

CHAPTER NINE

WATER

Zambia enjoys good water resources with annual rainfall averaging between 700 mm in the south and 1200 to 1400 mm in the north. She has enormous potential for the use of water for activities like domestic supply, industry, irrigation, transport, tourism and hydropower production. This section gives an outline on how water resources management and development could enhance poverty reduction in the country.

Other than being an economic resource water is also critical for public health, which in turn yields direct economic benefits. For many people (particularly in rural areas), obtaining water is heavy work, taking up most of the women and children's time. It is necessary that water resources are adequately developed and managed in order to bring safe drinking water near.

Currently, the water and sanitation sector is besieged with multiple problems. For example, national coverage averages for access to adequate safe water supply and sanitary facilities in rural population is 44 percent and 23 percent respectively. The worst affected are the peri-urban and rural communities where coverage for safe water supply averages 40 percent and less than 10 percent for sanitation. Naturally, water related infections have been common.

Existing Water Policy and Role of Water Sector to Social and Economic Development

The water and sanitation sector has for a long time been driven without a clearly defined policy and adequate legislation. There has also been multiplicity of institutions acting in uncoordinated manner. To address these issues, the Government in 1993, adopted seven principles as the basis for reform. These are:

1. Separation of water resources management from water supply and sanitation,
2. Separation of regulatory and executive functions,
3. Devolution of responsibility to local authorities and the private sector
4. Full costs recovery through consumer charges in the long run,
5. Improved human resource development leading to more effective institutions,
6. Increased use of appropriate technology, and
7. Increased priority to GRZ spending in the sector

The National Water Policy, formulated in 1994, aims at promoting sustainable water resources development, with a view to facilitating adequate, equitable and good quality water for all users at acceptable costs and ensuring security of supply under varying conditions.

Some key policy strategies adopted to achieve this were:

1. Recognising the important role of the water sector in the overall socio-economic development of the country

2. Vesting control of water resources in the country under state control through review of water legislation to incorporate all water bodies (groundwater and international water)
3. Promoting water resources development through an integrated management approach.
4. Providing adequate, safe and cost effective water supply and sanitation services with due regard to environmental protection.
5. Defining clear institutional responsibilities of all stakeholders in the Water Sector for effective management and co-ordination.
6. Recognising water as an economic good

Although the policy was formulated in 1994, it still represents current thinking. The challenge for Zambia is to move from policy to action.

Operationalisation of the Water Policy

The government started implementing the water the policy by putting in place appropriate legal and institutional framework. For the urban areas, the Water Supply and Sanitation Act No 28 of 1997 defines the modus operandi. All urban water supply and sanitation schemes have since been transferred to local Authorities. Commercially viable utilities to manage these urban systems are being established. By the end of the year 2000, seven water and sewerage companies had been established. Thirty-four local Authorities area are providing water supply and sanitation services through their engineering departments.

For rural areas the Government, in 1996, announced the adoption of the WASHE concept (Water, Sanitation and Health Education) as a national strategy for the improvement services. This strategy addresses the lack of attention to consumers' need in rural areas through the involvement of the rural population in:

1. Assessing priorities
2. Determining affordable and sustainable technology
3. Contributing to management, operation and maintenance, and
4. Improving the health and hygiene practices in rural communities.

The strategy is being implemented through district level committees (D-WASHEs) for which membership is drawn from the District Council, district level staff of line ministries working with communities, NGOs active in the sector in the district, and at least three women representatives. These communities act as sub committees of the District Development Co-ordinating Committees, which are part of the formal district level planning process. Communities would then be encouraged to establish lower lever WASHE committees to ensure that their views are reflected at the district level. As at the end of the year 2000, Sixty-three D-WASHE Committees were established.

At the regulatory level, the National Water Supply and Sanitation Council (NWASCO) has been established and is operational. The core function of NWASCO is to regulate the service providers in order to for them to provide good services to consumers and to guard against consumer exploitation.

In order to strengthen implementation, the Government has formulated two strategies to address the Peri-urban and Rural water Supply and Sanitation Service. These are the Peri-urban and Community Water Supply and Sanitation strategies and the National Environmental sanitation strategies. These strategies need to be implemented.

Issues / Problems In Water Resources Management And Development

To date, the water sector still suffers from the following;

1. Inadequate Legal and Institutional Framework.
2. Lack of adequate stakeholder participation and co-operation.
3. Inadequate human resources capacity
4. Insufficient information and data
5. Poor infrastructure.
6. Inadequate Finances and Economic issues.
7. Ineffective water resource assessment
8. Lack of mechanisms for trans-boundary water.
9. Sector approaches that are skewed towards studies without construction or rehabilitation and do not put in place sustainable systems for management.

Actions to Reduce Poverty

To address issues of poverty from the water perspective Zambia has embarked on the Water Resources Action Programme (WRAP), whose main goal is to contribute to poverty reduction. WRAP will support Zambia National Water Policy in the establishment of a comprehensive framework that will promote the use, development and management of water resources in a sustainable manner. This will directly contribute to poverty reduction, as water is key to social and economic prosperity.

The WRAP has been designed to address the following issues:

1. Legal and institutional framework: The objective is to establish an institutional legal framework for water resources management. Once in place, there will be stronger enforcing of existing laws for water management and roles for various institutions in water management will be defined.
2. Hydrological data and information system: The objective is to establish a comprehensive management information system to be used for planning and management of water resources required for dam construction, bridge construction, drought and flood forecast, etc. Among the output for this is hydrological assessment through provision of equipment and materials and improving of the information systems. It is aimed to make over 300 hydrological stations operational in the next three years at the cost of 500,000 dollars.
3. Human resources development: The objective is to enhance institutional performance including human resources competence, capacity and motivation to develop and sustain efficient work for water management.

4. Water resources demand, supply and infrastructure: The objective is to improve technical aspects of water resource allocation practices, conservation and infrastructure development.
5. Economics and financing
6. Water and environment: The objective is to integrate environmental values into water resource management and development.
7. International waters: The objective is to strengthen domestic capacity to manage and negotiate international issues.

The short-term programme is to run for 3 years there after sub programmes will be introduced for short and medium term interventions and long term. The WRAP programs are primarily intended to strengthen the capacities of institutions and stakeholders to utilise water gainfully both as a consumption good and as an input in production.

Water for Consumption

Urban Water Supply and Sanitation

This has benefited significantly from donor assistance. For example, Germany is active in supporting water supply and sanitation services in the Eastern, Southern and the North-Western provinces. In Lusaka and now in Kitwe the African Development Bank (ADB) has financed work on the water supply and sanitation systems. The World Bank's IDA has financed the repair and rehabilitation works for nine towns under the \$30 million URWSP project and has recently approved \$37.7 million for the MTSP project which includes about US\$ 20 million for rehabilitation of capital works in the former mining townships of the Copperbelt region. UNICEF is actively giving support to ten (10) districts but recently its emphasis is on software and very little if any in the construction of water points.

Under the local councils, operations and maintenance have remained unsatisfactory. Aging equipment, insufficient chemical dosing, a high level of wastage due to leakages, and in some instances, inappropriate technology, cause this. At the same time, the cost recovery rates are low. Although this stems from the inability and unwillingness to pay among a minority of consumers, it is also due to the inability of the councils to bill and collect dues as well as high rate of illegal connections.

New Planned Interventions

1. Commercialise water supply and sanitation services in Eastern, Luapula, Lusaka and Northern Provinces.
2. Set up systems for sustainable management of commercial utilities with seed operative capital for all the water and sewerage companies
3. Rehabilitate and expand, in the district centres, the water supply and sanitation infrastructure of the four Provinces.
4. Construct and establish sustainable systems for management of water supply and sanitation facilities in peri – urban areas.

5. Construct community based water supply and sanitation facilities in all provinces and establish systems for sustainable management of water points.
6. Working with councils, strictly enforce the regulations on public hygiene and encourage councils to be more proactive in providing new serviced development areas to satisfy growing demand for settlements.

Rural Water Development Projects: On-Going And Planned Projects

The rural areas, over the years, have also benefited to a large extent from support from various donors including Germany, Norway, Ireland, Netherlands, and Japan. World Bank during the International Drinking Water Supply and Sanitation Decade also supported rural water supply. The Government has secured support from the African Development Bank to finance a five-year rural water supply and sanitation programme for the Central Province. Despite these interventions coverage figures for water supply and sanitation are low. The following interventions, which are important for poverty reduction from the water perspective, are planned.

Eastern Province Rural Water Supply Development:

This project started in 1998 with the aim of providing 70 water facilities to the province. The first phase is to end in April 2001 at a total cost of 8 million dollars. This has enhanced the accessibility to safe water to about 40 percent on the average. The second phase commenced in May 2001 to provide about 1,000 water facilities in the next four years. With these additional water points it is hoped to increase the coverage to over 50 percent in the province at a cost of 12 million dollars. The financing is through a German grant.

Rural Water development for drought prone areas:

This project is to be implemented through a grant from Japan and is to cost approximately 10 million dollars. It is hoped to run for three years starting in March 2001. At the end of three years 300 water points would have been constructed.

Construction / Rehabilitation of Dams and Weirs:

The Ministry of Energy and Water Development plans to be constructing about 30 dams a year for the next 5 years for mitigation against drought and farm irrigation. This is to cost USD 6 Million per year.

Rural Water Development Support:

The Ministry of Energy and Water Development plans to develop about 600 boreholes per year in the next five years at a cost of three million dollars for increasing accessibility to safe drinking water.

Groundwater Exploration:

The ministry intends to undertake ground water exploration in order to continuously monitor the groundwater potential for utilisation. It is planned to drill about 30 boreholes per year for the next five years at an average cost of 300,000 USD per year.

Water For Production Of Goods And Services

Water is a key ingredient in the production of goods and services such as agriculture, power, tourism and marine transport. Power generation will be discussed in the energy paper while marine transport will be discussed in the transport paper.

Water, Agriculture and Tourism

Zambia's enormous untapped agricultural potential is well known, but agricultural output is too weather dependent. Currently, there is no plan for exploiting irrigation potential and integrating it into the agricultural process. In recent years, some dams and weirs have been constructed and more are planned but this effort is not fully integrated with agriculture. The result is unproductive dams all over.

There are more perennial rivers and streams in the north than there are in the south of the country. However, availability of the water resources in the north is not matched by agricultural exploitation. On the other hand demand for water is higher in the south because of denser population and agricultural activities.

The cheapest way to exploit water for agriculture in Zambia is to open up new farming blocks in areas where there is more irrigation potential as was described in the section dealing with rural development. To attack lack of sound investment in rural areas and the associated poverty, negotiations with rural communities will be undertaken to establish farming blocks outside the traditional line of rail where sound investors, working with out-growers, will be attracted to produce export commodities.

The new farm blocks will be selected so that they are near rivers, lakes and roads. In this way farmers will either take water directly from the sources or they will be near irrigation water sold by other entities, state, private or cooperatives, who will be encouraged to invest in water supplies like dams and canals. Farming blocks near water features will create a powerful link for agro-tourism.

In the absence of farming organised blocks, the tendency will be for individuals to negotiate for land near water sources, which will however make it difficult to have a co-operative drive to harnessing water.

Elsewhere, the ongoing effort for dam and weir construction will continue. Where the state will construct dams in communal areas, planned settling of farmers in an integrated package to make them more productive will follow. The package will involve organised settlement, access to water including delivery systems; advice on what viable products to produce, etc.

Regarding tourism and water, there is currently lots of interest in tourist investments along some major rivers. This has prospects for creating jobs and reducing poverty in rural areas and it will be encouraged further. However, the process is not always well planned resulting in complaints that investors are displacing local people.

Against this background, stakeholders will hold discussions so that areas for tourist development along the major rivers and lakes are identified and surveyed and advertised transparently to investors. Basic roads and power (rural electrification) will be put. Care will be taken to prevent land speculators so that only proven investors will receive consideration. These processes will be done in partnership with local communities and safe guard their interests.

In summary, the actions to be taken regarding water and production of goods and services will be as follows:

1. New farming and tourism blocks will be identified, surveyed and advertised to investors in areas where potential for irrigation, tourism and agro-tourism is high.
2. The state, co-operatives and the private sector will be encouraged to invest in amenities for irrigation, which they can sell or rent to farmers.
3. In areas where dams and weirs continue to be constructed by the government, that effort will be integrated with other support services to ensure that farmers' productivity rises as a result of the availability of water.