
National Water Policy

THE UNITED REPUBLIC OF TANZANIA



**MINISTRY OF WATER AND LIVESTOCK
DEVELOPMENT**

**NATIONAL
WATER POLICY**

July 2002



ACRONYMS AND ABBREVIATIONS

CBOs	Community Based Organizations
DRA	Demand Responsive Approach
EIA	Environmental Impact Assessment
ESAs	External Support Agencies
EWURA	Energy and Water Utilities Regulatory Authority
GDP	Gross Domestic Product
l/s/km ²	litres per second per square kilometre
m ³ /h	Cubic Meters per Hour
MIS	Management Information System
NGO	Non Governmental Organization
O&M	Operation and Maintenance
PRSP	Poverty Reduction Strategy Paper
PSP	Private Sector Participation
RWS	Rural Water Supply
UN	United Nations
UNCED	United Nation Conference on Environment and Development
UWSAs	Urban Water Supply Authorities
UWSS	Urban Water Supply and Sewerage
WRM	Water Resources Management
WSS	Water Supply and Sewerage

Acronyms and Abbreviations

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Figure: Map Showing River Basins in Tanzania

Introduction

INTRODUCTION

1. Overview

Freshwater is a basic natural resource, which sustains life and provides for various social and economic needs. In its natural state, water is an integral part of the environment whose quantity and quality determine how it can be used. 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. Despite its importance to our lives and development, water is unevenly distributed in time, space, quantity and with great variations in quality. Furthermore, water is a finite and a vulnerable resource.

The social and economic circumstances prevailing today 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, industries, tourism, mining, livestock keeping, domestic, fisheries, wildlife and forestry activities. Water scarcity is perceived at many places due to unreliable rainfall, multiplicity of competing uses, degradation of sources and catchments. Water scarcity threatens food security, energy production and environmental integrity and consequently there are water use conflicts between sectors of the economy. There are also increasing challenges of managing the multiple trans-boundary watercourses

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and strengthening water resources management policy and legal and institutional frameworks. Inadequate regulations to monitor groundwater resources development has led to underutilization of the resources and in some places over exploitation and interference in the existing water sources. Fragmented planning, implemented following sectoral, regional or district interests, aggravates this situation even further.

Despite significant investment in the Water Supply services since the early 1970s, water supply coverage is not satisfactory. The 1991 National Water Policy set a goal of providing clean and safe water to the population within 400 meters from their households by the year 2002. Today only about 50% of the rural population has access to a reliable water supply service. Due to poor operational and maintenance arrangements, over 30% of the rural water schemes are not functioning properly. The coverage for urban areas is 73%, but most urban water supplies are inadequately treated due to malfunctioning treatment plants.

2. Rationale

It is now more than ten years since the 1991 National Water Policy was launched. During this period, many changes have taken place in the sector with major emphasis on active participation of communities, private sector and local governments as the role of central government in services provision diminishes. For instance, in 1992, one year after launching the policy, Tanzania signed Agenda 21, which is an outcome of United Nations Environment Meeting in Rio de Janeiro. The Agenda emphasized all nations to protect natural resources including water resources against pollution and conservation of the ecosystems.

The main shortfall in the National Water Policy of 1991 can be identified in the implementation strategies, which emphasised that the central government is a sole investor, implementer and manager of the projects, both in rural and urban areas. The Policy also emphasised that the Central Government has a responsibility of protecting water sources while environmental protection was not accorded its due importance.

The main objective of this revised policy is to develop a comprehensive framework for sustainable development and management of the Nation's water resources, in which an effective legal and institutional framework for its implementation will be put in place. The policy aims at ensuring that beneficiaries participate fully in planning, construction, operation, maintenance and management of community based domestic water supply schemes. This policy seeks to address cross-sectoral interests in water, watershed management and integrated and participatory approaches for water resources planning, development and management. Also, the policy lays a foundation for sustainable development and management of water resources in the changing roles of the Government from service provider to that of coordination, policy and guidelines formulation, and regulation.

Water and The Tanzania 2025 Development Vision

The Tanzania Vision 2025 aims at achieving a high quality livelihood for its people, attain good governance through the rule of law and develop a strong and competitive economy.

Specific targets include:

- (i) a high quality livelihood characterized by sustainable and shared growth (equity), and

freedom from abject poverty in a democratic environment. Specifically the Vision aims at:

- food self-sufficiency and security,
- universal primary education and extension of tertiary education,
- gender equality,
- universal access to primary health care,
- 75% reduction in infant and maternal mortality rates,
- universal access to safe water,
- increased life expectancy,
- absence of abject poverty,
- a well educated and learning society.

(ii) good governance and the rule of law

- moral and cultural uprightness,
- adherence to the rule of law,
- elimination of corruption.

(iii) a strong and competitive economy capable of producing sustainable growth and shared benefits

- a diversified and semi-industrialized economy,
- macro-economic stability,
- a growth rate of 8% per annum,
- adequate level of physical infrastructure,
- an active and competitive player in regional and global markets.

Water is one of the most important agents to enable Tanzania achieve its Development Vision objectives

(both social and economic), such as eradicating poverty, attaining water and food security, sustaining biodiversity and sensitive ecosystems. The revised National Water Policy and subsequent reviews and reforms of existing laws, institutional framework and structures are aimed at meeting the objectives of this Vision.

Water and Poverty Alleviation

Tanzania's Poverty Reduction Strategy Paper (PRSP) sets out the medium term strategy for poverty reduction and indicators for measuring progress. It defines the objectives for poverty eradication by 2010, with the following key priority areas for achieving its goal:

- (i) reducing poverty through equitable economic growth,
- (ii) improving human capabilities, survival and social well being, and
- (iii) containing extreme vulnerability among the poor.

The PRSP recognises the heavy dependence of the poor on the environment (soil, water and forests), in particular household's reliance on environmental resources for income generation. Water is considered a key factor in the socio-economic development and the fight against poverty. Deliberate efforts are therefore needed in the management of the resources in order to sustain the desired pattern of growth and consumption, and to ensure that all the socio-economic activities maximize their capacities, as articulated in the Vision 2025. This entails integrated planning, development and river basin management in support of food security and poverty reduction as well as environmental safeguards.

3. The Process

The process of preparing this policy was undertaken in a participatory manner involving water resources stakeholders in order to ensure comprehensiveness and acceptability. A number of technical studies were undertaken to provide input to the policy review process. Many key stakeholders were involved at different levels in different forums including field consultations, meetings, technical workshops and national conferences. The draft National Water Policy was subjected to review by water sector related ministries, universities, research institutions and non-governmental organizations.

4. The Structure

This policy document contains three sections addressing three sub-sector issues namely:

- (i) Water Resources Management,
- (ii) Rural Water Supply, and
- (iii) Urban Water Supply and Sewerage.

The Water Resources Management section provides a comprehensive framework for promoting optimal, sustainable and equitable development and use of water resources for the benefit of the present and the future generations. It takes into consideration the concerns of all water users. The Rural Water Supply section aims at improving health and alleviating poverty of the rural population through improved access to adequate and safe water. The Urban Water Supply and Sewerage section sets a framework for achieving an efficient development and management of the Urban Water Supply and Sewerage services. A plan for action detailing the implementation of policy

strategies will be prepared and presented separately.

5. Instruments for Policy Implementation

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

- (i) **Technical instruments:** These are technical measures, which are used to control water uses including gating of abstractions, flow metering, application of cleaner production technology.
- (ii) **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.
- (iii) **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.
- (iv) **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 trans-boundary water resources.
- (v) **Regulatory instruments:** Regulatory instruments include appropriate management structures

and procedures. These procedures and criteria to be adopted include applications for and granting of permits, a clearly defined water right system, appropriate standards and guidelines that control water abstractions from water bodies, controls on specific technologies aimed at reducing water use or waste loads, control of discharge of waste products into water sources (in terms of quantity, quality, timing and location of discharges), and standards for water provided for specific uses or for goods or materials which are potentially polluting.

- (vi) Participatory Instruments: These include sensitization, community education, consultations and discussions.

SECTION I: WATER RESOURCES MANAGEMENT

1. OVERVIEW

1.1 Water Resources Potential

Although nearly 70% of the Earth is covered with water, only 2.5% of this is freshwater. Seventy percent of the freshwater is frozen in ice caps of Antarctica, Arctic and Greenland. The remaining 30% of this freshwater is available as soil moisture, or lies in deep underground aquifers as groundwater and as surface water. Only one third of this water is the water found in lakes, rivers, reservoirs and those underground water sources that are shallow enough to be tapped at an affordable cost. Only this amount is regularly renewed by rain and snowfall, and therefore available on a sustainable basis. When the world's total

river flow (42,700 cubic kilometers) is divided by the world population (of 1995) estimated to be 5.85 billion, the quotient amounts to an average of 7,300 cubic meters of water per person per year (Comprehensive Assessment of The Freshwater Resources of The World Report, UN 1997). Owing to the growing world population, this represents a drop of 37 per cent per person since 1970.

Tanzania's annual renewable water resources is 89 cubic kilometers or 2,700 cubic meters of water per person per year (World Resources 2000- 2001). Based on projected population from estimated 33 million in year 2001 to about 59.8 million by year 2025, annual average available water per capita will be reduced by 45% to about 1,500 cubic meters per person per year which shows that the country will face a water stress situation, considering that below 1,700 cubic meters per person per year signifies water scarcity.

Water resources in the country include rivers, lakes, wetlands, springs, reservoirs and groundwater aquifers; and many water bodies that are shared with neighbouring countries. More than half of the country receives on the average less than 800mm of rain per year. The monsoon type of climate prevailing in the country, cause extreme temporal variability in rainfall and even more extreme variability in river flows. The annual mean rainfall shows that the eastern coastal areas receive well over 1000mm per year while most parts of the drier interior receive less than 600mm. Other areas with relatively high annual rainfall are near the great lakes, notably Lake Victoria and north of Lake Nyasa. The surface runoff pattern and moisture conditions correspond to the general rainfall pattern. On the southwestern highlands, Uluguru, Ukaguru and Usambara mountain ranges, the slopes of Mount

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Kilimanjaro and Meru, as well as the most western parts of the country, where annual rainfall is in the range of 1,200-2,600mm, streams and rivers are perennial. In many other parts of the country, with less than 800 mm of rain per annum and which is highly variable, streams flow intermittently.

Freshwater is also abundant in the form of lakes covering approximately 60,000 square kilometers. Lake Tanganyika shared by Tanzania, the Democratic Republic of the Congo, Burundi and Zambia runs along the western border and this is Africa's deepest and longest freshwater lake, and the world's second deepest lake. Lake Victoria shared by Tanzania, Kenya and Uganda is the world's second largest freshwater lake and drains into the Nile river. Lake Nyasa in the south of the country is shared by Malawi, Tanzania and Mozambique; and is situated in the Zambezi River system (Basin).

Groundwater availability, mainly controlled by geology and climate, is variable. Aquifers are discrete. About 75% of the country is underlain by Precambrian Basement complex, which comprises of hard, consolidated and sometimes metamorphosed rocks. These rocks form basement aquifers, where they are weathered, fractured or faulted. Other types are Karroo and younger aquifers, coastal sedimentary formation of limestone and sandstone, and the alluvial sedimentary sequence, which mostly include clay, silt, sand and gravel, and volcanic materials found in alluvial plains. Volcanic areas of northern and southern Tanzania as well as the sedimentary coastal basins are potential groundwater resource areas. Boreholes drilled in the volcanic areas have yields up to 800 cubic meters per hour and those in sedimentary coastal areas yield about 50 cubic meters per hour. However, water quality is a problem in terms of high

salinity and fluoride concentration, and thus not suitable for human use. Groundwater is a major supplement for surface water for many parts of the country and is a vital source of water in semi-arid water scarce areas.

1.2 Water Resources Depletion

Water resources depletion and rising demand on limited water supplies result in putting at risk some of the water related investments, thereby creating conflicts. Extensive irrigation during dry season dries up the rivers, thus disturbing ecosystems and wildlife. Inefficient water uses, such as low efficiencies of many irrigation schemes, (estimated at 10% to 15%); and leakages from domestic water supplies estimated to cause water losses up to 52% of water that is produced; both of which contribute to reduction in water availability.

1.3 Present Water Resources Management System

The Water Utilization (Control and Regulation) Act No. 42 of 1974 and its subsequent amendments govern the present water resources management system. Amendment Act No. 10 of 1981 introduced pollution control aspects. However, the Water Utilization Act and other sub-sector water related laws are inadequate to meet the growing water resources management challenges facing the country today.

The country is divided into nine hydrological zones or river basins (Figure: River Basins in Tanzania) for purposes of water resources management. These basins are (i) Pangani, (ii) Wami/Ruvu, (iii) Rufiji, (iv) Ruvuma and Southern Coast, all of which drain into the Indian Ocean, and (v) Lake Nyasa, (vi) Lake Rukwa, (vii) Lake Tanganyika, (viii) Lake Victoria, and (ix) the Internal drainage basins of Lake Eyasi, Manyara and Bubu depression.

Basin water resources are part of a management continuum starting with the upstream freshwater sources in the watershed, moving down into the freshwater-sea-water interface in the deltas and estuaries.

2. WATER AND SOCIAL - ECONOMIC DEVELOPMENT

Water is a basic natural resource for socio - economic development. It is fundamental for various social - economic development activities such as industrial production, irrigated agriculture, livestock keeping, mineral processing, hydropower production, navigation and recreation and tourism.

2.1 Domestic Water Supply

The present population is estimated at about 34 million, of which 80% live in the rural areas. The projected population in the year 2025 is estimated to double, with 60% living in the rural areas. The growth in population will have a negative impact on domestic water supply and in sanitation and sewerage services if appropriate measures are not taken. Presently water services coverage for municipal and industrial water supply is 73% and for rural water supply it is 50%. This coverage in the provision of safe water is undesirably low. In many areas of the dry central part of the country water is so scarce that even water for personal hygiene cannot easily be found. The people, especially women and children, walk long distances to fetch water. The national economy suffers because of inadequate water supplies to the urban and rural population.

2.2 Livestock

In the year 2000 livestock contributed about 13.3 per cent of the Agricultural Gross Domestic Product