THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF WATER

NATIONAL WATER POLICY

August 2000

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF WATER

NATIONAL WATER POLICY

August 2000

TABLE OF CONTENTS

The mission of the Ministry responsible for water is to ensure efficient development and management of water resources for the country's social-economic development through provision of sustainable water supply and sewerage services by using environmentally, socially and financially sustainable procedures and technologies.

CHAPTER 1: INTRODUCTION

1.1 Overview of the Water Sector

Water is a basic natural resource required to sustain life and to provide for various social-economic needs. It is a unique component of our environment and is one of the most precious resources of the Nation. In its natural state, water is an integral part of the environment whose quantity and quality determine how it may be used. Despite its importance for our lives and development, it is poorly distributed in time, space, quantity and quality.

The social and economic circumstances prevailing in Tanzania have made particular demands upon the country's water resource base and the environment, and its sustainability is threatened by human induced activities. Over the past 15 years these demands have intensified with the increase in population and concurrent growth of economic activities requiring water as an input such as in hydropower generation, irrigated agriculture, manufacturing industries, tourism, mining, livestock and domestic use, among others. The inadequacy of supply of the resource due to unreliable rainfall, multiplicity of competing uses, degradation of sources and catchments threaten food security, energy production and environmental integrity. There are conflicts of interest over the use and availability of water resources. This situation is aggravated further by fragmented planning, which is being implemented following sectoral, regional or district interests.

In 1971 the Government launched the 20-year water supply programme (1971-1991) intended to provide safe and potable water to the rural population within a distance of 400 metres from each household. By the end of 1991 less than 50% of the rural population had access to safe water 400 meters from their homesteads. The water supply coverage (1999) was estimated at 48% for rural areas and 68% for urban areas. Over 30% of rural water schemes are either partially or completely not functioning properly.

Safe drinking water and good sanitation practices are basic considerations for human health. Use of contaminated sources pose health risks to the population as evidenced by the incidences of water borne diseases such as diarrhea and cholera. Sometimes because of mal-functioning of treatment plants and lack of chemicals for treatment, most urban water supplies are inadequately treated.

The development approach of the water sector has changed over time responding to the country's overall development objectives. In practical terms, different ministries and organisations with different sectoral outlook and interests which at times were dictated by conflicting objectives have carried out development of water resources. In an effort to harmonize the objectives of the water sector, in 1991 the Government approved and launched a National Water Policy for overall development and management of water resources. The policy focused, among other things, on cost sharing and beneficiary participation in planning, construction, operation and maintenance of community based domestic water supply schemes; and application of an integrated approach for water and sanitation. A review of the water sector carried out in 1995 identified a number of shortfalls in the 1991 Policy. It did not address adequately cross-sectoral interests in water, watershed management, integrated and participatory approaches for water resources management.

1.2 Rationale

There are a number of challenges in the management and development of the water resources. These challenges include growing scarcity of the resource, and competition and conflicts among users, growing degradation of the resources from the cumulative consequences of poor water allocation decisions, pollution, weeds and the introduction of alien species. There are also increasing challenges of managing the multiple transboundary water courses. Present water resources management is hampered mainly by inadequate policy, legal and institutional framework. This often result into overlaps and gaps in responsibilities resulting into fragmented planning. This make it difficult to carry through the management actions resolutely, consistently and comprehensively.

In the delivery of water supply and sanitation services in the rural areas there is still improvement in coverage despite substantial investment. The concept of "free water is still held by some rural communities. There is also inadequate enabling environment for increased private sector participation, the increasing difficulty in financing the operations of the large national rural water supply schemes, lack of a collaboration mechanism among various actors to facilitate integration of water supply, sanitation and hygiene education for improved health.

In the urban water supply and sewerage aspects, there are a number of associated problems which affect smooth delivery of services. These include lack of enabling environment for private sector participation; and lack of appropriate policy mechanisms for the provision of water and sanitation services to low income groups in the urban and peri-urban areas. The present policy underestimated of the role of Private Sector present legal and institutional framework is inadequate.

These challenges require new approach to be defined in a new policy, legal and institutional framework to effectively deal with these challenges. The envisaged new approach is not adequately covered in the 1991 Water Policy, and hence need for a new policy.

1.3 The Policy

The National Water Policy addresses issues of water resources management, rural and urban water supply and sanitation services. It takes into consideration the Environmental Policy and other sector policy issues and concerns, and is based on global principles.

1.4 Vision of the Policy

The vision of the National Water Policy is to sustain the water resource so that it is available in adequate quantity and quality to meet the present and future needs of the various socio-economic activities, with domestic water supply given highest priority.

1.5 Overall Objective

The overall objective of the National Water Policy is to develop a comprehensive framework for sustainable management of the Nation's water resources, and an effective legal and institutional framework for its implementation; with the view to achieving optimum, long-term, environmentally sustainable social and economic benefits to guide the development and management of efficient, effective and sustainable water supply and wastewater disposal and sanitation. The policy seeks to ensure that water plays an important role in poverty alleviation.

1.6 Instruments for policy implementation

Four types of instruments, and other measures to be instituted from time to time will be used in the implementation of the policy:

1.6.1 Technical instruments

Technical instruments include technical measures, which are used to control water uses including gating of abstractions, flow metering, application of cleaner production technology.

1.6.2 Economic instruments

Economic instruments include water pricing, charges, penalties and incentives to be used to stimulate marketing mechanism, and serve as an incentive to conserve water, and reduce pollution of water sources. This instrument will also facilitate water allocations.

1.6.3 Administrative instruments

Administrative instruments include information management systems and monitoring, information products, water resources plans including water source protection plans, water resources models and decision support systems, various water resources guidelines.

1.6.4 Legal instruments

Legal instruments include restrictions and all prohibitions imposed by the regulatory body and the Government. These are individual licenses for abstractions and their revisions, guidelines, discharge permits, codes of conduct, guidelines, standards, Environment Impact Assessments, and agreements, treaties and protocols for transboundary water resources.

1.7 Principles

1.7.1 Water resources

(i) Water is a finite and vulnerable resource, essential to sustain life, development and the environment.
(ii) Water resources management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
(iii) Women play a central role in the management and safeguarding of water.
(iv) Water has an economic value in all its competing uses and should be recognized as an economic good.
(v) Water for basic social needs necessary to maintain human health, personal hygiene and sanitation shall take highest priority; followed by water for maintaining ecological minimum, and the environment.
(vi) The river basin will be a planning unit for effective management of both quantity and quality of the water resources.
(vii) Management of water resources in quantity and quality shall be consolidated and managed jointly in the same functional units;
(viii) Regulatory and service functions should be separated for effective management and quality assurance.

(ix) Treaties and protocols that optimize the benefits of all parties in a spirit of mutual cooperation are the basis for the management of and development of transboundary waters.

1.7.2 Water supply and sanitation services

(i) Access to adequate, clean and safe water is a basic need and right for all human beings.
(ii) First priority is the use of water for human consumption.
(iii) Managing water schemes at the lowest appropriate level.
(iv) The choice of technology and the level of service shall be reconciled with the economic capacity of the beneficiaries.
(v) Recognizing women are key actors in the provision of water supply services.
(vi) Water supply, sanitation and hygiene education shall be integrated for improved public health.
(vii) Cost recovery is the foundation of sustainable service delivery.
(viii) Water demand management shall be emphasised.
(ix) Urban water and sewerage services shall take into consideration existence and the needs of the low income groups.
(x) Private sector has important role to play in the management and development of urban water supply and sewerage services.
(xi) Independency, transparency and fairness of the regulatory framework.
(xii) Integration of water supply and wastewater services.
(xiii) Service delivery will be decentralised and institutional reforms implemented.
(xiv) Quality assurance is vital in UWSS sub-sector.
(xv) When people use water they produce wastewater. They have an obligation to pay for wastewater treatment proportionately to their water consumption, irrespective of the collection method.

conservation measures, and control of pollution of water sources from industrial solid waste, discharges and effluents.

2.5 Energy

Energy consumption in Tanzania is currently such that 92% is biomass, 7% petroleum products, and 1% electricity and coal. The installed capacity of all electric generating facilities is 615 MW, of which approximately 62% are from hydropower. The energy policy puts greater emphasis on hydropower development and extension of mainly hydro fed grid to reach as many load centers as possible. The objective is to supply electricity for various social-economic activities at a reasonable price, and also to reduce dependence on biomass fuels and imported petroleum. The main *sector issues and concerns include availability of the necessary hydrological information base for the planning, development and operation of hydropower systems; optimal allocation of water that benefits the whole spectrum of social-economic demands, and regulating the operation of hydropower reservoirs and at the same time managing and regulating all other water uses.*

2.6 Mining

The vision for the minerals sector for the next 25 years is to have a strong, vibrant, well organized private sector, large and small scale mining industry conducted in a safe and environmentally-sound manner; contributing in excess of 10% of the GDP. *Main sector issues and concerns are water availability and control of environmental degradation and prevention of pollution of water resources from mining activities.*

2.7 Environmental Water Needs

In-stream flows or environmental flows and levels are necessary for riparian biodiversity, wetland systems, freshwater-seawater balance in deltas and estuaries. Over abstraction of groundwater results into decline of groundwater levels and land subsidence, seawater intrusion, and diminishing springs. *Main issues and concerns are identification of major aquatic ecosystems, their ecology and hydrology and meeting their in-stream flow requirements and quality level standards, and establishment and enforcement of effective regulatory mechanisms for environmental flow requirements.*

2.8 Fisheries

The fisheries sector contributes about 2% of GDP and 10% of export earnings(...year). It is a major source of protein, and contributes towards poverty alleviation and food security, recreation and tourism. Bad fishing methods that use poisonous substances pollute water resources. *The main sector issue and concern is water availability of acceptable quality.*

2.9 Wildlife

Tanzania's wildlife protected area covers 28% of the total land area, of which 19% is devoted to wildlife in protected area (National Parks and Game Reserves) where no human settlement is allowed and. The rest of the area wildlife co-exists with humans. The wildlife Sector contributes approximately 2% of the GDP. *The main sector issue and concern is the availability of water to create good environment to support bio-diversity.*

CHAPTER 2: WATER USES AND SECTORAL WATER CONCERNS

2.1 Domestic Water Supply and Sanitation

The country's present population is estimated at about 30 million, of which 78% live in rural areas. The average annual population growth is estimated at 3.0% (Bureau of Statistics, 1996) and is projected to be 2.7% and 2.2% for the period 2000-10 and 2010-20, respectively. This population growth will not only have an impact on water supply and demands for human consumption but also on other water uses. Significant increase in sanitation and sewerage services will also be required Projected populations of rural and urban residents in the year 2020 are, respectively, estimated to be 44.8 million and 28 million. This population increase will not only have an impact on water supply and demands for human consumption but also on other water uses. Significant increase in sanitation and sewerage services will also be required. *The major sector concern is to develop mechanisms to meet the growing water demands and sanitation services sustainably.*

2.2 Agricultural

The agriculture sector contributes about 50% of the GDP (1997 National Accounts). The 43 million hectares suitable for agricultural production only about 6.3 million ha are under cultivation which represents about 15% of arable land. The sector remains susceptible to droughts and the erratic nature of rainfall. Irrigation potential in the country is estimated at one million hectares, of which only about 150,000 hectares are currently being irrigated and have low water use. Poor agricultural practices and excessive use of agrochemicals results into land degradation and pollution of water sources. *Consideration of agriculture by this policy will ensure availability of adequate water therefore improve livelihoods and contribute to poverty alleviation and reduce pollution.*

2.3 Livestock

Livestock contributes about 18 per cent of the GDP. Forty percent (40%) of the agricultural households are involved in crops and livestock production. Livestock are also a potential source of draught power for cultivation and transport. Approximately 50% of the land is classified as grazing land and it is estimated that about 60% of the cattle, sheep, and goats are maintained on about 10% of the land. Livestock is concentrated in the arid and semi-arid areas, constituting dry open grasslands or wooded grasslands where land and rainfall are marginal for cultivation. Migration and scarce distribution of stock watering points, especially during dry season, forces heavy traffic patterns in concentrated land areas, which impact upon water resources and the environment in general. *The main sector issues and concerns are to determine and meet livestock water demands at different places in the country.*

2.4 Industry

The industry sector contributed about 17% of Tanzania's GDP during the period 1990-94. The Tanzania development vision 2025 envisages transforming the economy from a low productivity agricultural economy to a semi-industrialised country. This implies that adequate water supply for the industrial sector is important to the growth of this sector to achieve the vision. The growth in the industrial sector will put significant pressure on water resources. *Major issues and concerns are provision of adequate water, promotion of water*

2.10 Forestry

Tanzania has about 33.5 million hectares of forests and woodlands. Out of this, almost two thirds consists of woodlands on public lands that are under enormous pressure from expansion of agricultural activities, livestock grazing, fires and other human activities. About 13 million hectares of this total forest area have been gazetted as forest reserves. The forests offer habitat for wildlife, bee keeping, unique natural ecosystem and genetic resources. Certain exotic species are highly water-consumptive. Forestry accounts for 2-3% of GDP and 10% of exports. Bio-energy is the main source of fuel to the rural as well as urban population and accounts for 92% of the total energy consumption in the country, which is detrimental to catchment protection. *Main sector issues and concerns are proper management of forested and protected forest areas, which play an important role in the availability of water resources.*

2.11 Transport

Tanzania has few potentially navigable rivers due to sharp relief contrast between the coastal line and inland; thus river navigation is not a major water resources issue. Nevertheless, there are rivers such as Rufiji, Kilombero, Kagera, Malagarasi, among others, which are used for river transportation. The three great East Africa lakes namely Victoria, Tanganyika and Nyasa which form important national and inter-country navigational water bodies. Oil spills and wastes associated with navigation vessels are detrimental to the quality of water. *Main sector issues and concerns are availability of adequate flows to maintain water levels essential for river navigation, including water levels for ferry crossings, and prevention of pollution of water bodies.*

2.12 Health and Sanitation

Availability of safe water for human use and reduction of water contamination are basic considerations of equity and protection for human health. Solid waste disposal is still a problem in urban centres. Some of the methods used in the disposal include indiscriminate burning, burying and dumping. These methods however are not environmentally sound as they cause environmental pollution. The existing solid waste management is deteriorating year by year. *Main sector issues and concerns are giving priority allocations of water to the needs that are directly related to human health and sanitation, and protecting the water sources from pollution and preventing deterioration of the quality of the resource.*

2.13 Land Development

The aim of the National Land Policy is to promote and ensure a secure land tenure system, encourage the optimal use of land resources, and facilitate broad-based social and economic development without upsetting or endangering the ecological balance of the environment. *Main sector issues and concerns are establishment of inter-linkage of water and land, and co-ordinated approaches to facilitate the broad-based social and economic development and maintain ecological balance.*

2.14 Tourism

Tanzania's tourism sector is among the sectors with great economic growth potential. The country has 804km of unpolluted beach areas in Africa. In addition there exists beautiful waterfalls, vallies, large rivers, hot springs, National Parks, which offer outstanding experience for tourists. Over the last decade, the country has registered an average growth

of 6% per annum in terms of tourist receipts. In 1997, tourism contributed 15.8% of the country's export earnings. *The main sector issue and concern is water availability of acceptable quality to support touristy attractions and that there is adequate supply to meet tourists needs for basic uses and recreation.*

2.15 Communication

The scale of geography of Tanzania means that communication is time consuming and expensive. This is particularly true of road and telecommunication systems. Inadequate communication system affects effective implementation of water resources management activities in terms of higher cost of monitoring, supervision, policing and data transfer. *This policy needs to treat communication and inspection costs as a major issue.*

2.16 Use of Shared Waters

The country is riparian to international water bodies. Protocols for some shared water bodies have been signed and other initiatives are going on. *The main concern is inadequate information base for effective discussion and decision-making, and inadequate mechanisms for allocation and managing these shared waters for mutual benefit, peace and harmony.*

2.17 Youth and Children

Youth and children as the future managers of water resources have to be involved from the early stages. *The main concern is to involve this segment of the society in water resources management and development, and environmental consideration at early stage.*

2.18 Gender

The process of involving stakeholders in the water sector needs to recognize the different needs and potential contributions of both men and women through gender sensitive approaches. Women play a major role in the water sector because they are the mediators between water sources and households. *The main concern is weak participation of women in decision-making, planning, management and implementation of water resources management and development programs.*

2.19 Legal and Regulatory Framework

Appropriate and enforceable legislation is a pre-requisite for effective management and development of water resources and sewerage services. The existing water law and its regulations do not adequately meet the water resources development management needs. *The main concern is that there are laws in other sectors that are not in harmony with the present Water Utilisation Act and Water Works Act.*

2.20 Institutional Framework

Water resources management and development requires effective collaboration and coordination mechanism among sectors at all levels. *The main concern is the existence of an institutional framework that does not adequately address issues of collaboration and coordination, resulting in overlapping responsibilities and conflicts.*

CHAPTER 3: WATER RESOURCES

3.1 Preamble

Tanzania is endowed with abundant surface and groundwater resources, but resources are unevenly distributed in time and space. There is high variability in rainfall, diverse climatic conditions and geographical and geological features. Where water seems to be plentiful, it is sometimes polluted. This results in diminution of fresh water otherwise available for various uses.

The present water management system is governed by the Water Utilisation (Control and Regulation) Act No. 42 of 1974 and its subsequent Amendments. Amendment Act No. 10 of 1981 introduced basin management system and pollution control aspects. This Act provides for the Central Water Board and Basin Water Boards to facilitate administration of the legislation. Based on this act nine river basins were declared. In pursuing this strategy the Government established Basin Water Offices in the Pangani (1991), the Rufiji (1993), and Lake Victoria (2000).

3.2 Specific Objectives

The specific objectives of the water resources policy are:

(i) to promote integrated planning and management of water resources,
(ii) to develop equity and fair procedures in access and allocation of the water resources,
(iii) to ensure that productive sectors and the environment receive their adequate share of the water resources,
(iv) to maintain water quality levels,
(v) to improve the management and conservation of wetlands, ecosystems and biodiversity;
(vi) to raise public awareness and broaden stakeholder participation in planning, management and utilization of water resources.
(vii) to ensure financial sustainability and autonomy of Basin Water Boards for effective water resources management;
(viii) to promote regional and international cooperation by respecting the principle of international obligations on trans-boundary water resources,
(ix) to provide the basis for future water resources legislation, and the institutional framework that will support the implementation of the policy;

3.3 Policy Issues and Statements

3.3.1 Water and environmental aspects

Scarcity, misuse and wastage of water resources at many places pose a serious and growing threat to sustainable availability of the resource. As a result human health and welfare, food security, investments and industrial development and the ecosystems on which they depend, are at risk.

(a) Sustaining the surface water resources

Increased human activities including poor land use practices, as well as uncontrolled abstractions and discharges into water bodies impact on the quantity and quality of the available water resources. This results in changes to runoff patterns, water balance, and groundwater recharge mechanisms.

Policy Statement No.1: *The surface water resources will be managed on the basis of the river basin concept. Conservation, protection and development will be undertaken in an integrated manner.*

Strategies

(i) Water source conservation areas or zones shall be identified, delineated and protected.
(ii) Appropriate approach to integrate surface and groundwater resources will be adopted will be undertaken.

Policy Statement No. 2: *Surface water shall be optimally, equitably and rationally allocated and regulated to enable wider use by various segments of the society.*

Strategies

(i) Review and renewal mechanisms in water resources allocation will be introduced,
(ii) Demand management instruments such as water user fees and other charges, and restrictions will be developed and instituted.

Policy Statement No. 3: *Operational capability in surface water data collection, establishment and management of databases, assessment of surface water resources potential and dissemination of information, will be strengthened.*

Strategies

(i) Monitoring networks will be improved.
(ii) An appropriate database and assessment methodology will be designed and implemented.
(iii) Mechanism for water users to maintain and submit data and information will be instituted.

(b) Sustaining groundwater resources

The on-going groundwater resources development in the country is being carried out without sufficient knowledge of the resource potential due to lack of data and inadequate regulations to monitor the activity. This has led to under utilisation of the resources, and in some places overexploitation and interference in the existing water sources.

Policy Statement No. 4: *Groundwater resources will be managed following the river basin concept. Conservation, protection, as well as planning and development will be undertaken in an integrated manner. Vulnerable areas and potential groundwater sources, and areas with poor water quality will be identified, delineated and declared as protected areas.*

Strategies

(i) Comprehensive studies will be conducted to establish groundwater resources potential of the country to guide its development and management.
(ii) The minimum allowable distance from a groundwater source to human activity, as well as between one source and another shall be determined on a case by case basis depending on type of aquifer.
(iii) Promotion of applied research to determine affordable and appropriate technologies to improve the quality of the water resources, and dissemination of results to the public will be undertaken.

Policy Statement No. 5: *Operational capability in groundwater data collection, establishment and management of databases, dissemination of information, resource assessment, and monitoring and controlling exploration and drilling activities will be strengthened.*

Strategies

(i) Groundwater resources monitoring networks will be established,
(ii) Appropriate databases and assessment methodologies will be designed and implemented,
(iii) Procedures, guidelines and regulations governing groundwater activities, including drilling, designs, and operations will be reviewed and disseminated,

(c) Conservation and protection of water resources

Catchment degradation impact upon water resources availability through decrease of dry season flows, siltation of rivers and reservoirs, and decrease of yield of water wells. Poor land use practices including uncontrolled livestock migrations cause social conflicts with farmers, spread of animal diseases and destruction of water sources.

Policy Statement No. 6: *Conservation and water resources protection programs will be developed in collaboration with other relevant authorities.*

Strategies

(i) Effort towards water resources control and protection will be strengthened in collaboration with institutions issuing various kinds of licensing and permits.
(ii) Conservation and protection of water resources will be included in basin water management plans and will be developed and implemented on multi-sectoral basis.
(iii) Studies shall be undertaken to identify available water resources for livestock in designated grazing areas.

(d) Maintaining ecological minimum water requirements

Water is critical to ecological systems and to the maintenance of the environment. These include wetlands, floodplains, estuaries and coastal zones. Such systems serve as biophysical filters, safeguard biological diversity, maintain sea and freshwater balance, and conserve water resources. Effective strategies and mechanisms for the ecologically sustainable management, protection and restoration of recharge areas of these water-dependent ecosystems are inadequate.

Policy Statement No. 7: *Ecological minimum flows and levels for both surface and groundwater bodies shall be maintained in order to sustain ecosystems, flora and fauna.*

Strategies

(i) *Water allocation and regulation of flows that will ensure ecological minimum requirements determined for different kinds of situations.*
(ii) *Stakeholder participation in developing local strategies and their implementation will be promoted.*
(iii) *Major water structures shall be designed and operated consistent with the objectives of maintaining the ecosystems, flora and fauna.*

(e) Water quality management and pollution control

The state of the quality of water resources is not comprehensively known and no regular monitoring is done due to inadequacy of resources and institutional capacity.

Policy Statement No. 8: *Institutional capacities in water quality and pollution monitoring and control will be strengthened.*

Strategies

(i) *Water quality and pollution control monitoring networks will be established.*
(ii) *The use of best available control technology and including cleaner production technologies in industrial activities including waste handling facilities in urban and rural settlements will be promoted.*
(iii) *Creation of public awareness in the importance of protecting water resources from pollution including that resulting from inappropriate use of agrochemicals will be undertaken.*
(iv) *Regular reviews of guiding effluent and receiving water quality standards will be undertaken.*
(v) *Staff training on water quality management and pollution control will be undertaken.*

Policy Statement No. 9: *Vulnerable and potential surface and ground water sources will be identified declared and protected areas.*

Strategies

(i) *Discharge Permits will only be considered after thorough and detailed investigations and studies.*
(ii) *Environmental Impact Assessments (EIA) will be mandatory prior to execution of all major water related projects.*
(iii) *Entities responsible for solid waste management shall be required to determine appropriate solid waste dumping sites to avoid contamination of water resources.*
(iv) *All mining operations and processing shall be required to use appropriate methods to control pollution of water resources.*
(v) *The 'polluter pays' principle shall be established and enforced.*
(vi) *Pollution Control Code of Conduct shall be prepared and enforced.*

(e) Protecting marine coastal waters and coastal zones

The coastal environment contains diverse and valuable ecosystems of high productivity and biodiversity, and offers unique habitats for many species. These ecosystems contribute significantly to the livelihood of coastal communities and the economy of the country. They have intrinsic values including shoreline stability, beach enrichment, nutrient generation, recycling and moderation of pollution. This environment however is threatened by activities from land based sources. Reducing the inflow into coastal zones increases the possibility of more sea water intrusion into inland waters.

Policy Statement No. 10: *The overall management of the inland water resources will ensure marine coastal waters and coastal zones are protected from degradation.*

Strategies

(i) Laws and regulations shall be reviewed in cooperation with other authorities to protect marine coastal waters and biodiversity from inland-based activities.

3.3.2 Socio-economic aspects

Water resources are one of the major agents for socio-economic activities. Efforts are needed on its management to sustain the desired pattern of growth and consumption.

(a) Prioritization of water uses

There are various socio-economic water use activities that compete for limited resources particularly during droughts and times of scarcity. Criteria for prioritization of water use at different times of year to address the growing competition for water is lacking, resulting into conflicts among users.

Policy Statement No. 11: *Domestic water use will be given the highest priority, taking into consideration water for maintenance of the environment. Water allocation for other uses will depend on socio-economic criteria and international obligations.*

Strategy

(i) Allocation mechanisms, including criteria and guidelines to be followed shall be developed,

(b) Managing rising demands on water resources

Rising demand on water resources attributed to development, inefficient water use due to poor irrigation practices and leakages in conveyance systems, pollution of the resources, and unmonitored and unregistered uses has increased pressure on the available resource and caused conflicts among users.

Policy Statement No. 12: *Water management approaches will focus on how best water is being used, including efficiency, effectiveness, and conservation of the resource for each water use.*

Strategies

(i) Research on better technologies that promote water conservation will be undertaken.
(ii) Awareness campaigns will be carried out on the best use and conservation of water.

(iii) *Legal and economic incentives will be applied.*
(iv) *Owners of utility systems will be required to improve efficiencies of their conveyance systems.*
(v) *All abstractions will be gated and gauged to control and monitor water abstractions.*

Policy Statement No. 13: *In water scarce areas alternative sources of water will be sought and demand management measures will be applied.*

Strategies

(i) *A detailed identification of demand, existing rights and available resources will be undertaken, and appropriate allocations mechanisms will be established.*
(ii) *Water balance models and a decision support systems will be developed,*
(iii) *Rainwater harvesting will be promoted.*
(iv) *A detailed study on inter-basin water transfer will be undertaken,*
(v) *Economic and administrative instruments will be applied.*
(vi) *Recycling and desalination where feasible will be promoted.*

Policy Statement No. 14: *All unlicensed users will be inventorised and formally licensed.*

Strategies

(i) *Awareness creation on need for registering will be undertaken,*
(ii) *All water users will be registered,*

(c) Operation of large hydropower and other reservoirs

Hydropower, which is the major source of electrical energy in the country, depends on the availability of adequate water flow in rivers. Diminishing flows in some rivers threaten optimal hydropower production and other uses thus impacting on the country's economy and social life.

Policy Statement No. 15: *Reservoir operation rules and management norms by agencies owning or operating the reservoirs will be established and enforced.*

Strategies

(i) *Reservoir operation rules to reflect real time conditions will be reviewed and enforced by respective Basin Water Officers,*
(ii) *Reservoir operators will monitor inflows, state of water in their reservoirs, amount of water released for power generation and for other uses*

(d) Dam safety

Dams are important structures for storing water, regulating flows, and containing floods. However, by establishing a dam and a reservoir in a watercourse the element of risk is automatically introduced to the people living downstream, to their environment and property. Sedimentation of reservoirs is also a problem as it reduces storage capacities. Currently there is no regulating mechanism on dam safety issues.

Policy Statement No. 16: *Water Legislation shall provide for dam safety.*

Strategies

(i) An effective mechanism to monitor dam safety will be established.
(ii) Regulations and guidelines detailing the rights and responsibilities of dam owners and safety authorities and requirements to be met during planning, construction and operation of the dam including safety-monitoring plans will be prepared.

(e) Management of Water related disaster

Water disaster management in the country has been based on limited inter-sectoral co-ordination and inadequate real time information thus focussing on remedial actions rather than on preventive approaches. The hazards under consideration are those of extreme natural events such as floods and drought and those related to human activities like accidental spills of hazardous wastes. Construction of dams' upstream major residential areas can result in loss of life and property when a failure occurs.

Policy Statement No. 17: *Management of disasters will include detailed monitoring and early warning systems, and emergency preparedness*

Strategies

(i) A coordinated disaster management mechanism in water resources focusing more on preventive approaches will be established.
(ii) Flood prone areas and hazardous zones will be identified and mapped in collaboration with relevant authorities.
(iii) Studies to identify and define drought phenomena, drought occurrences and impacts, and possible approaches to dealing with the problem will be undertaken.
(iv) Potentially hazardous developments that are water related will be fully controlled by the water legislation.

3.3.3 Sharing transboundary water resources

Tanzania is riparian to transboundary water bodies with neighbouring countries. These water resources must be utilized to meet the water demands of all riparian states. There is no adequate and effective framework for the management and use of transboundary water resources.

Policy Statement No. 18: *Framework for the management and use of transboundary water resources will be enhanced for mutual benefit*

Strategies

(i) Protocols, laws, principles and guidelines, including bi-lateral agreements for the management and use of the resource for mutual benefit of all riparian states will be promoted and supported.
(ii) Needs assessment related to development and management of water resources to facilitate dialogue with other riparian states will be carried out,
(iii) Capacities of the entities responsible for international water resources management and use will be strengthened,
(iv) Data and information management systems shall be strengthened, and sharing of information shall be promoted on mutual basis,

3.3.4 Water resources and land development

There has been inadequate linkage between water and land development thus resulting in pressures on water resources. With the on going liberalization there is need to have coordination mechanism to facilitate smooth the linkage. Water Rights shall not be tied to any land, and they shall not be transferable with land transfer.

Policy Statement No. 19: *Interlinkages in the development of water and land shall be strengthened. .*

Strategies

(i) Information on water resources shall be prepared,
(ii) Information on availability of water resources will be disseminated to investors promoters and other stakeholders

3.3.5 Information management

An effective integrated water resource management system must be able to provide timely information on quantity and quality and its use. There is no unified, adequately co-ordinated information management for water resource management.

Policy Statement No. 20: *A well functioning and effective information management system to allow appropriate decision-making will be established.*

Chapter 2 Strategies

(i) An effective sustainable system for collecting field data and storage will be established.
(ii) *Co-ordination mechanism and exchange of data and information among the various stakeholders will be strengthened.*
(iii) Participation in various global programs will be promoted.
(iv) Regulatory authorities will be empowered by law to obtain information from users and public.
(v) *Regular reports will be prepared and obtained at a fee.*

3.3.6 Water resources planning

Planning is one of crucial aspects in water resources management. The various issues are incorporated in the development and management plans. Water resources planning has been sectoral oriented, regionally based or project specific resulting in conflicts among users. Main levels of water resources planning will be National, Basin and District.

Policy Statement No. 21: *Integrated water resource planning based on Basin as planning unit will be effected.*

Strategies

(i) Adequate mechanisms for inter-sectoral planning at Basin level will be formulated.
(ii) *National and Basin levels will integrate District, Sub-basin and Community level plans*
(iii) *Participatory approaches at all levels of planning will be promoted.*

3.3.7 Financing of water resources management

Technical and administrative activities in management of water resources require financing. There are also costs to protect water sources and recover water when affected by environmental deterioration. The costs towards implementation of these activities have been met through general government budget that has been inadequate.

Policy Statement No. 22: *In order to meet associated costs and to sustain water resources management requirements, charges and other sources of funding to complement government budget will be sought.*

Strategies

(i) *All raw water uses beyond the quantities required for basic human needs will be charged,*
(ii) *A resource and catchment conservation charge will be introduced and an upstreaming mechanism of the accrued resources from the use of the water shall be put in place,*
(iii) *The type and level of all the charges, and the criteria and parameters to be taken into account will be determined and reviewed periodically,*
(iv) *Other sources of funding will be identified.*

3.3.8 Legal and regulatory framework for water resources management

The existing law and its regulations do not adequately meet the water resources management needs. In addition, there are laws in other sectors that are not in harmony with the present Water Utilisation Act.

Policy Statement No. 23: *In order to effectively manage the water resources the existing legislation will be reviewed and harmonized with other water related legislation.*

Strategies

(i) *Conflicting water related laws and regulations will be identified and harmonized,*
(ii) *The existing law will be reviewed and updated.*
(iii) *Regulations for the implementation of the laws will be established.*
(iv) *Regulatory framework bodies for water resources management will be streamlined and strengthened.*

3.3.9 Institutional framework for water resources management

Water resources management is a multisectoral activity that requires an effective collaboration and coordination mechanism among sectors at all levels. The existing institutional framework does not adequately address issues of collaboration and coordination, resulting in overlapping responsibilities and conflicts.

Policy Statement No. 24: *An appropriate institutional framework that will define roles and responsibilities of different stakeholders, separating regulation and service functions will be established.*

Strategies

(i) The existing institutional set up will be reviewed and made operational,
(ii) A National Water Resources Commission will be established to facilitate multisectoral approach to water resources management,
(iii) A section will be established within the Water Resources Division to deal with water resources management and transboundary water resources issues,
(iv) Mechanism for coordination and participation of the various stakeholders including Water User Groups/Associations will be strengthened,
(v) Appropriate network among sector related stakeholders will be established.

CHAPTER 4: RURAL WATER SUPPLY AND SANITATION

4.1 Preamble

Significant investment has been made in the Rural Water Supply and Sanitation (RWSS) schemes since the early 1970s. Presently, about 48% of the rural population have access to a reliable water supply service, however, over 30% of rural water schemes are not functioning properly.

The incidence of water borne, water related and water washed diseases are mostly prevalent where people use contaminated water or have little water available for daily use. Considering that water-borne diseases account for over half of the diseases affecting most of the population. Government's endeavor is geared towards improving the health and socio-economic well being of the rural population through improved and sustainable rural water supply and sanitation services.

4.2 Specific Objectives

In line with the broad policy objectives, rural water supply service delivery aims at improving health and alleviating poverty of the rural population through improved access to adequate and safe water. Specific policy objectives pertaining to rural water supply services are:

(i) to provide adequate, safe, affordable and sustainable water supply services to the rural population,
(ii) to define roles and responsibilities of various stakeholders,
(iii) to emphasize on communities paying for part of the capital costs, and full cost recovery for operation and maintenance of services as opposed to the previous concept of cost sharing,
(iv) to depart from the traditional supply-driven to demand-responsive approach,
(v) to manage water supplies at the lowest appropriate level as opposed to the centralized command control approach,
(vi) to promote participation of the private sector in the delivery of goods and services,
(vii) to improve health through integration of water supply, sanitation and hygiene education,

4.3 Policy Issues and Statements

4.3.1 Community participation and ownership

Water supply and sanitation facilities provided without the active participation of the beneficiaries in planning and management are often not properly operated and maintained and hence are unsustainable. Ownership of the facilities is neither perceived to be, nor legally vested in user communities. These factors lead to a lack of commitment to maintenance of the facilities by the users.

Policy Statement No.25: Communities will be empowered to initiate, own and manage their water schemes.

Strategies

(i) Communities will be facilitated to make informed choices on the type of water supply and sanitation system that they want, can afford and are able to manage efficiently and sustainably.
(ii) Communities and other stakeholders will be made aware of the policy implications in terms of costs, technical options, environmental and health impact and management requirements.
(iii) Legal registration of water user entities will be facilitated to ensure that communities are the legal owners of their water supply schemes.
(iv) Roles, responsibilities, rights and limits of authority of water user entities will be clearly defined.
(v) Communities will be facilitated in acquiring technical and management skills.

4.3.2 Choice of technology

Failure of some of the rural water supply schemes has been attributed to inappropriate technology, location of facilities, lack of social acceptability and lack of affordability.

Policy Statement No. 26: *Sustainability will be achieved when communities make informed choices of the most appropriate technology option that will give them the highest service level that they want, can afford and can operate and maintain.*

Strategies

(i) Communities will be empowered and facilitated to make appropriate technology choice that suites them.
(ii) Priority will be given to technologies, which require low investment costs and are least costly in operation and maintenance.
(iii) Use of environmentally friendly technologies such as solar power, wind power and rainwater harvesting will be promoted in rural water supply schemes.
(iv) Women will be involved in the choice of technology.
(v) Awareness and technology choice shall be created in the communities.

4.3.3 Design and construction

In order to motivate communities into full and effective participation in planning and managing their water schemes and thereby creating a sense of ownership and gradually build up capacity, it is essential that communities let and supervise design and construction contracts. Communities may call on their district authorities for assistance in letting contracts including their preparation and supervision.

Policy Statement No. 27: *Communities shall be responsible for letting and supervising design and construction contracts to private consultants/contractors.*

Strategies

(i) Design manuals will be reviewed and disseminated,
(ii) Communities will be trained to acquire skills to let and supervise design and supervision of contracts,

(iii) Capacities of Government staff will be strengthened to enable it provide effective support to communities,

4.3.4 Operation and maintenance

For sustainability of water schemes, communities are required to pay full operation and maintenance (O&M) costs and manage their schemes. At the stage of project conception, the indicative magnitude of the O&M costs will to be discussed with the communities to match level of service and technology selected with the willingness and ability of the community to operate, maintain and manage the chosen option. Communities may contract private operators to operate and manage their schemes.

Policy Statement No. 28: *Communities will manage operations and maintenance of their schemes.*

Strategy

(i) Communities will be trained in O&M and financial management.

4.3.5 Private sector participation

Water supply development and delivery has been dominated by the public sector. Only in a few cases has the private sector been involved. Involvement of the private sector in the delivery of water supply services will be encouraged in order to improve efficiency and effectiveness and enhance development and sustainability of the services delivery.

Policy Statement No. 29: *Private sector participation in the development and management of rural water supply and sanitation schemes will be promoted to improve efficiency and effectiveness and enhance sustainability of the facilities.*

Strategies

(i) Participation of the private sector in service delivery will be promoted.
(ii) Legal review to stimulate private sector involvement.
(iii) An enabling environment for increased private sector involvement will be created.
(iv) Performance indicators for the private sector actors to facilitate monitoring and encourage self-regulation will be developed.
(v) Incentives for performance, investment and self-regulation will be provided.
(vi) Capacity of the private sector at district level will be strengthened.

4.3.6 Public sector regulation, facilitation and coordination

Until recently, the Ministry responsible for Water played a key role in implementing water programs. The new strategy, in conformity with the ongoing reforms in the public sector, is for the Ministry to change its role from being an implementer to a regulator, facilitator, promoter and coordinator. Reforms taking place in the country are meant to bring services closer to the communities.

Policy Statement No. 30: *The Government will limit its roles to that of a regulator, facilitator, and coordinator.*

Strategies

(i) Adequate legal framework legislation related to rural water supply will be provided,
a. Performance standards for all actors in rural water supply will be developed and disseminated,
(ii) Coordination of Rural water supply development including Donor support will be strengthened,
(iii) Technical and financial support for the construction of new schemes, expansion and rehabilitation of existing water supply schemes will be provided.
(iv) Capacity of the private sector at District level will be built.
(v) The Ministry responsible for water will be streamlined and strengthened to effectively take on the new roles.

4.3.7 Integration of water supply, sanitation and hygiene

Diseases related to lack of safe water and poor hygiene and sanitation are major causes of sickness and death in the country. Lack of access to safe water and hygiene sanitation is one of the root causes of poverty as it is the poor, especially women and children, who suffer most due to poor living conditions, diseases and foregone opportunities. Hygiene education greatly improves the health impact of water and sanitation interventions, whereas providing water alone has minimal impact.

Policy Statement No. 31: *Emphasis will be placed on integrating water supply, sanitation and hygiene education to maximize health impact of water supply investments.*

Strategies

(i) Inter-ministerial collaboration in sanitation and hygiene education will be strengthened.
(ii) Sanitation and hygiene education will be promoted.

4.3.8 Domestic rural water supply service level

In rural areas actual water use ranges from 5 – 30 litres per capita per day. In most cases, domestic water, which is often not potable, is fetched from a source far away from the homestead. The design for domestic water supply schemes will take into consideration water requirements for institutions.

Policy Statement No. 32: *The basic level of service for domestic water supply in rural areas shall be a protected, year-round supply of 25 litres of potable water per capita per day through water points located within 400 meters from homestead and serving 250 persons per outlet.*

Strategies

(i) Financing from the government, private sector and communities for rural water supply schemes will be procured.
(ii) Appropriate technology options will be adopted.
(iii) Supply of adequate, reliable, clean and safe water for domestic use will be stressed.
(iv) Registration of water user entities to facilitate legal ownership of rural water supply facilities will be made.

(v) *Awareness campaigns will be carried out to enable communities demonstrate effective demand for water supply services.*

(vi) *Institutions will be encouraged to play catalytic role in the establishment of community based water supplies and to have their own water supply schemes including rainwater harvesting systems.*

4.3.9 Water for livestock

Most of the population in the semi–arid regions are engaged in livestock keeping and over 90% of the livestock is found in rural areas. Most of the important livestock keeping areas experience acute water shortage though they contribute significantly to the country's economy in terms of livestock. Often water for livestock is not included in the designs of community water supplies. This result in constant migrations by livestock keepers in search for water.

Policy Statement No. 33: *In order to ensure that livestock is provided with adequate water, emphasis will be placed on construction of dams and charcos and integrating livestock water requirements in the design of rural water supplies.*

Strategies

(i) *Coordination mechanism between the ministries responsible for water and livestock will be strengthen.*

(ii) *Water requirement for livestock will be included in all the rural water supply designs.*

(iii) *Emphasis will be placed on construction of separate livestock drinking points to minimize contamination of domestic water supply by livestock.*

(iv) *Communities will be encouraged and facilitated to construct dams and charcos for livestock.*

4.3.10 Financing of rural water schemes

Development and sustainability of rural water supply schemes requires adequate financing. Dependence on government and donors as sole providers for water services has led to inefficient delivery of rural water supply and sanitation services. It is imperative to mobilize and empower communities to take the lead in their development activities.

Water is a basic need and right yet most communities do not have the financial means to meet capital costs. The Government will continue to support communities in the development of their water supply schemes. Financial support for water supply will be initiated by the respective communities themselves who shall also demonstrate their ability to sustain the schemes before they access to financial support.

Policy Statement No. 34: *The Government shall continue to mobilize and provide financial support to complement community efforts. Water scarce areas will be given priority in investment.*

Strategies

(i) *Demand Responsive Approach (DRA) shall be promoted,*

(ii) *Communities will establish a mechanism to contribute a portion of the capital costs, in cash and in kind, for new schemes, for rehabilitation replacement and systems expansion,*

(iii) *Communities will establish a mechanism to pay the full costs of O&M and for higher service levels,*
(iv) *Water scarce areas shall be identified and prioritized.*

4.3.11 Legal and regulatory framework for RWSS

The Ministry responsible for Water, ESAs and NGOs have been planning and constructing rural water supply schemes, with little participation of the beneficiary communities. The government has been the owner and operator of most of these schemes leading to lack of commitment by the beneficiaries to safeguard the facilities. Issues of ownership and management of water schemes are central in the sustainability of rural Water Supply Schemes. Presently most schemes are not properly operated, maintained and managed because beneficiaries are not the legal owners of the facilities.

Policy Statement No. 35: *Existing and new water schemes shall be legally owned by appropriate user entities.*

Strategies

(i) *Relevant Acts and Bylaws under which rural water user entities can be legally registered will be reviewed.*
(ii) *Different legal options for registering water user entities will be reviewed and their appropriateness for the various rural water supply schemes determined.*
(iii) *Water user entities will be legally registered.*
(iv) *An appropriate regulatory framework for the management of rural water schemes by the various stakeholders including the Private Sector will be developed.*
(v) *Information on the regulations pertaining to rural water supply and sanitation services will be disseminated to all stakeholders.*

Policy Statement No. 36: *Private sector participation in development and management of rural water supply schemes shall be encouraged and legally recognized.*

Strategies

(i) *Regulations pertaining to private sector participation in water supply and sanitation services in rural areas will be strengthened.*
(ii) *Information on the regulations on RWSS services to all actors and the communities will be disseminated.*

4.3.12 Institutional framework for RWSS

Sustainability of WSS schemes requires that communities take the lead in developing their WSS facilities and be fully responsible for the O&M of their schemes. The private sector will provide support to communities in planning, design, construction, and supply of materials, equipment and spares. The government will continue giving the necessary technical and financial support as well as coordination and regulation of the RWSS development activities. The ESAs & NGOs will also provide financial and technical support. Integration of water supply, sanitation and hygiene education will require close collaboration with other actors in

the sanitation sub-sector. This new approach requires consorted efforts by all sector actors including central government, local government, ESAs, Private Sector, NGOs, CBOs and the communities themselves.

An effective organizational structure that is simple, transparent, efficient and accountable to the communities needs to be established in order to make rural water supply and sanitation schemes sustainable. The roles and responsibilities to be played by each actor will have to be carefully and clearly defined; linkages and partnership framework established and properly coordinated and natured; and activities continuously monitored and evaluated.

Policy Statement No. 37: *The institutional framework for the development and management of RWSS facilities with clearly defined roles and responsibilities for each actor will be strengthened.*

Strategies

(i) *The existing institutional structure will be reviewed in line with the new roles and responsibilities,*
(ii) *Roles and responsibilities of each RWSS sub-sector actor will be clearly defined and disseminated,*
(iii) *A partnership framework for all stakeholders will be established.*
(iv) *An appropriate forum for all actors as a basis for sharing experiences, exchanging views and coordinating RWSS activities will be established,*
(v) *Awareness to the communities on their roles and responsibilities will be created.*

CHAPTER 5: URBAN WATER SUPPLY AND SEWERAGE

5.1 Preamble

Urban centres in the country are experiencing rapid expansion in terms of space, population growth and economic development, which in turn create high, demand for reliable and adequate water supply and sanitation services. Large part of urban population is living in unplanned areas with inadequate water supply and sanitation services. Existing water supply infrastructures and water sources are old and inadequate to meet the ever-increasing demand for water. Presently, only about 68% of the urban population have access to reliable water supply services.

5.2 Specific Objectives

This policy aims at achieving sustainable, effective and efficient development and management of urban water supply and sewerage (UWSS) services. This shall be achieved by providing a framework in which the desired targets are set outlining the necessary measures to guide the entire range of actions and to harmonise all related UWSS activities and actors with a view of improving service quality.

The specific objectives of the policy in the context of developing and managing urban water supply and sewerage services are:

(i) to guide the development and management of efficient, effective and sustainable water supply and waste water disposal systems in urban centres
(ii) to create an enabling environment and appropriate incentives for the delivery of reliable, sustainable and affordable urban water supply and sewerage services
(iii) to develop effective decentralized institutional framework and ensuring that the water supply and sewerage entities autonomy is effected
(iv) to develop effective legal and regulatory framework with right the environment for all sector players, including the private sector
(v) to enhance efficient and effective system of income generation from sale of water and wastewater removal
(vi) to enhance water demand management and waste water disposal.

5.3 Policy Issues and Statements

5.3.1 Water sources and infrastructures

Water sources and infrastructures for most urban water supplies and sewerage systems are old, inadequate and poorly functioning and cannot cope with the increasing demand. As a result water delivered is not enough and sometimes is of poor quality.

The impact of human activities on the environment has increased in recent years. In this regard water sources are constantly being polluted due to the disposal of untreated and/or inadequately treated domestic and industrial wastewater and from agro-chemicals and high turbidity caused by sediments due to soil erosion.

Most water sources are not protected and demarcated and do not have title deeds and drawing water rights. As land becomes scarce, the water sources become vulnerable to invasion and settlements around them.

With the advent of private sector in the urban water industry the number of operators and players will increase and hence the need for comprehensive sector guidelines of operation.

Policy Statement No. 38: *Necessary measures shall be taken to ensure that all urban areas have adequate water supply and sewerage systems.*

Strategy

(i) *Facilitation of acquisition of necessary financing for rehabilitation and expansion will be undertaken.*
(ii) *Development and expansion of the water supply systems shall consider development of sewerage systems and general environmental sanitation at the same time.*
(iii) *Development of specifications and quality assurance procedures for machines, chemicals and treatment processes for safety and health reasons shall be undertaken.*

Policy Statement No. 39: *Water sources and infrastructure will be identified, protected, demarcated and their land title deeds acquired.*

Strategy

(i) *Comprehensive studies for the water sources will be undertaken when acquiring water and land rights.*

Policy Statement No. 40: *WSS systems shall be efficiently operated and assets adequately maintained with a view of attracting capital and motivating customers to pay for the services provided.*

Strategy

(ii) *Staff will be trained as part of the capacity building in order to improve performance of the entities.*

Policy Statement No. 41: *Urban-specific strategies for dealing with emergency situations of drought, floods and fire shall be pursued in order to guarantee water supply during such emergencies.*

Strategies

(iii) *Utilities will develop contingency plans.*
(iv) *Early warning systems (droughts/floods) will be instituted.*
(v) *Emergency financing mechanism will be established.*
(vi) *In cases of acute water shortage or conflicts first priority will be accorded to domestic water supply and emergencies.*

Policy Statement No. 42: *In designing water supply and sewerage systems, compliance with the design criteria produced by the Ministry responsible for water and other relevant design criteria applied internationally shall be observed.*

Strategy

(i) *The Design Manual will be reviewed and disseminated.*

Policy Statement No. 43: *To ensure protection of infrastructure (e.g. pipelines, treatment plants, pumping stations etc.) wayleaves and property sites which are provided in the Town Planning Ordinance in general shall be availed in water laws to facilitate self executing without recourse to different jurisdictions.*

Strategy

(ii) *Existing legislation shall be reviewed and streamlined.*

5.3.2 Water Demand Management

Water demand in urban areas is increasing at a rate which is not proportional to the rate of expansion of water supply and sewerage services. This is due to high rate of urbanisation, increase of industrial activities and significant unaccounted-for-water that includes leakage, wastage and illegal connections. Scarcity of water supply results in conflicts and competitions amongst different users.

Policy Statement No. 44: *Water demand management measures will be undertaken to conserve and distribute the available water equitably and economically.*

Strategy

(i) *Measures on proper tariff setting, metering, rationing, leakage control and mass education on frugal use of water and conservation will be instituted.*
(ii) *Regulations on efficient use of water by flushing cisterns will be formulated.*

5.3.3 Water for low income groups and community user groups

People living in underprivileged urban and peri-urban areas rarely benefit from adequate water supply and sanitation services. Generally, the poor cannot afford to have piped water connection because of high connection costs. They collect water from kiosks or buy it from vendors at a cost higher than that of the house connections. The poor cannot afford to collect their wastewater and hygienically dispose it thus leading to increase in water borne diseases which may spread to all urban areas.

Policy Statement No. 45: *Recognising the existence of low-income groups in the urban and peri-urban areas, WSS entities shall be required to provide them with appropriate WSS services.*

Strategies

(i) *Low income groups shall be identified and plans and programmes to provide WSS services to peri urban shall be drawn by utilities.*
(ii) *Awareness on water use to the peri urban groups will be created.*
(iii) *Uses of small bore and shallow sewerage systems in the peri urban areas will be promoted.*

Policy Statement No. 46: *Entities shall promote workable mechanisms whereby the water supply and sanitation needs of the urban and peri-urban poor are promoted in initiatives which encourage public-private partnerships.*

Strategy

(iv) Urban poor dimension in public-private partnership negotiations will be promoted.

Policy Statement No. 47: *Given the importance of water for life and survival, appropriate social equity considerations shall be put in place so that a basic level of water supply and sanitation service is provided to the poor at affordable costs.*

Strategy

(v) Mechanisms for provision of water supply at affordable cost, to the urban poor, will be established.

5.3.4 Waste water and environmental management

Water supply services in urban areas have resulted in the production of wastewater estimated at about 80 % of water supplied. Wastewater treatment and disposal in urban areas has not been accorded due priority. The common methods of disposal of public wastewater are through septic tanks and pit latrines. The wastewater so produced is haphazardly discharged leading to contamination of water sources and environment.

Most existing industries were established without wastewater treatment facilities. In some instances, industrial wastewater contains toxic substances or biological process inhibitors. Discharge of untreated wastewater to the sea through open channels is a source of beach pollution. Discharge of untreated wastewater, especially by cesspit emptiers is currently uncontrolled and even where treatment facilities are available they are not being utilised, to avoid payment of treatment fees.

Most WSS entities do not monitor water and wastewater quality to detect the level of chemical and bacteriological contamination.

Policy Statement No. 48: *Entities shall be required to ensure proper collection and disposal of sewage.*

Strategies

(i) Sewerage systems and sludge disposal facilities will be constructed.
(ii) Cesspit emptying services will be established and /or contracted to the private operators.
(iii) Discharge of untreated wastewater to the sea shall be through long and deep sea out-fall.
(iv) A law to prohibit open channel disposal of sewage to the sea will be enacted.

Policy Statement No. 49: *Industries shall establish pre-treatment facilities to treat their wastewater before discharging into public sewerage system.*

Strategy

(v) *Legislation requiring industries to pre-treat their wastewater before discharging into municipal sewerage system will be reviewed.*
(vi) *Enforcement mechanism will be strengthened.*

Policy Statement No. 50*: Appropriate technology shall be adopted for waste water collection, treatment and disposal.*

Strategies

(vii) *UWSS entities shall co-operate with industries and other institutions in the research and development of least cost technologies for wastewater treatment and recycling.*
(viii) *Industries shall be required to use environmentally friendly raw materials with less toxic elements and adopt cleaner production technology.*

Policy Statement No. 51*: UWSS entities shall conduct own regular chemical and bacteriological tests of the water supply to ensure that the water is safe and fit for human consumption.*

Strategy

(ix) *UWSS entities shall ensure that the quality of urban water supply meet the stipulated standards.*

Policy Statement No. 52: *UWSS entities shall conduct own regular chemical and bacteriological tests of the raw sewage to control toxic and offensive substances from being discharged into the treatment plants.*

Strategy

(x) *UWSS entities shall ensure that the qualities of effluents meet the stipulated standards.*

5.3.5 Private sector participation (PSP)

The Government has embarked on the process of restructuring the centralised economy and the civil service. The role of the Government is now changing from that of provider to that of a policy maker and a facilitator. Private sector and other stakeholders will now provide UWSS services.

Policy Statement No. 53*: The institutional framework will be streamlined to promote PSP. The institutional set up shall be accompanied by reforms that promote integrated approaches, taking into account changes in procedures, attitudes, behaviour and the full participation of private sector at all levels.*

Strategies

(i) *The existing UWSS Authorities will be strengthened.*
(ii) *Functions of MoW will be streamlined.*
(iii) *Capacity of MoW to procure goods and services from private sector will be built.*
(iv) *Public campaigns to enlighten the public on objectives of PSP will be conducted.*

(v) Source funds for rehabilitation and expansion will be identified.
(vi) Local private sector institutions will be strengthened.
(vii) Mechanisms for evaluating performance of divested entities will be instituted.

5.3.6 Privatisation of WSS entities in small urban centres

The emphasis in UWSS delivery has been mainly in the large urban centres. Attention will also be given to the small towns where service levels are relatively low.

Policy Statement No. 54: *WSS entities in small urban centres shall be encouraged to form private liability companies or any other autonomous commercial arrangement.*

Strategies

(i) Local private sector institutions shall be promoted and strengthened.
(ii) Local government shall subscribe to the Urban Water Fund.

5.3.7 Monitoring and evaluation

Monitoring helps to conduct effective management audit with the objective of analysing, evaluating, reviewing and appraising the performance of the entity concerned. There is inadequate monitoring as well as weak management information systems (MIS) within the urban sub sector.

Storage and dissemination of information received through reporting and feedback are also poor. Information and reports are still kept in paper files despite the advent of computer technology.

Policy Statement No.55: *Management information systems (MIS) which address and define performance targets to measure operational, financial and managerial performances will be put in place.*

Strategy

(i) Performance guidelines will be reviewed.
(ii) Entities' management capacity will be improved.
(iii) A computerised relational database at all management levels will be established.
(iv) A comprehensive reporting and feedback mechanism from each level of management will be established.

5.3.8 Accountability to the public

In the delivery of services in the urban and peri-urban areas, the entities are accountable to the customers in the sense that the customers receive reliable and adequate service all the time and are fairly treated in tariff setting and treatment in general.

Willingness to pay, timely water and sewerage bills payment, rational and economic water use, economic use of appliances are part and parcel of accountability of the customers.

The UWSS entities infrastructures are vulnerable and can easily be tampered with if the public is not sensitised to see them as their own despite the security arrangement, which can be installed by the entities.

Conveyance, transmission and distribution system transcend distances requiring public accountability. Illegal connections, leakage, faulty meters and banditry, if reported in time, can save a lot on the system.

Policy Statement No. 56: *Mechanisms shall be put in place to ensure that entities are accountable to their customers and that customers meet their obligations.*

Strategies

Effective consultations and information sharing with stakeholders and the general public will be enhanced.
Mechanisms for protection and safeguarding water supply and sewerage infrastructure by involving the general public will be established.
(i) Awareness and mass education will be promoted.

5.3.9 Financing of urban water supply and sewerage services

The resources allocated to water supply and sewerage services have been inadequate to meet basic operation and maintenance requirements.

Equally important, have been the difficulties faced in revenue collection from the sale of water. Provision of water and sewerage services has been seen as a social service and as a result, revenue generation has been inadequate due to poor customer base, low tariffs and inadequate revenue collection mechanisms (metering, billing, unaccounted for water, etc).

Whereas water is life, sanitation is a way of life that affects all people in the urban areas. To safeguard the environment and the health of people, wastewater must be properly collected and treated. Since all people use water and produce wastewater, they have an obligation to pay for its treatment proportionately to their water consumption, irrespective of the collection method.

Policy Statement No. 57: *Necessary efforts shall be taken to mobilise local and external financial resources for capital works.*

Strategies
(i) Mechanisms for regulating tariff levels concurrently with the rise of costs of delivery of services taking into consideration the cost recovery principle will be established.
(ii) Urban Water Fund (UWF) will be established.
(iii) Enabling environment for investors will be created.

Policy Statement No. 58: *All users of water will be required to pay for water supply and sewerage services.*

Strategies

(iv) Combine water supply and sewerage tariffs.
(v) Awareness to public on tariff setting mechanism will be created.

(vi) *Tariff will be adjusted regularly.*
(vii) *Cesspit dumping at the treatment plants will not be charged.*

Policy Statement No. 59: *All water produced and water supplied to every customer shall be metered and private water sources will not be allowed unless with consent of the regulating authority.*

Strategies

(i) *A programme for universal metering and connection to water supply and sewerage systems will be prepared.*
(ii) *Where a sewer line exists, properties within 30 metres shall be connected.*
(iii) *Where there is a distribution system with adequate and reliable water supply, customers will be obliged to connect.*

Policy Statement No. 60: *There shall be established an Urban Water Fund (UWF) for the purpose of financing capital works. The source of funds for the UWF shall include Grants, Concessionary loans and Subsidies from ESAs, NGOs, Government and a percent to be built in the tariff of every entity.*

Strategy

(iv) *Legislation to establish UWF will be enacted.*

5.3.10 Legal and regulatory framework for UWSS

Legislation and supporting regulations have been enacted at different times to regulate urban water supply and sewerage programmes. The existing legislation however does not address all issues relating to the UWSS service delivery. Other sectors have laws related to water supply and sewerage that require harmonisation with water legislation.

Autonomous entities and private sector participation in urban water supply and sewerage services delivery without effective regulation will result in high tariffs and conflicts. Regulatory framework is vital in order to serve both customer and operator interests.

Policy Statement No. 61: *Existing laws related to water and sewerage in urban areas shall be broadened, amended and harmonised to accommodate changes that are taking place.*

Strategies

(i) *The general public shall be empowered to institute cases of environment damage in courts of law.*
(ii) *Water legislation shall provide for compensation and restoration rather than for penal sanction only.*
(iii) *Conflicting laws related to UWSS shall be identified and harmonised.*
(iv) *Existing laws shall be reviewed.*
(v) *Laws related to UWSS services shall be publicised and translated in Kiswahili for wider dissemination.*
(vi) *Different pieces of water and sewerage legislation shall be consolidated into one.*

Policy Statement No. 62: *A regulatory framework shall be established defining scope, transparency and regulators' independence to safeguard interests of both the operator and the customer.*

Strategies

(vii) An independent regulator will be established.
(viii) Legislation and regulations to safeguard interests of the operator and the customer will be enacted.

5.3.11 Institutional Framework

The Government of Tanzania has embarked on far reaching process of restructuring of the centralised economy and reform of the Civil Service. The role of the Government is now changing from that of a provider to that of a facilitator. Other stakeholders will now play the role of implementation and management of UWSS activities.

Policy Statement *No. 63:* *An appropriate institutional framework that will ensure establishment of decentralised autonomous entities for management of water supply and sewerage services in all urban centres shall be put in place.*

Strategy

(i) Existing urban water supply and sewerage entities will be strengthened.
(ii) Functions of the Ministry will be streamlined.
(iii) New entities of user groups and private co-operatives will be promoted and established.

Policy Statement No. 64: *The institutional set up shall be accompanied by reforms that promote integrated approaches, taking into account changes in procedures, attitudes, behaviour and the full participation of women at all levels.*

Strategies

(i) Staff up to the lowest level will be trained and deployed.
(ii) Effective monitoring mechanisms will be instituted.

CHAPTER 6: CROSSCUTTING ISSUES

6.1 Capacity Building

Expertise in the water sector, water users and decision-makers at all levels are essential for effective water resources management and development. Professional skills in technical, financial and management need improvement. Infrastructural capacity which meet demand to manage and develop the resource has to be enhanced.

Policy Statement No. 65: *Human resources development and strengthening of institutions will be enhanced.*

Strategies

Inventory of different expertise and needs assessment will be done.

Training program will be prepared for implementation in the country or outside the country.

Water Resources Institute will be strengthened and used.

Succession plan for the sector staff will be developed and implemented.

6.2 Research and Technological Development

A variety of technologies are in use in the sector. Some of these technologies are not sustainable because they are costly and inappropriate for the local situation. Very little research is done in the sector due to lack of resources.

Policy Statement No. 66: *Applied research and technological development shall be promoted.*

Strategies

(i) Collaboration with sector stakeholders, local and international research institutions will be strengthened.
(ii) Mechanisms for coordinating and dissemination of sector research will be developed and institutionalized.
(iii) Local researchers initiatives will be encouraged.

6.3 Gender

Process involving stakeholders in the water sector needs to recognize the different needs and potential contributions of men and women through gender sensitive approaches. Women play a major role in the water sector because they are the mediators between water sources and households. They are responsible for water collection as well as maintaining the proper hygiene of the households.

Policy Statement No. 67: *Participation of women in decision-making, planning, management and implementation of water resources management and development will be enhanced.*

Strategies

Gender analysis at local level (gender dis-aggregated data will be carried out and institutionalized.

Gender sensitive guidelines regarding representation in water committees, Water Boards and positions of leadership will be prepared,

Involvement of both women and men in planning and management of water and sanitation facilities will be promoted.

6.4 Youth and Children

Youth and children as the future managers of water resources have to be involved from the early stages. This policy recognizes need to bring aboard this segment of the society for better management and future sustainability.

Policy Statement No. 68: *Youth and children will be educated on the management, protection, and conservation and development of water resources in order to bind them with this vital resource to become good managers of tomorrow.*

Strategies
Water and sanitation issues will be part of school curricula.

Youth and children will be sensitized to impart on them sense of responsibility towards the water resources.

6.5 Co-ordination and Collaboration

The existing co-ordination and collaboration mechanisms practised by various actors in the sector are generally project oriented. Rarely is information shared on various experiences.

It is essential to keep stakeholders aware of sector problems, successes and needs to encourage exchange of solutions and experiences and to provide mechanisms for joint action. Lack of co-ordination and collaboration results in duplication of efforts and misallocation of resources available.

Policy Statement No. 69: *Forums for co-ordination and collaboration among entities and stakeholders will be established and strengthened.*

Strategies

(i) Main sector collaborators and stakeholders will be identified,
(ii) Coordination and collaboration mechanism will be developed and executed,
(iii) Awareness creation will be carried out,

CHAPTER 7. INSTITUTIONAL ARRANGEMENT

7.1 Proposed institutional arrangement for water resources management

The present institutional framework for sustainable management of water resources is inadequate to implement this policy. Outside the Ministry of Water various sectors, departments, districts and villages also perform some aspects of water resources management roles of planning and development, catchment and soil conservation, conflict resolution and preparation of various bylaws. Some institutions also undertake collection of water related data. The present system, however, lacks effective coordination and collaboration mechanism resulting into overlapping responsibilities and higher operating costs. Considering these weaknesses a redefinition of functions and organization structure for water resources management is necessary. The proposed new institutional framework structure is as shown in the following section.

Proposed institutional framework is streamlining the present framework for water resources management with a view of removing the overlaps in functions, making it comprehensive in roles and responsibility, thereby consolidating all the functions of resource management, and making it more responsive to the public and cost effective. The framework also considers that water resources management is a multi-sectoral activity requiring full participation of all stakeholders and integration of sectors in the planning, development and management .

Within the Ministry of Water The Division of Water Resources will be headed by the Director and will have three technical sections of (i) Surface Water Resources Assessment and Investigations (Hydrology) to deal with all operational aspects of surface water resources, management of dam safety and other water related disasters, (ii) Groundwater Resources Assessment and Exploration (Hydrogeology) to deal with all operational aspects of groundwater resources including exploration, monitoring and assessment, and management of water related disasters associated with groundwater extraction; and (iii) Water Resources Management to deal with all aspects of water resources regulations and management including international water resources, and pollution control. Each of these sections will be headed by an Assistant Director. There shall be Basin Water Boards and Basin Water Offices for each declared river Basin each of which will be headed by Basin Water Officer.

In order to effect integration of sectors and participatory approaches for water resources management it is proposed to establish a multisectoral *National Water Resources Commission (NWRC),* under the Division of Water Resources, which will have the following main functions:

(i) play the advisory role to Government on and to provide for the integration of sectors in the planning, development and management of the resources,
(ii) resolve inter-sectoral and stakeholder water related disputes,
(iii) process and give recommendations on appeals related to water allocations and water rights and advise Government on the same,
(iv) resolve disputes among basins on the development and management of water,
(v) provide recommendations for, and participate in the review policy and strategies on water resources management including participatory approaches,
(vi) provide guidance on inter-sectoral resource assessment.

The NWRC will be Governmental, constituting of Directors or equivalents from key water related sectors. The Commission will be established under the Law. The secretariat of the Commission will be the Water Resources Department. The President of the United Republic of Tanzania will appoint Chairman and Secretary of the Commission. The Director Water Resources Division will be Secretary to the Commission.

Following the establishment of the National Water Resources Commission the present Central Water Board, which is a transitional arrangement, will cease to function. Its functions will be performed partly by the National Water Resources Commission, the Water Resources Management Section of the Division of Water Resources and Basin Water Boards. Functions of water quality management currently under the Water Laboratories Unit will be shifted to Division of Water Resources within hydrology and hydrogeology sections.

7.2 Institutional Arrangement for Urban Water Supply and Sewerage Services

The current organization of the urban division is adequate to implement this policy. The new dimension in the UWSS management is the introduction of independent regulator. The regulator will be appointed by the President of the Republic but with the advice of the Ministry responsible for water. The legislation establishing the independent regulator will be prepared. The responsibilities of regulator shall include:

(i) to resolve disputes between operator and customer/ holding company

(ii) to monitor performance, pricing and tariff setting,

(iii) to ensure compliance to environmental and quality standards,

(iv) to ensure continuity of services,

(v) to provide a conducive environment for operators in order to improve service delivery, and

(vi) to assist in the interpretation of the various contracts pertaining to PSP.

CHAPTER 8: POLICY IMPLEMENTATION, MONITORING AND EVALUATION

The policy has established clearly an unprecedented level of consensus among stakeholders on water policy principles and stipulated strategies and actions. The challenge now is to translate the policy principles into viable options and to bring them into operation within the context of national economy and established political, legal and administrative framework in the country. Focus would be placed on the implementation of the policy principles, and supporting a consistent program of reviews as need arise.

While implementing the policy there is need for effective monitoring, evaluation and dissemination mechanism. Three main indices will be applicable: (a) improved human health - which has direct correlation with water borne diseases and water supply and sanitation, (b) Improved environmental status of water resources and its ecosystems - which correlates with water use and pollution discharges, and (c) availability of affordable water resources for various socio-economic uses on sustainable basis. It is envisaged that the short term will be a period of five years during which medium and long term actions will be derived as part of the implementation of the short term actions. The Ministry responsible for Water will take the lead role in the implementation of the policy.

Effective management of water resources and delivery of water supply and sanitation services is a multi-sectoral activity which requires participation of all actors. In that regard each actor has some role to play as defined in the following section.

8.1 Roles in the Implementation of the Policy

Role of the Ministry responsible for water

(i) Reviewing and coordination of National Water Policy development, and supervision of its implementation.
(ii) Development and updating of strategies, plans and programmes.
(iii) Identification of water sources; facilitation, regulation, supervision, monitoring and coordination of surface and groundwater water resources development and management including monitoring of quality and quantity, assessment, regulation of its utilization and control of pollution.
(iv) Coordination of resource utilization and mobilization with stakeholders including urban water authorities, donors, NGOs and the public.
(v) Ensuring and protecting National interests in, and development of programs for the utilization of internationally shared water resources.
(vi) Facilitation of the provision of adequate, clean and safe water for domestic, agricultural and industrial, power generation and other uses.
(vii) Facilitation of the development and management of sewerage systems.
(viii) Promotion of technologies that enhance water use efficiency.
(ix) Preparation of programs and strategies for the management and mitigation of water related disasters, such as floods and droughts.
(x) Promotion and implementation of integrated water resources management and development.
(xi) Facilitation of research on water resources, water development and sewerage disposal, appropriate technologies and dissemination of research findings.
(xii) Provision of guidance and advisory services in the development and management of water resources, water supply and sewerage services.
(xiii) Coordination of donor sponsored or assisted water projects.

(xiv) Creation of an enabling environment for private sector participation in the development and management of water supply and sanitation.
(xv) Prepare and supervise programs for dam safety monitoring.
(xvi) Developing and providing various publications and dissemination on water resources, and provide regular reports on the status of the National water resources.
(xvii) Respond to public queries on the sector.

8.2 Roles of Other Sector Ministries

(a) The Ministry responsible for Agriculture and Cooperatives

(i) Provide sectors water demands.
(ii) Promote efficient and effective use of water in the sector.
(iii) Provide data and information pertaining to the sector and participate in integrated planning and management of the resource.
(iv) Educate farmers on better agricultural methods including land uses, water conservation and practices for application of agrochemicals to minimise pollution of water resources.
(v) Provide data and information pertaining to the sector and participate in integrated planning and management of the resource.

(b) The Ministry responsible for Industries and Commerce

(i) Provide sectors water demands.
(ii) Facilitate the availability of water treatment chemicals, materials and machinery for the water sector from local and external sources.
(iii) Promote the manufacturing of equipment and materials for rainwater harvesting; equipment powered by solar, wind and biogas to be used in domestic water supplies.
(iv) Promote water conservation measures, cleaner production technologies and control of pollution from industrial discharges and effluents.
(v) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(b) The Ministry responsible for the Environment

(i) Determine environment water requirements for key rivers to protect wetlands, ecosystems and biodiversity.
(ii) Promote environmental conservation including wetlands, catchment areas, coastal zones, estuaries; and controlling environmental pollution.
(iii) Develop programs and carryout training program on environmental management.
(iv) Promote the Environment Impact Assessment for water related projects.
(v) Advise on water related environmental concerns, and carryout environmental awareness creation.
(vi) Enforcement of environment related legislations to protect water resources.
(vii) Harmonisation of other natural resources legislations to protect water resources from degradation.
(viii) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(c) Ministry responsible for Health

(i) Provide community health education.
(ii) Develop procedures for maintaining clean and healthy environment and sanitation in rural and urban areas.
(iii) Carry out training on health, hygiene, clean water and environmental education.
(iv) Participate in preparation of water supply and sanitation programs, including the siting of municipal solid waste dumps.
(v) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(d) The Ministry responsible for Energy

(i) Determine water demands for the sector.
(ii) Promote alternative sources of energy to reduce pressure on fuel wood thus promoting the protection and conservation of water catchment areas.
(iii) Facilitate the energy sector to contribute and participate in water catchment management.
(iv) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(e) Ministry responsible for Mining

(i) Determine water demands for the sector.
(ii) Control of environmental degradation in the mining sector.
(iii) Promote cleaner production technologies and control of pollution from industrial discharges and effluents.
(iv) Provide data and information pertaining to the sector and participate in integrated planning and management of the resource.

(f) Ministry responsible for Natural Resources, Forestry and Tourism

(i) Harmonization and enforcement of natural resources legislations to protect water resources from degradation.
(ii) Provide data and information pertaining to the sector and participate in integrated planning and management of the resource.

(g) Ministry responsible for Women and Children

(i) Encourage women to participate and taking leadership roles in water resources management programs including participation in Basin Water Boards
(ii) Participate in the management of Water User Associations
(iii) Take part in the preparation of training and information materials related to water resources for children.
(iv) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(h) Ministry responsible for Community Development

(i) Prepare of programs for public campaigns, awareness creation for water development projects, and management of water resources.
(ii) Carryout social and community work skills for participatory water resources development and management.

(iii) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(j) Ministry responsible for Education

(i) In collaboration with the Ministry responsible for water prepare school curricula to include topics on water management, water conservation and control of water pollution.
(ii) Provide guidelines to schools and institutions on the conducting of training on water management, water conservation and water pollution control.

(k) Ministry responsible for Lands

(i) Identify and undertake surveying and mapping of hazardous lands such as flood prone areas, likely to pose danger to life and property or lead to the degradation of the environment.
(ii) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(l) Ministry responsible for Communication (Tanzania Meteorological Agency)

(i) Facilitate the availability of meteorological data and measuring instruments
(ii) Collect, analyze and publish meteorological and rainfall data.
(iii) Provide information including real time information facilitate development of programs for floods and droughts mitigation.
(iv) Participate in integrated planning and management of the water resource.

(m) Ministry of Works

(i) Determine requirements for water resources data and information on water level and flood discharge for the design of roads and bridges and other hydraulic structures.
(ii) Provide data and information pertaining to the sector and participate in integrated planning and management of the resource.

(n) Ministry responsible for Local Government

(i) Determine human resources requirements for District Councils to plan, develop and manage water resources.
(ii) Provide technical advice to District Councils in the management of rural water supply projects.
(iii) Issue guidelines to District Councils for their participation in water resources management programs including water source and environmental protection, conservation and protection of catchment areas.
(iv) Approving bylaws to protect and conserve water.
(v) Serve as link between Ministry responsible for water and local Government entities
(vi) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(o) Ministry responsible for Justice

(i) Ensure timely reviews and updating of water related legislations.
(ii) Harmonisation of water related legislations to avoid in conflict with each other.

8.3 Roles of water sector related agencies

(a) National Water Resources Commission

(i) Advisory role to Government on integrated water resources planning, development and management including issues related to internationally shared water resources.
(ii) Provide guidance on inter-sectoral resource assessment, and for the integration of sectors in the planning, development and management of water resources.
(iii) Provide recommendations for, and participate in the review policy and strategies on water resources management including participatory approaches.
(iv) Resolve inter-sectoral and stakeholder water related disputes.
(v) Resolve disputes among basins on the development and management of water.
(vi) Process and give recommendations on appeals related to water allocations and water rights for consideration by the Minister responsible for water.

The Commission will be established by legislation. The Commission will be under the Division of Water Resources. The President of the United Republic of Tanzania will appoint the Chairman and Secretary of the Commission. The Director Water Resources Division will be Secretary to the Commission.

(b) Basin Water Boards

(i) Integrated and participatory planning on water resources in respective Basins.
(ii) Following up and supervising implementation of agreed plans.
(iii) Water allocation including approving water rights.
(iv) Monitoring and regulating water uses, and maintaining water use databases.
(v) Handle water allocation and water use conflicts in respective basins, and process appeals for consideration by National Water Resources Council.
(vi) Pollution control including monitoring and enforcement.
(vii) Approving work plans and budgets for the Basin Water Offices.
(viii) Conflict resolution pertaining to the respective Basin.
(ix) Promoting the establishment of participatory approaches to basin management and Water User Associations.
(x) Ensuring Basin Water Office maximizes billing of water users, and collection of fees and other charge on water use.

(c) Basin Water Offices

(i) Integrated and participatory planning on water resources in respective Basins.
(ii) Following up and supervision implementation of agreed plans.
(iii) Water allocation including processing and approving water rights.
(iv) Monitoring and regulating water uses including operation of reservoirs, and maintaining water use databases.
(v) Pollution control including monitoring and enforcement.
(vi) Manage data gathering networks in the basin, maintaining databases on water resources, quantitative and qualitative assessment of water resources in the basins
(vii) Collect water user fees and other charges.
(viii) Preparation and dissemination of guidelines for acquisition of water rights, and on proper water utilization.
(ix) Carrying out water audits.
(x) Carrying out associated research.

(xi) Promoting the establishment of Water User Associations.

(d) *Urban Water and Sanitation Authorities and Boards*

(i) Submit water demands to respective basin water offices.
(ii) Institute effective operations and maintenance programs of water supply systems to combat wastage and leakages of water.
(i) Provide information as may be required by respective water management authorities for water management purposes.
(ii) Monitor water availability, quantitatively and qualitatively, and uses in respect of their respective water sources.

(e) Water Laboratories

(i) Provide technical advice to water treatment plant operators with regard to chemical dosing.
(ii) Conduct tests on water treatment chemicals and certify their quality.
(iii) Provide technical advice to industries on proper treatment of industrial effluent for the purpose of controlling water pollution.
(iv) Conduct research on appropriate methods for water treatment.
(v) Conduct research on water – environment related issues.
(vi) Provide services to water and sanitation entities.
(vii) Provide services and advice to Basin Water Offices.
(viii) Carryout consultancy work on water related issues.
(ix) Participate in setting water quality and wastewater standards.

(f) Drilling and Dam Construction Agency

(i) Record and submit rock samples and data on water wells being drilled by the agency as per guidelines by the water management authorities.
(ii) Follow guidelines on exploration and drilling activities.

(g) Responsibility of Dam owners and operators

(i) Construct, maintain and operate the dam with respect to the safety of life, environment and property in accordance to the Act and regulations and guidelines issued by the Ministry responsible for water.
(ii) Preparation of emergency preparedness plans to handle normal conditions, accidents and major failures.
(iii) Responsible for the damage caused by failures on the dam or by faulty operation of the dam.
(iv) Establish procedures for periodic supervision of dam to ensure that it is in good conditions and comply with regulations and guidelines.
(v) Prepare and implement dam safety monitoring plans and submit data so collected and recommendations to the Ministry responsible for water for assessment and evaluation.

(h) Regional Administrative Secretary's Office

(i) Oversee and coordinate the preparation and implementation of water development programs in the region

(ii) Provide guidance and technical advisory and backstopping role to District Councils on water resources planning and development
(iii) Serve as a link between the Districts and Basin Water Offices on matters regarding water resources development and management
(iv) Participate in the integrated planning of the use of water resources.

(i) District Councils

(i) Assist communities in planning, development and management of their rural water supply schemes.
(ii) Mobilize rural populations and provide technical and financial support in the implementation of water development programs and promote participatory approaches in water resources planning, development and management.
(iii) Implement defined regulatory roles and approve bylaws to protect and safeguard water sources and water user entities.
(iv) Discussing and recommending on new or proposed water right applications.
(v) Participate in conflict resolution among water users in the district in collaboration with respective Basin Water Offices.
(vi) Water source and environmental protection including conservation and protection of catchment areas through District Environmental Committee.
(vii) Serve as link between Basin Water Offices and wards, villages and users, private sector, Governmental and Non Governmental Organizations and communities who intend to develop water resources within district.
(viii) Promote efficient water utilization and pollution control through extension agents
(ix) Provide data and information pertaining to the sector and participate in integrated planning, development and management of the resource.

(j) Water users, and Water User Groups

Water User Associations (WUAs) or User Groups, smallholder or small scale users such as irrigation or furrow committees will be the lowest appropriate level of management and will be responsible for:

(i) Self policing, conservation and protecting water sources.
(ii) Management of water resources at their local, catchment or sub-catchment level.
(iii) Formulate and perform local water allocations among competing uses from stipulated quantities of water rights.
(iv) Crisis management including water allocations during droughts periods.
(v) Resolve disputes among users.
(vi) Guard and take readings from national gauging stations.
(vii) Operation and mintenance of their water supply schemes.
(viii) Communication with wards, districts and Basin water Offices on water related matters.
(ix) Participating in various surveys, collection of various fees and charges from users and community members.
(x) Participating in the integrated planning of the use of water resources.

(k) Catchment or sub-catchment Committees

(i) Manage the resource at catchment or sub-basin level.
(ii) Participate in participatory water resources management.
(iii) Provide basis for legitimate representation of users in Basin Water Boards.
(iv) Water regulations to benefit all in the catchment or sub-catchment.

(v) Participate in the integrated planning and management of water resources.

(l) Community or village level

Communities at the level of water supply scheme, irrigation furrow(s), small tributary, village(s) around a common water source, water use committees, smallholder farming communities, rural water supplies, fishermen, pastoralists, etc; shall form the lowest level of management; and play the following roles:

(i) Perform local water allocations among competing uses from stipulated quantities of a water rights, and crisis management such as water allocations during droughts.
(ii) Guard and take readings from national gauging stations.
(iii) Operation and maintenance of their water schemes to minimise wastage of water and ensure sustainability.
(iv) Contributing in cash and in kind towards financing of their rural water supply schemes and meeting fully O&M costs.
(v) Participating in planning, design and construction of their water schemes.
(vi) Make informed choices on the level of service and type of technology designed.
(vii) Owning, operating and managing their rural water supply schemes schemes.
(viii) Setting water tariffs, collecting revenue, and maintaining records of accounts.
(ix) Contract out some of the responsibilities to private sector or private operators.
(x) Resolving disputes among community members.
(xi) Local policing of water use and water courses, crisis management such as water allocations during droughts.
(xii) Communication with wards, districts and Basin water Offices.
(xiii) Participating in the planning process and in various surveys.
(xiv) Collect various fees and charges from community members.
(xv) Participating in the integrated planning of the use of water resources.

(m) The Private sector

(i) Private Sector to provide input for the integration of their programs in the water development process.
(ii) Private drillers to generate and submit borehole and groundwater data to Ministry responsible for water, for groundwater assessment in basins.
(iii) Institutions like farm companies who own have water resources monitoring stations to regularly collect and submit data to Ministry responsible for water.
(iv) Private sector to ensure that water for a number of industrial and other commercial and domestic uses is priced in a manner that reflects its value to society.
(v) Mobilizing communities for participatory demand responsive planning.
(vi) Assisting communities to plan, design, supervise, conduct, and mange their water supply schemes.
(vii) Assisting communities in constructing sanitation facilities.
(viii) Manufacturing, supplying, installing plant and equipment.
(ix) Supplying spare parts.
(x) Operating and maintaining facilities under contract with communities.
(xi) Promoting and mobilizing communities in on the need for a safe water supply, good sanitation practices, and hygiene and health sanitation.
(xii) Facilitating communities to have access to credit.