therefore, significant increases in sewerage and sanitation services will be required to cater for both population growth rates and increases in economic activity.

Tanzania's GDP, estimated at US$ 8.6 billion in 2002, grew at an average of 6.2% during 2001-2002. The fastest growing sector in this period has been mining and quarrying, with an average growth rate of 15.0% per year in 2002, followed by agriculture with a rate of 5.0%. However, the agriculture sector remains susceptible to drought and various other infrastructure constraints. Adequate water resources management is crucial for Tanzania's economy, which is dominated by this sector. A considerable need for water supply services is required to meet growing demand in other socio-economic sectors, which will need to be accompanied by commensurate waste water treatment measures.

[5] The Economic Survey, 2002, URT
[6] National Population and Housing Census Report 2002, URT

2.2 WATER SUPPLY AND SANITATION SERVICE COVERAGE AND TARGETS

2.2.1 Service Coverage

The sector has maintained coverage of access to water in urban centres at 73% in 2004 for the second consecutive year, and has raised the sewerage service coverage in the two cities (Dar es Salaam and Mwanza) and seven municipalities (Arusha, Moshi, Tanga, Morogoro, Dodoma, Tabora and Iringa) from 10% in June 2002 to 17% in June 2003. This coverage enables about 25% of the wastewater generated daily to be collected and disposed of through sewerage systems.

Rural water supply service coverage increased from 48.5% in the year 2000 to 53% in the year 2003.

The sanitation service coverage for Tanzania remained at 90% according to the Household Budget Survey of 2000/2001. However, health education and hygiene practices among communities are poor when, for example, the same survey indicating that only 33% of the population wash hands after visiting toilets.

2.2.2 Targets

Water Sector Targets to be achieved by 2010/11 from the NSGRP[7], are:

- increased proportion of rural population that has access to clean and safe water from 53% in the year 2003 to 65% by the year 2010/11 within 30 minutes of time spent on collection of water;
- increased urban population with access to clean and safe water from 73% in 2003 to 90% by the year 2010/11;
- increased access to improved sewerage facilities from 17% in 2003 to 30% in 2010/11 in respective urban areas; and
- 95% of people with access to basic sanitation by 2010/11.

Whilst not mentioned in the NSGRP, achievement of these targets will have implications for the management of water resources in the country.

2.3 RELATED SECTORAL POLICIES AND STRATEGIES

Water is a basic natural resource and fundamental input for various socio-economic development activities such as industrial production, irrigated agriculture, livestock keeping, mineral processing, hydropower production, and environmental conservation. There are also close links with other activities such as land allocation and infrastructure development. Therefore, the strategy for the water sector must be developed taking into account the policies, strategies and activities of other sectors with interests in, or dependencies on, water.

A number of then existing policies and strategies were taken into account at the time of preparing the NAWAPO, However, additional policies and strategies have been developed subsequently. Therefore, in the process of formulating this National Water Sector Development Strategy, the water related aspects of other sectoral policies and strategies have been carefully examined in order to ensure that the strategies set out in this document are aligned. These are:

- National Health Policy
- Environment Policy
- National Agriculture and Livestock Policy and Agriculture Sector Development Strategy
- Energy Policy and Strategy
- Local Government Reform Policy
- Rural Development Policy and Strategy
- National Land Policy and National Human Settlement Development Policy
- Forestry Policy
- Industrial Policy
- SADC Regional Water Policy

[7] Vice President's Office - National Strategy for Growth and Reduction of Poverty, 15 January 2005

- National HIV/AIDS Policy
- National Policy on Non-Governmental Organisations

Policies and strategies are dynamic and may be subject to change, as are the implementation activities arising. Therefore, effective cross-sectoral co-ordination and collaboration in respect of the water sector and related sectors is critical and is addressed in the strategy statements.

The key aspects of the policies and strategies, which have been taken into account in developing the National Water Sector Development Strategy are summarised below.

2.3.1 Health Policy

The Vision of the Ministry of Health and Social Welfare is to provide health services of high quality, effective and accessible to all, delivered by a well performing and sustainable national health system. Its mission is to ensure that all health providers deliver health services for the achievement of improved health status of the public.

The National Health Policy, 1990, emphasises the need for an adequate supply of water and basic sanitation to minimise water borne and water related diseases, which are among the major health problems in this country, and recognises that the health of individuals, the family, and the community at large, is dependent on the availability of safe water supply, basic sanitation and improved hygiene practices. It should also be borne in mind that water resources infrastructure, such as reservoirs and canals, can provide habitats for organisms carrying malaria and bilharzia.

Among other issues being addressed in the ongoing health sector reforms, provision of environmental health services is a priority and is one among the five essential health packages. Communities and private sector participation are being encouraged to deliver sanitation services.

Several policy guidelines on waste management, environmental health, Participatory Hygiene and Sanitation Transformation (PHAST) and health care waste management have been developed to implement the Health Policy.

2.3.2 Environment Policy and Strategy

The objectives of the National Environment Policy, 1997, in the water and sanitation sector are geared towards achieving the planning and implementation of water resources and other developments in an integrated manner and in a way that protects water catchment areas and their vegetation.

This will be achieved by conducting environment impact assessments (EIAs), and undertaking appropriate mitigation measures, improving management and conservation of wetlands, promoting technology for effective and safe water use, particularly for water and waste water treatment and recycling, and instituting appropriate user-charges that reflect the full value of water resources. Sustainable technologies that discourage open-end effluent discharges will be promoted in close collaboration with the National Environment Management Council (NEMC) and the Division of the Environment of the Vice President's Office.

Implementation of the Environment Policy gives NEMC the powers to set standards and issue permits for the discharge of effluents into the environment, including into water resources. Therefore, the roles and responsibilities of the water resources management institutions and the NEMC in controlling pollution will need to be reviewed and harmonised. Similarly, the roles and responsibilities for protecting important water source areas (such as catchments, springs and groundwater recharge areas) will need to be clarified with the Ministry responsible for Lands. Adequate capacity for addressing the wide range of water related environmental management issues will need to be developed.

Tanzania has a rich aquatic and terrestrial biodiversity. It also has a protected area for wildlife conservation covering 28% of the total land area, of which 19% is devoted to wildlife in protected areas (National Parks and Game Reserves) where no human settlement is allowed.

Wildlife conservation generates revenues from the tourism industry. Although not significant at the national level, the water demand for wildlife conservation locally competes with water demands for livestock and for irrigation. Reduced flows during the dry season and dry season irrigation can disrupt the balance between these competing needs, reducing the adequacy of flows for environmental purposes. Because of the natural heritage and the value of these resources to the Tanzanian economy, in-stream water requirements for environmental purposes are an important consideration in maintaining the biological productivity of stream systems and biodiversity in the water allocation decision making.

The Vice President's Office has published the ***"Strategy for Urgent Actions on Land Degradation and Water Catchments"*** in March 2006, and has subsequently prepared the ***"Urgent Action for Protection of Marine, Lakes, Rivers and Dams Environment"*** to address pressing environmental challenges. These strategic actions define immediate measures to be taken to improve the environmental situation, related to the conservation and protection of water sources. The two urgent strategic action papers provide important guidance for the implementation of comprehensive and prioritised water conservation and environmental protection measures. The National Water Sector Development Strategy complements these environmental actions.

Adequate capacity for addressing the wide range of water related environmental management issues will need to be developed.

2.3.3 National Agriculture and Livestock Policy and Agricultural Sector Development Strategy

Because of high climate variability and vulnerability to drought, the National Agriculture and Livestock Policy, 1997, advocates the need for the country to use irrigation potential, range land development and livestock watering, as important aspects in the Agriculture Sector Development Strategy. This can help the nation to achieve the following objectives:

- improvement of food security;
- increasing farming and livestock productivity and, therefore, reducing income poverty; and
- production of higher value crops and healthy livestock breeds.

The National Irrigation Master Plan shows that the total arable land available is 43 million hectares, of which 10 million hectares are under cultivation. Potential irrigation areas are categorised into high, medium and low, which comprise 2.3 million hectares, 4.8 million hectares, and 22.3 million hectares respectively. The area currently under irrigation is 224,865 hectares. However, current irrigation practices are not focussed on improving water use efficiency and this will become increasingly important so as to ensure that expansion of irrigation is sustainable.

The Irrigation Master Plan, 2002, envisages liberalisation and private sector involvement in irrigation over the short term (to 2007) leading to rapid growth to 415,000 hectares by 2017. Traditional on-farm water use efficiencies are very low, typically between 10-20%, contributing to the heavy use of water by this sector. Basin-wide efficiencies are likely to be considerably higher because of the progressive re-use of drainage water as it flows downstream.

Tanzania has about 17.7 million cattle, 12.5 million goats and 3.5 million sheep[8]. The livestock industry plays an important role in the economy of Tanzania contributing significantly to GDP, poverty alleviation, food security, creation of employment, trade and foreign exchange, and industrialisation. This is an economic dependency at the household level in most central, northern and western parts of the country where there is a significant requirement of water troughs and charcos dams for both livestock drinking and dipping, as well as water resources for rangeland development.

Livestock densities are higher in the arid and semi-arid open and wooded grasslands, where land and rainfall is marginal for cultivation. The impact of livestock on water resources is both direct and indirect. Conflicts over water and land between pastoralists and agriculturalists have been reported in many places. The limited number of livestock watering points in the heavily stocked areas force heavy livestock traffic during the dry season, and the availability of water supply and pasture influence the distribution of animals. Thus, ensuring availability of adequate and reliable water for livestock is an important priority so as to reduce conflicts and migration.

[8] MoWLD, Water and Livestock Sectors Projects and Programmes, July 2004

Water resources in big and small rivers, the lakes and ground water, can be exploited for irrigation and represent a great potential for irrigated agricultural development. Furthermore, water harvesting technologies are now available and can be used to arrest and conserve run-off water from slopes and ephemeral streams to serve both agriculture and other socio-economic needs. However, the growth in agriculture as envisaged in the National Irrigation Master Plan could only be achieved with increased irrigation and this will have a significant impact upon the already vulnerable water resources. Thus specific planning and water allocation measures need to be taken to promote the objectives for food security and to ensure that irrigation does not come into conflict with other uses of water resources.

Through the Agriculture Sector Development Strategy, the agriculture sector targets to achieve an annual 5% agricultural growth rate and envisages an agricultural sector that is, by 2025, "modernised, commercial, highly productive", and that "utilises natural resources in a sustainable manner". Achieving these anticipated targets will require a considerable contribution of water as a basic resource. This is the main logic for consideration of the Agriculture Sector Development Strategy and the Agriculture Sector Development Programme implementation frameworks in the National Water Sector Development Strategy, as agriculture is a main economic stakeholder of the sector.

2.3.4 Energy Policy

The Energy Policy emphasises the use of hydropower as a relatively cheap means of power generation compared with other options. At present more than 60% of energy produced in the country is from hydropower plants, and more potential is available for development. However, the impact of water demand for energy production and the inter-relationship with other water users must be considered carefully. For example, in the Pangani and Rufiji basins, hydropower facilities are located downstream from major irrigation areas.

The following aspects of the Energy Policy are related to the Water Sector:

- development of hydropower in some trans-boundary rivers will require agreements among riparian countries; and
- although hydropower is not a consumptive water user, it requires large storage reservoirs situated in areas with high evaporation losses. Therefore, the use of hydropower requires safety management of dams and reservoirs, resolution of conflicts with downstream and upstream users, management of floods, and minimisation of negative impacts on the environment.

The Energy Policy, which was issued in 2003, a year after the National Water Policy, omits mentioning the vulnerability of the energy sector to drought and to poor water resource management. Given the heavy reliance of the energy sector on water, this important omission in the Energy Policy needs to be rectified.

Economic growth since the 1980s has led to a steady rise in electricity demand. A recent Power Sector Master Plan envisages increases in demand for power generation from about 1,900 Gwh in 1996, to 7,000 Gwh in 2010, and 20,000 Gwh in 2020. Over the period 1995-2015, the least cost plan for expansion of power generation will rely on the utilisation of hydropower and natural gas.

2.3.5 Local Government Reform Policy

The overall objective of the Local Government Reform Policy, 1998, is to improve service delivery by making local authorities more democratic and autonomous within the framework established by the central government. The policy identifies provision and facilitation of water services as an important responsibility of local government.

The reforms are intended to create viable entities, develop required local government/central government relations, establish the necessary legal framework, and develop the necessary capacities for effective performance by local government organisations. Reforms will not only confirm the legitimacy of local authorities, but will help them generate more revenues, reduce costs, and operate water services more efficiently.

The Policy also envisages that the future magnitude of grants to local government will depend on performance of the authorities, the state of the economy, and on the financial consequences of reducing the role of ministries in implementation through decentralisation and privatisation.

Implementation of local government reforms will provide a conducive and complementary environment within which the National Water Sector Development Strategy will operate. The Local Government Reform Programme is aimed at acquiring and developing the skills necessary for undertaking the newly decentralised roles of local government authorities, supported by the relevant sector ministries.

2.3.6 Rural Development Policy and Strategy

The Rural Development Policy acts as a platform on which sector ministries' policies are coordinated, harmonised, and integrated to give rural development process a holistic view. In the case of the Water Sector, the Rural Development Policy states that;

- central government and local governments will pursue and/or promote an integrated approach to rural water supply and sanitation, productive activities and human consumption;
- central government, local governments and other stakeholders will mobilise funds and attract private resources to ensure increased supply of safe water within household proximity; and
- central government will create a conducive environment for private sector participation in developing rainwater-harvesting technology appropriate for rural areas.

The Rural Development Strategy, and the new implementation arrangements and requirements, are in compliance with the overall principles of reforms in the public sector, and the Local Government Reform Policy.

2.3.7 National Land Policy and National Human Settlements Development Policy

The National Land Policy, 1995, aims to ensure a secure land tenure system, to encourage optimal land use, and to facilitate sustainable social and economic development. Land management is seen as one of the cornerstones of development policy. Land is to be publicly owned, and held by individuals only through rights of occupancy. Right of occupancy may be certificated and subject to terms and conditions (Granted Right), or customary (Deemed Right). Specific objectives of the Policy include equitable access to land, protection of existing land rights, prevention of concentration of land ownership, and promotion of land use planning and management for optimal but sustainable productivity.

As with land, water is a public asset with access controlled by rights to use, both formal and customary rights. Water supply, both quantity and quality, is influenced by the management of land. Water resources management is also influenced by the range of legislation and regulations affecting land. On the relationship of water and the growing urbanisation, both the National Land Policy and the National Human Settlement Development Policy, 2000, recognise the existence of unplanned settlements in most urban areas in Tanzania, which call for social services infrastructure upgrading such as roads, water supply and sanitation.

Unplanned settlements in rural areas can lead to significant environmental degradation, soil erosion, and pollution of streams, all of which impact on downstream and in-stream water users. These settlements also create unplanned water demands that can impact on other users who have been granted water user rights through permits. The Land and Settlement Policy (and the Forestry Policy discussed below) needs to address measures for protecting important catchment areas, recharge areas, springs, and other key water sources. It also needs to address the issue of flood prone areas and other areas vulnerable during periods of high rainfall, and consider measures for flood protection.

2.3.8 Forestry Policy

The National Forestry Policy, 1999, recognises that water sources are one of the key pre-requisite for local and international development. The Policy emphasises that population pressure and inefficient forest management and protection have contributed to the deterioration of catchment forests. Clearing forests for agricultural purposes, cutting trees for fuel-wood and charcoal burning, overgrazing, and uncontrolled logging, are some of the greatest environmental concerns in Tanzania.

Deterioration of catchment forests alters the runoff and infiltration characteristics, increases soil erosion resulting in sedimentation in rivers and water resources infrastructure such as reservoirs and irrigation systems, and causes changes in the hydrological regime and water shortages. The Policy advocates the establishment of new catchment forest reserves for watershed management and soil conservation in critical watershed areas.

2.3.9 Industrial Policy, 1996-2010

Adequate water supply for the industrial and service sectors is important for the growth of these sectors, which are projected to grow rapidly. Growth will also increase water supply demands and wastewater discharges, and will thus require expansion in wastewater treatment facilities.

Through the Industrial Policy it is envisaged that the Government will develop the capacity within its institutional machinery and support other initiatives designed to enhance application of cleaner production concepts as an important complement to end-of-pipe pollution control.

The vision for the mining sector for the next 25 to 30 years is to have a strong, vibrant, well organised large and small scale mining industry, conducted in a safe and environmentally-sound manner. Water to support these mining activities is critical if the sector is to perform as envisaged. Water pollution arising from mining activities, mine tailing and chemical by-products can be toxic and have a significant impact on health of the people and on ecosystems. Pollution from such sources is likely to increase in various parts of the country as mining activities expand and, therefore, adequate pollution control measures will need to be instituted in a timely manner to avoid the risk of negative impacts on water quality, eco-systems, and resources such as fisheries.

2.3.10 SADC Regional Water Policy

The SADC Regional Water Policy, (2006) has the purpose of providing a framework for sustainable, integrated and co-ordinated development, utilisation, protection and control of national and trans-boundary water resources in the SADC region, which includes Tanzania. In particular it will inform and guide shared water institutions and SADC Member States in the management of shared watercourses, and give guidance for harmonising national water policies and management of water resources in SADC Member States. The SADC Regional Water Strategy is now under preparation.

The National Water Policy of Tanzania embraces the policy guidance of the SADC Regional Water Policy and has been taken into account in the formulation of this NWSDS.

2.3.11 National HIV/AIDS Policy, 2001

Based on the recent epidemiological surveillance reports, the prevalence rate of the pandemic has continued to rise in nearly all parts of the country and among all age groups. Worse still the surveillance reports reveal that the population most affected is the productive labour-force, a fact which poses a serious challenge to the success of on-going Government efforts to eradicate poverty in the country. Experience from other countries also suggests that the prevalence of HIV/AIDS is greater at construction sites associated with large infrastructure projects. Any development efforts undertaken by the Government should recognise this problem and the National Water Sector Development Strategy has to recognise the problem and integrate the campaigns against the spread of the HIV/AIDS pandemic in all levels of sector development, and consider the impact on human resources development strategies.

2.3.12 National Policy on Non-Governmental Organisations

The National Policy on Non-Governmental Organisations (NGOs), November 2001, sets out the Government's encouragement to partnership with the private sector in the delivery of public services and the role of NGOs in the provision of social and economic services. The National Water Sector Development Strategy recognises the important role that NGOs have to play in the provision of water supply and sanitation services, particularly at the community level. To a significant extent this has pointed the direction of the National Water Sector Development Strategy towards Community Owned Water Supply Organisations at this level.

SECTION 3 WATER RESOURCES MANAGEMENT

3.1 INSTITUTIONAL FRAMEWORK FOR WATER RESOURCES MANAGEMENT

3.1.1 Background

The current institutional framework for water resources management is inadequate in meeting the challenges of effective management of the resources and in providing an adequate mechanism for effective consultation and consensus building, and participation of stakeholders in the planning, design, operations, and management decision-making process.

A number of different Government departments or agencies deal with various aspects of water resources management according to their own mandates or needs, and also their own legislative provisions, with little integration towards holistic basin-wide planning and management.

In addition to this multiplicity of organisations, effective integrated water resources management is further constrained by limitations in the technical, human and financial capacities in these organisations.

3.1.2 Problem Statement

The lack of an effective institutional framework for integrated water resources management has led to:

- overlapping roles and responsibilities between various institutions leading to inefficient use of human and financial resources, duplication of effort, and gaps in effective management;
- inadequate cross-sectoral co-ordination between various government institutions;
- threats to sunk investments in major infrastructure projects;
- inadequate communication and awareness building between these institutions and local organisations and water users; and
- fragmented water resource planning and allocation, and consequent water conflicts.

3.1.3 Policy Direction

The institutional framework for water resources management will be streamlined to meet the challenges of effective integrated water resources planning and management, and the roles and responsibilities of the different stakeholders will be clearly defined so as to ensure their participation.

The role of Government will change from that of a service provider to that of co-ordination, policy and guideline formulation, and regulation. Consequently, the institutional framework will involve organisations at different levels and promote financial sustainability and autonomy at the basin level. The framework will also broaden stakeholder participation at the different levels.

3.1.4 Goal

An institutional framework is established for integrated water resources management providing for effective and efficient integrated water resources management and development, and which clearly identifies the roles and responsibilities of the relevant organisations and stakeholders at all levels.

3.1.5 Strategy

The strategy for establishing a new institutional framework will be to:

a) implement a new institutional framework for water resources management based on autonomous basin level organisations;
b) strengthen capacities of sector institutions;
c) review relevant existing policy and legislative provisions to remove potential duplications and omissions, and enable effective implementation of the new institutional framework; and
d) raise awareness amongst stakeholders of the new framework.

3.2 NEW INSTITUTIONAL FRAMEWORK FOR WATER RESOURCES MANAGEMENT

3.2.1 New Institutions and Their Status

With the role of Government, through the Ministry responsible for Water, changing to that of co-ordination, policy and guideline formulation, and regulation, new institutions will need to be created. These are the National Water Board, Basin Water Boards, Catchment Water Committees, and Water User Associations or Groups.

3.2.1.1 National Water Board

The National Water Board (NWB) will be a financially and administratively autonomous, lean organisation, financed by the Basin Boards. The Board will oversee, co-ordinate and facilitate the activities of Basin Water Boards, and will employ the staff necessary to carry out its functions and responsibilities.

3.2.1.2 Basin Water Boards

The Basin Water Boards will be financially and administratively autonomous, and will be financed through water user charges. The Boards will employ the staff necessary to carry out their functions and responsibilities, and will be accountable to the National Water Board. Water users will participate in WRM processes through representation on the Boards and appropriate stakeholder fora.

3.2.1.3 Catchment and Sub-catchment Committee

The Catchment and Sub-catchment Committees will be autonomous bodies, financed from user charges, and will carry out such functions as are delegated by the Basin Water Board. They may employ staff necessary to carry out these functions, or may be supported by Basin Water Board staff.

3.2.1.4 Water User Associations

Water User Associations will be legally constituted bodies drawing their membership from water users in a particular locality. They may need to employ a few staff in order to carry out the limited functions at the local level and the costs of the Association will be borne from charges levied on its members.

3.2.2 Functions and Responsibilities of New Organisations

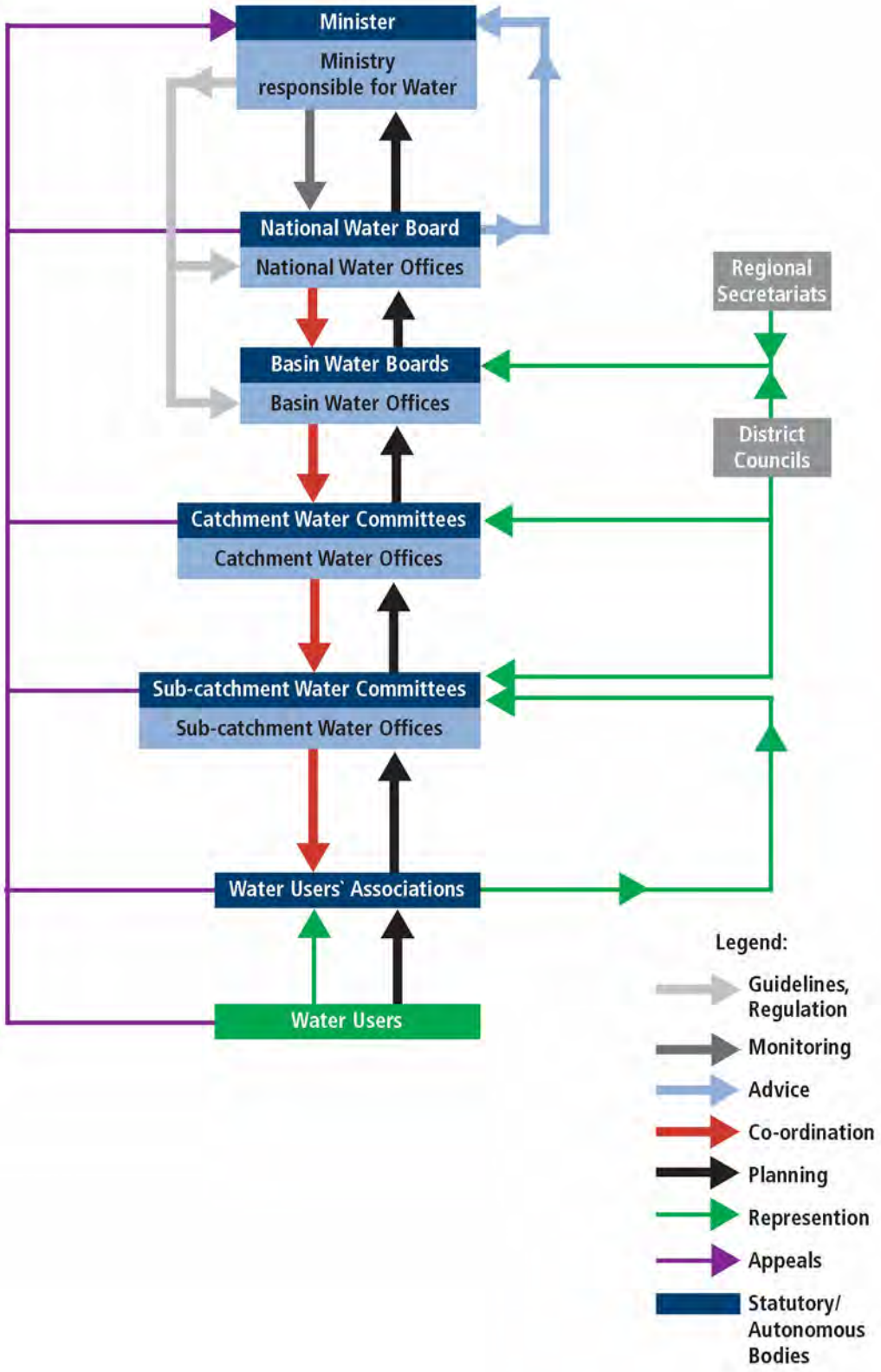
The new institutional framework for water resources management is set out in Figure 3.1 and the main functions and responsibilities of each organisation in the framework will be as follows:

Table 3.1: New Functional Responsibilities for Water Resources Management

Organisation	Functions and Responsibilities
Minister responsible for Water	Presents national policy and strategy to the Government. Ensures policies and strategies are implemented. Appoints Chairperson and members of National Water Board and Basin Water Boards. Determines a mechanism for appeals from all levels of framework.
Ministry responsible for Water	Provides for sectoral co-ordination, monitoring and evaluation. Develops and reviews policies, strategies, including legislation and financing. Formulates technical standards and WRM guidelines. Ensures dam safety. Monitors Water Quality. Deals with trans-boundary issues of national interest. Develops water resources of national interest. Maintains national WRM sub-sector information Monitors the National Water Board and the Basin Boards. Supervises the Water Resources Institute. (Agency). Supervises the Drilling and Dam Construction Agency.

National Water Board	Co-ordinates and harmonises strategic actions of Water Basin Boards. Co-ordinates and endorses basin plans (e.g. sectoral and inter-sectoral, investment priorities and financing patterns, inter-basin water transfer). Co-ordinates technical trans-boundary water resources management issues of national interest. Resolves inter-sectoral / inter-basin conflicts. Co-ordinates information management and assessment of water resources (e.g. hydrological, hydrogeological information, water and discharge permit registers, registers of water user associations etc). Supports basin water boards in the formation of water users associations/catchment organisations. Serves as a communication channel between the water basin boards and the Government Co-ordinates and facilitates the conduct of water audits and provides technical support
Basin Water Boards	Data collection, processing and analysis for WRM monitoring and resource assessment. Co-ordinates technical aspects of trans-boundary issues in the basin. Co-ordinate and approve basin WRM planning / budgets. Approve issue and revoke water use and discharge permits. Enforce water use permits and pollution control measures. Co-operate between sectors at the local level. Resolve conflicts between water users. Co-ordinate stakeholders. Integrate district plans into WRM plans
Catchment / Sub-catchment Water Committees	Co-ordinate and harmonise catchment/sub-catchment integrated water resources management plans. Resolve water resources conflicts in the catchment/sub-catchment, and other delegated responsibilities from Basin Water Boards.
Water Users Associations	Manage allocation of water resources at local level. Manage equitable allocation of water resources during drought. Mediate in local disputes.
Regional Secretariat	Representation on Basin Water Boards.
District Councils	Representation on Basin Water Boards. Representation on Catchment Committees. Formulate and enforce bylaws Promote efficient water utilisation Prepare district plans

FIGURE 3.1: NEW INSTITUTIONAL FRAMEWORK FOR WATER RESOURCES MANAGEMENT



3.3 WATER RESOURCES ASSESSMENT

3.3.1 Background

Water resources assessment of both surface water and groundwater, quantitatively and qualitatively, is a fundamental element of the water resources planning process. However, the assessment is currently inadequate and is weakened by a lack of unified information bases at both basin and national levels. Presently, the hydrometric, water use and water quality information base is poor. The data collection networks are in a state of near total collapse due to lack of adequate resources and tools, except for Pangani and Rufiji Basins which have benefited recently from the River Basin Management Project. The limited ongoing monitoring efforts are largely project driven or have a sectoral bias.

Over the last six years, the management of water resources in the Pangani and Rufiji Basins has gradually improved through improvements made on water resources data gathering networks, databases on water resources and water use, and increased knowledge of water availability and use across the two Basins. However, these represent only two of the nine water basins in the country.

3.3.2 Problem Statement

The development of water resources without appropriate assessment of the available resources in quantity and quality has led to:

- under-designing of projects which cause their failure and thus loss to the nation, and over-designs which are not cost effective;
- over-exploitation of surface water resources resulting in the drying of some of the key rivers, thereby causing serious environmental degradation;
- overexploitation of groundwater resources, which may lead to permanent damage of aquifers with severe impact on availability of water for human health; and
- many different types of water and land use conflicts occurring as a result of competing demands over the same resource.

3.3.3 Policy Direction

Water resources assessment will be based on sound scientific and technical information and understanding, and will define the status of surface and groundwater resources in terms of quantity and quality and use on the basis of water basins and aquifer boundaries; and the information will be made readily accessible to users, stakeholders and decision makers.

3.3.4 Goal

A nation-wide inventory and status of available and potential surface and groundwater resources and their utilisation is available. This will include assessment of useful storage life of existing and possible future dams and rainwater harvesting potential; and mapping the resource.

3.3.5 Strategy

The strategy for water resources assessment will be to:

a) enhance water resources assessment capabilities and measurement networks;
b) strengthen the water resources assessment and monitoring system, including establishing the baseline situation;
c) establish water resources databases and develop mechanisms for acquiring water use and water demand information from water users;
d) promote the use of data for water resource management decision-making; and
e) define broad goals and long, medium and short-term objectives by basin.

3.4 INTEGRATED WATER RESOURCES PLANNING

3.4.1 Background

The former approach to water resources planning was oriented towards development of the water resources rather than management and protection. The approach was also sector oriented not fully recognising the multi-sectoral linkages, and was based on regional development using regional master plans as the basis. The effectiveness of this approach to planning was further constrained by limitations in the institutional and managerial capacities to carry out the work. As a consequence, different approaches, standards and criteria were developed, which were often incompatible with each other.

The new integrated approach, which has been developed in the Pangani and Rufiji River Basins, is participatory, multi-sectoral, multi-disciplinary, and based on water basins. The approach recognises that water is a scarce resource and treats it as such, integrating the linkage between land use and water use, water quality and quantity, and the important role ecosystems play in the sustainable development and management of water resources. It focuses on building and strengthening water resources management, complements the service delivery aspects of water resources development, aims at reducing dependency on external support, and is based on learning by doing. The new approach also promotes the use of legal, technical, economic, participatory, and administrative instruments as the basis for managing water resources and for promoting sustainable use of the limited water resources.

3.4.2 Problem Statement

Fragmented planning without adequate consideration of cross-sectoral water management issues and challenges has led to:

- the perception of alienation by smaller but widespread users of water that they are primary losers in basin management efforts, and that water resources planning is urban biased and fosters rural inequity;
- in the Pangani and Rufiji Basins this perception stems from the fact that the production of hydroelectric power is located downstream of major irrigated areas and that water for hydropower production is subtractable from upstream water uses in irrigation fields; and
- threats to the integrity of the environment, ecosystems and biodiversity.

3.4.3 Policy Direction

Water resources planning on the basis of water basins using an integrated multi-sectoral approach will involve stakeholders and will consider requirements for bio-diversity and human health. The main levels of planning will be National, Basin, Catchment, District, and Community or Water User Association.

3.4.4 Goal

Effective and equitable planning for the use of water resources is carried out on an integrated multi-sectoral basis.

3.4.5 Strategy

The strategy for integrated water resources planning will be to:

a) define related macro economic considerations **-** political, environmental, social and economic - to address poverty and growth and the linkage with water resources;
b) balance water utilisation planning between the various socio-economic-environmental needs (e.g. food security, domestic supply and sanitation, generation of hydropower, industry and mining, livestock and wildlife, sustenance of ecosystems and fisheries resources, recreation and tourism, and navigation), in an integrated and holistic manner;
c) determine environmental, economic and social considerations based on the principle of sustainability;

d) develop mechanisms to integrate water in economic planning analysis, recognising that water and the environment are vital capital assets with a value; and
e) raise awareness amongst stakeholders of the need for integrated, multi-sectoral planning.

3.5 WATER RESOURCES DEVELOPMENT

3.5.1 Background

Tanzania has severe and widespread shortages in its surface and groundwater in many areas. Water shortages are growing across many regions in the five water basins of Rufiji, Pangani, Wami/Ruvu, Internal Drainage and Lake Victoria, which together cover about 61 per cent of the country. These are a result of several factors, including growing demands due to rising populations, low level of water resources development, poor management of water resources, and low capacity for managing both national and international water resources.

Water availability is a function of variations in climate, rainfall and topography, and the water stress situation being faced in many places in the country is partly due to the high rainfall variability and frequent droughts. This is exacerbated by the global effects of climate change. The long dry season in the period of July to November usually results in low river flows, and rivers are dry half of the time in the larger part of central and northern parts of the country. The high temporal and spatial variability in rainfall has resulted in endemic drought in some parts of the country and occasional floods in other parts, and has far reaching consequences on water resources management. High variability in flows in the rivers poses very difficult conditions for managing large irrigation and hydropower reservoirs. Water shortages are common in major urban centres including Dar es Salaam, which is also the centre for commerce and industry. With a rapidly rising population, Tanzania might become water stressed during the next few decades.

The hydraulic variability also results in constant economic risk, and managing this extreme variability requires considerable societal adaptation and high levels of investment and skill. Water insecurity is compounded by inadequate construction of water storage reservoirs, including rainwater harvesting systems, lack of inter-basin transfer systems, as well as inadequate exploitation of available groundwater resources.

To overcome some of these constraints, additional surface and groundwater resources need to be developed in the short, medium and longer term. Apart from the development of conventional resources, specific attention needs to be given to the potential development of alternative resources such as rainwater harvesting, inter-basin water transfer, desalination, and wastewater re-use, as viable options for meeting the increasing demands and offsetting water shortages.

3.5.2 Problem Statement

Inadequate development of water resources has led to:

- low productivity in all aspects of water use in areas where water is insufficient to meet demand;
- failure to realise the objectives of some of water development projects, or facing frequent water shortages;
- compounding the existing conflicts and competitions over water among various interest groups; and
- inadequate water resources availability to meet basic human demands.

3.5.3 Policy Direction

Where feasible and appropriate, development of water infrastructure such as large, medium and small dams, rainwater harvesting, inter-basin transfers, desalination, and wastewater reuse, will be considered as possible options for increasing the availability of water resources.

3.5.4 Goal

Technologies for the development of water resource availability are used in appropriate situations.

3.5.5 Strategy

The strategy for water resources development will be to:

a) identify the potential for adopting particular resource development options for different locations;
b) investigate and develop economically viable resources for different situations and locations;
c) promote rainwater harvesting at household level;
d) development of water resources of national interest, including construction of medium and large scale dams; and.
e) determine the possible application of options based on economic, social and environmental considerations, particularly in water scarce and dry areas.

3.6 ENVIRONMENTAL PROTECTION AND CONSERVATION

3.6.1 Background

The water on which we are dependent for our own survival, is a finite resource under pressure and growing scarce as a result of increasing multi-sectoral demands, and is a vulnerable resource because of increasing degradation due to pollution, over-abstraction, poor land use practices, and encroachment of land for agriculture, urbanisation and industrial development. This scarcity and vulnerability is having a negative impact on important watershed and recharge areas, and wetlands.

Increasing human activities and the land use practices in the various catchment areas are impacting on the available water resources through consequent changes to runoff patterns, groundwater recharge mechanisms; and in the overall water balance of catchment areas.

Inappropriate water use practices and degradation threatens sustainability of the resource with potential negative impacts on ecosystem integrity, human health, food security, industrial production, and investment in various social and economic sectors. Furthermore, water resources development programmes have been implemented with little regard to environmental protection and conservation. As an example, waters of the Great Ruaha River in the Rufiji Basin are under pressure from competing uses upstream, causing changes in hydrology and in the availability of the resource downstream. This has resulted not only in social conflicts between upstream users but also denial of this vital resource to fragile ecosystems downstream.

3.6.2 Problem Statement

Environmental degradation and pollution of water sources from increasing human activities has led to:

- increased scarcity and vulnerability of water resources; and
- deterioration of the integrity of ecosystems, which perform valuable services to society, including moderating floods and droughts, purifying water and sustaining fisheries and other aquatic resources.

3.6.3 Policy Direction

Water resource management practices will focus on preventing negative environmental impacts of human activity, ensuring that water is used beneficially and efficiently, and ensuring that water related activities aim at enhancing or causing least detrimental effect to the natural environment.

3.6.4 Goal

Increased environmental protection and conservation measures contribute to the sustainability of all aspects of water development, management and use.

3.6.5 Strategy

The strategy for environmental protection and conservation will be to:

a) promote and support actions to develop and adopt an integrated catchment management approach to water resources;
b) promote the restoration of degraded catchment areas and groundwater recharge areas;
c) promote physical planning and raise public awareness of good land-use practices in order to protect water resources;
d) ensure mandatory Environmental Impact Assessments (EIAs) for all projects impacting on water resources;
e) prepare national inventories on the condition and extent of wetlands, floodplains and riparian ecosystems, as a basis for ensuring their long term protection; and
f) identify and legally establish reserve areas for water sources to ensure resources conservation and protection.

3.7 WATER QUALITY AND POLLUTION CONTROL

3.7.1 Background

Water quality focuses on a wide range of water uses including water supply for drinking, industry and irrigation, fisheries, navigation, recreation and conservation of biodiversity. However, various human activities taking place in the basins threaten the fresh water bodies with increasing pollution and degradation. The pollution comes from many sources, including untreated or partially treated sewage, chemical discharges, petroleum leaks and spills, dumping in old mines and pits, agricultural chemicals that are washed off or seep underground from farm fields, and atmospheric deposition. Pollution can render large quantities of water unsuitable for use, or which can be used for restricted purposes only.

High concentration of naturally occurring elements in drinking water such as fluoride, manganese, iron, carbonates and salinity have been observed in most parts of the country. Fluoride concentrations are well above Tanzanian Temporary Water Quality Standards in Arusha, Shinyanga, Singida and Kilimanjaro. High iron concentrations have being recorded in groundwater in Mtwara and Ngara, while salinity is a common water quality problem in coastal groundwater.

Current arrangements for the acquisition of data in order to carry out water quality monitoring are inadequate, both in terms of resources and institutional capacity, as are the procedures and practices for effective regulation and control of sources of water pollution.

Receiving water quality and effluent standards need to be reviewed to ensure that they meet current requirements for effective water resources management, and both the legal provisions for pollution control measures and the mechanisms for effective enforcement need to be re-examined so as to introduce the principle of the “polluter pays”.

3.7.2 Problem Statement

Deterioration of water quality due to naturally occurring phenomenon and anthropogenic activities is evident in many parts of the country. Inadequate water quality management and pollution control practices, and weak enforcement due to low institutional capacity, have also led to deterioration of the quality of water resources and limited their use, or made treatment costly.

3.7.3 Policy Direction

Systematic monitoring and assessment of water quality combined with effective control of sources of pollution and application of the “polluter pays” principle will be implemented and supported by the appropriate legal instruments.

3.7.4 Goal

Water resources of acceptable quality are maintained to meet agreed objectives and standards on the basis of a river classification system supported by measures to ensure sustainability.

3.7.5 Strategy

The strategy for water quality and pollution control will be to:

a) promote sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development;
b) determine water quality targets for fresh water bodies dependent on their potential use;
c) strengthen measures for effective water quality monitoring;
d) establish mechanisms setting effluent discharge standards for the control of pollution and introducing charges for effluent discharges based on the cost to the environment;
e) promote an integrated approach to pollution prevention and minimisation, based on cleaner production measures, reduced use of resources, recycling and reuse; and
f) give priority to addressing significant and identifiable non-point sources of pollution.

3.8 WATER CONSERVATION AND DEMAND MANAGEMENT

3.8.1 Background

Over the years water has been considered a social good and the Government took the responsibility for providing access to services. Also, across all sectors, fees for using water have been very low and, thus, there has been little incentive for using the resource efficiently or for conserving it, which has resulted in wasteful and inefficient use. Although the total water use picture country-wide is not well known, it is nonetheless clear that the emergence of conflicts over the resource provides an important indicator that existing supplies do not meet demands.

Present stresses and scarcity call for the adoption of measures to improve efficiencies in water use aimed at making more water available to meet demands. The situation will gradually lead to the need for measures, such as recycling and artificial recharge, which may provide a local drought-proof source of water.

Inefficient uses of water result from many factors including poor irrigation practices and technologies used in agriculture, and increasing leakage, illegal connections and theft due to unmonitored and unregistered uses, other unaccounted for losses in urban and rural water supplies, and poor billing and revenue collection.

3.8.2 Problem Statement

Increasing demands on limited water supplies and lack of conservation and demand management practices has led to:

- uncontrolled abstraction of surface and groundwater resources;
- increasing conflicts between natural uses and man-made uses, between sectors, and between upstream and downstream users of water;
- wastage and inefficient use of water resources; and
- encroachment of wetlands and sensitive ecosystems in search of more water.

3.8.3 Policy Direction

A Demand Responsive Approach to water resources management will be introduced through the use of demand management approaches together with water conservation measures.

3.8.4 Goal

Water needs of all socio-economic sectors are met on a sustainable basis through efficient use of water conservation measures, and management of demand through awareness raising and the setting of water charges on an economic basis.

3.8.5 Strategy

The strategy for water resources conservation and demand management will be to:

a) adopt water management approaches focusing on how water is best used, including efficiency, effectiveness, and conservation of the resource for each use;
b) enforce the use of demand management instruments such as water user fees and other charges, and restrictions;
c) promote the research and adoption of technologies that increase water conservation and demand management;
d) raise awareness on the best use and conservation of water; and
e) apply economic and administrative instruments.

3.9 WATER UTILISATION AND ALLOCATION

3.9.1 Background

As the population has grown and economic performance steadily improved, the demand for water for domestic, industrial, agriculture, mining, livestock, and power supply interests has also increased. This rapid population and economic growth has not been accompanied by an equivalent rate of development in water infrastructure and services. On the contrary, there is growing competition over water, increasing pollution, land degradation and other stresses on the water resources, and climate variability makes water supply uncertain and vulnerable. As a result, conflicts between natural uses and man-made uses have increasingly occurred, and inadequate co-ordination between sectoral planners is compounding the problem.

Effective utilisation and allocation of water resources is, therefore, a central development challenge impacting most sectors and is a necessary pre-condition for poverty alleviation and sustainable economic growth, especially for a pre-dominantly rural based economy that is under going rapid transformation in the mining, industrial, commercial and energy sectors.

The water resources of Tanzania are unevenly distributed, both in time and space, and in quantity and quality; hence it is not economically feasible or desirable to allocate and utilise the resources according to a central dictate. Currently there are no effective systems for classifying water resources according to quality and quantity criteria and thereby determine the resources suitability for allocation and use. In the absence of such classification systems, the current granting of water rights and discharge permits fails to take into account the need to maintain minimum flows and quality standards within water basins and catchments.

3.9.2 Problem Statement

Effective water allocation and monitoring of water use is hampered mainly by:

- the lack of classification system of water bodies for management purposes;
- inadequate management and control of water use;
- reliance on a supply-driven approach to granting water rights;
- ineffective and non-responsive water allocation;
- inequitable and non-prioritised allocation of resources;
- ineffective procedures for levying and recovering water charges;
- inadequate enforcement of water rights;
- ineffective and unsustainable use of the water resources; and
- water resource management objectives which may not be compatible with available resources.

3.9.3 Policy Direction

Allocation of water for basic human needs in adequate quantity and acceptable quality will receive highest priority, while other uses will be subject to social and economic criteria. Water for protection of the environment and eco-systems will be reserved.

3.9.4 Goal

Implementation of a responsive, effective and sustainable water resources utilisation and allocation system based on social and economic priorities whilst maintaining minimum reserves for the protection of eco-systems.

3.9.5 Strategy

The strategy for water utilisation and allocation will be to:

a) classify all river systems on the basis of quality and quantity, and determine and allocate minimum water requirements for ecosystem needs for all regulated and unregulated river systems;
b) introduce water allocation procedures and guidelines for prioritising and granting time limited water use and discharge permits;
c) develop detailed criteria for water allocation, taking into account all social, economic and environmental criteria; and
d) raise awareness on the water allocation mechanisms and procedures.

3.10 TRANS-BOUNDARY WATERS

3.10.1 Background

Tanzania shares eleven international water bodies with other riparian nations; this is more than any other nation in Africa. They include the three great African Lakes (Victoria, Tanganyika and Nyasa), Lakes Chala and Jipe, and the Rivers Kagera, Mara, Pangani, Umba, Ruvuma and Songwe. The co-riparian nations for each of the trans-boundary water bodies are:

- Lake Victoria - Kenya, Uganda, and all Nile Basin countries
- Lake Tanganyika - Burundi, Zambia, DRC
- Lake Nyasa - Malawi, Mozambique
- Lake Chala – Kenya
- Lake Jipe – Kenya
- Kagera River - Burundi, Rwanda, Uganda
- Songwe River – Malawi
- Mara River (and Lake Natron) – Kenya
- Ruvuma River – Mozambique
- Umba River – Kenya
- Pangani River - Kenya

Large abstraction and use of trans-boundary water resource requires understanding and agreement among riparian states. Each of the trans-boundary water bodies Tanzania shares with neighbouring countries exhibit unique characteristics and a complex range of management problems. These include: environmental management; water basin development for hydropower production, domestic, irrigation and other uses; river flow control and regulation and international border stabilisation; and inter-basin water transfer.

The numerous international water bodies to which Tanzania is riparian compounds the water resources assessment, planning and management challenge, as acquisition or exchange of international data is yet to be fully institutionalised in many basins. At present Tanzania fosters regional cooperation and integration, and seeks opportunities to maximise benefits from the use of its international water resources within the framework for cooperative development of shared watercourses. Ongoing programmes are within the frameworks for the Southern Africa Development Community (SADC), the East African Community (EAC), the Nile Basin Initiative, and the Lake Tanganyika Environmental Management Programmes, which aim at sustainable development and use of the trans-boundary waters. Within the framework for the EAC, the strategies that have been put in place and adopted for the development of Lake Victoria include designation of the Lake Victoria Basin as an economic growth zone and an area of common interest in the EAC development strategy. Subsequently, a Shared Vision and Strategy Framework for the development of the Lake Victoria Basin was developed by the three partner states and adopted in the year 2003. This Framework will be the basis for future

intervention in the basin. At the operational stage the NWSDS will link closely with the EAC Shared Vision and Strategy Framework.

The diverse and specialised knowledge, which is necessary for effective management of trans-boundary resources management, is not readily available at present.

3.10.2 Problem Statement

Inadequate internal capacity for effective management, development and utilisation of trans-boundary water resources, combined with insufficient knowledge and skills amongst water resources management staff.

3.10.3 Policy Direction

The development of a system of international law to guide the management and utilisation of shared water resources on agreed conditions with other riparian states will be supported, and regional and bilateral cooperation in shared water resources and the capacity to conduct such relations will be promoted.

3.10.4 Goal

A strategy, framework and need requirements for utilisation of trans-boundary water resources for all relevant basins for socio-economic development in collaboration and co-ordination with riparian states is in place.

3.10.5 Strategy

The strategy for trans-boundary waters will be to:

a) establish, in collaboration with riparian states, mechanisms for acquiring and exchange of trans-boundary water resources and related data;
b) foster regional cooperation to develop a framework for the management, development and utilisation of trans-boundary water resources;
c) identify the national priorities related to the management of trans-boundary waters in collaboration with relevant national Institutions;
d) strengthen capacity to negotiate for an equitable share of trans-boundary water resources; and
e) use trans-boundary water resources effectively to meet different social and economic demand based on equity, right and rationality.

3.11 DISASTER MANAGEMENT

3.11.1 Background

Disaster management in the country is based on inter-sectoral co-ordination recently placed under the Disaster Management Department in the Prime Minister's Office. However, the Disaster Management Department's central responsibilities include policy formulation and provision of guidelines. The responses for mitigation of disaster impacts rest with the sectors, local government authorities, and other technical institutions.

It is within this context that water related disasters have been managed based on limited inter-sectoral co-ordination, inadequate early warning systems, and inadequate enforcement of preventative measures. Therefore, actions for disaster mitigation have been focused mainly on remedial rather than preventive approaches.

Concern about climate change and climate variability, air pollution, and ozone depletion has created new demands for scientific, economic and social information to understand the impacts on water resources. In Tanzania today there is little knowledge about the impacts of these changes. An important example is the likely reduction of the icecap (glacier) of Mount Kilimanjaro and its effect to water resources. Mount Kilimanjaro is one of the most important water producing areas for the

Pangani Basin, and it is the only mountain in Africa whose peak has snow throughout the year. It is reported that the icecap is gradually disappearing, which has been attributed both to global warming, and to bad land use practices on the slopes of the mountain. The ice cape varies during the year but there is no monitoring in place to identify whether or not there is a gradual reduction taking place. Research on this phenomenon and the potential long term effects on water resources is very important, together with a better understanding and prediction of the various longer term disaster scenarios.

3.11.2 Problem Statement

Occurrence of natural disasters such as floods, land slides, droughts, cyclones, tornadoes, and other disasters, such as cholera epidemics, have been causing considerable socio-economic damage as well as placing an undue burden on sector personnel not equipped with the skills to handle such situations and mitigate the impact of these disasters. This has resulted in inadequate responses required for mitigating the impacts of disasters. On the other hand, limited knowledge about the scale and impacts of climate change has led to inadequate prediction of the longer term impacts on water resources and ecosystems.

3.11.3 Policy Direction

Flood and drought monitoring stations and early warnings systems will be established so as to detect prospective floods and drought occurrences and disseminate information to the public in advance. Flood and drought control infrastructure, including dam safety measures, will be promoted, as will measures for impact mitigation against water resources pollution from accidental chemical pollution.

3.11.4 Goal

Mechanisms to provide advance warning of possible disasters, including those related to long term climatic change, and contingency plans and resources available to minimise the impact of natural and other disasters are in place.

3.11.5 Strategy

The strategy for disaster management will be:

a) establish mechanisms that will ensure early warning information to the general public on the prospective occurrence of disasters;
b) institute contingency plans, adaptation and mitigation measures, and procedures for minimising the impact of droughts, floods, climate change, accidental chemical pollution and other disasters; and
c) improve understanding of the economic and social consequences of atmospheric changes and of mitigation and response measures.

3.12 WATER RESOURCES MANAGEMENT LEGISLATION

3.12.1 Background

Water Resources Management in Tanzania is governed by:

- Water Utilisation (Control and Regulation) Act No. 42 of 1974, as amended by:
  - Water Utilisation (Control and Regulation) (Amendments) Act No. 10 of 1981.
  - Water Laws (Miscellaneous Amendments) Act No.8 of 1997.
  - Written Laws (Miscellaneous Amendments) Act No.17 of 1989.
  - Water Laws (Miscellaneous Amendments) Act of 1999.
  - Regulations issued in 1975, 1994, 1996 and 1997.

The thrust of the Water Utilisation (Control and Regulation) Act No. 42 relates to the administration of granting of rights to the use of water. The Amendments Act No.10 of 1981 established two advisory levels of boards, the Central Water Board and Basin Water Boards, and respectively, the Principal Water Officer and Basin Water Officer. The 1981 Amendment also introduced pollution control

measures, water quality standards, and permissible effluent standards. The Water Quality Standards in Amendment Act No. 10 of 1981 were temporary, pending formulation of a permanent set of standards. Amendment No. 17 of 1989 increased the penalties against water pollution, which were seen to be inadequate. The Water Utilisation Act is primarily a tool for allocating water through water rights and preventing water from point source pollution. The Regulations provide in detail for the granting of water rights (1975), and determining water use fees for various water uses (1994, 1996).

The Water Laws (Miscellaneous Amendments) Act No. 8 of 1997 created the Central Water Board and Basin Boards, and made the Basin Boards financially and administratively autonomous. The Water Utilisation (General) Regulations, 1997, provided for the implementation of Act No. 8, including the constitution and methods of working of the Basin Boards.

In addition to the statutory legislation, there are customary laws, which have existed in parallel, and international law in respect of trans-boundary waters.

3.12.2 Problem Statement

The existing legislation related to water resources management has developed over time through amendments to the original primary law. This has led to a lack of clarity in the legislative provisions and does not reflect the institutional and organisational changes necessary to implement the National Water Policy, 2002.

3.12.3 Policy Direction

Water resources management legislation will be reviewed, conflicting water related laws and regulations harmonised, and relevant customary law will be integrated into statutory law. The powers and responsibilities of new water resources management institutions will be enshrined in a new law.

3.12.4 Goal

A strong and effective legal and regulatory framework for the sustainable management of water resources is in place.

3.12.5 Strategy

The strategy for water resources legislation will be to:

a) assess the legislative provisions necessary to implement the National Water Policy and National Water Sector Development Strategy in respect of water resources management;
b) remove duplication of roles, responsibilities and powers of proposed sub-sector organisations with water resources management powers granted to other organisations under other legislation;
c) promulgate new legislation and regulations to provide for future water resources management, including clearly defining the roles, responsibilities and powers of sub-sector institutions and organisations; and
d) replace all existing legislation with a new comprehensive and holistic Water Resources Management Act, including repeal of existing legislation.

SECTION 4: WATER SUPPLY, SEWERAGE AND SANITATION SERVICES

4.1 INSTITUTIONAL FRAMEWORK FOR WATER SUPPLY, SEWERAGE AND SANITATION SERVICES

4.1.1 Background

The current institutional framework for the provision of water supply, sewerage and sanitation services is based on a separation between urban water supply and sewerage services, and rural water supply services. The ultimate responsibility for the provision of these services rests largely with the Ministry responsible for Water.

However, a number of different central and local government departments or organisations have a mandate or legal requirement to be involved in various aspects of the provision of these services. In particular, local government, be it at the city, municipal, town, district, or township authority level, has varying levels of responsibility for providing water supply, sewerage and sanitation services to the population in their areas, and the Ministry of Health and Social Welfare has an overall responsibility for protecting public health through ensuring the provision of adequate sanitation and hygiene education by the local authorities.

4.1.1.1 Responsibilities of the Ministry responsible for Water

Under current legislation (The Waterworks Regulations, 1997, and the Water Laws (Miscellaneous Amendments) Act, 1997), the Minister responsible for Water may designate and declare a Water Supply and Sewerage Authority for certain areas. This legal provision has been used to establish 20 Urban Water Supply and Sewerage Authorities (UWSAs) in the areas of municipal councils throughout the country, and for town councils where these are also regional centres.

In addition, the Minister responsible for Water has declared 107 District Urban Water and Sewerage Authorities (DUWSAs), and 78 of these have been established. All these UWSAs and DUWSAs are accountable to and monitored by, the Ministry responsible for Water, although the respective local authority has representation on the Board. However, the UWSAs and DUWSAs are not responsible for on-site sanitation, which remains with the respective local government authority.

Both UWSAs and DUWSAs are defined in three categories dependent on their ability to meet all or part of their operation and maintenance costs. The organisations are encouraged to improve their performance so as to achieve a higher category status. Where the organisations are still reliant on the Government for part of their costs, annual budgets are subject to endorsement by the Ministry responsible for Water. It is also responsible for assessing the need for and securing capital investment finance for water supply and sewerage schemes irrespective of whether they are run by UWSAs, DUWSAs or the local government authorities.

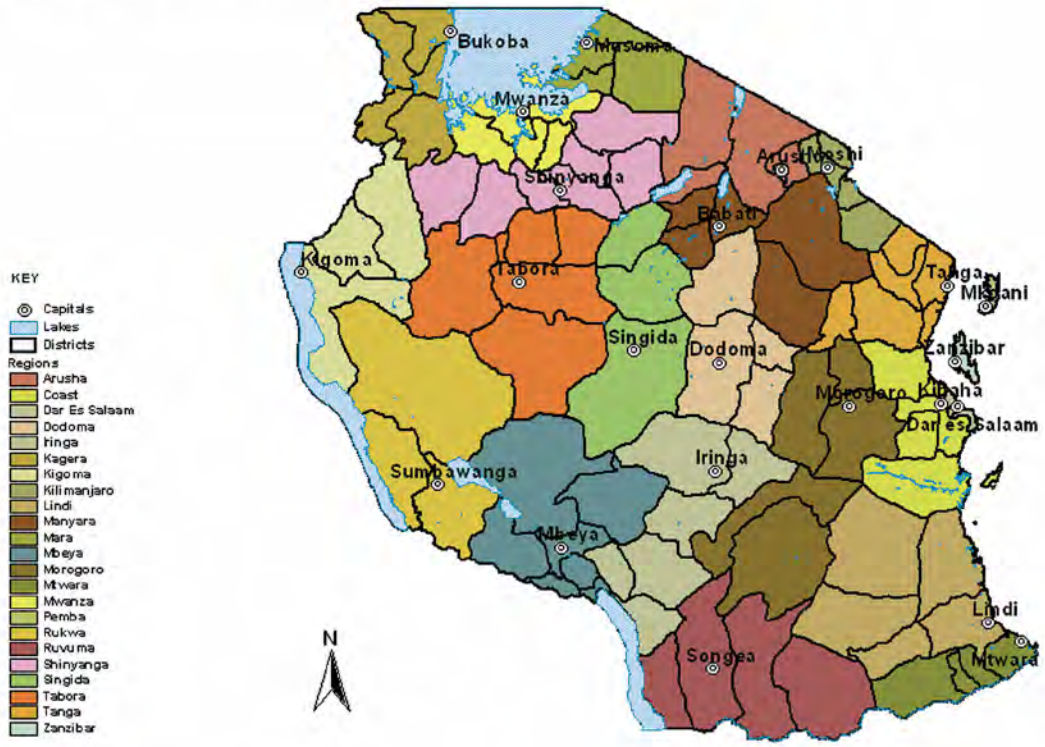
In the area of rural water supply, the Ministry responsible for Water has constructed and transferred to Local Government Authorities six major rural water supply schemes: Handeni Trunk Main, Makondeko, Waging'ombe, Maswa, Mugango/Kiabakari, and Chalinze. In addition, under the same legislation mentioned above, the Minister responsible for Water may approve the formation of Water User Associations for specified areas. To date 170 Water User Associations, including Water Companies and Trusts, have been established. Where these Associations have been established, the Ministry responsible for Water is responsible for performance monitoring and support.

The Ministry responsible for Water secures investment finance for rural water supply schemes where it is responsible, or where it has approved the establishment of Water User Associations. Where investment is required for new rural schemes, the Ministry responsible for Water may react to requests from the relevant District Council.

4.1.1.2 Local Government Authorities

The Local Government Authorities are ultimately accountable to the Prime Minister's Office, Regional Administration and Local Government (PMO-RALG). The Local Government Acts of 1982 for both District and Urban Authorities give the respective authorities, and Township Authorities, powers to establish, maintain, operate and control public water supplies drainage and sewerage works. The regional and district administrative boundaries are shown in Figure 4.1.

FIGURE 4.1: ADMINISTRATIVE BOUNDARIES



The local government authority levels and differing responsibilities for the provision of water supply, sewerage and sanitation services are shown Table 4.1 below.

Table 4.1: Responsibilities for Water Supply, Sewerage and Sanitation

Local Authority Level	No.	Responsibility for Water Supply and Sewerage	Responsibility for Sanitation
City	4	UWSA	City Council
Municipality	13	UWSA	Municipal Council
Town	4	UWSA or Town Council	Town Council
District	97	DUWSA or District Council	District Council
Township	some 100	District Council	District Council

Notes:

1) This table excludes Dar es Salaam, which is a special case with three municipalities making up a city council, and for which water supply and sewerage services are provided by the Dar es Salaam Water Supply and Sewerage Authority (DAWASA).
2) The number of Townships is an approximate figure and is growing.

In rural areas where Water User Associations or Trusts have not been established under the auspices of the Ministry responsible for Water, responsibility for water supply rests with the district councils.

4.1.1.3 Energy and Water Utilities Regulatory Authority (EWURA)

The EWURA was established under the EWURA Act, 2001, with responsibility *inter alia* for regulation of water and sewerage services. The extent of the regulatory functions conferred on EWURA in respect of water supply and sewerage services is to be determined by sector legislation, which has not yet been promulgated. Therefore, although EWURA exists for other utilities, as far as water supply and sewerage services is concerned, EWURA has yet to become fully operational. As a

consequence, regulation of the water supply and sewerage services remains partly with the Ministry responsible for Water.

4.1.2 Problem Statement

The current institutional framework has a central focus in the Ministry responsible for Water but is complex, both in law and in practice. It has a number of overlapping responsibilities, duplications and omissions. Furthermore, the mechanisms for effective consultation and consensus building, and participation of stakeholders in the decision-making process are not adequately defined and implemented.

In rural areas, the Government, Development Partners, and NGOs have been planning and constructing water supply schemes at village level, with little involvement or participation of the benefiting communities. The Government has also been the owner and operator of a number of these schemes. These approaches have led to a lack of commitment by the beneficiaries to safeguard the facilities, and an unwillingness to contribute to the cost of operation and maintenance.

The lack of an effective institutional framework for integrated water supply, sewerage and sanitation has led to:

- overlapping roles and responsibilities between various institutions leading to inefficient use of human and financial resources, duplication of effort, and gaps in effective provision of services;
- inadequate co-ordination between various government institutions;
- inadequate communication and awareness building between these institutions and local organisations and water users; and
- responsibility for regulation and performance monitoring of the provision of water supply and sewerage services is being vested in the same organisation as is responsible for service delivery and investment financing, thus creating a potential conflict of interest.

The lack of active participation of beneficiaries in the execution of water schemes in rural areas, has led to:

- poor performance of the schemes;
- lack of proper management of the schemes;
- lack of ownership; and
- poor delivery of the service.

4.1.3 Policy Direction

The institutional framework for water supply, sewerage and sanitation will be clarified and streamlined to meet the challenges of efficient and cost-effective provision of services, and the roles and responsibilities of the different stakeholders will be clearly defined so as to ensure the participation of stakeholders. The framework will encourage the participation of the private sector where such involvement results in greater efficiencies and cost-effectiveness.

The role of Government will change from that of a service provider to that of a co-ordination, policy and guideline formulation, and regulation. Consequently, the institutional framework will involve new organisations at different levels and re-structuring existing organisations. The framework will also broaden stakeholder participation at the different levels.

The roles and responsibilities of regulatory organisations will be separated from responsibilities for the provision of water supply, sewerage and sanitation services.

A new approach to establishing effective linkages between key sector stakeholders including central and local government, Development Partners, private sector, NGOs, CBOs and communities will be implemented.

4.1.4 Goal

An institutional framework for water supply, sewerage and sanitation services is established which provides for effective and efficient service provision, and clearly identifies the roles and responsibilities of all the relevant organisations and stakeholders, and provides for effective and independent monitoring and regulation of the activities of organisations directly responsible for service provision.

4.1.5 Strategy

The strategy for establishing a new institutional framework will be to:

a) implement a new institutional framework for water supply and sewerage services based on commercially viable autonomous organisations, community owned water supply organisations, and sanitation responsibilities resting with local government authorities;
b) develop sector capacities utilising existing successful organisations;
c) review relevant existing legislative provisions to remove potential duplications and omissions, and enable effective implementation of the institutional framework, including providing for water consumers' participation;
d) strengthen regulation and monitoring of service providers, including situations where the private sector is involved in providing water supply, sewerage and sanitation services; and
e) raise awareness of the institutional framework to stakeholders, including communities.

4.2 NEW INSTITUTIONAL FRAMEWORK FOR WATER SUPPLY AND SANITATION SERVICES

4.2.1 Rationale

With the role of Government, through the Ministry responsible for Water, changing to that of co-ordination, policy and guideline formulation, and regulation, current responsibilities for the provision of water supply, sewerage and sanitation services will need to be transferred to successor organisations. Based on the NAWAPO, six basic principles have been derived and applied to the development of the new institutional framework for water supply and sewerage:

- Government's role will be limited to co-ordination, policy and guideline formulation, and regulation.
- Regulatory and executive (i.e. service provision) functions will be separated.
- Responsibility for executive functions will be decentralised to the lowest appropriate level, whilst balancing consumer representation/participation with economies of scale.
- Responsibility for regulation will be separated from the prioritisation and allocation of capital investment funds.
- Autonomous entities will be established to manage water supply and sewerage services in urban areas.
- Community organisations will own and manage water supply schemes.

Under the Policy Paper on Local Government Reform, local governments will have the future responsibility for public service provision including water; local authority staff will be de-linked from their respective ministries; and line ministries will change their role into policy making, support and capacity building, monitoring and quality assurance, and regulation.

To develop a new institutional framework for water supply, sewerage and sanitation service that is in line with both of these policies, a number of key features have pointed to the way forward:

- the new framework must reflect the overall responsibility for the provision of water supply, sewerage and sanitation services by local government authorities;
- local government authorities are currently weak and require adequate support and capacity building;
- sanitation services will be the responsibility of the local government authorities in consultation with the Ministry responsible for Health;
- clustering of water supply and sewerage services under the responsibility of adjacent local government authorities is essential if commercial viability is to be achieved;

- the functions of the regulator in respect of commercial schemes are different to those of community owned and managed schemes;
- assets can legally be transferred to water and sewerage entities and communities, but must be protected against sequestration and asset stripping risks;
- capital investment financing, and operational support where necessary, through local government structures is supportive of government policy, but should not be through the same institution responsible for regulation and performance monitoring; and
- tariffs should be linked to performance and be part of the regulatory function.

4.2.2 New Institutions and Their Status

The new institutions for the provision of water supply and sewerage services are of two types: commercial Water Supply and Sewerage Authorities (WSSAs); and Community Owned Water Supply Organisations (COWSOs). Regulation of the WSSAs will be by the Energy and Water Utilities Regulatory Authority, while regulation of the COWSOs will be by the Ministry responsible for Water, but delegated to local authorities.

4.2.2.1 Water Supply and Sewerage Authorities

The Water Supply and Sewerage Authorities (WSSAs) will be financially autonomous statutory organisations, to be established based on the commercial viability of providing these services in a designated area. This may require clustering of water supply and sewerage responsibilities across a number of local government authority areas so as to promote and achieve commercial viability. Therefore, regulation would only be required for a limited number of WSSAs.

Water supply and sewerage assets would be transferred to the WSSAs in order to provide balance sheet equity as a guarantee for loans from the Government and Development Partners or other sources. Each authority may either provide the services themselves or could contract a Service Provider (public or private) to provide the services.

Clustering of water supply and sewerage authority responsibilities can be based either on regional and local government boundaries, or on water basins, depending on criteria such as the number of local government authorities involved, potential viability, social or cultural factors, and geographical proximity.

4.2.2.2 Service Providers

Service Providers may be responsible for providing water supply and sewerage services on behalf of the WSSAs under varying contractual arrangements, such as service, management or lease contracts where this is efficient and cost effective to do so. More than one Service Provider may be engaged by each WSSA, depending on the circumstances.

A Service Provider may be a company established by one or more LGAs for this purpose, which would be in line with the principle of decentralisation under the Local Government Reform Policy, or may be from the private sector, or may be a Non-Government or Community Based Organisation.

4.2.2.3 Community Owned Water Supply Organisations

Community Owned Water Supply Organisations (COWSOs) will be bodies legally constituted by a community to own, manage, operate and maintain the water supply systems on behalf of the community. These bodies may take various legal forms, such as Water Consumer Associations or Water Consumer Trusts, and establishment of the COWSOs will be promoted through the local government framework of district and village councils.

The COWSOs will be expected to meet all the costs of operating and maintaining their water supply systems through charges levied on water consumers, and to contribute to the capital cost of their systems. The main source of capital investment will be through the system of block grants to district councils.

The COWSOs may contract part or all of their operation and maintenance responsibilities to private companies or individuals, or to Non-Government Organisations.

Performance monitoring and regulation of COWSOs will be the responsibility of the Ministry responsible for Water, but delegated to the district councils.

4.2.2.4 Energy and Water Utilities Regulatory Authority (EWURA)

EWURA has been established under the Energy and Water Utilities Regulatory Act, 2001, to regulate *inter alia* the provision of water services. EWURA will be responsible for issuing licences to WSSAs, based on the submission of business plans, and for monitoring and regulating performance of the WSSAs against these business plans. This will include the approval of tariffs for water and sewerage services based on the performance of the WSSAs in delivering services to consumers.

As the business plans of the WSSAs will be required to include the performance related contractual arrangements with their Service Providers, the WSSAs will have responsibility for the management of these contracts and EWURA will not be required to separately regulate the Service Providers.

4.2.3 Functions and Responsibilities of New Organisations

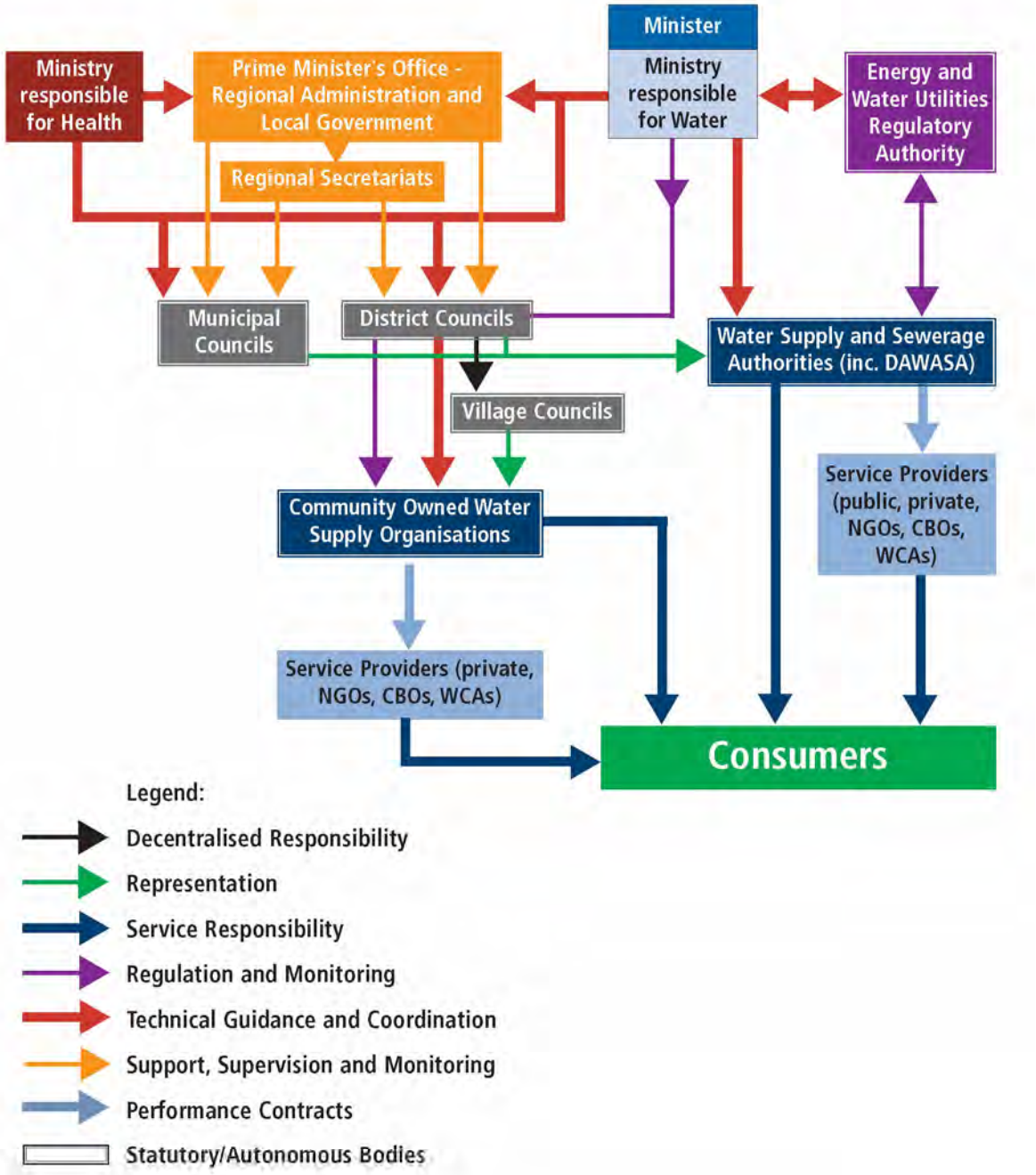
The new institutional framework for the provision of water supply, sewerage and sanitation services is set out in Figure 4.2 and the main functions and responsibilities of each organisation in the framework will be as follows:

Table 4.2: New Functional Responsibilities for Water Supply, Sewerage and Sanitation

Organisation	**Functions and Responsibilities**
Minister responsible for Water	Presents national sector policy and strategy to Government. Ensures policies and strategies are implemented.
Ministry responsible for Water	Develops policies and strategies. Advises EWURA in formulation of technical guidelines/standards. Co-ordinates planning for projects of national importance. Secures finance for infrastructure and capacity development projects. Monitors performance and regulates COWSOs. Provides technical guidance to Councils. Provides technical guidance and co-ordination for Water Supply and Sewerage Authorities (WSSA), including DAWASA. Provides technical support and monitoring for major capital works. Co-ordinates and monitors WSSA strategies and plans Supervises the Water Resources Institute. Supervises the Drilling and Dam Construction Agency.
Water Supply and Sewerage Authorities	Own, manage and develop water supply and sewerage assets. Prepare business plans to provide water supply and sewerage services, including capital investment plans. Secure finance for capital investment, and relevant subsidies. Contract and manage Service Providers. Provide services not contracted out. Formulate by-laws for service provision.
Service Providers	Provide water supply and sewerage services in accordance with contractual requirements. Collect revenues for services. Construction of water sector infrastructures; Provide Consultancy services; Supply goods; and Train communities in water related aspects
Community Owned Water Supply Organisations	Own and manage water supply assets. Operate and maintain water supply assets. Determine consumer tariffs. Collect revenue for the provision of services. Contract and manage Service Providers.
Energy and Water Utilities Regulatory Authority	Approves business plans of WSSAs. Issues operating licences to WSSAs.

	Approves service tariffs. Publishes technical guidelines and standards. Monitors water quality and performance of WSSAs. Collects and publishes comparative performance data. Advises Ministry on impact of major capital works on customer tariffs
Prime Minister's Office - Regional Administration and Local Government	Co-ordinates planning of projects from local government authorities. Co-ordinates local government authority budgets. Co-ordinates capacity building for local government authorities.
Regional Secretariat	Representation on WSSA Boards. Provides technical advice and support to local government authorities. Supervises and monitors local government authorities.
Municipal and District Councils	Representation on WSSA Boards. Co-ordinate WSSA budgets within Council Budgets. Disburse block grant funds to WSSAs. Co-ordinate physical planning with WSSAs. Delegated performance monitoring and regulation of COWSOs. Provide and/or promote on-site sanitation. Formulate by-laws concerning water supply and sanitation.
Village Councils	Promote establishment of COWSOs. Representation on COWSO management body. Co-ordinate COWSO budgets within Council Budgets. Resolve conflicts within and between communities. Formulate by-laws concerning water supply and sanitation.
Ministry responsible for Health	Develops policy, guidelines and strategies for sanitation. Provides technical assistance to councils for sanitation. Prepares Acts, Regulations and Standards for sanitation. Monitors, regulates and provides support and advice to councils and other stakeholders on sanitation issues.

FIGURE 4.2: NEW INSTITUTIONAL FRAMEWORK FOR WATER SUPPLY AND SANITATION



4.3 DEMAND FOR WATER SUPPLY SERVICES

4.3.1 Background

The increase in urban population and increase of economic activities in Tanzania outstrips the water supply delivery capacity of most urban centres. According to the 2002 Tanzania Population Census[9], urban population increased from 4,043,684 in 1988 to 7,554,838 in 2002, an increase of 87%. In urban centres the water service coverage is currently (2007) estimated to be about 78%, while the annual increase in population is about 6%. However, urban coverage figures are likely to change in accordance with improved definitions and monitoring indicators, which are under development. Unfortunately the need to increase service coverage, and to meet the demands of an increasing population, has not been matched by development of the water supply infrastructure. The increase in industrial and commercial activities has put more pressure on water demand. As a result, most urban and peri-urban areas suffer from water shortages.

Although the population increase in rural areas is only of the order of 1.6%, the demand for water supply services has been dictated more by the availability of water services in terms of quantity, quality and distance from the home rather than what is required by the household. Also, in some areas of the country, rural communities have large numbers of livestock, which are highly valued, and the provision of water for these livestock is seen as paramount, even though the water need not meet human potability standards. Currently (2007) the coverage of rural water supply from piped schemes and protected sources is estimated to be 55.7%. However, the rural coverage figures will also change in accordance with improved definitions and monitoring indicators to be developed.

4.3.2 Problem Statement

The inability of existing water supply systems and sources to meet the demands of the population in terms of domestic (including livestock), industrial and commercial needs has led to:

- a prevalence of waterborne diseases;
- loss of potentially productive time in collecting and transporting water;
- proliferation of unregulated water vendors and the use of unprotected water sources;
- incidences of illegal connections; and
- failure to meet emergency needs, such as fire fighting and drought.

4.3.3 Policy Direction

All consumers will have access to effective, efficient and sustainable water supply services in accordance with minimum service levels.

4.3.4 Goal

Water supply systems are developed to increase coverage and meet the demands of an increasing population on a sustainable basis.

4.3.5 Strategy

The strategy for meeting the demand for water supply services will be to:

a) assess the short and medium term demands for water supply services by consumer type and location, based on minimum levels of service;
b) prepare prioritised development plans based on the individual and economic development requirements of consumers; and
c) promote the use of appropriate and safe alternative water supply sources.

[9] National Population and Housing Census Report 2002, URT

4.4 DEMAND FOR SEWERAGE AND SANITATION SERVICES

4.4.1 Background

In major urban centres sewerage services are provided by the Urban Water Supply and Sewerage Authorities, while on-site sanitation services are implemented by municipal or district councils. The current (2007) coverage of sewerage systems is considerably less than that of the water supply systems, being about 17% compared with 78% for water supply, although this is partly due to the shortage of sewerage system infrastructure, and partly to the reluctance by some water users to be connected to sewerage systems in view of the cost involved.

In the Townships, responsibility for sewerage and sanitation services rests with the local authority and sewerage systems rarely exist. People living in Townships and peri-urban areas primarily depend on cesspits or pit latrines, which are emptied by the local authority or private operators.

In rural communities the coverage of sanitation is stated to be about 90%[10], through the construction of pit latrines by individual households. However, further analysis indicated that around half of these latrines were temporary and 72.4 % of the latrines were without concrete floors. Coverage figures will change if improved definitions are applied in the future.

4.4.2 Problem Statement

The inadequate availability of effective sewerage and sanitation systems has led to:

- increased risk of waterborne diseases;
- uncontrolled dumping of sewage and sanitation sludge; and
- environmental degradation.

4.4.3 Policy Direction

Everyone will have access to effective, appropriate, and sustainable sewerage or sanitation services and facilities in accordance with minimum requirements.

4.4.4 Goal

Sewerage and sanitation systems are developed on a cost effective and sustainable basis to increase coverage and meet the demands of an increasing population.

4.4.5 Strategy

The strategy for meeting the demand for sewerage and sanitation services will be to:

a) promote the benefits of the use of safe methods of excreta disposal, either through sewerage systems or on-site sanitation;
b) provide for adequate sewerage or sanitation systems as part of all future water supply development schemes;
c) introduce controls on the disposal of sewage and sanitation sludge;
d) promote the use of alternative technologies for appropriate sewerage and sanitation systems; and
e) promote the re-use of sewage and sanitation sludge in appropriate circumstances.

4.5 MANAGING DEMANDS

4.5.1 Background

The problem of increasing demand for water supply services is compounded by a high rate of water loss through leakage, illegal connection and wastage.

[10] Assessment Study on Household Sanitation and Hygiene Practices in the Country, MoH, 2004

There have been efforts by urban authorities to contain leakages by carrying out regular inspection and maintenance of the distribution system. Metering has been introduced to encourage careful customer water use. However, there has been very little effort to educate consumers on water conservation.

In the peri-urban and rural areas primarily dependent on public taps, demand is often limited by availability. However, wastage still occurs through misuse, damage or a lack of maintenance to the public taps, and through illegal tapping of water mains.

4.5.2 Problem Statement

The increased demand for water supply services and the shortage of available supplies, including excessive water losses in the distribution systems, is caused by or has led to:

- the lack of universal metering;
- water wastage;
- misuse of water;
- inadequate water conservation measures;
- damage to water service infrastructure; and
- illegal water connections.

4.5.3 Policy Direction

Water demand management measures will be undertaken to encourage users to protect infrastructure and conserve and use available water efficiently and equitably by putting in place economic tariffs, metering, rationing, leakage control, and mass education on frugal use of water, and by instituting regulations on efficient use of water.

4.5.4 Goal

Waste and misuse of water is minimised and water supply infrastructure is protected from abuse.

4.5.5 Strategy

The strategy for managing demands will be to:

a) educate customers on water conservation measures and water saving devices;
b) install meters on all individual and communal customer connections;
c) institute a progressive tariff structure;
d) put in place mechanisms for leakage control; and
e) introduce punitive measures for illegal tampering with water supply infrastructure.

4.6 SERVICE LEVELS

4.6.1 Background

The availability of clean and safe water is a basic need and right for all human beings, as is access to safe and hygienic methods of excreta disposal. Diseases associated with lack of safe water and poor hygiene and sanitation are major causes of sickness and death in the country, including typhoid, cholera and diarrhoeal diseases. Inadequate access to safe water, and the related sanitation service provision and hygiene education, is one of the causes of poverty

In the past, water supply, sewerage and sanitation schemes have been developed with more consideration being given to the number of consumers served and the financial resources available, rather than the minimum levels of service that are required by different categories of consumer. Furthermore, little priority has been accorded to the proper use of sewerage and sanitation facilities or the related hygiene education.

4.6.2 Problem Statement

The failure to provide pre-defined minimum levels of water supply, sewerage and sanitation service for different types of consumer has led to:

- lack of public knowledge of minimum levels of service to be expected;
- inadequacies and inequities in the availability of water supply, sewerage and sanitation services, particularly towards peri-urban and rural consumers;
- increased use of unregulated or unprotected water sources and the unhygienic disposal of excreta;
- prevalence of waterborne diseases;
- inappropriate design of water supply, sewerage and sanitation service schemes; and
- unwillingness of consumers to pay for water supply, sewerage or sanitation services.

4.6.3 Policy Direction

Water supply and sewerage and/or sanitation schemes will be designed and developed based on clearly defined minimum levels of service for different types of consumer. These levels will take into account the ability of consumers to pay for the level of service to be provided and will ensure equitable service provision to economically disadvantaged groups within the communities. Particularly in rural communities, the minimum service level for domestic water supply will include adequate water for livestock. In order to improve the health and conditions of people in rural areas, emphasis will be placed on integrating water supply and sanitation services with hygiene education.

4.6.4 Goal

Cost effective and efficient water supply, sewerage and sanitation service systems meets minimum specified levels of service commensurate with protection of public health, ability to pay for the services, and equity considerations.

4.6.5 Strategy

The strategy for service levels will be to:

a) provide industrial and commercial consumers with water supply commensurate with their contribution to the economic development of the country;
b) provide a minimum of 70 litres per person per day for consumers with household connections to a water supply system;
c) provide a minimum of 25 litres per person per day for consumers with yard connections to a water supply system;
d) provide 25 litres per person per day through water points;
e) ensure that any water point is used by a maximum of 250 persons at not more than 400 metres from the furthest user, and 30 minutes time for a round trip to fetch water;
f) where cost effective to do so, sewerage systems will be provided to consumers with household, industrial or commercial water supply connections; and
g) on-site sanitation systems will be used in all other situations.

4.7 SERVICES TO LOW INCOME GROUPS

4.7.1 Background

People living in underprivileged urban and peri-urban areas have rarely benefited from adequate water supply and sanitation services. These areas generally have dense concentrations of low-cost housing, and are often informal settlements unsuited to conventional water reticulation systems. The common sources of water for domestic use are public taps or kiosks, water vendors, or shallow wells. Although the unit cost of water in these areas is often higher than those from conventional reticulation systems and is more susceptible to local market forces, per capita consumption is lower. Alternatives, such as the use of unprotected shallow wells, can present increased risks to health. Faced with inadequate access to water supply services, illegal interference with water supply infrastructure is

frequently resorted to. Also, low income groups cannot afford to collect their waste water and excreta and hygienically dispose of it, or they do not have access to these facilities.

Improving access to safe water and sanitation services for low income groups is essential if they are to be able to participate fully in income generating activities and thus rendered less vulnerable to poverty.

4.7.2 Problem Statement

There has been a historical failure to provide water supply and sanitation services to low income groups and people living in peri-urban areas, thereby denying them social equity considerations, and the right to water for life and survival. Thus, low income groups have been led to:

- living with a lack of water and sanitation services;
- spending a disproportionate part of income on water and sanitation services;
- accessing unsafe water;
- contracting water borne diseases; and
- living in poor environmental conditions.

However, improving the services to low income earners has been constrained by difficulties in defining and identifying low income groups.

4.7.3 Policy Direction

Low-income groups will be identified and provided with appropriate water supply and sanitation services. However, these groups will be expected to contribute to the cost of the provision of these services in line with their ability to pay.

4.7.4 Goal

Water and sanitation services to low income groups, particularly in peri-urban and rural areas, are improved.

4.7.5 Strategy

The strategy for improving water supply and sanitation services to low income groups will be to:

a) establish criteria to define low income groups;
b) promote the use of appropriate and cost-effective solutions to the provision of water supply and sanitation services in the relevant areas, including promotion of the protection of traditional sources;
c) determine affordability criteria in order to establish subsidy requirements and mechanisms;
d) create awareness on safe water use and hygienic sanitation practices to low income groups; and
e) encourage NGOs and CBOs in financing, developing, and managing water supply and sanitation services in low-income areas.

4.8 COMMUNITY OWNERSHIP AND MANAGEMENT

4.8.1 Background

Historically the provision of water services in rural areas has been led by the central government, in many cases with the support of Development Partners. Beneficiary communities have only become involved at the point at which these schemes have become operational, and have been expected to play a major role in maintaining the schemes and collecting the revenues necessary to meet operations and maintenance costs. The lack of involvement of communities in decisions on the design and construction of the schemes, combined with a lack of awareness raising of the communities' responsibilities, has led to many schemes failing to be maintained at the level necessary to sustain even basic service levels.

In recent years, various forms of community involvement and responsibility for rural water supply have been implemented, such as community owned companies, trusts, and user associations, which have led to increased sustainability. Intensifying community involvement in rural water supply will increase the sustainability of investment.

4.8.2 Problem Statement

The provision of rural water supply schemes without the active participation and support of the beneficiary communities has led to:

- ineffective awareness raising of the communities' role as beneficiaries;
- lack of acceptance by the communities of their responsibilities for the sustainability of the rural water supply schemes;
- use of inappropriate technologies, locations of service points, and levels of service;
- failure of communities to appreciate the need to pay for water;
- lack of maintenance of facilities by communities; and
- poor state of facilities.

4.8.3 Policy Direction

Communities will be empowered to initiate, own, manage, operate and maintain their water schemes, including responsibility for coverage of operation and maintenance costs, and contributing to capital investment costs, so as to improve the sustainability of rural water supply systems. Eventually communities will be responsible for letting and supervising design, construction and operational contracts for their water supply systems.

4.8.4 Goal

Ownership and management of rural water supply schemes is transferred to beneficiary communities.

4.8.5 Strategy

The strategy for community ownership and management will be to:

a) raise awareness of communities regarding their responsibilities for owning, managing, operating and maintaining rural water supply schemes and contributing to capital investment;
b) prepare guidelines for establishing community owned organisations, and procedures for transfer of ownership of rural water supply schemes to communities;
c) establish technical and managerial support mechanisms;
d) prioritise the capital investment requirements for rehabilitating or providing rural water supply schemes, and locate sources of funding; and
e) implement a phased programme of transfer of rural water supply schemes to community ownership.

4.9 INTEGRATION OF WATER SUPPLY, SANITATION AND HYGIENE EDUCATION

4.9.1 Background

The availability of clean and safe water is a basic need and right for all human population and the same applies to safe and hygienic disposal methods of excreta. Diseases associated with lack of safe water and poor hygiene and sanitation are major causes of sickness and death in the country and include typhoid, cholera and diarrhoeal diseases. About 70% of diseases treated in health units are reported to be water, sanitation and hygiene related. Lack of access to safe water, and the related sanitation service provision and hygiene education, is one of the causes of poverty

Diseases associated with drinking unacceptable levels of minerals and dissolved chemicals, for example fluoride deficiencies, can lead to dental caries and other health problems. However, excessive fluoride levels can lead to the endemic condition of fluorosis and Tanzania faces the problem of high fluoride in some of its surface and groundwater sources.

In the past, water supply and sanitation schemes have been developed with more consideration being given to water services, while sanitation and hygiene has been given little attention or priority. The number of consumers served and the financial resources available are referred to water supply services.

4.9.2 Problem Statement

The low priority accorded to sanitation and hygiene improvement in rural and urban areas and the failure to provide pre-defined minimum sanitation standards has led to:

- inadequate public awareness of Participatory Hygiene and Sanitation Transformation (PHAST);
- continuous existence of nuisance and unsightliness in the environment, which can lead to contamination of water sources, damage to aquatic life, spread of communicable diseases, including cholera outbreaks, breeding of vectors and other health and environmental hazards; and
- existence of dental malformation, stained enamel, skeletal fluorosis and, in some cases, crippling fluorosis.

4.9.3 Policy Direction

In order to contribute to the improvement the health and living conditions of people in rural and urban areas, emphasis will be placed on integrating systematic monitoring and assessment of the status of water quality, sanitation, waste management and hygiene education.

4.9.4 Goal

To contribute to the improvement and protection of the health and living conditions of people in rural and urban areas.

4.9.5 Strategy

The strategy for integration of water supply, sanitation and hygiene education will be to:

a) promote community behaviour change and improved sanitation facilities by use of the Participatory Hygiene and Sanitation Transformation approach;
b) develop effective sewerage and sanitation management systems for rural and urban situations;
c) introduce effective water quality and pollution control mechanisms;
d) strengthen and enforce environmental/sanitation by-laws; and
e) enhance the multi-sectoral initiatives to improve sanitation.

4.10 APPROPRIATE TECHNOLOGY

4.10.1 Background

The ability of service providers to operate and maintain the water, sewerage and sanitation systems, both in technical and commercial terms, depends on the type of technology used. Historically the technology chosen in any particular situation has not always taken appropriateness, affordability and sustainability as the main criteria. For example, the introduction of sewerage systems is not going to be sustainable where the water supply to the properties serviced is insufficient to ensure the transport mechanism for the wastes.

Furthermore, the more technologically advanced the system, the higher the capital investment requirement and the subsequent operation and maintenance costs. These costs have to be translated into charges to the consumers. In rural situations, this is demonstrated by the emphasis that has been more on the provision of piped water systems than on the provision of protected sources, when the latter have considerably lower construction and maintenance costs.

In the past many water supply, sewerage and sanitation schemes have been constructed without full participation of the stakeholders or beneficiaries from the start of the project stages of planning, design and construction, and in preparing for future operation and maintenance. Even in cases where beneficiaries were involved, ownership of the schemes has remained with the Government and the government machinery has operated the schemes.

4.10.2 Problem Statement

The lack of attention to selecting the most appropriate technology in providing water supply, sewerage and sanitation service has led to:

- higher capital and operation and maintenance costs;
- higher charges to consumers;
- limited sustainability; and
- lack of consumer or community acceptability.

4.10.3 Policy Direction

Service providers will provide water supply, sewerage and sanitation services using the most cost effective technology available which is suitable to the area and the socio-economic circumstances of the users. In rural areas, where communities will be responsible for operation and maintenance of water supplies, they will be empowered and facilitated to make appropriate technology choices that will suit their own capabilities, particularly in those which require low investment costs and are operated and maintained at least cost.

4.10.4 Goal

Provision of water supply, sewerage and sanitation services is based on technologies best suited to the technical, social and economic circumstances of each scheme, and users will participate in the selection of the technologies to be used.

4.10.5 Strategy

The strategy for adopting appropriate technology will be to:

a) identify alternative technologies during the planning process;
b) evaluate the consequences of alternative technologies in terms of service levels and costs to consumers, and overall sustainability; and
c) involve consumers and communities in the planning and selection process.

4.11 REHABILITATION REQUIREMENTS

4.11.1 Background

Other than water supply, sewerage and sanitation infrastructure which has recently undergone rehabilitation, much of the infrastructure is old or functioning poorly as a result of inadequate maintenance. As a result, the existing water supply, sewerage and sanitation infrastructure is not only unable to meet original design criteria, but it also cannot cope with increasing demand for services.

The consequence for consumers is often an unreliable provision of services, and, in some cases, little or no service at all. This means that consumers are reluctant to pay for services which they are not receiving at the levels they expect, thus reducing the revenues available for operation and maintenance.

The overall need for rehabilitation of existing schemes is considerable, and it is estimated that 20 regional towns, approximately 107 Townships, 6 large rural schemes, and some 800 small rural schemes in the country require rehabilitation to a greater or lesser extent. It is estimated that around

Tshs 64 billion will be required for regional towns, Tshs 20 billion for Townships; and Tshs 502 billion for rural water schemes[11]. However, these figures are indicative only.

The rehabilitation process cannot be carried out at one time because neither the financial resources nor the institutional capacity are available to cope with the scale of the problem. Thus some form of prioritisation has to be established to determine the most effective scheduling of rehabilitation measures to improve water supply and sewerage services to the most people in the shortest time, combined with improvements in the provision of future operations and maintenance.

4.11.2 Problem Statement

The scale of the rehabilitation needs, combined with the lack of financial and technical capacity inability to meet these needs, has led to:

- poor service delivery;
- excessive water losses from networks;
- lack of confidence by consumers and an unwillingness of communities to take over responsibility for non-rehabilitated schemes;
- loss of revenue; and
- further deterioration of the infrastructure.

4.11.3 Policy Direction

Rehabilitation of water supply, sewerage and sanitation systems will be carried out before consideration is given to expansion of systems. This will be done on the basis of identifying and prioritising those schemes where at least some level of service can be provided to the greatest number of consumers, and adequate provisions for future operation and maintenance are secure. In rural communities, this will mean that priority will be given to schemes where the community is committed to taking over operations and maintenance responsibility.

4.11.4 Goal

Existing schemes are rehabilitated to their original design capacities and supported with adequate provision for future operations and maintenance, including communities in rural areas, so as to ensure no future degradation of infrastructure.

4.11.5 Strategy

The strategy for rehabilitation of water supply, sewerage and sanitation systems will be to:

a) establish a transparent mechanism for prioritising rehabilitation requirements based on providing some level of service to the most people and an adequate provision for future operation and maintenance;
b) identify and quantify rehabilitation requirements;
c) establish financial requirements; and
d) prepare plans for carrying rehabilitation in priority order, which can be matched to available financial and technical resources.

4.12 New Works and Expansion Requirements

4.12.1 Background

Investment in water supply and sanitation, either for new works or expansion, has been very low and totally inadequate in improving the levels of service and coverage of these services to the population in urban centres, Townships and rural areas.

[11] Extrapolated from the National Rural Water Supply and Sanitation Programme, October 2005 and the National Urban Water Supply and Sewerage Strategic Programme November 2005

Historically, investment has not been prioritised or targeted on the basis of a rational plan, but has been reactive to the availability of finance, principally from Development Partners, or to an ad hoc decision-making process. Furthermore, the cost-benefits of alternative technologies to increase coverage have not been given due consideration. Peri-urban and rural areas have been neglected in favour of larger urban centres.

Recent studies[12] [13] have indicated that the total investment requirements in water supply and sewerage infrastructure up to 2010 in order to achieve NSGRP/MKUKUTA targets are of the order of Tshs 300 billion for commercial schemes and Tshs 400 billion for community owned schemes.

4.12.2 Problem Statement

The inability of the organisations responsible for water supply, sewerage and sanitation systems to adequately plan and satisfy their investment requirements has led to:

- failure to deliver satisfactory levels of service;
- failure to increase coverage of water supply and sewerage services;
- failure to expand water and sanitation services, particularly into peri-urban and rural areas;
- a lack of confidence amongst consumers and an unwillingness to pay for services; and
- inequities in the impact of carrying out investment programmes.

4.12.3 Policy Direction

Investment in new works and expansion of water, sewerage and sanitation infrastructure will be based on a prioritised investment plan which aims at providing some form of safe water supply and adequate sanitation service to the most number of people. This will favour the provision of schemes in previously un-served areas, before expansion of existing schemes.

4.12.4 Goal

Investment in new works and expansion of water supply, sewerage and sanitation services is targeted so as to provide minimum levels of service at maximum coverage.

4.12.5 Strategy

The strategy for determining and meeting new works and expansion requirements will be to:

a) identify and quantify investment requirements;
b) apply transparent criteria to provide minimum service levels at maximum investment in priority order;
c) involve consumers and communities in prioritising investment requirements;
d) integrate investment plans with District Development Plans; and
e) introduce a Sector Wide Approach to Planning for investments.

4.13 PRIVATE SECTOR PARTICIPATION

4.13.1 Background

Water supply development and service delivery has been dominated by the public sector and very little attention has been given to participation of the private sector. Prior to the publication of the NAWAPO, private sector participation had not been considered appropriate to what was seen as a government service. As a consequence, there has been a lack of a historical involvement of the private sector in the provision of water supply, sewerage and sanitation services in Tanzania and, therefore, there is no readily available market on which to draw.

However involving the private sector is not a panacea but where appropriate can result in improved efficiency, effectiveness and enhancement of the development and sustainability of service delivery.

[12] National Rural Water Supply and Sanitation Programme, October 2005
[13] National Urban Water Supply and Sewerage Strategic Programme November 2005

4.13.2 Problem Statement

Failure to involve the private sector in water supply, sewerage and sanitation service delivery has led to a number of problems:

- little local experience of the private sector in providing water supply, sewerage and sanitation services;
- financial resources for developing the local private sector are not readily available;
- many of the schemes are likely to be too small to attract international private sector participation;
- many water schemes have not been functioning properly and will require rehabilitation before becoming commercially viable; and
- water as an essential commodity was previously termed as a free service because the public sector had assumed all roles and responsibilities.

4.13.3 Policy Direction

Involvement of the private sector in the financing and provision of water supply, sewerage and sanitation services will be encouraged where this would result in a more efficient and cost-effective level of service to consumers.

4.13.4 Goal

Improved service delivery levels and cost-effectiveness through enhancing private sector participation in the provision of water supply, sewerage and sanitation services, where beneficial to do so.

4.13.5 Strategy

The strategy for private sector participation (PSP) will be to:

a) increase consumer awareness of the objectives and potential benefits of PSP;
b) create an enabling environment for increased PSP, including incentives and legal recognition;
c) promote local private sector participation; and
d) cluster schemes to achieve economies of scale and enhance prospects for PSP.

4.14 WATER SUPPLY, SEWERAGE AND SANITATION LEGISLATION

4.14.1 Background

Water supply, sewerage and sanitation in Tanzania is governed by:

- The Laws of Tanganyika 1947 – 1950, Cap 281, as amended by:
  - Waterworks Ordinance, 1949, Cap 281-Supp. 62
  - Urban Water Supply Act, No.7 of 1981 (amended by Act No 8 of 1997 to DAWASA Act)
  - Waterworks (Water Supply) (Designated and Declared Areas) Rules, 1997, G.N. 369
  - Waterworks Regulations, 1997, G.N. 371
  - Water Laws (Miscellaneous Amendments) Act No.8 of 1997
  - Operational Guidelines, 1998
- Public Health (Sewerage and Drainage) Ordinance, 1955, Cap 336
- National Investment (Promotion and Protection) Act 1990
- The Energy and Water Utilities Regulatory Act No 11 of 2001
- The Local Government (District Authorities) Act, 1982 as amended to 30th June 2000
- The Local Authorities (Urban Authorities) Act, 1982 as amended to 30th December 2000

Provision of water supply and sewerage services in Tanzania resides primarily in Cap 281 of The Laws of Tanganyika 1947 – 1950 and subsequent amendments, regulations and ordinances. The Urban Water Supply Act, No 7 of 1981 established the National Urban Water Authority.

However, the most significant amendments to the original legislation are the Waterworks Regulations, 1997 and the Water Laws (Miscellaneous Amendments) Act, No 8 of 1997. Under the former Regulations, the Minister may designate certain areas to become a Water Supply and Sewerage Authority, which may be managed as an autonomous body, a public or private company, a Water User Association, a Co-operative Society or a NGO. The areas excluded are villages, village or minor settlements which are more than 400 metres from an existing distribution network. The Regulations also provide for the three categories of Water and Sewerage Authority, i.e. A, B and C, based on ability to cover costs.

Act No. 8 of 1997, replaces the National Urban Water Authority with the Dar es Salaam Water and Sewerage Authority (DAWASA) and gives powers to the Minister to declare any area to be a Water Supply and Sewerage Board / Authority and to transfer facilities and infrastructure to such a Water Supply and Sewerage Board / Authority. It is this Act which is recognised as leading to the establishment of the Urban Water and Sewerage Authorities, although the legislation does not limit the establishment of Authorities to urban areas.

The Public Health (Sewerage and Drainage) Ordinance, 1955 gives custodianship of public health issues to the Ministry of Health and Social Welfare. Meanwhile the Ministry of Health and Social Welfare is updating and consolidating health laws into the Public Health Act for easier application. The aim of the Public Health Bill is to provide for the consolidation of various laws regarding the promotion, prevention and maintenance of Public Health, and to ensure comprehensive, functional and sustainable Public Health Services.

The National Investment (Promotion and Protection) Act, 1990 states that the provision of public water for domestic and industrial purposes is reserved for exclusive investment by the public sector and that private sector investment can only be made through the granting of a special licence.

The Energy and Water Utilities Regulatory Act, No 11 of 2001, provides for regulation of service providers by EWURA where this is specified in sector legislation. However, the current Water Sector legislation does not provide for regulation of any water service providers by EWURA, other than as specifically prescribed in the DAWASA Act.

The Local Government Acts of 1982 for both District and Urban Authorities state that the respective authorities may perform the following functions in respect of water supply and sanitation:

- establish, maintain, operate and control drainage and sewerage works;
- establish, provide maintain and control public water supplies and impose water rates; and
- prevent the pollution of water in any river, stream, water course, well or other water supply in the area, and for this purpose prohibit, regulate or control the use of such water supply.

In addition, Township Authorities may provide and maintain supplies of water and, for that purpose, establish and maintain water works and water mains.

4.14.2 Problem Statement

The existing legislation related to the provision of water supply, sewerage and sanitation services has developed over time through amendments to the original primary laws. As the result, the current legislation:

- lacks clarity and, in some cases, leads to contradiction of intent;
- has led to a differentiation between service provision in large urban areas, other population centres, and rural areas;
- is not harmonised with the provisions of local government legislation; and
- does not reflect the institutional and organisational changes necessary to implement the National Water Policy, 2002.

4.14.3 Policy Direction

Water supply, sewerage and sanitation legislation will be reviewed, conflicting water related laws and regulations harmonised, and relevant customary law will be integrated into statutory law. The powers

and responsibilities of new water supply, sewerage and sanitation institutions will be enshrined in new laws, together with provision for regulation of the provision of the services.

4.14.4 Goal

A strong and effective legal and regulatory framework for the sustainable provision of water supply, sewerage and sanitation services and ownership of facilities and infrastructure, including communities becoming owners of water supply facilities in rural areas, is in place.

4.14.5 Strategy

The strategy for water supply, sewerage and sanitation legislation will be to:

a) assess the legislative provisions necessary to implement the National Water Policy and NWSDS in respect of water supply and sewerage services throughout the country;
b) remove duplication of roles, responsibilities and powers of proposed organisations with water supply and sewerage powers granted to other organisations under other legislation;
c) clearly establish responsibilities for regulation of service providers, with or without private sector participation;
d) promulgate new legislation and regulations to provide for the future provision of water supply and sewerage services, including clearly defining the roles, responsibilities and powers of sub-sector institutions and organisations;
e) replace all existing water supply and sewerage legislation with a new comprehensive and holistic Water Supply and Sewerage Act;
f) revise legislation relating to the provision of on-site sanitation.

SECTION 5: WATER FOR POVERTY ALLEVIATION

5.1 POVERTY ALLEVIATION STRATEGY

5.1.1 Background

The Poverty Reduction Strategy Paper, which was adopted in 2000, identified six priority sectors that were considered instrumental in reducing the level of poverty in Tanzania. One of the priority sectors was water and sanitation. The PRS Progress Reports (2000/2001, 2001/2002 and 2002/2003)[14] reflect that there has been good progress in improving access to safe and clean water in both urban and rural areas;

The National Strategy for Growth and Reduction of Poverty, 2005[15], sets out the medium term operational cross-sectoral strategies for poverty reduction, and indicators for measuring progress. It defines the objectives for poverty eradication by 2010, and recognises the heavy dependence of the poor on the environment (soil, forest, and water) and, in particular, household reliance on environmental resources for income generation. Thus, poverty and environmental degradation are closely interrelated. Hence, managing water resources sustainably must take due account of those who directly depend on the resources for their livelihoods.

According to the NSGRP, the Government intends to increase water coverage to 65% from 53% in rural areas, and to 90% from 73% for urban areas by the year 2010/11.

5.1.2 Problem Statement

In spite of the Government's intention to increase service coverage, there are outstanding problems that need to be addressed. These are:

- disparities of access to water supply within geographical and LGA areas in terms of quantity and quality of water supplied and consumed;
- inadequate clean and safe water supply services to the poor leading to potential loss of productive time and negative consequences for poverty reduction activities at household level, through:
  - use of water from unprotected sources that are usually contaminated and therefore pose increased health risks,
  - walking long distances in search of water and queuing for a long time,
  - school children missing classes to search for water during shortage periods and in areas where access to water is low;
- poor condition of sanitation facilities is widespread resulting in pollution of shallow groundwater and the household environment, and poor hygienic practices posing aggravated health risks;
- poverty is exacerbated by unequal access to water resources, with the poor tending to be relegated to more marginal land and, therefore, occupying 'tail end' positions along a river stretch; and
- inadequate consideration of the use of water resources as one of the means to reduce poverty.

5.1.3 Policy Direction

An adequate and reliable supply of clean safe water will be made available to improve the public health situation, and water resources protected, and used to stimulate socio-economic activities aimed at reducing poverty.

[14] PRS Progress Reports, URT
[15] Vice President's Office - National Strategy for Growth and Reduction of Poverty, 15 January 2005

5.1.4 Goal

Water resources are managed equitably and water supply, sewerage and sanitation services are improved so as to contribute effectively in the Nation's poverty eradication efforts.

5.1.5 Strategy

The strategy for water for poverty alleviation will be to:

a) carry out a detailed situational analysis to identify target areas of concern in order of priority so as to guide remedial actions at all levels;
b) ensure that consideration of disparities of access to water supply and poverty levels is embedded in the criteria that determine capital investment priorities;
c) promote hygiene education and good sanitary practices to reduce health risks and losses of productive time;
d) promote awareness of various opportunities for using water resources as a means of reducing poverty; and
e) ensure water resources are conserved and protected and made available for alternative uses.

SECTION 6: PLANNING AND FINANCING MECHANSIMS

6.1 PLANNING

6.1.1 Background

The current planning framework for water resources management and water supply services lacks a holistic and integration approach towards sustainable sector management and development. Water resources development and management projects have been oriented to the provision of public water supplies without due consideration of the demand of other users. On the other hand the planning processes for water supply and water related sanitation services are highly characterised by top-down planning and are fragmented. There is no integration of sector planning between the Ministry responsible for Water and other actors, especially local government authorities. The concept papers for project proposals seeking funds from the Government or Development Partners are mainly prepared within the central ministry. Negligible efforts have been employed to determine the investment requirement at district level based on inputs from lower levels of the local government structure, i.e. wards and villages.

Sector planning is not harmonised between the central government, local government and other actors. The districts have been identifying development projects and determining recurrent requirements in isolation and have been submitting these direct to the Ministry of Finance without any communication with the sector Ministry. At the same time the sector Ministry has concentrated its focus on the development requirement only of some districts, without any defined criteria.

6.1.2 Problem Statement

The lack of a holistic and integrated approach in planning for the whole sector (Sector Wide Approach to Planning), that is agreed by stakeholders, including Development Partners, has led to:

- fragmented results that are difficult even to monitor for implementation impacts;
- water resource management infrastructure is constructed without adequate consideration of the ultimate uses and economic benefits; and
- a persistence of regional, district and even intra-urban inequalities regarding water supply services, and the lack of a priority basis for financial allocations.

6.1.3 Policy Direction

A holistic basin approach will be adopted for integrating multi-sectoral planning and water resources management that recognises the economic value of water and ensures sustainability, whilst decentralising decision-making through subsidiarity principles. On the water supply and water related sanitation side, a holistic and Sector Wide Approach to Planning (SWAP) will ensure efficient allocation of public financial resources, thus reducing regional and district inequalities, and facilitating communities to take the lead in the planning, implementation and management of rural water schemes.

6.1.4 Goal

A holistic and integrated planning structure for both water resources management and development, and for water supply and water related sanitation services that uses a bottom-up Sector Wide Approach to Planning, is operational.

6.1.5 Strategy

The strategy for improving sector planning will be to:

a) institute mandatory preparation of plans for water basins based on the requirements of catchments;

b) institute mandatory preparation of plans for districts based on requirements of ward and villages/communities, that express the deficiencies, the full requirements, and the expected levels of contribution; and
c) develop a consolidated sector wide plan for water resources management and water supply and related water sanitation services based on transparent priority criteria.

6.2 CAPITAL INVESTMENTS

6.2.1 Background

Significant investments were made in the Water Sector during the 1970s and 1980s by the Government of Tanzania, in collaboration with Development Partners and Non-Government Organisations. From the early 1990s to date, the Water Sector has been experiencing a sharp decline in financing for both rehabilitation and new development. The current funding levels available to the sector are very low compared to the levels of 1970s and 1980s, and this declining trend has continued to the point where the scarcity of financial resources available for development and rehabilitation of the existing schemes cannot meet the infrastructural demand. This works against the stated policy objectives of increasing water coverage and poses a major challenge to the Government.

Despite the significant investments made in the sector during 1970s and 1980s, sector development generally remains inadequate. Factors which have contributed to this unsatisfactory situation were the absence of a holistic and integrated approach to the planning and financing of investments in the sector. Financing has been provided through multiple approaches used by financiers (by both Government and Development Partners). As a result, capital development for the rural water supply, sanitation, and water resources management sub-sectors continues to be under funded relative to the urban water supply sub-sector.

The lack of a holistic and integrated approach in sector planning and financing of investment has also resulted in the persistence of regional, district and even intra-urban development inequalities arising from disproportionate levels of finance.

Sustainable development of the Water Sector requires holistic planning and financing, stable financial mechanisms and availability of adequate funds for capital investments for both infrastructure expansion and rehabilitation. This also requires appropriate channelling of these resources to the prioritised needs. Such a system is not currently in operation.

6.2.2 Problem Statement

The inadequacy in financial resources generally, and the top-down approach to making investment decisions has resulted in:

- an inequitable distribution of available capital investment between sub-sectors and geographical locations;
- insufficient attention being paid to the need for investment in water resources management;
- the use of inappropriate technologies;
- non involvement of the beneficiaries through a lack of decentralisation in decision making; and
- the lead in capital investment decisions tending to be made by Development Partners.

6.2.3 Policy Direction

Capital investment finance will be planned and sourced through the mechanism of a Sector Wide Approach to Planning (SWAP). Capital investment finance will remain the responsibility of the Government in collaboration with Development Partners and the mechanisms for channelling agreed finance to the executing agencies will be:

- investment in water resources infrastructure through the Ministry responsible for water and Basin Water Boards;
- investment for infrastructure in cities, municipalities, towns with Water Supply and Sewerage Authorities as well as other commercialised schemes through a National Water Fund;

- investment for infrastructure in water systems run by communities through a system of grants to the respective councils;
- investment in sanitation through a system of capital grants to the local government authorities.

6.2.4 Goal

A Sector Wide Approach to Planning for capital investments into the whole sector, which is accepted by both the Government and Development Partners, is established and implemented.

6.2.5 Strategy

The strategy for capital investments will be to:

a) increase the Government allocation for capital investment to the Water Sector;
b) implement a streamlined financial planning mechanism that facilitates equitable distribution of resources and has accepted expenditure principles for smooth execution of Water Sector programmed activities;
c) develop appropriate sustainable financing mechanisms, that will provide for efficient and prioritised channelling of funds according to national plans;
d) establish a National Water Fund under the new water supply and sanitation legislation as one of the sources for financing infrastructure in cities, municipalities and towns with Water Supply and Sewerage Authorities, as well as other commercialised schemes.
e) develop strong financial mechanisms to ensure full recovery of operational and maintenance costs and an increasing contribution to covering replacement costs.

6.3 WATER RESOURCE MANAGEMENT RECURRENT COSTS

6.3.1 Background

Expenditure for the recurrent costs of water resources management has been derived primarily from two sources. Firstly, the Government exchequer provides funds through budgetary allocations to the Ministry responsible for Water and, secondly, through charges for water abstractions. Budgetary allocations from the exchequer have been below those required for effective water resources management and have been declining over the past ten years, with only 3 – 5% of the Ministry's budget allocation going to support water resources management activities. Meanwhile, both the level of recovery of the water charges and the lack of transparency in the retention of funds at the operational level has resulted in inadequate contributions to the recurrent cost of water resource management, both at the Ministry headquarters and in the field.

The constraint of inadequate resources has resulted into poor performance of variety of technical, administrative and legal activities, as well as deterioration of infrastructure for continuous water resources data collection, which are important for water resources management.

6.3.2 Problem Statement

Water resources management activities have continued to be under-funded relative to the other sub-sectors of water supply, sewerage and sanitation. This has resulted in:

- poor water resources data collection;
- inadequate water exploration and assessment;
- inequitable water allocation; and
- ineffective pollution control and monitoring.

6.3.3 Policy Direction

In order to realise the recurrent funds necessary to support water resources management activities, the abstraction and use of water resources for economic purposes will be charged for, as will the discharge of effluents. The level of abstraction and discharge charges and the criteria to be used in setting such charges will be subject to regular review and approval by the Minister responsible for Water.

6.3.4 Goal

The recurrent costs of effective water resources management are being financed from user charges for water abstraction and effluent discharges. If necessary, supplementary funds for recurrent activities for water resources management will come from central government.

6.3.5 Strategy

The strategy for meeting the water resource management recurrent costs will be to:

a) set water user fees to ensure that they reflect real value of water by using economic parameters such as inflation rate, market values and opportunity costs of water;
b) set abstraction and discharge charges based on the costs of providing effective water resources management as determined by approved annual operating budgets, taking into account any subsidies from Government;
c) increase water user fee collection capacity at basin and catchment levels; and
d) allocate revenue from water charges to the organisations responsible for water resources management at different levels in a transparent manner.

6.4 WATER SUPPLY AND SEWERAGE RECURRENT COSTS

6.4.1 Background

The Government has been disbursing recurrent budgetary allocations to the Ministry responsible for Water, the regional secretariats and local government authorities to finance water supply and sewerage recurrent activities such as personal emoluments and operations and maintenance costs. However, the mechanisms for determining the beneficial utilisation of these allocations to maintaining water supply and sewerage services are weak. In addition, funding from Government to support recurrent costs has continued to diminish over the years.

The performance in collection of water revenues from consumers by service providers is generally poor with many consumers not being metered, and the level of unaccounted for water is unacceptably high. The combination of reduced government allocations and poor revenue collection has resulted in a shortfall in funds necessary to carry out operation and maintenance, which, in turn, has resulted in deterioration of infrastructure for both rural and urban water services. Furthermore, the non-separation of water accounts from other services in local government authorities has led to obfuscation regarding the use to which these revenues are being put.

The Government has been sensitising and encouraging rural communities to establish Village Water Committees and subsequently create Village Water Funds for the management of finances for operational and maintenance of rural water supply schemes by the communities. Up to June 2005, 9,283 Village Water Committees and 8,099 Village Water Funds have been formed, with a total sum of Tshs. 1.07 billion, and 77 water user entities have been registered by the Ministry. The transparency of the management and use of the finances of these organisations is currently inadequate and standards of operation and maintenance have suffered as a result

6.4.2 Problem Statement

The constraint of inadequate recurrent financial resources from both consumer revenues and the Government, together with an absence of financial guidelines for re-allocation of recurrent financing to the water supply and sewerage sector and inadequate transparency in the use of funds, has resulted into poor performance in service delivery at all sector levels.

6.4.3 Policy Direction

Sustainable operation and maintenance of water supply and sewerage schemes will be based on financial mechanisms that ensure adequate levels and appropriate channelling of financial resources. The source of funds for recurrent costs in urban areas will be from consumers, based on cost recovery

tariff principles, while in rural areas communities will be required to pay full operation and maintenance costs and costs of higher service levels, and contribute to capital investment costs, as well as to manage their schemes.

6.4.4 Goal

Effective and transparent mechanisms for covering recurrent costs based on defined performance standards which take into account the level of service and ability to pay, supported by targeted subsidies in cases of need.

6.4.5 Strategy

The strategy for water supply and sewerage recurrent costs will be to:

a) establish the real cost of operations and maintenance to achieve required levels of service;
b) set cost coverage targets for service providers in different situations based on commercial principles;
c) increase revenue collections from consumers and reduce unaccounted for water;
d) put in place a streamlined and auditable financial mechanism that facilitates equitable distribution of Government subsidies; and
e) strengthen the mechanisms for monitoring and evaluating the financial and operational performance of service providers.

6.5 TARIFF STRUCTURES

6.5.1 Background

The approach to tariff structures differs according to the organisation responsible for provision of water and sewerage services. In urban areas, UWSAs determine their tariff structures and charges according to their particular operational and capital funding requirements, and the category in which they operate:

- Category A Authorities are expected to meet all direct and indirect operational costs;
- Category B Authorities are expected to meet all direct and indirect operational costs except personal emoluments for permanent staff; and
- Category C Authorities are expected to meet all direct and indirect costs except for an agreed part of their personal emoluments for permanent staff and electricity costs.

In water supply, sewerage and sanitation schemes run by local authorities, tariff structures and levels are determined by the respective District Council, but without specific targets of cost coverage. The tariffs are generally low and have not been revised for some years.

As a result of low levels of the use of working water meters and the consequent application of fixed charges, which are often low, and the inability to apply a tariff structure system of rising block tariffs, charges are not equitable and revenues do not reflect actual water consumption.

In rural areas, communities set the price per unit measure of the quantity of water, normally equivalent to a 20-litre container. This is commonly done democratically with the main goal being to meet operation and maintenance costs. In addition, communities are expected to contribute to capital costs in cash or kind. In the large rural schemes, the Government sets the tariffs in consultation with the communities involved.

6.5.2 Problem Statement

In general, tariffs for water supply and sewerage services are low as the provision of these services was seen in the past as a social service. Setting of tariffs, and the tariff structure involved, is done without considering:

- the real cost of providing the services;

- the need to improve efficiency levels, particularly in revenue collection and expenditure control;
- the use of internal cross-subsidisation and external subsidisation to provide affordable minimum levels of service to the poor and disadvantaged groups; and
- control and regulation of tariff levels to ensure value for money for consumers.

6.5.3 Policy Direction

Tariff levels and structures will be controlled and regulated based on the levels of service to be provided, the cost-efficient provision of these services, and the cost-recovery targets to be achieved. A minimum or life-line tariff will be introduced to protect poor and disadvantaged groups, the cost of subsidising for which will be met through internal cross-subsidisation. Government subsidies will be aimed at encouraging efficiency improvements by service providers.

6.5.4 Goal

Tariff levels and structures are established which are transparent, achieve cost coverage targets, encourage cost-effective provision of services, and protect poor and disadvantaged groups.

6.5.5 Strategy

The strategy for tariff structures and levels will be to:

a) ensure that tariffs are structured and set at the levels necessary to achieve cost recovery targets and are based on levels of water consumption;
b) include water supply and sewerage services;
c) promote cost-effective delivery of water and sewerage services;
d) protect poor and disadvantaged groups; and
e) regulate the setting of tariffs to ensure consumers receive “value for money” services.

SECTION 7: PERFORMANCE MONITORING AND REGULATION

7.1 PERFORMANCE MONITORING AND EVALUATION

7.1.1 Background

Performance monitoring is aimed at effective management audit of the provision of water supply and sewerage services with the objective of analysing, evaluating, reviewing and appraising the performance of the entity concerned. In the urban sector, management information systems are weak and the storage, analysis, and dissemination of information received through reporting and feedback is inadequate. Electronic management information systems are not adequate.

The Government has been investing in water schemes in rural areas. Performance monitoring and evaluation of rural schemes has been limited and, as a result, there is little information available on the service levels achieved, or on the areas that need rectification or improvement. This has contributed significantly too many schemes being inappropriate or unaccepted by communities.

7.1.2 Problem Statement

The inadequate monitoring procedures, as well as weak management information systems, and the lack of involvement of the stakeholders in carrying out performance monitoring and evaluation, have led to:

- failure to conduct effective management audits of Urban Water and Sewerage Authorities;
- weak and unreliable storage of information;
- weak evaluation and dissemination of information to stakeholders, including consumers;
- inadequate monitoring of scheme performance; and
- neglect in the evaluation of schemes so as to control performance.

7.1.3 Policy Direction

Procedures that establish and allow the monitoring of operational, financial and managerial performance targets will be put in place, supported by up to date management information systems. The process will involve active participation of central and local government, Development Partners, Non-Government Organisations, service providers, and communities, in monitoring and evaluating the performance of water supply and sewerage schemes.

7.1.4 Goal

An effective performance monitoring system for all providers of water supply and sewerage services is in operation.

7.1.5 Strategy

The strategy for performance monitoring will be to:

a) develop a comprehensive reporting, evaluation, and feedback mechanism to the organisation responsible for monitoring and regulation;
b) introduce computerisation of performance monitoring records and evaluation;
c) involve all key stakeholders in the monitoring and evaluation process, including establishing consumer consultative committees; and
d) enhance the monitoring capacity of the Water Users and Water Consumers Associations.

7.2 REGULATION

7.2.1 Background

The emergence of Water Sector regulation is a relatively new phenomenon which has arisen from the internationally accepted concept that water is an economic good which must be paid for, rather than a

free right. This has led to the introduction of a commercial approach to the provision of these services. A second factor has been the realisation that very few countries, including Tanzania, are in a position to meet the costs of maintaining and improving water supply and sewerage services from public revenues. Consequently, governments are increasingly looking towards the private sector as a source of capital finance for rehabilitation and investment, and for operation and maintenance.

Both these changes have highlighted the need to ensure that an acceptable level of consumer service is provided on a cost effective basis, without the consumer having to pay for inefficiencies, irrespective of whether the private sector is involved. This function of monitoring and regulation can only be carried out by an organisation which is independent of the conflicting interests:

For commercial entities:

- the Government which may, for political and social reasons, wish to provide water and sewerage services on a less than commercial basis; and
- the commercial (autonomous authority) or private sector, which may wish to put surpluses and profit ahead of levels of service.

For Community Owned Water Supply Organisations:

- local leaders who may, for political and social reasons, wish to provide water and sanitation services on a less than cost recovery basis; and
- the managers of the COWSOs or private contractors, which may wish to put surpluses and profit ahead of levels of service.

The role of a regulator is to ensure that consumers receive the most cost effective level of service that they have been led to expect and are prepared to pay for. This involves:

- protecting consumers;
- assuring a demand driven approach;
- improving efficiencies and effectiveness of service providers;
- protecting assets; and
- promoting competition.

In the case of Community Owned Water Supply Organisations, there are concerns that, although they are to be established as legal entities representing the interests of the communities and individual consumers, they may not operate in a manner which is fully in those interests, or may not be accountable to the consumers in general.

Therefore, particularly where finance from the Government will be provided for capital investment, it is essential that the activities and performance of both commercial entities (and their Service Providers) and Community Owned Water Supply Organisations are monitored and regulated. However, the circumstances particular to these two types of organisation are different and, therefore, the regulatory regime will also be different.

7.2.2 Problem Statement

Inadequate or ineffective independent regulation of the provision of water supply and sewerage services can lead to:

- inappropriate tariffs due to political interference;
- excessive charges for the provision of the services in order to maximise profits;
- inefficient or inadequate provision of services;
- poor cost effectiveness or inappropriate use of consumer revenues;
- failure to protect infrastructure investments; and
- a lack of support of consumers for the need to pay for services.

7.2.3 Policy Direction

Effective regulation of commercial water supply and sewerage authorities will be introduced through the Energy and Water Utilities Regulatory Authority to protect consumers and ensure that service tariffs are commensurate with the levels of service provided.

Regulation of Community Owned Water Supply Organisations to ensure that Water Consumer Associations are managed effectively and efficiently in the interests of the communities will be introduced and guided by the Ministry responsible for Water, although exercised at the local level by the district councils.

7.2.4. Goal

Effective regulatory regimes to ensure sustainable provision of services are protecting the interests of water consumers and ensuring value for money provision of services.

7.2.5 Strategy

The strategy for regulation will be to:

a) develop the capacity of EWURA to effectively regulate commercial water supply and sewerage organisations;
b) introduce licensing procedures by EWURA based on achievement of commercial viability;
c) develop the capacity of the Ministry responsible for Water to effectively oversee regulation of Community Owned Water Supply Organisations;
d) develop the capacity of district councils to effectively regulate Community Owned Water Supply Organisations on a delegated basis, and according to regulations and guidelines set by the Ministry responsible for Water.
e) introduce technical, operational and reporting guidelines and procedures; and
f) introduce measures to ensure compliance with regulatory requirements.

SECTION 8: ORGANISATIONAL DEVELOPMENT AND CAPACITY BUILDING

8.1 ORGANISATIONAL DEVELOPMENT

8.1.1 Background

The new institutions proposed for water resources management and for water supply and sanitation services arise primarily from two threads of Government policy: decentralisation and local government reform. Firstly, the changing role of Government to that of co-ordination, policy and guideline formulation will be matched by decentralisation of implementation responsibilities to the local level. In the case of water resources management, the main management responsibilities will be decentralised to the Basin Water Boards, Catchment Water Committees, and to local Water User Associations. Regional Authorities will be represented in the Basin Water Boards, and Local Government Authorities in the Basin Water Boards and Catchment Water Committees. In the case of water supply and sanitation, the Local Government Authorities will have overall responsibility for the provision of these services, although they will be provided by WSSAs and COWSOs.

The transfer of responsibilities from the existing centralised organisations to the new decentralised organisations will be a major task in organisational development. As far as water resources management is concerned, up till now only two of the nine proposed Basin Water boards have received any form of organisational development support. With central government having played the main role in the provision of water supply and sanitation services for many years, in most cases Local Government Authorities lack the experience, skills and resources to undertake their new roles.

The development of the new organisations requires a strengthening of their capacities in terms of experience, skill and resources. For water resources management, this can be devolved from the Ministry responsible for Water. In accordance with the increasing role of Local Government Authorities and the support role of the Regional Secretariat, the focus of existing experience and skill to support the Local Government Authorities needs to be developed within the Regional Secretariat.

8.1.2 Problem Statement

The capacity of organisations with future responsibilities for water resources management and water supply and sanitation in terms of experience, skill and physical and financial resources is weak. Most of the Basin Water Offices are relatively new and the development of their organisational capacities is at a very early stage. On the other hand, the organisational capacity of Local Government Authorities for overseeing the provision of water supply and sanitation services is characterised by a lack of experienced personnel and the necessary resources, including access to technical support. This situation has led to:

- operational and managerial inadequacies, leading to delays in the execution of important activities;
- insufficient physical and financial resources; and
- inadequate support and backstopping to Local Government Authorities.

8.1.3 Policy Direction

Strong organisations responsible for water resources management and water supply and sanitation will be established and operate within a conducive working environment, with the necessary capacity building of personnel, appropriate backstopping support, and the provision of adequate financial and physical resources.

8.1.4 Goal

Efficient and effective organisations are responsible for water resources management at the basin and water user levels, and for water supply and sanitation at the local government and community levels.

8.1.5 Strategy

The strategy for organisational development will be to:

a) assess the needs of the new organisations in terms of personnel, management systems and resources;
b) formulate and implement capacity building plans to meet the identified needs;
c) support the operationalisation of the new organisations through the provision of appropriate systems, procedures, capacity building and resources;
d) establish technical support and backstopping mechanisms for water resources management in the Ministry responsible for Water
e) establish technical support and backstopping mechanisms for water supply and sanitation through the Regional Administrative Secretaries;

8.2 WATER RESOURCES MANAGEMENT

8.2.1 Background

The core to successful water resources management lies on building the knowledge, skills, and institutional base at the national, basin and local level to utilise the relatively new and multidisciplinary tools of integrated water resources management. With the advent of the present approaches to water resources management, which emphasise integration of sectors, comprehensiveness, participation and, subsidiarity, and which treat water as both a social and economic good, the focus of knowledge and skills now goes beyond the traditional skills of hydrology and engineering, to include economics, law, environmental and the social sciences, and skills for water conservation and water-demand management. Also, specific tools such as River Basin Modelling and Decision Support Systems, as well as strategies for communicating and engaging with communities and stakeholders, are now essential.

Presently, expertise in hydrology and hydrogeology is high but the Government is losing hydrologists through retirement and almost all within short span of time and with no succession planning. The capability to deal with water resource management issues is decreasing as a result of the lack of adequate numbers of graduates from technical and higher learning institutions. Most basins have insufficient numbers of staff to work on water resources management at the level now being envisaged. Therefore, there is a major need for capacity building and the development of new expertise in financial management, water law, water resources and environmental economics, environmental management and social sciences, conflict resolution, and trans-boundary waters

While capacity building in social assessment for water resources, including stakeholder analysis, has been implemented under the River Basin Management Project in two basins, considerably more effort is required to build capacity in the remaining basins throughout the country.

8.2.2 Problem Statement

The absence of adequate capacity and expertise to implement different water resources management activities has led to ineffective water resources assessment, inefficient water allocation, and inadequate follow-up on water use and enforcement of water law.

8.2.3 Policy Direction

Adequate numbers of qualified staff for institutions in water resources management will be provided through training needs assessments and the provision of the relevant training programmes, together with effective succession planning, particularly taking into account the potential impact of HIV/AIDS.

8.2.4 Goal

Sufficient staff possessing the required knowledge and skills, and the resources to implement water resources management functions effectively and efficiently, are available in the institutions at national, basin, catchment and local levels.

8.2.5 Strategy

The strategy for capacity building in water resources management will be to:

a) identify sector needs at all levels and in all organisations in terms of staffing and skills requirements;
b) implement a human resources development plan for building staff capacities in integrated water resources management at all levels;
c) develop a framework for strengthening human resource capacities in local and catchment water user organisations;
d) develop appropriate training delivery capacity;
e) develop capacity within the appropriate organisations for systematically addressing the management of trans-boundary water issues; and
f) strengthen the capacity of the Regional and Local Government Authorities, to enable them to implement their roles and responsibilities.

8.3 WATER SUPPLY, SEWERAGE AND SANITATION

8.3.1 Background

Skilled professionals employed in the water supply, sewerage and sanitation sector have limited incentives and poor remuneration, which leads to many professional and non-professional staff leaving the sector. The provision of water, sewerage and sanitation services has also suffered in terms of manpower due to bureaucratic procedures, lack of autonomy, and lack of resources and facilities. Again this has led to a shortage of staff, particularly at the professional levels.

However, many sector professional staff have moved from government service to public Water Sector institutions, NGOs, and private or individual companies where remuneration levels are higher.

The ongoing reforms in the Water Sector will require redeployment of existing professional and other personnel, skilled and non-skilled, to new organisations, accompanied by training and skills development, to fit into the new roles of emerging actors. The common cadre staff will also need to receive training so as to meet an increasing range of tasks and prepare them for promotion opportunities in the new organisations, including local authorities.

8.3.2 Problem Statement

The water supply, sewerage and sanitation services sector has problems associated with human resources in terms of availability and capability of employees and these have resulted in:

- poor performance of sector professionals due to poor remuneration and inadequate knowledge and skills to carry out their jobs;
- inadequate incentive and motivation for non professional staff; and
- provision of poor services due to problems in the capability of staff in the technical, managerial and regulatory functions.

8.3.3 Policy Direction

Sustainable water supply, sewerage and sanitation services delivery will be supported through building a strong institutional capacity in terms of the knowledge, skills, and attitudes of the human resources, including empowering women.

8.3.4 Goal

Human resources in the sector have the appropriate knowledge and skills to carry out their tasks and are adequately motivated through remuneration and incentive structures and opportunities for advancement.

8.3.5 Strategy

The strategy for capacity building in water supply, sewerage and sanitation will be to:

a) identify sector needs at all levels and in all organisations in terms of staffing and skills requirements;
b) implement a human resources development plan for building staff capacities and increasing motivation in the provision of water supply, sewerage and sanitation services at all levels;
c) develop appropriate training delivery capacity;
d) strengthen the capacity of the Regional and Local Government Authorities, to enable them to implement their roles and responsibilities.
e) enhance the capacity of the private sector and Non-government Organisations, to operate water supply, sewerage and sanitation schemes; and
f) develop a framework for strengthening human resource capacities in community based water organisations.

8.4 STAKEHOLDER PARTICIPATION IN WATER RESOURCES MANAGEMENT

8.4.1 Background

Stakeholder participation in water resources management has not been effectively implemented in the past and even identification and categorisation of stakeholders has not been carried out in most parts of the country. The Ministry responsible for water has usually been implementing activities without adequate involvement and participation of stakeholders in planning, management and decision making at all levels on issues related to water resources.

One of the key principals in Integrated Water Resources Management is to ensure participation of all stakeholders in these activities. As a result of the non-involvement or lack of effective mechanism for the participation of communities and smallholder farmers who are spread over large geographical areas, the physical tasks of administration and enforcement of water legislations, regulations, etc., has not been easy or effective.

Basin Water Boards, Catchment Water Committees and local level Water User Associations are being established to provide the appropriate platform for consultations and cooperation among the different stakeholders and communities.

8.4.2 Problem Statement

Water resources management without the involvement of stakeholders and water users has led to many different types of water and land use conflicts, which pose a serious challenge to the management of water resources and to investments in the basins, and which are detrimental to social harmony.

8.4.3 Policy Direction

Roles and responsibilities of different stakeholders will be clearly defined to ensure the participation of legitimate representatives of stakeholders. Participation of both men and women in decision-making, planning, management and implementation of water resources management and development will be enhanced. As the future managers of water resources, young people will be involved from the early stages for future sustainability.

8.4.4 Goal

Effective and sustainable water resources management is carried out at all levels through integrated and participative management approaches.

8.4.5 Strategy

The strategy for participation in water resources management will be to:

a) raise awareness on advantages of establishment and on operations of Water User Associations at local, sub-catchment and catchment levels;
b) define an organisational framework for viable local catchment water users organisations to support water basin organisational structures to be developed step-by-step and in consideration of local practices;
c) promote the involvement of women and youth in water resources management at all levels;
d) identify special interests and training and capacity building needs of the different groups in the management of water resources in the basins; and
e) develop appropriate training delivery capacity.

8.5 STAKEHOLDER PARTICIPATION IN WATER SUPPLY, SEWERAGE AND SANITATION

8.5.1 Background

In the past water supply projects were implemented without the active participation of the stakeholders in planning, construction and management. As a result, the projects were not properly operated and maintained and thus became unsustainable. Ownership of facilities was not legally vested in stakeholders, which has led to a lack of commitment of ownership, operation and maintenance. The Government was the sole implementer and operator and supplied free water to stakeholders as it was regarded as a freely supplied commodity.

8.5.2 Problem Statement

Failure to involve all stakeholders in planning and operation of water supply, sewerage and sanitation systems has led to a lack of appreciation of problems faced by water, sewerage and sanitation service deliverers in operating and maintaining the systems. In turn, this has led to complaints from customers and non-payment for the services.

In rural areas, inadequate involvement of communities in the development of water supply schemes has led a lack of acceptance of responsibility for the schemes and their on-going operation and maintenance. Consequently, schemes have not been sustainable.

8.5.3 Policy Direction

Mechanisms for effective and appropriate stakeholder participation in the provision of water supply, sewerage and sanitation services will be instituted to ensure that all stakeholders understand and meet their obligations, and are actively involved in the planning, design and development of schemes.

8.5.4 Goal

Improved service delivery and sustainability through the involvement of and accountability to stakeholders.

8.5.5 Strategy

The strategy for stakeholder participation will be to:

a) establish appropriate mechanisms for involving stakeholders in the planning and provision of services;
b) increase stakeholder awareness of their new participatory roles and responsibilities; and
c) encourage dialogue between stakeholders including Non-Government Organisations and Community Based Organisations.

8.6 GENDER SENSITIVITY

8.6.1 Background

It is common practice that women are mainly the ones who are carrying the burden of fetching water for the household and are the guardians of the living environment, and yet they have little involvement

in making decisions related to either water resources development or management, or the provision of water supply and sanitation services.

Also, there have been few attempts to mainstream gender aspects in the Water Sector especially at the decision-making, management and technical levels. However, some efforts to consider gender inclusion through creation of gender awareness, and through increasing fair gender representation in village water committees, have been a significant step forward.

8.6.2 Problem Statement

There is inadequate gender disaggregated data and information at all levels in the Water Sector, therefore there is little reliable information on how different gender groups, especially women and children, are affected by the improvement or lack of access to water.

The Public Expenditure Review 2004 has revealed that there is still little consultation of both men and women in selecting and managing rural water supply schemes. Even where women are members of village water committees, culturally they do not feel capable of playing an active participatory role in decision making, planning, supervision and management of rural water schemes. Also, women are under-represented on catchment committees and water user committees, urban water and sewerage boards, and urban district water boards.

In the case of urban and small town water supply and sewerage situations, there has been little consideration given to involving women in the decision making process.

8.6.3 Policy Direction

There are clearly defined gaps in mainstreaming gender in the Water Sector and the main areas for gender inclusion will be focussed on:

- fair representation of both women and men in water user committees;
- consultation of both women and men in selecting and managing rural water supply schemes and empowerment of women to actively participate in decision making, planning, supervision of implementation and management of operations and maintenance of water supply schemes;
- representation of both women and men in water boards and authorities; and
- consultation of both men and women in critical discussions on life-line tariff and other affordability issues related to the provision of services in urban and town situations.

8.6.4 Goal

Active and effective participation of both women and men in the provision of water supply, sewerage and sanitation services.

8.6.5 Strategy

The strategy for increasing gender sensitivity will be to:

a) monitor the relative involvement of men and women in various aspects of the Water Sector;
b) promote active participation of women in water affairs;
c) involve women and men equally in the provision of water, sewerage and sanitation services: and
d) cultivate and promote a culture of gender equality in communities.

8.7 HIV/AIDS

8.7.1 Background

Tanzania has a population of 34.5 Million (Population and Housing Census of 2002), and is ranked 140 out of 162 countries in the 2001 UNDP Human Development Index. According to the Household Survey 2000/01, about 18.5% of the population live below the food poverty line and about one third of

the total population fall below the basic needs poverty line. Poverty is most severe in remote parts of rural areas.

With poverty as one of a number of complex factors, HIV/AIDS has continued causing social havoc in families and affecting the economy of Tanzania for the last 23 years. The HIV/AIDS Indicator Survey, which was carried out in 2003/04, reveals that about 7% of the Tanzanian population, i.e. about 2.3 million, is infected and lives with HIV/AIDS. The extent of infections amongst women is alarming as about 7.7% of women respondents in this survey were found infected as opposed to 6.3% of men. It is estimated that life expectancy will drop from 65 years in 1990 to 37 years in 2010. The worst economic consequence results from the fact that the most vulnerable age group, 15-59 years, which constitutes about 70% of the population who are really the workforce, is the age group on which the socio-economic development of the country depends.

In its efforts to curb the problem, the Ministry responsible for Water has prepared an HIV/AIDS draft strategy that proposes various workplace advocacy interventions at sector level to reduce the spread of the deadly virus among water sector employees and stakeholders. However, this strategy is Ministry focused and dwells more on a single intervention area and, therefore, lacks a comprehensive sector focus. These reasons call for a strong consideration of HIV/AIDS strategic interventions in the NWSDS.

8.7.2 Problem Statement

HIV/AIDS exerts obvious negative impacts on Water Sector development. These include:

- loss of human capital;
- loss of leadership in decision making at the family level due to ill health and subsequent deaths of family elders;
- increased water needs for home based care and hospital care support; and
- reduction of economic activities because of efforts being diverted to caring for sufferers rather than productive work.

8.7.3 Policy Direction

HIV/AIDS interventions have been multi-sectoral since the year 2000. Each sector is required to draw its strategy based on the National HIV/AIDS Policy of 2000 and the National Multi-sectoral HIV/AIDS Strategic Framework 2003-2007, which aims at reducing the spread of HIV and mitigating the impacts of AIDS at the national level.

8.7.4 Goal

The spread of HIV/AIDS among Water Sector stakeholders is reduced at all levels and impacts are mitigated.

8.7.5 Strategy

The strategy for HIV/AIDS will be to:

a) advocate behaviour change among Water Sector stakeholders;
b) promote voluntary counselling and testing for Water Sector stakeholders; and
c) provide care and support to sector staff living with HIV/AIDS, in collaboration with the Health Sector.

SECTION 9: COMMUNICATIONS AND ADVOCACY

9.1 COMMUNICATIONS STRATEGY

9.1.1 Background

Effective communication and advocacy has not been recognised as a pivotal area in ensuring that policy, strategies, programmes and legislation are received and understood, so as to facilitate stakeholders and communities in participating through a bottom-up processes. Rather the approach has been top-down from central government with little consideration of the importance of two-way communication and the development of consensus and understanding at the stakeholder and community levels.

9.1.2 Problem Statement

The previous and current communications and advocacy instruments were weak and did not facilitate imparting of information from the national level down through all levels to the community, and vice versa.

9.1.3 Policy Direction

Communications and advocacy mechanisms will be established to enhance information and experience sharing to keep stakeholders aware of sector problems, successes and needs, so as to facilitate knowledge of the sector and its reforms by the general public and provide mechanisms for joint action.

9.1.4 Goal

An effective education, information and communication framework for increased stakeholder and community knowledge of the Water Sector activities is operational.

9.1.5 Strategy

The strategy for communication and advocacy will be to:

a) put in place an effective communications operational framework;
b) encourage dialogue between sector organisations and water users and consumers; and
c) ensure timely dissemination of policies, strategies and guidelines; and facilitate effective information sharing among sector stakeholders at all levels.

SECTION 10: CO-ORDINATION AND COLLABORATION

10.1 CO-ORDINATION AND COLLABORATION STRATEGY

10.1.1 Background

Co-ordination and collaboration of stakeholders, which is essential in ensuring effective implementation of the National Water Policy through smoothening relationships with other stakeholders and sectors, and dealing with cross-cutting issues, is not currently fully effective. It is important that effective co-ordination and collaboration mechanisms are put in place that will ensure all issues which are a pre-requisite for sector development, but are outside the Ministry responsible for Water, will be co-ordinated through a transparent framework and procedures for enhancing dialogue with, and participation by, all stakeholders. This framework should include participation from the ministries *inter alia* responsible for:

- lands,
- environment and natural resources,
- energy,
- agriculture and livestock,
- fisheries,
- forestry,
- irrigation,
- health,
- community development,
- regional administration and local government,
- industries,
- infrastructure development.

10.1.2 Problem Statement

The current legal and institutional frameworks for co-ordination and collaboration among stakeholder sectors are weak and therefore don't provide enough room for stakeholder sharing of experiences, agreeing on collaborative actions and on enhancing dialogue for Water Sector management and development at all levels. This has led to duplication of efforts, gaps, and misallocation of the resources available.

10.1.3 Policy Direction

Strong and effective co-ordination and collaboration mechanisms will be established to enhance cohesive actions that are compatible with stakeholder expectations and support implementation of the reforms of the sector.

10.1.4 Goal

An effective mechanism to facilitate effective co-ordination and collaboration among all Water Sector stakeholders is established and operational.

10.1.5 Strategy

The strategy for co-ordination and collaboration will be to:

a) strengthen the management of the reform process by identifying what should be co-ordinated and by whom;
b) introduce a strong mechanism to accommodate and main stream cross-cutting and cross-sectoral issues in the sector frameworks to enhance smooth implementation of the reform process in line with the NWSDS;
c) develop a mechanism for dialogue and co-ordination with Development Partners and conduct annual participatory Joint Water Sector Reviews; and
d) provide a central focus for all sector and cross-sectoral stakeholders and their related activities or interests.

SECTION 11: NATIONAL WATER SECTOR STRATEGIC IMPLEMENTATION PLAN

11.1 IMPLEMENTATION OF THE NATIONAL WATER SECTOR DEVELOPMENT STRATEGY

The NWSDS is designed to cover the period from 2006 to 2015 and will be subject to a comprehensive review in 2011 in order to take into account progress and experiences during the first five years of implementation.

Set out in Appendix A is a logical planning framework for the implementation of the NWSDS to match this period. This framework summarises the goals for each Key Result Area, and identifies the Summary Main Activities necessary to implement the strategic statements set out in the NWSDS. The framework also provides, as appropriate, indicators for the achievement of these main activities in order to meet NSGRP/MKUKUTA targets, or longer term achievement of the Millennium Development Goals and Vision 2025. However, the process of implementing the NWSDS is complex, with many activities having to be carried out in a logical sequence, while taking into account their inter-relationships and dependencies. This requires the development of a shorter term "operational plan", the National Water Sector Strategic Implementation Plan (NWSSIP).

11.2 CONTENT OF THE NATIONAL WATER SECTOR STRATEGIC IMPLEMENTATION PLAN

The NWSSIP is being prepared in consultation with stakeholders and is being developed to meet the Prioritised Activity Schedule set out in Appendix B. The basis of the Plan is:

- For operational planning purposes, the timescale for implementing identified activities is considered in annual periods over a five year planning horizon.
- The summary main activities necessary to implement the NWSDS over the five year period are identified and linked in a logical sequence, recognising inter-dependencies.
- Prime responsibilities for implementation of each activity and achievement of the key milestones are assigned.

Mechanisms for monitoring implementation of the NWSSIP and ensuring co-ordination between stakeholders have been elaborated in Section 10 of the NWSDS.

The detailed NWSSIP will contain:

- Input requirements and estimates of financial resource requirements for implementing specific activities.
- An indication of where financial resources to support the activities are already identified and/or committed from the Government, Development Partners, or other sources.

The NWSSIP will be subject to an annual review and re-planning on a rolling five year basis, as part of the Medium Term Expenditure Framework (MTEF) and the indictors to be used for the MTEF reviews will be derived from the NWSDS and means of verifying progress towards achievement of the indicators will be set out in the detailed Plan.

11.3 INITIAL IMPLEMENTATION STEPS

It should be noted that harmonisation of Water Sector legislation, and other sector legislation impacting on the Water Sector is a pre-requisite to effective implementation of the NWSDS and will constitute the first activity of the NWSSIP. However, in a number of areas, subsidiary legislation, regulations and by-laws will need to await the establishment of the relevant enforcing institutions and the development of the respective operational procedures so as to ensure that these are compatible.

The main feature of the NWSDS in both the water resource management and water supply, sewerage and sanitation is the establishment and operationalisation of the new institutions and organisations, and the transfer of responsibilities from the current organisations, principally the Ministry responsible for Water.

Therefore, the implementation of studies to determine the most appropriate organisation structures and staffing requirements, supported by preparation of budgetary requirements, will be critical first steps in implementing the NWSDS. This will include evaluation of the most effective arrangements for "clustering" water supply and sewerage authorities.

The sub-sectoral investment plans being prepared in parallel to the NWSDS under the Water Sector Development Programme will need to be brought into line with the NWSDS and harmonised with the NWSSIP to establish an overall National Water Sector Development Plan as the base line for a Sector Wide Approach to Planning.

LOGICAL PLANNING FRAMEWORK FOR THE NATIONAL WATER SECTOR DEVELOPMENT STRATEGY

Overall Goal
Reaching a high quality livelihood through sustainable development and management of water resources.

Overall Objectives
Implementation of the directives of the National Water Policy, 2002, by developing a comprehensive framework for sustainable development, management and utilisation of the Nation's water resources, in which an effective legal and institutional framework has been put in place.

Key Result Area	Goal	Indicator	Summary Main Activities	Responsibility	Timescale
Water Resources Management					
3.1 Institutional Framework for Water Resources Management	A new institutional framework is established providing for effective and efficient IWRM, and which clearly identifies the roles and responsibilities of the relevant organisations and stakeholders at all levels.	The new institutional framework is established and operational by the end of 2010	1) Prepare, agree and implement a plan for the establishment of the institutional framework. 2) Prepare organisation development requirements for new organisations. 3) Develop operational, administrative and financial procedures.	Ministry responsible for Water	Medium Term
3.3 Water Resources Assessment	A nation-wide inventory and status of available and potential surface and groundwater resources and their utilisation is available. This will include assessment of useful storage life of existing and future potential dams and rainwater harvesting, and mapping the resource.	Inventory and status of available and potential water resources and their utilisation established by 2009/10.	1) Establish mechanisms for acquiring and monitoring water use and demand. 2) Establish sustainable data collection and publication systems at appropriate management levels. 3) Assess the useful storage and life of existing and possible future dams. 4) Develop river basin models and decision systems. 5) Develop and implement regular water resources assessment programmes.	Ministry responsible for Water	Short to Medium Term
3.4 Integrated Water Resources Planning	Effective and equitable planning for the use of water resources is carried out on an integrated multi-sectoral basis.	Basin and national water resources development and management plans prepared by 2009/10.	1) Prepare criteria for differing water resources priorities at different levels. 2) Determine and prioritise requirements of all users. 3) Establish participatory planning procedures for use at the different levels. 4) Prepare integrated basin and national water resources management plans.	Ministry responsible for Water	Short to Medium Term
3.5 Water Resources Development	Technologies for the development of water resources availability are developed for use in appropriate situations.	At least two resource development opportunities identified, researched and developed for use in	1) Identify and research possible resource technologies and their use to increase availability. 2) Establish the criteria for the selection and use of technologies.	Ministry responsible for Water	Medium Term

		appropriate situations by 2010.	3) Prepare plans and promote the introduction of suitable development technologies, including rainwater harvesting.		
3.6 Environmental Protection and Conservation	Increased environmental protection and conservation measures contribute to the sustainability of all aspects of water development, management and use.	Environmental protection and conservation measures and enforcement mechanisms identified and implemented in all basins.	1) Identify and monitor conditions in environmentally susceptible locations and legally establish reserve areas. 2) Develop and implement programmes for catchment restoration, protection and management, and support resettlement programmes. 3) Design and implement public awareness and community involvement in conservation, and co-ordination mechanisms between relevant agencies; 4) Determine environmental flow requirements for ecosystems for all key rivers. 5) Establish guidelines and mechanisms for EIAs and their enforcement.	Ministry responsible for Water / BWBs / VPO-Environment / NEMC	Short to Medium Term
3.7 Water Quality and Pollution Control	Water resources of acceptable quality are maintained to meet agreed objectives and standards on the basis of a river classification system supported by measures to ensure sustainability.	System of discharge standards and permits, monitoring discharges and enforcement of pollution control implemented in all basins.	1) Set water quality targets linked to water resource classification system. 2) Develop and implement water quality monitoring programmes and prepare water quality maps. 3) Prepare and implement a system of discharge standards and permits to protect receiving rivers. 4) Develop and operationalise procedures for monitoring discharges and enforcing pollution control legislation. 5) Identify areas with naturally occurring elements in water and disseminate findings on remedial measures.	Ministry responsible for Water / BWBs	Short to Medium Term
3.8 Water Conservation and Demand Management	Water needs of all socio-economic sectors are met on a sustainable basis through efficient use of water conservation measures, and management of demand through awareness raising and the setting of water charges on an economic	Efficiency monitoring programmes of water uses developed and implemented across sectors and user fees and charges are set on an economic basis.	1) Determine and implement user fees, charges, and restrictions that can be imposed to manage demand. 2) Conduct research and promote technologies and mechanisms that conserve water. 3) Prepare and operationalise guidelines and regulations for demand management and water conservation. 4) Develop and implement efficiency monitoring programmes of water uses across sectors.	Ministry responsible for Water / BWBs	Medium Term

	basis.		5) Prepare and implement water conservation measures awareness programmes.		
3.9 Water Utilisation and Allocation	Implementation of a responsive, effective and sustainable water resources utilisation and allocation system based on social and economic priorities whilst maintaining minimum reserves for the protection of eco-systems.	System of effective and sustainable water resources utilisation and allocation in operation.	1) Establish a water resource classification system based on quality and quantity. 2) Develop water allocation criteria, procedures and guidelines for water basins. 3) Review and regularise existing water rights and users based on criteria. 4) Prepare and implement awareness campaign on water allocation procedures. 5) Develop and implement dam / reservoir operation rules and criteria.	Ministry responsible for Water / NWB / BWBs	Short to Medium Term
3.10 Trans-boundary Waters	A strategy, framework and need requirements for utilisation of trans-boundary water resources for all relevant basins for socio-economic development in collaboration and co-ordination with riparian states is in place.	Strategy framework and need requirements for utilisation of trans-boundary water resources established by 2010.	1) Develop and strengthen local capacity to secure and utilise trans-boundary water resources. 2) Promote technical collaboration on research, data collection, and information exchange. 3) Promote joint inter-state catchment management. 4) Participate in relevant trans-boundary organs, commissions, committees.	Ministry responsible for Water	Short to Medium Term
3.11 Disaster Management	Mechanisms to provide advance warning of possible disasters and have contingency plans and resources available to minimise the impact of natural and other disasters are in place.	Contingency plans to minimise impacts of natural and other established.	1) Prepare and agree disaster response organisational structures. 2) Prepare, finance and implement disaster advance warning systems. 3) Develop disaster contingency plans and procedures and train personnel in their use. 4) Develop dam safety measures to mitigate the impacts of floods, droughts.	Ministry responsible for Water / PMO-DMD	Short to Medium Term
3.12 Water Resources Management Legislation	A strong and effective legal and regulatory framework for the sustainable management of water resources is in place.	Legislation drafted and submitted to parliament by end of 2006.	1) Review all current statutory and customary legislation related to WRM. 2) Identify duplication or overlap with other relevant legislation and clarify the respective legal responsibilities. 3) Draft new legislation to meet future requirements for IWRM, with stakeholder consultations. 4) Seek parliamentary approval to legislation.	Ministry responsible for Water	Short Term.

Water Supply, Sewerage and Sanitation Services					
4.1 Institutional Framework for Water Supply, Sewerage and Sanitation Services	An institutional framework for water supply, sewerage and sanitation services is established which provides for effective and efficient service provision and clearly identifies the roles and responsibilities of all the relevant organisations and stakeholders, and provides for effective and independent monitoring and regulation of the organisations directly responsible for service provision.	The new institutional framework is established and operational by the end of 2010.	1) Prepare and agree an implementation plan for establishing the new organisations and restructuring the Ministry for Water. 2) Prepare organisation development requirements for new organisations. 3) Develop corporate and management plans to provide the required levels of service. 4) Develop and implement a programme to raise stakeholders' awareness of their roles and responsibilities.	Ministry responsible for Water / EWURA / PMO-RALG / LGAs	Short to Medium Term
4.3 Demand for Water Supply Services	Water supply systems are developed to increase coverage and meet the demands of an increasing population on a sustainable basis.	Coverage increased from 53% (2003) to 65% in rural and from 73% (2003) to 90% in urban areas by 2009/10.	1) Establish and implement a system for collecting and collating water service demand data for all users. 2) Determine and apply criteria for prioritising consumers' demands. 3) Identify appropriate alternative water supply sources based on quality considerations relative to use. 4) Introduce systems of regulating alternative supply sources to protect consumers against public health risks and financial exploitation.	Ministry responsible for Water / WSSAs / EWURA / COWSOs / MoHSW	Short to Medium Term
4.4 Demand for Sewerage and Sanitation Services	Sewerage and sanitation systems are developed on a cost effective and sustainable basis to increase coverage and meet the demands of an increasing population.	Sewerage coverage increased to 30% in urban and access to basic sanitation increased to 95% by 2009/10.	1) Establish and implement a system for collecting and collating data on demand for sewerage and sanitation services. 2) Establish planning and co-ordination mechanisms between the organisations responsible for water supply and sewerage and sanitation services. 3) Research alternative sewage and sanitation systems to determine their potential cost and sustainable use under local conditions. 4) Investigate the potential re-use of sewage and sanitation sludge and define regulations for this	Ministry responsible for Water / WSSAs / EWURA / COWSOs /	Short to Medium Term

			purpose. 5) Design and implement a sanitation awareness and re-use promotion campaign.		
4.5 Managing Demands	Waste and misuse of water is minimised and water supply infrastructure is protected from abuse.	The average gap between water produced and sold in commercial schemes is reduced from 50% to 25% by year 2010.	1) Institute customer reporting mechanisms for wastage, misuse and leakage. 2) Establish procedures for the installation of meters on existing and new connections. 3) Develop tariff schemes and charging levels which encourage water conservation. 4) Carry out research on appropriate measures to reduce water consumption, such as low capacity cisterns. 5) Develop and implement water use and conservation awareness programmes.	WSSAs / COWSOs / LGAs / Ministry responsible for Water / PMO-RALG	Short to Medium Term
4.6 Service Levels	Cost effective and efficient water supply, sewerage and sanitation service systems meets minimum specified levels of service commensurate with protection of public health, ability to pay for the services, and equity considerations.	No of water samples to meet Tanzanian standards increased to 99% by year 2010. Appropriate subsidy system in place by year 2010. Water supplied per capita raised to 25 litres in rural and 70 litres in urban by year 2010	1) Evaluate all schemes on the basis of the minimum service levels to determine viability and the impact on consumer charges. 2) Identify consumers groups who may require subsidies to meet the costs of the minimum service levels based on ability to pay. 3) Prepare design guidelines based on the minimum service levels. 4) Design and implement a public awareness campaign to promote the minimum service levels to which consumers will be entitled.	Ministry responsible for Water / WSSAs / EWURA / PMO-RALG	Short to Medium Term
4.7 Services to Low Income Groups	Water and sanitation services to low income groups, particularly in peri-urban and rural areas, are improved.	NSGRP targets achieved.	1) Identify low income groups and develop appropriate water supply and sanitation services plans and programmes. 2) Ensure the relevant service provider includes the provision of services to low income groups in all future schemes. 3) Research cost-effective alternative technologies. 4) Ensure that necessary subsidies are built into the tariff system of service providers, or are met by the Government. 5) Assist in operationalising NGOs and CBOs to supply water supply and sanitation services in low income areas.	WSSAs / COWSOs / LGAs / Ministry responsible for Water / EWURA	Short to Medium Term

4.8 Community Ownership and Management	Ownership and management of rural water supply schemes is transferred to beneficiary communities.	50% rural water supply schemes owned and managed by beneficiary communities by 2010 and 80% by 2015.	1) Prepare guidelines for establishing community owned organisations. 2) Design and implement awareness and capacity building programmes for communities to take over responsibilities. 3) Develop formal arrangements for transfer of schemes from government. 4) Establish technical and managerial support mechanisms at the relevant levels of the local government administration. 5) Develop and implement a phased programme for transfer of rural water supply schemes to community ownership.	Ministry responsible for Water / PMO-RALG / LGAs	Short Term Medium to Long Term
4.9 Integration of Water Supply, Sanitation and Hygiene Education	To contribute to the improvement and protection of the health and living conditions of people in rural and urban areas.	NSGRP targets for reduced morbidity and mortality from water related diseases achieved.	1) Develop guidelines for integration of water, sanitation and hygiene education. 2) Apply participatory hygiene and sanitation transformation approach at the community level. 3) Strengthen water quality laboratories across the country and develop and implement cost effective water quality monitoring. 4) Develop and implement a public awareness programme on water use, sanitation and hygiene.	Ministry responsible for Water / MoHSW / LGAs / PMO-RALG	Short to Medium Term
4.10 Appropriate Technology	Provision of water supply, sewerage and sanitation services is based on technologies best suited to the technical, social and economic circumstances of each scheme and users will participate in the selection of the technologies to be used.	Consumers are participating in the design of all new schemes by 2010.	1) Carry out research on the cost-effectiveness and sustainability of alternative technology options. 2) Develop guidelines for technical and financial appraisal of alternative technologies, which led to identifying the service level and cost implications to consumers. 3) Establish mechanisms for consumer consultations for schemes which will be operated by service providers. 4) Establish mechanisms for community consultations for schemes that will be operated by communities.	Ministry responsible for Water / EWURA / LGAs	Short to Medium Term
4.11 Rehabilitation Requirements	Existing schemes are rehabilitated to their original design capacities and supported with	90% of aging water supply and sewerage projects rehabilitated by year 2010.	1) Collect available design information, data and drawings and carry out surveys of all existing schemes to determine rehabilitation needs. 2) Establish criteria for prioritisation, including	Ministry responsible for Water / LGAs / WSSAs /	Short Term

	adequate provision for future operations and maintenance, including communities in rural areas, so as to ensure no future degradation of infrastructure.		degree of beneficiary co-operation. 3) Prepare cost estimates for carrying out rehabilitation on a scheme by scheme basis. 4) Prepare a sequenced rehabilitation plan based on priorities.		
4.12 New Works and Expansion Requirements	Investment in water supply, sewerage and sanitation services is targeted so as to provide minimum levels of service at maximum coverage.	Sequenced investment implementation plan based on priorities in place and being implemented.	1) Identify investment requirements on a scheme by scheme basis based on minimum service levels, service coverage targets, and District Development Plans. 2) Implement a mechanism to ensure stakeholder/beneficiary participation in investment decisions. 3) Establish criteria for prioritisation. 4) Prioritise investment requirements and match against available resources. 5) Prepare a sequenced investment implementation plan based on priorities and available financial resources.	Ministry responsible for Water / LGAs / WSSAs / PMO-RALG	Short Term
4.13 Private Sector Participation	Improved service delivery levels and cost-effectiveness are enhanced through private sector participation in the provision of water supply, sewerage and sanitation services where beneficial to do so.	Private sector participation increased from 5 to 10 commercial schemes by the year 2010/11.	1) Design and implement an awareness campaign on the possible roles and potential benefits of PSP. 2) Assess and attempt to mitigate the risks and constraints facing international and local private Water Sector companies wishing to enter the Tanzania Water Sector. 3) Strengthen existing UWSAs and new WSSAs to attract private investment. 4) Strengthen and promote private companies, individuals, and water entities to operate water schemes.	Ministry responsible for Water / EWURA	Short to Medium Term
4.14 Water Supply, Sewerage and Sanitation Legislation	A strong and effective legal and regulatory framework for the sustainable provision of water supply, sewerage and sanitation services and ownership of facilities and infrastructure, including communities	Legal and regulatory framework is operational by 2007	1) Carry out a comprehensive review of all current statutory and customary legislation related to the provision of water supply, sewerage and sanitation services. 2) Identify the legislative provisions necessary to implement the NAWAPO and the NWSDS. 3) Identify duplication or overlap with other relevant legislation and clarify the respective	Ministry responsible for Water	Short Term

	becoming owners of water supply facilities in rural areas, is in place.		legal responsibilities. 4) Draft a comprehensive piece of legislation to meet future requirements, including stakeholder consultations. 5) Seek parliamentary approval to the new legislation.		
Water for Poverty Alleviation					
5.1 Poverty Alleviation	Water resources are managed equitably and water supply. Sewerage and sanitation services are improved so as to contribute effectively to the Nation's poverty reduction efforts...	NSGRP targets achieved.	1) Identify and prioritise target areas and establish criteria for investment. 2) Sensitise the public and create awareness of the opportunities for using water resources for alleviating poverty. 3) Promote hygiene and sanitation education and protect of water sources.	Ministry responsible for Water / VPO-Poverty / PMO-RALG	Short to Medium Term
Planning and Financing Mechanisms					
6.1 Planning	A holistic and integrated planning structure for both water resources management and development and water supply and water related sanitation services that uses a bottom-up Sector Wide Approach to Planning is operational.	Sector Wide Approach to Planning structure is operational by end of FY 2006/7.	1) Prepare an indicative long term sector development plan to meet MDG targets. 2) Prepare rolling Three Year Medium Term Development Plans for WRM based on inputs from different levels of planning. 3) Prepare rolling Three Year Medium Term Development Plans for water supply, sewerage and sanitation services based on inputs from the different organisations involved in service provision; 4) Disseminate the Plans to both the Government and DPs for funding support. 5) Prepare a harmonised participatory monitoring and evaluation framework to ensure that plans are executed accordingly.	Ministry responsible for Water / MoF / MoPEE / PMO-RALG	Short Term and On-going
6.2 Capital Investment	A Sector Wide Approach to Planning for capital investments into the whole sector, which is accepted by both the Government and Development Partners, is established and implemented.	Framework for a Sector Wide Approach to Planning for capital investments is operational and supported by Development Partners.	1) Establish a capital funding framework for investment in water supply, sewerage and sanitation based on service performance achievements and financial requirements. 2) Establish a capital funding framework for investment in WRM infrastructure based on prioritised needs and financial requirements. 3) Design expenditure guidelines, reporting formats, and monitoring and evaluation	Ministry responsible for Water / MoF / EWURA / PMO-RALG	Short Term

			mechanisms operating in compliance with Government procedures and guidelines. 4) Establish a National Water Fund through appropriate legislation. 5) Develop guidelines for monitoring the effectiveness of capital investments on improved service levels as part of the functions of the regulatory organisations.		
6.3 Water Resources Management Recurrent Costs	The recurrent costs of effective water resources management are being financed from user charges for water abstraction and effluent discharges. If necessary, supplementary funds for recurrent activities for water resources management will come from central government.	Recurrent cost of water resources management structures financed from user charges increases from 10% in 2005 to at least 80% by 2015.	1) Determine the recurrent budget requirements of the new water resources management organisations at the different levels. 2) Establish a tariff system for charging for water abstractions and effluent discharges and calculate the applicable level of charges. 3) Establish a mechanism for ensuring effective collection of user charges. 4) Assess the transitional requirements for central government support while the new system is operationalised. 5) Establish financial procedures and reporting formats in accordance with applicable laws and Government procedures.	Ministry responsible for Water / BWBs	Short Term
6.4 Water Supply, Sewerage and Sanitation Recurrent Costs	Effective and transparent mechanisms for covering recurrent costs based on defined performance standards which take into account the level of service and ability to pay, supported by targeted subsidies in cases of need.	Effective and transparent mechanisms to cover recurrent costs of water supply, sewerage and sanitation services in place.	1) Prepare guidelines for robust and appropriate revenue collection systems for all service providers, including universal metering. 2) Design and implement a performance based subsidy formula for supporting recurrent cost financing to Category C and B UWSAs, and progression to A. 3) Establish auditable expenditure guidelines and reporting formats that will operate in accordance to the applicable laws and Government procedures. 4) Develop and implement effective financial and operational performance monitoring and evaluation mechanisms for use by EWURA.	Ministry responsible for Water / EWURA	Short Term
6.5 Tariff Structures	Tariff levels and structures are established which are transparent, achieve cost coverage targets, encourage cost-effective	Tariff levels and structures which match cost coverage targets established and operational.	1) Prepare guidelines for establishing tariff structures and setting tariff levels by service providers, including the use of life-line and rising block tariffs. 2) Develop a procedure for all service providers to	Ministry responsible for Water / EWURA / WSSAs	Short Term

	provision of services, and protect poor and disadvantaged groups.		carry out tariff setting studies. 3) Establish transparent performance based mechanisms for regulating tariff levels for all service providers, including communities. 4) Raise awareness of consumers on tariff structures and any revisions thereof.		
Performance Monitoring and Regulation					
7.1 Performance Monitoring	An effective performance monitoring system for all providers of water supply and sewerage services is in operation.	Independent and effective regulations and monitoring procedures are in place and operational.	1) Review performance guidelines and identify the information required. 2) Prepare guidelines for reporting, evaluating and feeding back information to water service providers and consumers. 3) Introduce computer based performance monitoring systems where appropriate. 4) Raise awareness of the communities and other stakeholders regarding performance monitoring and the procedures involved.	Ministry responsible for Water / EWURA / PMO-RALG	Short Term
7.2 Regulation	Effective regulatory regimes are protecting the interests of water consumers and ensuring value for money provision of services.	EWURA is fully operational and the Ministry responsible for Water has a regulatory system in operation.	1) Operationalise EWURA's water utility functions and the regulatory function in the Ministry responsible for Water and district councils. 2) Develop licensing criteria and procedures, including guidelines for service standards, preparing business plans and PSP contracts. 3) Issue licences to water supply and sewerage authorities. 4) Develop procedures for establishing COWSOs. 5) Develop reporting and monitoring procedures for both EWURA and the Ministry.	Ministry responsible for Water / EWURA / PMO-RALG	Short Term
Capacity Building					
8.1 Organisational Development	Efficient and effective organisations are responsible for water resources management at the basin and water user levels, and for water supply and sanitation at the local government and community levels.	The new sector organisations are operational and carrying out their responsibilities by the end of 2010.	1) Develop plans to meet management systems and operational resources requirements. 2) Ensure the provision of adequate financial and physical resources to satisfy needs. 3) Establish technical support and advisory mechanisms for WRM organisations in the Ministry responsible for Water. 4) Establish technical support and advisory mechanisms for WSS through the Regional Secretariats.	Ministry responsible for Water / PMO-RALG	Short to Medium Term
8.2 Water	Sufficient staff possessing the required knowledge	All institutions responsible for WRM are fully staffed	1) Ensure that the staff in the new organisations understand their roles and responsibilities.	Ministry responsible for	Short Term

Resources Management	and skills, and the resources to implement water resources management functions effectively and efficiently, are available in the institutions at national, basin, catchment and local levels.	with appropriately qualified personnel by the year 2010.	2) Assess the training needs of all WRM staff to carry out their new roles and responsibilities. 3) Prepare training plans based on priority needs for different categories of employee and develop training delivery capacity. 4) Develop and implement training programmes to strengthen staff capacities in WRM institutions at all levels. 5) Develop and implement a participatory training programme for members of WUAs.	Water / PMO-RALG / BWBs	Short to Medium Term
8.3 Water Supply, Sewerage and Sanitation Services	Human resources in the sector have the appropriate knowledge and skills to carry out their tasks and are adequately motivated through remuneration and incentive structures and opportunities for advancement.	All workers in commercial schemes are fully trained and motivated by year 2010. A capacity building programme for community management teams is developed and in use.	1) Ensure that local authorities, WSSAs, EWURA, the Ministry responsible for Water, and communities understand their new roles. 2) Carry out training needs assessments for personnel according to their job skills requirements in all water supply, sewerage and sanitation organisations. 3) Prepare and implement needs based priority training plans based at all employee levels. 4) Develop training delivery capacity. 5) Design and implement capacity building programmes for communities to manage their own rural water supply systems and promote Participatory Rural Appraisal.	Ministry responsible for Water / PMO-RALG / LGAs	Short Term Medium Term
8.4 Stakeholder Participation in Water Resources Management	Effective and sustainable water resources management is carried out at all levels through integrated and participative management approaches.	Integrated and participative management approaches operational.	1) Develop and implement awareness programs for participatory basin management. 2) Develop procedures and guidelines for establishment of WUAs, and catchment organisations with clear linkages to the Basin Water Boards. 3) Develop and implement demand driven stakeholder participatory assessments. 4) Facilitate the development of local action plans for effective WRM. 5) Develop and implement programmes aimed at promoting the participation of women and youth in WRM.	Ministry responsible for Water / BWBs	Short to Medium Term
8.5 Stakeholder Participation in Water Supply,	Improved service delivery and sustainability through the involvement of and accountability to	Boards of UWSAs and WSSAs have at least 50% representation of non-government	1) Identify stakeholders involved in the provision of water supply, sewerage and sanitation services. 2) Develop mechanisms for stakeholder participation in water and sewerage entities.	Ministry responsible for Water / LGAs	Short Term

Sewerage and Sanitation Services	stakeholders.	stakeholders by 2010.	3) Develop mechanisms for involving communities in rural water service provision, and sanitation. 4) Develop and implement public awareness campaigns on the opportunities and advantages of stakeholder participation in the provision of the services.		Medium Term
8.6 Gender Sensitivity	Active and effective participation of both women and men in the provision of water supply, sewerage and sanitation services.	At least 30% of members of decision making bodies at all levels should be women by 2010.	1) Raise awareness, train and empower women to actively participate at all levels in planning, designing and managing water programmes. 2) Develop mechanisms to ensure both men and women participate and are consulted in WRM and water supply, sewerage and sanitation planning. 3) Ensure a fair representation of both women and men in Water Sector executive and advisory boards countrywide. 4) Facilitate collection and analysis of gender-disaggregated data to facilitate inclusion in the planning and budgeting processes.	Ministry responsible for Water / PMO-RALG / BWBs	Short Term and On-going
8.7 HIV/AIDS	The spread of HIV/AIDS among Water Sector stakeholders is reduced and impacts mitigated.	HIV/AIDS plan formulated and being implemented.	1) Carry out HIV/AIDS situational and impact analysis 2) Formulate and adopt a comprehensive Water Sector HIV/AIDS operational Plan. 3) Mobilise both human and financial resources to facilitate implementation activities. 4) Provide and promote condoms and other protective measures for Water Sector stakeholders.	Ministry responsible for Water / PMO-RALG	Short Term and On-going
Communication and Advocacy					
9.1 Communications	An effective education, information and communication framework for increased stakeholder and community knowledge of the Water Sector activities is operational.	A majority of the public are aware of the reforms of the Water Sector by 2010.	1) Establish a Public Relations Unit in the Ministry responsible for Water. 2) Strengthen the advocacy and communication capability of all sector organisations. 3) Establish effective communication structures between different organisations in the institutional frameworks. 4) Design and implement a communications and advocacy programme to disseminate information on water issues and reforms.	Ministry responsible for Water / PMO-RALG	Short to Medium Term

Co-ordination and Collaboration					
10.1 Co-ordination and Collaboration	An effective mechanism to facilitate effective co-ordination and collaboration among all Water Sector stakeholders is established and operational.	Effective co-ordination and collaboration mechanism in place and operational.	1) Establish a central focus for managing the reform process and co-ordinating NWSDS implementation. 2) Develop and implement co-ordination and collaboration at all levels of the Water Sector. 3) Establish mechanism for dialogue and co-ordination with DPs and conduct annual joint reviews. 4) Review the legal and institutional frameworks to ensure adequate provision for stakeholder cohesion during NWSDS implementation. 5) Harmonise NWSSIP and sector investment plans.	Ministry responsible for Water / DPs	Short Term and On-going

Key to Responsibilities

Ministry responsible for Water	
Vice-President's Office – Environment	VPO - Environment
Vice-President's Office – Poverty	VPO - Poverty
Prime Minister's Office – Regional Administration and Local Government	PMO-RALG
Prime Minister's Office – Disaster Management Office	PMO-DMD
Energy and Water Utilities Regulatory Authority	EWURA
Ministry of Health and Social Welfare	MoHSW
Ministry of Finance and Economic Affairs	MoFEA
Ministry of Planning, Economy and Empowerment	MoPEE
National Water Board	NWB
Basin Water Boards	BWBs
Local Government Authorities	LGAs
Water Supply and Sewerage Authorities	WSSAs
Community Owned Water Supply Organisations	COWSOs
Development Partners	DPs

National Water Sector Strategic Implementation Plan

Five Year Prioritised Activity Schedule

LEGEND: Continuous Activities; Intermittent Activities

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
I	**Water Resources Management Strategies**																					
3.1	**Institutional Framework for Water Resources Management**																					
3.1.1	Prepare, agree and implement plan for establishment of the new framework	Ministry f.Water																				
3.1.2	Prepare organisational requirements for new organisations	Ministry f.Water-WRM																				
3.1.4	Develop, operational, administrative and financial procedures	Ministry f.Water-WRM																				
3.3	**Water Resources Assessment**																					
3.3.1	Establish mechanisms for monitoring water use and demand	Ministry f.Water-WRM																				
3.3.2	Establish sustainable data collection and publication systems	Ministry f.Water-WRM																				
3.3.3	Assess useful storage life of existing and possible future dams	Ministry f.Water-WRM																				
3.3.4	Develop river basin models and decision systems	Ministry f.Water-WRM																				
3.3.5.a	Develop regular water resources assessment programmes	Ministry f.Water-WRM																				
3.3.5.b	Implement regular water resources assessment programmes	Ministry f.Water-WRM																				
3.4	**Integrated Water Resources Planning**																					
3.4.1	Prepare criteria for differing water use priorities	NWB																				
3.4.2	Determine and prioritise requirements of all users	BWBs																				
3.4.3	Establish participatory planning procedures	Ministry f.Water-WRM																				
3.4.4	Prepare integrated basin and national water resources management plans	NWB																				
3.5	**Water Resources Development**																					
3.5.1	Identify and research possible alternative resource technologies	Ministry f.Water-Research																				
3.5.2	Establish criteria for selection and use	Ministry f.Water-WRM																				
3.5.3	Prepare plans and promote suitable alternative technologies	BWBs																				
3.6	**Environmental Protection and Conservation**																					
3.6.1	Identify and monitor conditions in environmentally sensitive locations	Ministry f.Water-WRM																				
3.6.2	Develop and implement catchment restoration, protection and management	BWB/VPO-Env																				
3.6.3	Design and implement awareness and involvement in conservation	Ministry f.Water-WRM/BWBs																				
3.6.4	Determine environmental flow requirements for ecosystems	BWBs																				
3.6.5	Establish guidelines and procedures for EIAs and their enforcement	NEMC																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
3.7	**Water Quality and Pollution Control**																					
3.7.1	Set water quality targets linked to water classification system	Ministry f.Water-WRM																				
3.7.2.a	Develop water quality monitoring programmes	Ministry f.Water-WRM																				
3.7.2.b	Implement water quality monitoring programmes	BWBs																				
3.7.3.a	Prepare a system of discharge standards and permits	Ministry f.Water-WRM																				
3.7.3.b	Implement a system of discharge standards and permits	BWBs																				
3.7.4	Develop and operationalise discharge monitoring and pollution control	Ministry f.Water-WRM/BWBs																				
3.7.5	Identify areas of naturally occurring elements and remedial measures	BWBs/Ministry f.Water-Research																				
3.8	**Water Conservation and Demand Management**																					
3.8.1	Determine user fees that can be imposed to manage demand	Ministry f.Water-WRM/BWBs																				
3.8.2	Conduct research and promote technology to conserve water	Ministry f.Water-Research/WRM																				
3.8.3	Prepare and operationalise guidelines and regulations for conservation	Ministry f.Water-WRM																				
3.8.4	Develop and implement efficiency water use monitoring programmes	Ministry f.Water-WRM/BWBs																				
3.8.5	Prepare and implement water conservations awareness	Ministry f.Water-WRM/BWBs																				
3.9	**Water Utilisation and Allocation**																					
3.9.1	Establish water resources classification system	Ministry f.Water-WRM																				
3.9.2	Develop water allocation criteria, procedures and guidelines	Ministry f.Water-WRM/NWB																				
3.9.3	Review and regularise existing water rights based on criteria	NWB/BWBs																				
3.9.4	Prepare and implement awareness on water allocation procedures	Ministry f.Water-WRM/BWBs																				
3.19.5	Develop and implement dam / reservoir operation rules and criteria	Ministry f.Water/WRM																				
3.10	**Trans-boundary Waters**																					
3.10.1	Develop and strengthen local capacity to secure trans-boundary waters	Ministry f.Water-WRM																				
3.10.2	Promote technical collaboration on research, data and exchange	Ministry f.Water-WRM/Research																				
3.10.3	Promote joint inter-state catchment management	Ministry f.Water-WRM																				
3.10.4	Participate in trans-boundary organs, commissions, committees	Ministry f.Water-WRM																				
3.11	**Disaster Management**																					
3.11.1	Prepare and agree disaster response organisation structures	Ministry f.Water-WRM																				
3.11.2	Prepare and implement disaster advance warning systems	Ministry f.Water-WRM/PMO-DMD																				
3.11.3	Develop disaster contingency plans and train personnel in their use	Ministry f.Water-WRM																				
3.11.4	Develop dam safety measures to mitigate impact of floods and droughts	Ministry f.Water-WRM																				
3.12	**Water Resources Management Legislation**																					
3.12.1	Review current statutory and customary legislation for WRM	Ministry f.Water-WRM/Leg																				
3.12.2	Identify duplication or overlap and clarify legal responsibilities	Ministry f.Water-WRM/Leg																				
3.12.3	Draft new legislation to meet future IWRM with stakeholders involved	Ministry f.Water-WRM/Leg																				
3.12.4	Seek parliamentary approval to legislation	Ministry f.Water-WRM/Leg																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
II	**Water Supply, Sewerage and Sanitation Strategies**																					
4.1	**Institutional Framework for Water Supply, Sewerage and Sanitation Services**																					
4.1.1	Prepare, agree and implement plan for establishing new organisations	Ministry f.Water-WSS/LGAs																				
4.1.2	Prepare organisation development requirements for new organisations	Ministry f.Water-WSS/LGAs																				
4.1.4	Develop corporate and management plans to provide required service	Ministry f.Water-WSS/EWURA																				
4.1.5	Develop and implement stakeholders' awareness programme	Ministry f.Water-WSS/PMO-RALG																				
4.3	**Demand for Water Supply Services**																					
4.3.1.a	Establish data collection system on demand	Ministry f.Water-WSS/EWURA																				
4.3.1.b	Implement data collection system on demand	WSSAs/COWSOs																				
4.3.2	Determine and apply criteria for meeting consumer demands	Ministry f.Water-WSS																				
4.3.3	Identify appropriate alternative water sources relative to use	Ministry f.Water-Research																				
4.3.4	Introduce regulation of alternative water sources to protect health	Ministry f.Water-WSS/MoHSW																				
4.4	**Demand for Sewerage and Sanitation Services**																					
4.4.1.a	Establish data collection system on demand	Ministry f.Water-WSS/EWURA																				
4.4.1.b	Implement data collection system on demand	WSSAs/COWSOs																				
4.4.2	Establish planning and co-ordination mechanisms between WSS bodies	PMO-RALG/MoHSW/EWURA																				
4.4.3	Research alternative sewerage and sanitation systems, cost and use	Ministry f.Water-Research																				
4.4.4	Investigate potential re-use of sludges and define regulations	Ministry f.Water-Research																				
4.4.5	Design and implement sanitation awareness and re-use promotion	MoHSW/PMO-RALG																				
4.5	**Managing Demands**																					
4.5.1	Institute customer reporting mechanisms for waste, misuse and leakage	WSSAs/COWSOs/LGAs																				
4.5.2	Establish consumer meter installation procedures and leakage control	WSSAs/COWSOs																				
4.5.3	Develop tariff schemes and charging levels to encourage conservation	WSSAs																				
4.5.4	Research appropriate measures to reduce consumption	Ministry f.Water-Research																				
4.5.5	Develop and implement water use and conservation awareness	Ministry f.Water/WSS/PMO-RALG																				
4.6	**Service Levels**																					
4.6.1	Evaluate all schemes on basis of minimum service levels	Ministry f.Water-WSS/WSSAs																				
4.6.2	Identify consumer groups needing subsidy to meet service levels	WSSAs																				
4.6.3	Prepare design guidelines based on minimum service levels	Ministry f.Water/EWURA																				
4.6.4	Design and implement awareness on minimum service levels	Ministry f.Water-WSS/PMO-RALG																				
4.7	**Services to Low Income Groups**																					
4.7.1	Identify low income groups and develop appropriate schemes	WSSAs/COWSOs/LGAs																				
4.7.2	Ensure low income groups included in all UWSA / WSSA schemes	UWSAs/WSSAs																				
4.7.3	Research alternative technologies for low income groups	Ministry f.Water-Research																				
4.7.4	Ensure necessary subsidies built into tariff system	EWURA																				
4.7.5	Assist in mobilising NGOs and CBOs in low income areas	UWSAs/WSSAs/LGAs																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
4.8	**Community Ownership and Management**																					
4.8.1	*Same as 7.2.4*																					
4.8.2	*Same as 8.3.5*																					
4.8.3	Develop formal arrangements for handover of schemes from GoT	Ministry f.Water-WSS																				
4.8.4	Establish technical and managerial support mechanisms	Ministry f.Water-WSS																				
4.8.5	Develop and implement phased plan of transfer from GoT to communities	Ministry f.Water-WSS																				
4.9	**Integration of Water Supply, Sanitation and Hygiene Education**																					
4.9.1	Develop integration guidelines	Ministry f.Water-WSS/MoHSW																				
4.9.2	Apply participatory hygiene and sanitation transformation approach	Ministry f.Water-WSS/MoHSW/LGAs																				
4.9.3	Strengthen water quality laboratories and water quality monitoring	Ministry f.Water-WL/WSSAs																				
4.9.4	Develop and implement awareness on water use, sanitation and hygiene	Ministry f. Water-WSS/MoH/PMO-RALG																				
4.10	**Appropriate Technology**																					
4.10.1	Research sustainability and cost-effectiveness of alternate technology	Ministry f.Water-Research																				
4.10.2	Develop guidelines for technical and financial appraisal	Ministry f.Water-Research																				
4.10.3	Establish consumer consultation mechanisms for UWSA/WSSA schemes	EWURA																				
4.10.4	Establish consumer consultation mechanisms for community schemes	Ministry f.Water-WSS/LGAs																				
4.11	**Rehabilitation Requirements**																					
4.11.1	Collect design information and survey existing schemes	LGAs/WSSAs/Ministry f.Water-WSS																				
4.11.2	Establish prioritisation criteria including beneficiary participation	Ministry f.Water-WSS/LGAs/WSSAs																				
4.11.3	Prepare rehabilitation cost estimates scheme by scheme	LGAs/WSSAs/Ministry f.Water																				
4.11.4	Prepare sequenced rehabilitation plan based on resources / priorities	Ministry f.Water-WSS/LGAs/WSSAs																				
4.12	**New Works and Expansion Requirements**																					
4.12.1	Identify investment requirements on scheme by scheme basis	LGAs/WSSAs/Ministry f.Water																				
4.12.2	Implement mechanism for stakeholder participation in decisions	LGAs																				
4.12.3	Establish criteria for prioritisation	Ministry f.Water-WSS																				
4.12.4	Prioritise investment requirements	Ministry f.Water-WSS/PMO-RALG																				
4.12.5	Prepare sequenced investment plan based on resources / priorities	Ministry f.Water-WSS/PMO-RALG																				
4.13	**Private Sector Participation**																					
4.13.1	Design and implement awareness campaign on PSP benefits	Ministry f.Water-WSS																				
4.13.2	Assess and try to mitigate risks and constraints to PSP	Ministry f.Water-WSS/EWURA																				
4.13.3	Strengthen existing UWSAs and WSSAs to attract private investment	Ministry f.Water-WSS																				
4.13.4	Create conducive environment for PSP in operating water schemes	Ministry f.Water-WSS																				
4.14	**Water Supply, Sewerage and Sanitation Legislation**																					
4.14.1	Review of current statutory and customary legislation for WSS	Ministry f.Water-WSS/Leg																				
4.14.2	Identify legislative provisions to implement NAWAPO and NWSDS	Ministry f.Water-WSS/Leg																				
4.14.3	Identify duplication or overlap and clarify future requirements	Ministry f.Water-WSS/Leg																				
4.14.4	Draft legislation to meet new requirements with stakeholders involved	Ministry f.Water-WSS/Leg																				
4.14.5	Seek parliamentary approval to new legislation	Ministry f.Water-WSS/Leg																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
III	**Additional Strategies**																					
5.1	**Poverty Alleviation**																					
5.1.1	Identify and priorities target areas and investment criteria	Ministry f.Water-P&P/VPO-Pov																				
5.1.2	Sensitise public and create awareness for using water resources	Ministry f.Water-WSS/PMO-RALG																				
5.1.3	Promote hygiene and sanitation education and protect water sources	Ministry f.Water-P&P/PMO-RALG																				
6.1	**Planning**																					
6.1.1	Prepare long term indicative sector development plan	Ministry f.Water-P&P																				
6.1.2	Prepare rolling 3 year Development Plan for WRM	Ministry f.Water-P&P/WRM																				
6.1.3	Prepare rolling 3 year Development Plan for WSS	Ministry f.Water-P&P/WSS																				
6.1.4	Disseminate plans to GoT and DPs for funding support	Ministry f.Water-P&P/MoF/MoPEE																				
6.1.5	Prepare harmonised participatory M&E framework	Ministry f.Water-P&P																				
6.2	**Capital Investment**																					
6.2.1	Establish capital funding framework for WSS infrastructure	Ministry f.Water-P&P/WSS																				
6.2.2	Establish capital funding framework for WRM infrastructure	Ministry f.Water-P&P/WRM																				
6.2.3	Design expenditure guidelines, reporting and M&E mechanisms	Ministry f.Water-P&P/MoF																				
6.2.4	Establish a National Water Fund	Ministry f.Water-P&P/WSS																				
6.2.5	Develop guidelines for monitoring investment effectiveness	Ministry f.Water-P&P/EWURA																				
6.3	**Water Resource Management Recurrent Costs**																					
6.3.1	Determine future recurrent budget needs for WRM institutions	Ministry f.Water-WRM/BWBs																				
6.3.2	Establish tariff system for water abstractions / effluent discharges	Ministry f.Water-WRM/BWBs																				
6.3.3	Establish mechanism for collecting user charges	Ministry f.Water-WRM/BWBs																				
6.3.4	Assess transitional requirements for government support	Ministry f.Water-WRM/BWBs																				
6.3.5	Establish financial procedures and reporting formats	Ministry f.Water-WRM/BWBs																				
6.4	**Water Supply, Sewerage and Sanitation Recurrent Costs**																					
6.4.1	Prepare guidelines for revenue systems and metering	Ministry f.Water-WSS																				
6.4.2	Design performance based subsidy for A, B and C UWSAs	Ministry f.Water-WSS																				
6.4.3	Establish auditable expenditure guidelines for COWSOs	Ministry f.Water-WSS																				
6.4.4	Develop performance monitoring systems for EWURA	EWURA																				
6.5	**Tariff Structures**																					
6.5.1	Prepare guidelines for tariff structures and levels	Ministry f.Water-WSS																				
6.5.2	Develop procedure for carrying out tariff studies	EWURA																				
6.5.3	Establish performance based mechanisms to regulate tariffs	EWURA/WSSAs																				
6.5.4	Raise awareness on tariff structures and revisions	EWURA																				
7.1	**Performance monitoring**																					
7.1.1	Review performance guidelines	Ministry f.Water-WSS/EWURA																				
7.1.2	Prepare guidelines for reporting, evaluation and feedback	Ministry f.Water-WSS/EWURA																				
7.1.3	Introduce computerised performance monitoring systems	Ministry f.Water-WSS/EWURA																				
7.1.4	Raise awareness of communities on performance monitoring	Ministry f.Water-PR-WSS/PMO-RALG																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
7.2	**Regulation**																					
7.2.1	Operationalise EWURA water utility functions	Ministry f.Water/EWURA																				
7.2.2	Develop licensing criteria and procedures	EWURA																				
7.2.3	Issue licences to WSSAs	EWURA																				
7.2.4	Develop procedures to establish COWSOs	Ministry f.Water-WSS/PMO-RALG																				
7.2.5	Develop reporting procedures for EWURA and Ministry f.Water	EWURA/Ministry f.Water-WSS																				
8.1	**Capacity Building in Water Resources Management**																					
8.1.1	Ensure new WRM sector bodies understand their roles	Ministry f.Water-PR-WRM/PMO-RALG																				
8.1.2	Carry out training needs assessments in WRM sector organisations	Ministry f.Water-WRM/BWBs																				
8.1.3	Prepare priority needs training plans	Ministry f.Water-WRM/BWBs																				
8.1.4	Develop and implement training programmes	Ministry f.Water-WRM/BWBs																				
8.1.5	Develop and implement participatory training programme for WUAs	Ministry f.Water-WRM/BWBs																				
8.2	**Capacity Building in Water Supply, Sewerage and Sanitation**																					
8.2.1	Ensure new WSS sector bodies understand their roles	Ministry f. Water-PR-WSS/PMO-RALG																				
8.2.2	Carry out training needs assessments in WSS sector organisations	Ministry f.Water-WSS																				
8.2.3	Prepare and implement needs based priority training plans	Ministry f.Water-WSS																				
8.2.4	Develop training delivery capacity	Ministry f.Water-WRI																				
8.2.5	Develop community management capacity building programmes	LGAs																				
8.3	**Stakeholder Participation in Water Resources Management**																					
8.3.1	Develop and implement stakeholder participation awareness in WRM	Ministry f.Water-PR-WRM																				
8.3.2	Develop procedures to establish WUAs and catchment bodies	Ministry f.Water-WRM																				
8.3.3	Develop demand driven participatory assessments	BWBs																				
8.3.4	Facilitate development of local action plans for WRM	BWBs																				
8.4	**Stakeholder Participation in Water Supply, Sewerage and Sanitation**																					
8.4.1	Identify stakeholders in service provision	Ministry f.Water-WSS/LGAs																				
8.4.2	Develop participation mechanisms	Ministry f.Water-WSS																				
8.4.3	Develop mechanism for involving communities in RWS	Ministry f.Water-WSS																				
8.4.4	Develop and implement stakeholder participation awareness in WSS	Ministry f.Water-PR-WSS																				
8.5	**Gender Sensitivity**																					
8.5.1	Empower women to participate in sector activities	Ministry f. Water-WSS-WRM/PMO-RALG																				
8.5.2	Develop mechanisms for gender participation in planning	Ministry f.Water-Admin/PMO-RALG																				
8.5.3	Ensure fair gender representation on sector boards	Ministry f.Water-WSS-WRM/PMO-RALG																				
8.5.4	Facilitate collection of gender disaggregated data	Ministry f.Water-P&P/PMO-RALG																				
8.3.5	Develop programmes for women and youth participation in WRM	Ministry f.Water-WRM/BWBs																				
8.6	**HIV/AIDS**																					
8.6.1	Carry out situational and impact analysis	Ministry f.Water-Admin/PMO-RALG																				
8.6.2	Formulate HIV/AIDS operational plan	Ministry f.Water-Admin/PMO-RALG																				
8.6.3	Mobilise resources to implement plan	Ministry f.Water-Admin/PMO-RALG																				
8.6.4	Provide and promote protective measures	Ministry f.Water-Admin/PMO-RALG																				

NWSDS No.	Key Result Area and Summary Main Activities	Responsibility	2006/7				2007/8				2008/9				2009/10				2010/11			
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
9.1	**Communications**																					
9.1.1	Establish PR Unit in Ministry f.Water	Ministry f.Water-Admin																				
9.1.2	Strengthen advocacy capacity in sector organisations	Ministry f.Water-PR/PMO-RALG																				
9.1.3	Establish communication structures between sector bodies	Ministry f.Water-PR/PMO-RALG																				
9.1.4	Design and implement advocacy programme on reforms	Ministry f.Water-PR/PMO-RALG																				
10.1	**Co-ordination and Collaboration**																					
10.1.1	Establish central focus for managing reform and implementing NWSDS	Ministry f.Water-P&P																				
10.1.2	Develop and implement coordination at all levels in WRM and WSS	Ministry f.Water-P&P																				
10.1.3	Establish co-ordination mechanism with DPs and hold annual reviews	Ministry f.Water-P&P/DPs																				
10.1.4	Ensure adequate stakeholder cohesion	Ministry f.Water-P&P																				
10.1.5	Harmonise NWSSIP and sector investment plans	Ministry f.Water-P&P																				

Key to Responsibilities

Basin Water Boards	BWBs
Community Owned Water Supply Organisation	COWSOs
Development Partners	DPs
Energy and Water Utilities Regulatory Authority	EWURA
Local Government Authorities	LGAs
Ministry of Finance	MoF
Ministry of Health and Social Welfare	MoHSW
Ministry of Planning, Economy and Empowerment	MoPEE
Ministry responsible for Water - Administration	Ministry f.Water-Admin
Ministry responsible for Water - Legal Unit	Ministry f.Water-Leg
Ministry responsible for Water - Policy and Planning	Ministry f.Water-P&P
Ministry responsible for Water - Public Relations	Ministry f.Water-PR
Ministry responsible for Water - Research	Ministry f.Water-Research
Ministry responsible for Water - Water Resources Institute	Ministry f.Water-WRI
Ministry responsible for Water - Water Laboratories	Ministry f.Water-WL
Ministry responsible for Water - Water Resources Management	Ministry f.Water-WRM
Ministry responsible for Water - Water Supply and Sewerage	Ministry f.Water-WSS
National Water Board	NWB
Prime Minister's Office - Regional Administration and Local Government	PMO-RALG
Prime Minister's Office - Disaster Management Department	PMO-DMD
Vice -President's Office - Environment	VPO-Env
Vice -President's Office - Poverty	VPO-Pov
Water Users Associations	WUA

Kahama-Shinyanga Water Project

Ministry of Water and Irrigation
Morogoro Road
P.O.Box 9153
Dar es Salaam
United Republic of Tanzania

www.maji.go.tz