

Resource Allocations and Financial Flows in the Water Sector in Zambia

Zambia Public Expenditure Review

Abbreviations and Acronyms

Acknowledgements

Disclaimers

Contact Information

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1. Introduction

Zambia initiated a series of reforms in the early 1990s aimed at increasing sustainable water supply and sanitation services. This was coupled with improving water resources management and enhancing contributions to economic growth and development. The reforms are embedded within seven sector principles that were articulated in the 1994 National Water Policy (Box 1). The aim of the NWP was “to promote sustainable water resources development with a view to facilitate an equitable provision of adequate quantity and quality of water for all competing groups of users at acceptable costs and ensuring security of supply under varying conditions”.

These principles have continued to provide the framework for investments within the sector. They are reflected in the Vision 2030, which aims to provide clean and safe water supply and sanitation for all by 2030 (see Box 2), as well as the national development plans. The goal for the water sector, as originally defined in the FNDP, is to “promote sustainable water resources development and sanitation with a view to facilitating an equitable provision of adequate quantity and quality for all users at acceptable costs and ensuring security of supply under varying conditions”.

Box 1: The Seven Sector Principles

Separation of water resources and executive functions from water supply and sanitation

Separation of regulatory and executive functions within the water supply and sanitation sector

Devolution of authority to local authorities and private enterprises

Achievement of full cost recovery for the water supply and sanitation services (capital recovery, operation and maintenance) through user charges in the long run

Human resources development leading to effective institutions

Technology appropriate to local conditions

Increased GRZ spending priority and budget spending to the sector

Box 2: Water and Sanitation Sector 2030

Vision: Clean and safe water supply and sanitation for all by 2030

Goals/Targets

- i. Improve access to appropriate, environmental friendly sanitation by all Zambians;
- ii. Attainment of 80 percent access to clean water supply to all by 2015 and 100 percent by 2030;
- iii. Attainment of 68 percent access to sanitation to all by 2015 and 90 percent by 2030; and
- iv. Fully integrated and sustainable water resource management

The reform process has given rise to a revised institutional framework that acknowledges the separation of responsibilities relating to the policy, planning and development of water resources and water supply functions, with the establishment of an independent regulator embedded in the Water Supply and Sanitation Act No. 28 of 1997. Despite these achievements, efforts to increase and improve service delivery have been undermined by a perceived lack of financial resources, deteriorating infrastructure and an absence of new investments, while low levels of awareness continue to compound stakeholder involvement and ownership.

In an effort to assess the current status of the sector and support continued gains, a series of policy papers have been commissioned. These explore sectoral issues with a specific focus on the public budget, in particular the efficiency and equity of resource allocation. These are intended to inform measures that will improve the effectiveness and transparency of public resource allocation to promote economic growth and poverty reduction.

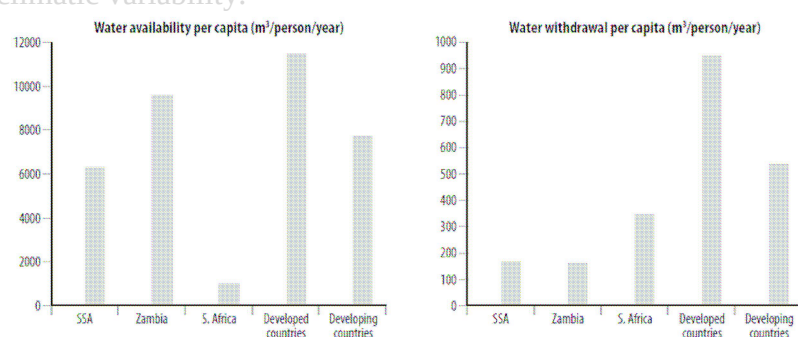
The objective of this paper is to review the resource allocations and financial flows in the water sector. It is the first in a series of five policy papers that includes the following:

1. Resource Allocations and Financial Flows in the Water Sector
2. Comparative Analysis of Opportunity Costs of Water Supply in Low Cost and Peri-Urban Areas
3. Equity and Efficiency of Rural Water Supply Support in Zambia
4. Economic Analysis of the Impact of Small Dams on Rural Poverty in Zambia
5. Priority Policy Measures to Improve Public Expenditures in the Water Sector

2. Sector Structure and Performance

2.1. Overview

The Government's goal is to increase sustained access to water supply and sanitation in both urban and rural areas by strengthening the institutional and policy frameworks and improving systems for service delivery. The country has an abundance of water, with per capita availability significantly higher than the average for sub-Saharan Africa, and the average for developing countries. However, the level of per capita water withdrawals in Zambia is three times lower than the developing countries average and even lower than the average per capita water withdrawal in sub-Saharan Africa (Figure #). This results in low levels of overall access for productive purposes and delivery of services as well as an increasing vulnerability to hydro-climatic variability.



Zambia has the potential to achieve the Millennium Development Goals (MDGs) on water and sanitation and reduce by half the proportion of people without sustainable access to safe drinking water. The proportion of the population with access to improved water sources in Zambia has increased by almost 28 percent from 47 percent in 1996 to 60 percent in 2006 (2008 MDG Report) (Table #). This represents an average increase of about 3 percent per year, equivalent to over 1.5 million people.

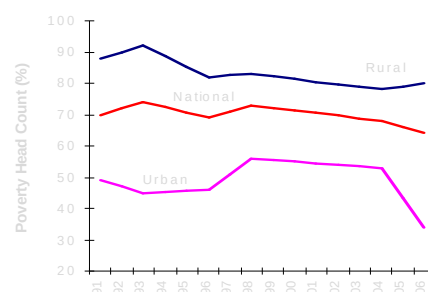
The target for sanitation poses a formidable challenge and is likely not to be met. The proportion of the population with access to improved sanitation has only increased 3 percent over the same period, to reach a total of 64 percent of the population in 2006. Indications are that significant efforts will be required if the MDG goal of 87 percent is to be realized in 2015.

Challenges with consequences for the achievement of MDGs include lack of implementation progress on decentralisation and local authorities. Estimate investment needs for the MDGs.....

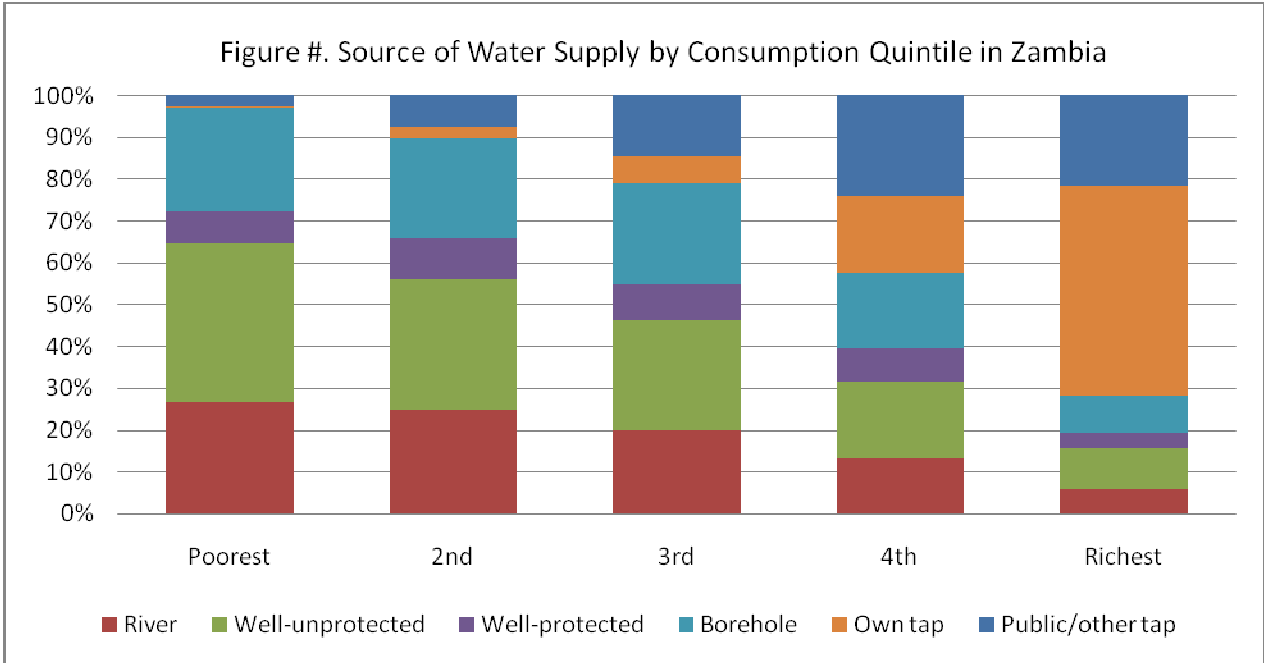
Trend and target for access to water and sanitation, 1996-2015.

Indicator	1996	1998	2004	2006	2015*
Proportion of population with access to an improved water source (%)	47	57	56.9	60	75.5
Proportion of population with access to improved sanitation (%)	62	66	70.1	63.9	87.0

Source: Based on MDG Progress Report 2008



There is a persistent inequality between urban and rural areas. The poverty head count (Figure #) has shown an overall decline, with strong gains in addressing urban poverty. However the economic gains derived from reforms over the past two decades have not impacted the rural households with a slight increase being observed in more recent years. [insert poverty map by district]. Reflecting this, the biggest challenge in achieving the targets outlined in the MDGs remains in the rural areas where the coverage of water supply is estimated to be only 37 percent. This trend is further reflected in the source of access to water between urban and rural populations (Figure #). The wealthiest segments of the Zambian population enjoy a high level of service with more than 70 percent of the richest 20 percent of the population having access to either an own tap or public connection. Among the poorest 20 percent of the population, nearly 70 percent of the population sources water from an unprotected source, either directly from the river or other unprotected wells. This trend is reflected across the poorest two thirds of Zambian society with only the wealthiest, largely urban populations enjoying a high level of safe, individual access to water.



2.2. Organisational Structure

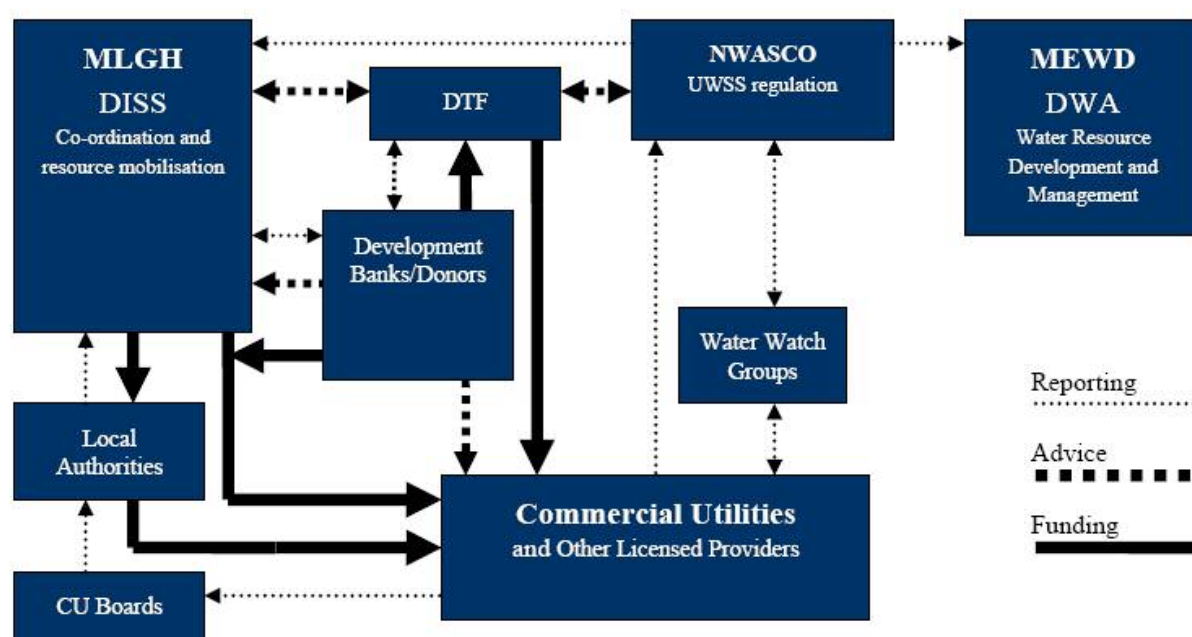
Implementation of the water sector reforms gave rise to a series of legislative provisions aimed at institutionalizing the Government’s policy direction. These resulted in a series of institutional reforms to differentiate the responsibilities for resource management, service delivery and regulation. Guided by the principles outlined in the NWP the sector is structured in such way as to perform three closely connected, but nevertheless distinct, functions: Sector Oversight and Policy; Execution and Regulation.

Throughout the 1990 the MEWD, through the Department of Water Affairs, led the process of sector reforms that resulted in a re-organisation of the sector. Forty-five township water supply schemes (confirm total) under the responsibility of the MEWD were transferred to the MLGH and MEWD retained responsibility for the policy and planning of water resources management and development. The MLGH subsequently assumed responsibility for the policy and oversight function of local government, as well as that of the entire water supply and sanitation sector

including financial resource mobilization through the country's planning and budgetary processes.

The principal act governing the use of water remains the 1948 Water Act (Cap. 198). Although a new policy was approved in 2010 and is expected to be followed by submission of a new Water Resources Development Bill, the 1948 Act continues to regulate the use, diversion and apportionment of all water in the Republic of Zambia. The draft Bill would provide for a comprehensive legal and institutional framework in line with the concept of Integrated Water Resources Management. The legal framework for the water and sanitation sector is anchored in the 1994 Water Policy which gave rise to the Local Government Act No. 22 of 1991 and the Water Supply and Sanitation Act No. 28 of 1997. These statutes resulted in the reassignment of responsibilities and a series of institutional reforms resulting in the current configuration (Figure #).

Organisation of the Water Sector (source: draft NUWSSP)



Local authorities are established, as corporate bodies, to undertake the executive function of local government as devolved semi autonomous entities¹. Part of this function is to provide water supply services to community members residing within its area of the jurisdiction. The function entails the development, storage treatment, distribution, and management of water supplies based on established national policies of full cost recovery in the long run. Service delivery is managed the established council owned regional commercial water utilities for Municipal or urban water supplies. Water utilities are granted licenses to operate within a specified area of the local authority. The responsibility of water and sanitation services outside the water utility area lies with the local authority and individual households. Water Utilities are expected to operate as commercially viable entities and on the basis of full cost recovery in long run. Cost recovery for operation and maintenance is expected in the short run.

Each local authority establishes urban settlements as defined under the Town and Country Planning Act. Under the Act an urban settlement is defined as a human settlement exceeding

¹ Local Government Act Cap 198

5000 people who engage in activities other than agriculture. The Local Authority area that excludes this urban population is deemed to part of the rural settlement area. There is no distinction made between high density (peri or semi urban) areas and medium to low density areas. These areas are all considered as an integral part of urban settlement.

The regulatory function is managed by the National Water Supply and Sanitation Council (NWASCO), for sector. The functions of the regulator include the mandatory licensing of service providers, setting conditions of the license and developing of guidelines and standards for WSS services. These regulations are basically meant to promote efficiency and equity and sustainability of service provision. This regulatory function applies to the municipal water supplies and excludes rural water supply.

Rural water supply is managed directly by local authorities assisted by central governments inter-departmental committees for financial and technical assistance based on the “Water Sanitation Hygiene Education (WASHE) system. The WASHE system is a community based system for service provision that purports to place equal emphasis on water supply, sanitation and hygiene education in the planning, development and management of the service. Full cost recovery is only expected for operation and maintenance costs² which cost are borne by the community.

Box 3. NWASCO Responsibilities

Advise the government and local authorities on matters of WSS and commercially viable instruments of service delivery

License utilities and other service providers

Develop guidelines for WSS provision

Oversee the establishment of utilities, and their technical and financial management

Setting tariffs

Enforce minimum service delivery standards

2.3. Urban Water Supply Sub-sector

The urban water supply and sanitation programme under the Fifth/Sixth National Development Plan aims to provide support to investment programmes whose goal is to increasing access to safe, adequate water supply to 80 percent for the urban and peri-urban population by 2010, and proper sanitation systems to 70 percent for the urban and peri-urban population by 2010. This program is being carried over into the SNDP [check final revised figures and revise this text based on SNDP].

The Government has drafted a National Urban Water Supply and Sanitation Program (NUWSSP) to guide investments in the sector and developments toward achieving these goals. It provides a comprehensive analysis of the sector, defines objectives and indicators for water supply, sanitation, solid waste, drainage, capacity and information management development and includes indicative cost estimates, along with an assessment of various institutional and financial management options to guide investments and support to the sector.

The resource estimates under the NUWSSP suggest that between US\$106 and US\$173 million is needed annually from 2009 to 2015 to achieve the sectoral goals and meet operational costs³. This is equivalent to is equivalent to 6-8 percent of the per capita GDP, or between US\$30 to US\$43 every year for every Zambian⁴. Of these costs, 78 percent are directed toward water

² In this instance the term Operation and Maintenance excludes major rehabilitation works.

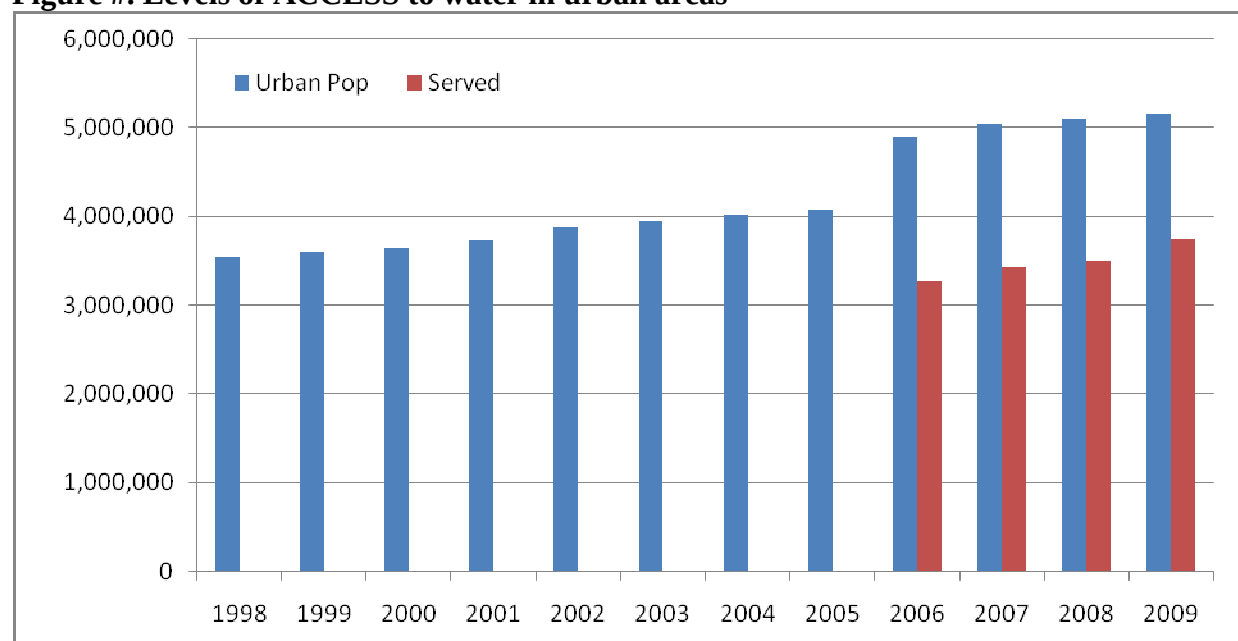
³ Compared to total expenditure of GRZ in 2007: 2,450 million USD, of which 14 million USD for UWSS (0.6%)

⁴ Water and sanitation investment approx. 23 USD per capita and year in urban and 14 USD in peri-urban

supply and sanitation investments. The relatively high costs are derived from the relatively low population densities in high and medium income housing areas (20 – 60 inhabitants / ha) and low populations densities even in low-cost and peri-urban areas (80 – 120 inhabitants / ha)⁵.

The commercialization of services, professional management and cost recovery from operations for utilities in the urban areas introduced through reforms in the early 1990's has contributed to increasing access to water and has been crucial to improvements in service delivery in urban areas. Although the CUs have yet to achieve commercial sustainability, registration of an eleventh utility covering Luapula Province in December 2008, now means that 99 percent of the urban population (over 5 million people) reside within the service areas of the commercial water supply and sanitation utilities. The remaining 1 percent of the urban population is serviced through six private schemes and 12 Water Trusts that operate largely in the peri-urban areas of Lusaka.

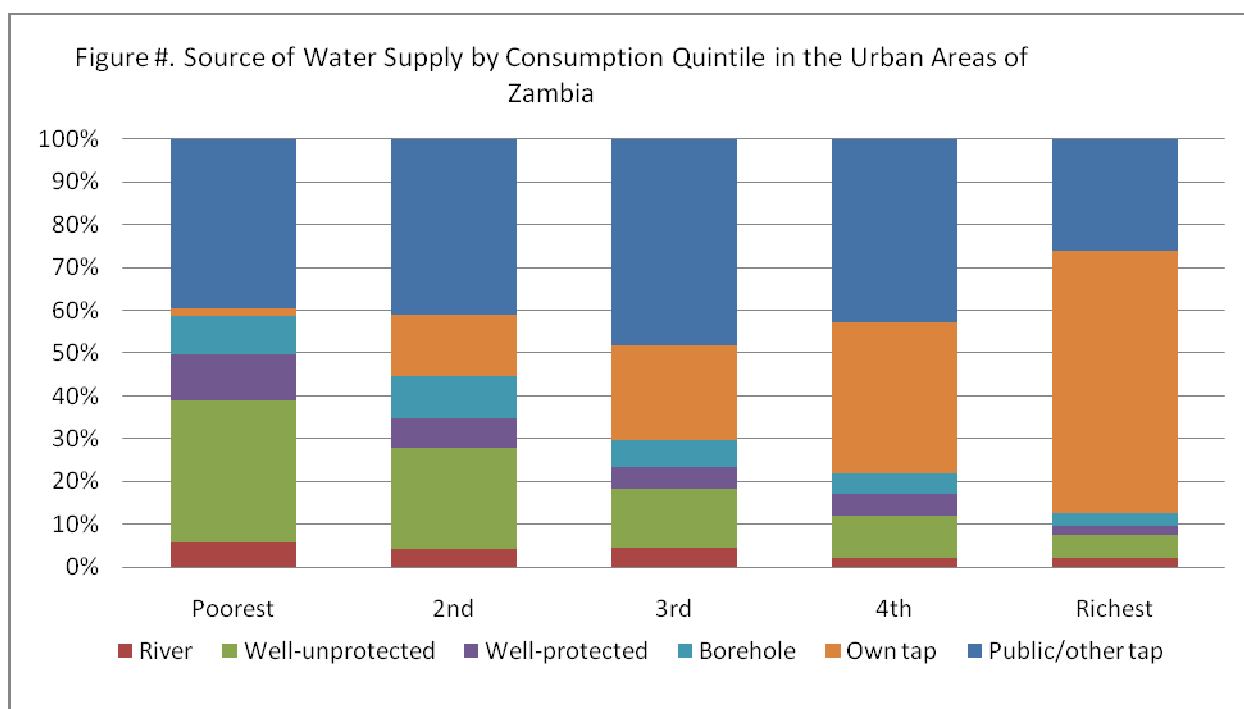
Figure #. Levels of ACCESS to water in urban areas



The average coverage of access to safe water through the commercial utilities has increased from an average of 54 percent in 2003/04 to around 73 percent in 2005/2006. These improvements have subsequently remained around these levels and the increase in the number of people being provided with access to water is now only just keeping up with population growth and urbanization. The total urban population serviced by CUs, LA and private suppliers increased by 201,212 people between 2006 and 2008, while the increase in access to water during the same period was 232 696 people.

The majority of the urban population enjoys a relatively high level of service with either individual household or access to public taps, with over 60 percent of the urban population enjoying individual connections. Only the poorest of the urban population are forced to source water from unprotected wells with very few people (<5 percent) accessing water through rivers or natural waterbodies.

⁵ International experience e.g. shows, that central sewer systems become economically viable for population densities > 150 inhabitants / ha.

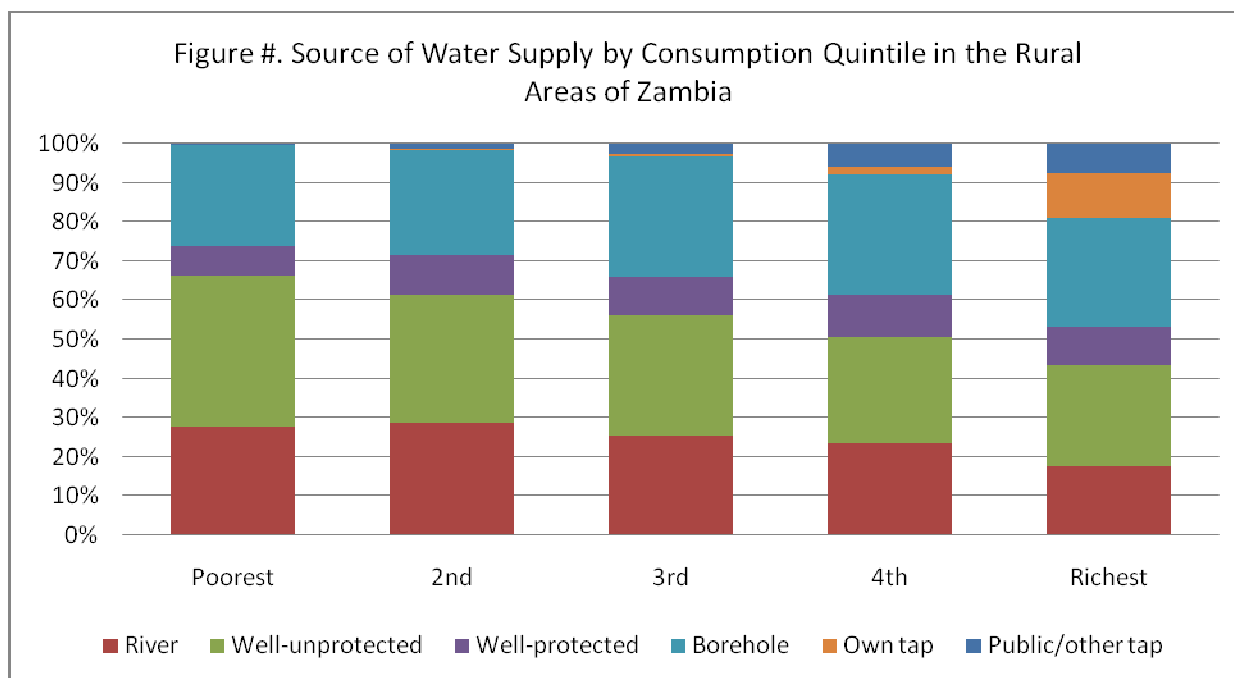


Access to sanitation in urban remains a major challenge, both in terms of access and revenue generation to facilitate further investments in expansion, rehabilitation and recurrent costs supporting operations and maintenance. It estimated that less than half the urban population currently has access to adequate sanitation services. There are only 35 sewerage schemes countrywide and most of these require significant investments. The majority of the population relies on on-site systems, such as septic tanks among the wealthy and pit latrines in the low-cost, high density peri-urban areas.

The Devolution Trust Fund (DTF) was established by the National Water Supply and Sanitation Council (NWASCO) to assist utilities established by local authorities. Provisions made under the 1997 Water Supply and Sanitation Act were enacted through a statutory instrument in 2004. The DTF management has subsequently been separated from that of NWASCO to ensure independence from the associated regulatory functions. The goal of the DTF is to enable water utilities to invest in expansions in peripheral urban areas and support has focused on the implementation of low cost technologies, such as water kiosks and latrines, in peri-urban and low-cost areas. The DTF is designed to handle two to three proposals per year with an investment volume of US\$2 to 3 million per year. Monies are to be appropriated by Parliament and to date the DTF has secured US\$13.3 million, of which 4.5% is from the Government. The remainder has been provided by the cooperating partners.

2.4. Rural Water Supply Sub-sector

Improving access to rural water supply and sanitation is seen as a key contributor to alleviating poverty. Despite high levels of urbanisation, 65 percent of the population inhabits the rural areas, which are characterized by low levels of access to basic services. Access to safe sources of water is estimated at 37 percent and sanitation services at 13 percent. The low level of access is among the key factors contributing to widespread poverty and the rural disease burden. More than 50 percent of the rural population sources water from natural waterbodies or unprotected wells. The level of safe access is limited, with only less than 10 percent having access to an individual or public tap.



Recognizing the importance of improving water supply and sanitation in the rural areas to addressing poverty the Government has developed a National Rural Water Supply and Sanitation Program (NRWSSP) with the aim of increasing access to safe, reliable and convenient quantities of water to 75 percent and proper sanitation to 60 percent of the rural population by 2015. The NRWSSP provides the framework for rural water supply and sanitation, describing the national strategy, programme activities and budget for achieving the stated goal. The NRWSSP describes the main strategic focus areas with a series of cross-cutting issues, such as gender, HIV-AIDS, good governance, and environment that are integrated within all programmes and activities. The first phase of the NRWSSP has been aligned to the Fifth National Development Plan (2006 to 2010) and implemented as a series of area based programmes. The second phase aligned with the SNDP (2011-2015) is intended to reflect on the lessons of the area based programmes in order to scale up support within the framework of a national program. The various components of the NRWSSP include:

1. Water Supply investments in all districts are intended to be delivered as an integrated package with sanitation, consisting of construction of new and rehabilitation of existing water points. The choice of technology and service levels is commensurate with the community's willingness to pay for and the ability to maintain the systems. Some training is provided to enhance skills at appropriate levels. The investments are based on district plans that reflect community priorities and commitments, to ensure continued operation of facilities.

2. Sanitation activities will initially focus on the formulation of a National Sanitation Programme, which will include a participatory hygiene promotion strategy for sanitation and hygiene awareness campaigns to be implemented at all levels. The strategy will include a number of more general, 'issue specific' campaigns for promotion of various issues (e.g HIV/AIDS awareness, promotion of household toilets, hand-washing practices, awareness of environmental sanitation needs among others).

3. Policy Development strategy for the SNDP will include a review of the WSS Policy and Legal Framework, considerations regarding a Sanitation Policy and a Rural Water Supply and Sanitation Act. The activities will include policy review, consultation at district and national levels with a broad range of

stakeholders, formulation of comprehensive RWSS sub-sector policy and legal framework, including financing arrangements, planning process, and establishment of operation and maintenance systems.

4. Capacity Building is seen as crucial for progress in the sub-sector. The focus during the SNDP will thus include institutional capacity development activities to promote effective service delivery at national, district and community levels. The RWSS Information Management System (IMS) is critical to the planning process as well as for M&E. Focus will therefore be placed on the roll-out, implementation and institutionalizing of the IMS. A further area of strategic focus will be to raise the profile of the WSS sector in national planning and allocation of resources. This will include formulation of an advocacy and communication strategy for RWSS for all levels of stakeholders

5. Operation & Maintenance of existing and new water points will remain a key focal area. An O&M system (SOMAP) has been developed and tested and the focus will be on roll-out of the system to all districts.

A key strategy for rural water supply and sanitation in Zambia has been the WASHE prostrategy launched in 1995. The WASHE is intended to integrate Water, Sanitation and Health Education and provide a framework for coordinating different stakeholders and develop a more integrated approach. The rationale is embedded in the understanding that the success of investments in rural water are dependent on improving sanitation and hygiene behavior and reducing water-borne diseases. It also recognises the fact that improving the level of understanding of the linkages between improved health and better water supplies, sanitation, and hygiene behavior increases the sustainability of community schemes.

The success of the NRWSS Program is dependent on successful operationalisation of the institutional framework which devolves water supply functions from central government to the local authorities. The planning and budget process for rural water supply and sanitation is driven by a demand-driven community system originating in the “V-WASHEs”, a sub-committee of the Village Development Committees. Overall district rural water supply and sanitation priorities are set by the District Councillors, while the MLGH provides policy guidance, technical and financial control, while also facilitating the mobilization of foreign and local funds for capital development.

The MLGH, through the Department of Infrastructure Support and Services (DISS), coordinates the NRWSSP and supports services through Government funds and coordinating external support. The Ministry of Community Development and Social Services (MCDSS) assists this process by helping to identify water and sanitation needs through community development and social welfare initiatives, community assessments and mobilization. The Ministry of Health has an important role in sanitation and hygiene promotion, whilst the Ministry of Education is engaged in school sanitation programs as part of their responsibilities for educational infrastructure. The NRWSSP provides standard technologies to be supported (Table #).

Table #: Main Water Technology in Use in Rural Areas

Technology	Extent of application
Personal well	Dominant in the well watered Northern and Luapula provinces. In relatively drier areas, wells are communal.
Protected spring	Not widely applied.
Hand dug well with bucket and windlass	Together with personal wells (which are also presumably hand dug) this technology dominates in Northern and Luapula Provinces. In the remainder of the country hand dug wells are widely used; more than 40% of all

Technology	Extent of application
	water points use this technology.
Hand dug well with hand pump	About 17% of water points in Central Province use this technology. Not widely used elsewhere.
Tube well with hand pump	About 6% of water points in North West, Northern and Copperbelt provinces use this technology. Not used much elsewhere.
Tube well with bucket & windlass	Very small level of application.
Jetted well with hand pump	16% of water points in Western Province use jetted well technology. Not widely used elsewhere.
Borehole with a hand pump	About 13% of all water points use this technology, with the proportion being higher in the drier Southern and Central Provinces.
Windmill	4% of water points in Copperbelt Province are fitted with windmills. Not widely used elsewhere.

2.5. Water Resources Sub-sector

Zambia is well endowed with water. However, the country's water resources are largely undeveloped, and the lack of infrastructure limits the ability to efficiently utilize these resources, as well as exposing the national economy to vulnerabilities associated with hydro-climatic variability. As a result, hydrological variability is estimated to have cost US\$13.8 billion (in 2006 prices), on average, over the period 1977 to 2007, with a 0.4 percent loss of growth annually. A simulation of the potential impacts of future rainfall variation on economic growth and poverty suggests that rainfall variability could cost Zambia US\$4.3 billion in foregone GDP over the next ten years and keep 300,000 more Zambians in poverty. Based on the historically worst rainfall sequences this could increase to as much as US\$7.1 billion: equivalent to a reduction in annual GDP growth by 0.9 percentage points.

In response to the challenges the Government, with support from the Zambian Water Partnership, has developed an Integrated Water Resources Management and Water Efficiency Implementation Plan (IWRM&WE). This is an inter-sectoral plan aimed at enhancing planning, development and management of water resources. The goal of the IWRM&WE IP is to support "economic growth and improving livelihoods through sustainable water resources development and management with equitable provision of water in adequate quantity and quality for competing groups of users at reasonable cost with security of supply under varying conditions".

The IWRM&WE IP outlines a series of prioritised investments in four strategic focal areas: i) Water Resources Management; ii) Water Resources Infrastructure Development; iii) Water Supply and Sanitation; and, iv) Monitoring, Evaluation and Capacity Building. The total cost for implementation of projects identified under the IWRM&WE IP was Kw1,451 billion over the five year period envisaged under the FNDP. However, the National Water Policy acknowledges that historically there has been no deliberate policy by Government to invest in water resources infrastructure development.

The Ministry of Energy and Water Development (MEWD), through the Department of Water Affairs, is vested with the sole responsibility of managing and developing the nation's water resources. The

process of implementing the activities pertaining to water development (particularly rural water development) includes initial planning, budgeting and mobilisation of resources, reconnaissance surveys, construction and access to water, testing, commissioning and finally handing over of facilities to the communities. Water resource management is focused mainly on meeting the demand for water and overseeing and controlling activities and ensuring that sufficient and reliable data on water resources availability and demand is available to allow for effective planning, utilisation and management of the resource. Regulation of the use and abstraction of surface water is administered by the Water Board, a statutory body reporting to MEWD, through a system of water rights. The DWA serves as the technical secretariat to the Water Board. However, groundwater abstraction is currently not regulated.

A draft Water Resources Management Bill has been prepared as an effort to operationalise the revised provisions of the 2010 National Water Policy. This intends to deepen the reform process initiated in the 1990s and establish a comprehensive legal and institutional framework for the use, development and management of water resources based on a more contemporary approach to integrated water resources management and development.

The draft Bill proposes the establishment of new institutional structures to increase efficiency, comprising:

- An autonomous National Water Resources Management Authority (NWRMA) to replace the existing Water Board. The NWRMA will be responsible for all water resources management functions except policy formulation and guidance as well as issues relating to shared water courses (notably the Zambezi River);
- Catchment Councils (where feasible) substituting the present Provincial setup for water management; Sub-Catchment Councils (where feasible) complementary to the District setup;
- Water User Associations, which should be formed on a demand driven basis;
- A Water Resources Development Fund to make investments benefit the poor managed by an autonomous board with NWRMA as secretariat (e.g. dam and canal construction for small scale irrigation schemes); and
- A Department of Water Resources to substitute the present DWA and be responsible for policy formulation and guidance as well as international rivers.

3. Budget Process and Methodology

3.1. Sector Financing Architecture

Zambia has developed an integrated planning and budgeting process over the past decade (see Figure 1) that is improving the planning and budgeting systems and strengthening the credibility of the overall budget process⁶. The National Development Plans set out broad priorities and objectives within the framework of a five year development planning process as an articulation of the GRZ's policy and programme priorities. The NDP is intended to provide the strategic framework for allocating public resources.

The medium-term expenditure framework (MTEF), introduced in 2004, is intended to provide for a unified budget planning system that integrates the top-down resource envelope with the bottom-up sector programs, combining current and capital spending within a common set of budget estimates. The MTEF provides an integrated framework that allows public expenditure programs to be “driven by policy priorities and disciplined by budget realities” (World Bank, 1998a). This is to allow for budgeting within a coherent multiyear macroeconomic, fiscal and sectoral framework. The MTEF has resulted in a more structured and phased approach to budget preparation and used to develop agendas for related public expenditure management reforms.

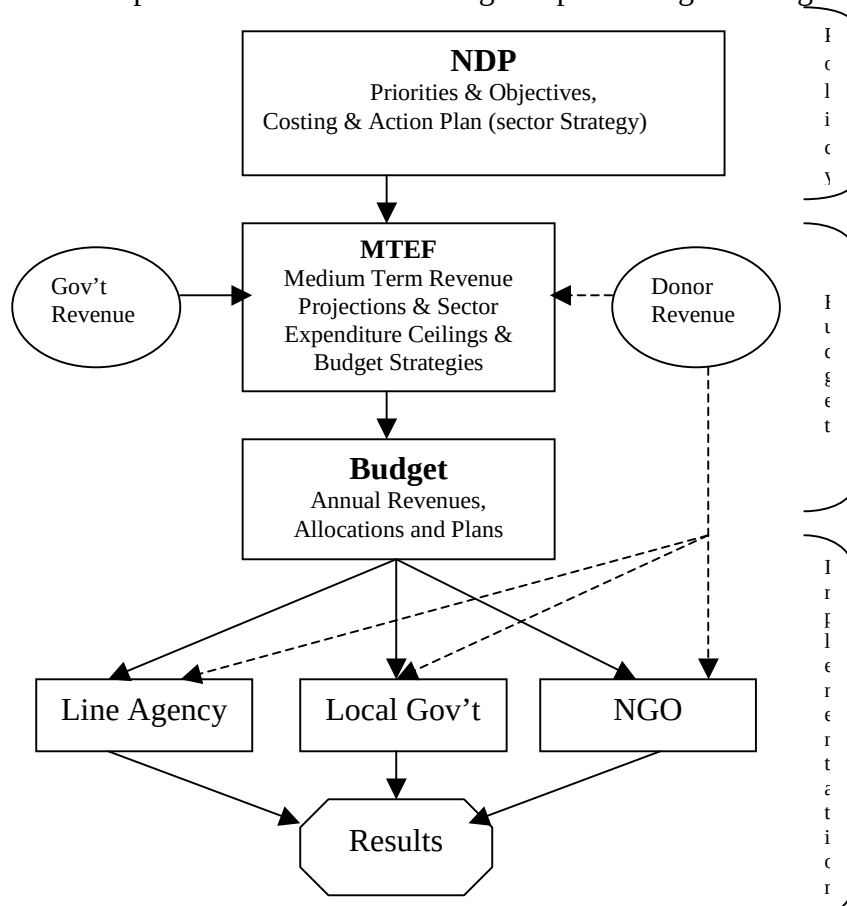
The introduction of the Activity Based Budgeting (ABB) in [YEAR] provided a mechanism for disaggregating the budget for all Ministries, Provinces and Other Spending Agencies (MPSA) in to programmes and activities. This provides a detailed functional classification as a basis for budget management and provides the link between resource inputs and specific activities or outputs. Outputs are defined at the programme level and included together with targets in MPSA budget submissions and presented to the National Assembly.

Prior to the introduction of ABB the budget structure has been limited to an administrative and broad economic classification. This system lacked functional or programmatic classification and the budget was not linked to Government's policy priorities, hiding the detailed activities of the programmes being carried out by the MPSAs. The introduction of the ABB has led to a reduction in misclassification of expenditures, provided a much more effective framework for translating policy objectives into budget instruments and improved transparency by highlighting specific activities or functions.

Individual Ministries (MEWD, MLGH, etc) carry out their budgeting activities in line with their functions. Upon receipt of circular notice from the Ministry of Finance and National Planning containing guidelines to commence the budget process, the individual departments, sections and units are requested to commence budget preparations. A budget (the Yellow Book) is presented annually and is a basic indication of allocated financing to each spending agency. Historically the national budget was discussed and approved by March effectively leaving nine months of the year (March to December) for project implementation. This did not allow sufficient time for implementation of scheduled activities and the process was further modified in 2009 to enable the budget to be presented to Parliament in October, allowing implementation to start by January 01. Previously the Circular notice for the 2010 budget was received early July 2009. Appendix #

⁶ Zambia: 2010 Public Expenditure Review Background Paper - Analysis of the Planning and Budget Process. Andrew Bird, December 2009

shows the template for preparation of the 2010 budget. In MEWD the budgeting process is coordinated and led by the Planning and Information Department with other departments providing departmental inputs. At MLGH the DHID working with the Accounts Section has the added responsibilities of coordinating and processing the budgets of districts.



Financing flows entering the sector are either *on-budget*ⁱ or *off-budget*. *On-budget* support originates from Government revenue and or from Cooperating Partner (CP) contributions. *Off-budget* support is mostly donor-supported projects and programmes channeled directly to Line Agencies, Local Government or Non-Governmental Organisation (NGOs). There are a variety of NGOs active in the sectorⁱⁱ.

The analysis identifies funds allocated to the water sector over the period 2002-2007 [to be updated to 2010]. It draws on information from both the Annual Financial Reports that provide details on authorised allocation and expenditure and from the Annual Budgets which highlight donor contributions. Efforts been made to include all areas of support to water sector but recognises that public spending on water is fragmented across ministries and looks into budget provision, money disbursed and actual spending. Expenditure figures should be received in Oct the year but can take up to two years (2007 came out years later).

This analysis undertaken used the following definitions:

- **Budgeted allocations:** Budget allocated in the Yellow Book
- **Authorized Budget:** Budget authorized by the Ministry of Finance and National Planning (MoFNP) in the course of a year, and presented in the Blue Book Annual Financial Report

- **Disbursed Budget:** Money transferred from MoFNP to line Ministries
- **Spent:** Money disbursed to line Ministries and which is utilised
- **Unspent:** Money allocated to line Ministries, but either not disbursed or disbursed but not utilised (and returned to treasury)

The cross-sectoral nature of water entails that several MPSAs comprise the analysis. The MPSAs identified invariably include some activity pertaining to the management or development of water resources in their mandate. The analysis distinguishes the proportion of the MPSAs total water related allocation, allocated to *personal emoluments, general administration, other recurrent costs and investment*.

The following heads, departments and units were identified, and the contribution of water related activity identified according to their mandate as follows:

- Head 13 Ministry of Energy and Water Development (MEWD)
Headquarters (proportion), Water Affairs Department (100%), Planning and Information Department (proportion)
- Head 20 Loans and Investment – Local Government and Housing (LGH)
Infrastructure and Support Services – Water Unit (100 %)
- Head 21 Loans and Investment – Ministry of Finance and National Planning
- Head 29 Ministry of Local Government and Housing (MLGH)
Human Resource and Administration (proportion), Infrastructure and Support Services Department- Water Unit (100%)
- Head 51 Ministry of Communication and Transport
Headquarters (proportion), Maritime and Inland Waterways Department (100%)
- Head 64 Ministry of Works and Supply
Buildings Department – Architectural Unit – Chirundu Bridge Infrastructure (100%)
- Head 89 Ministry of Agriculture and Cooperatives (MACO)
Headquarters (proportion), Human Resource and Administration (proportion), Agriculture Department – Irrigation Unit (100%)¹, Fisheries Department (100%)
- Heads 90-98 Provincial Administration
Water Affairs Departments (100%)

Figures within the document are expressed in US Dollars. Table 1 illustrates average annual inflation and average dollar exchange rates over the period.

Av Rate	2002	2003	2004	2005	2006	2007	2008	2009
Inflation (%)	22.2	21.5	18.0	18.3	9.1	10.7	12.4	13.4
US\$ Exchange	4,398.6	4,733.3	4,778.9	4,463.5	3,603.1	4002.5	3745.7	5046.1

Source: CSO and IMF, International Financial Statistics

3.2. The Zambia Development and Assistance Database

In addition to Government resources there are a number of *off-budget* channels through which supported is directed to the sector. This includes mostly donor-supported projects and programmes directly supporting Line Agencies, Local Government or Non-Governmental Organisation (NGOs). Around a quarter of all public expenditure in Zambia is aid financed. While budget support and loan agreements are fully reflected as a financing item in the budget, the GRZ continues to face considerable difficulties in budgeting and accounting for aid financed expenditures. Project aid is currently shown in the Budget at sub-head level (Department) level

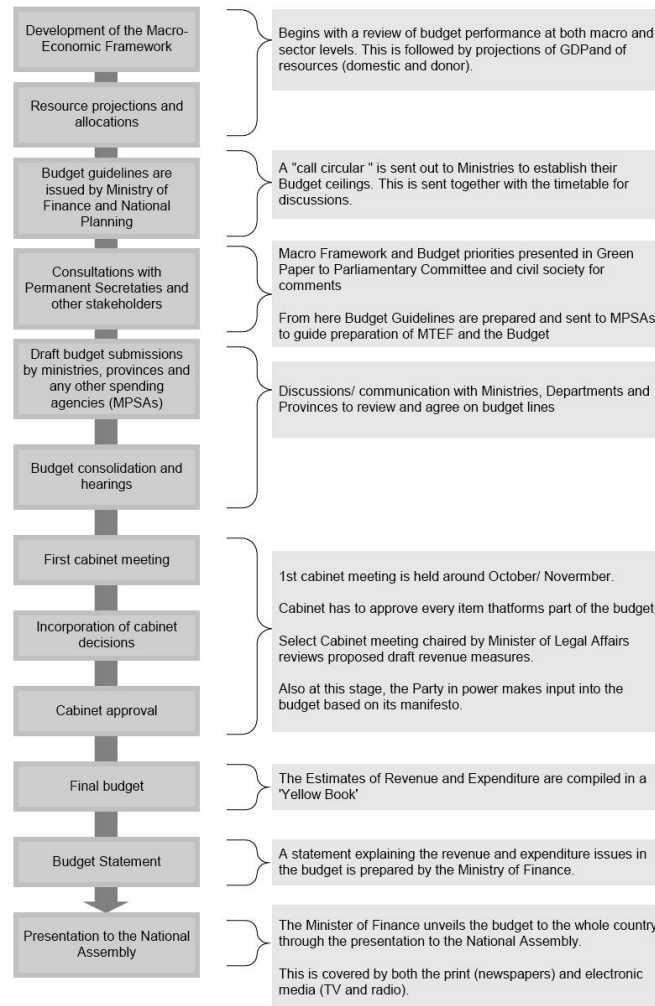
but not at the level of individual projects. This makes it difficult to track aid financed expenditure on individual projects through the government accounts.

In February 2008, Zambia launched a development assistance information management system, the Zambia Development and Assistance Database (ZDAD), to be used to track and monitor Official Development Assistance (ODA). ODA consists of financial transfers and technical cooperation (TC). The database currently contains ODA data collected from most CPs and some line Ministries across sectors on planned, committed, and on-going programmes/projects across sectors, in modalities that include Budget Support, Project/Programme Support, SWAp, Sector Budget Support, Loans etc. The MoFNP also now requires that all project aid should be channeled through special accounts held at the Bank of Zambia. However, in practice only a proportion of project aid financing is currently recorded in the government accounts.

3.3. The Commercial Water Utilities

The Government initiated reforms in the water sector were aimed in part at increasing sustainable water supply and sanitation services through ensuring full cost recovery for capital recovery, operation and maintenance related to water supply and sanitation services through user charges. Given the period under review and the important role played by these utilities in the provision of water, the analysis includes a brief overview of the financial flows and efficiencies within the current budgeting, accounting and cost recovery system.

Figure #: National Development Plan Priorities to Resultsⁱⁱⁱ



Source: CSPR, 2004.

4. Allocations and Expenditures in the Water Sector

4.1. Water in the Overall Budget Allocation

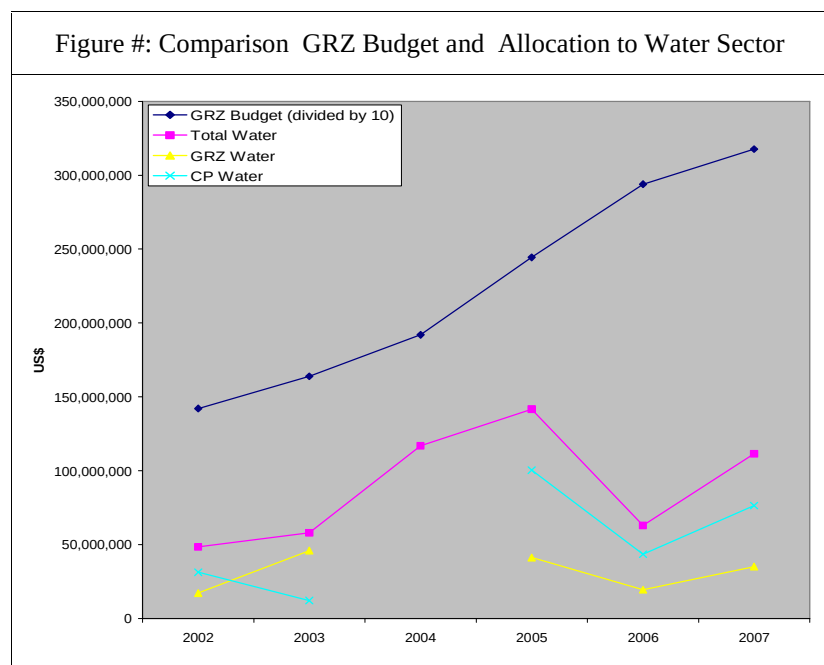
The total authorised budget (in the Blue Book) more than doubled over the period 2002-2007, from \$1,421 million (2002) to \$3,178 million (2007). This increase corresponds with general increase in the overall Government economic growth and performance - represents increased government revenues from [????] On average the water sector received 4.1 % of the budget over the same period. This period coincides with the transition between two planning strategies with vastly different budgets for the sector. Between 2002 and 2004^{iv} the sector received a total of US\$ 42.4 million, with more than US\$ 400 million being allocated from 2006 to 2010. This increase in the overall allocation under the national budget reflects is also accompanied by considerable variation over the same period (*Table 4.1*). Budget allocations range from roughly 3.5 percent, but have increased to as much as 6.0 percent in 2004 and 2005.

Table 4.1: Allocation to water sector as share of total budget (in million US Dollar)

Budget	2002	2003	2004	2005	2006	2007	2008	2009
Total (US\$m)	1,421	1,640	1,920	2,444	2,940	3,178		
Water (US\$m)	48.5	58.1	117.0	141.7	63.0	111.5		
% of total	3.4	3.5	6.1	5.8	2.1	3.5		
Trend (%)	-	+19.8	+101.4	+21.1	-55.6	+77.1		

Sources: Republic of Zambia - Estimates of Revenue and Expenditure 2002- 2007

The increase in allocations to the water sector in 2004 and 2005 correspond to an increase in support provided by the Cooperating Partners. It is difficult to determine if this represents a real increase in financial flows, or if reflects changes in the reporting mechanisms and capture of such data in the budget process. For the 2003 most of financial support provided by the CPs cannot be identified as they were combined with investments for roads and included in the Budget as a single lump sum. It is not possible to differentiate GRZ



and CP funding in 2004 with a single lump sum reflected in the Budget.

Support from the CPs provided through Government channels between 2002-2003 and 2005-2007 was approximately US\$264 million. This is in contrast to the US\$120 million provided by Government over the same period. On average, this support is well in excess of the 60 percent of the Budget resources to the water sector support (excluding 2004), averaging 58.8 percent over the period. However, these figures are distorted by the inclusion of some support from the CPs with Government allocations reflected in the budget in 2003. figures in the Budget reflect a high level of variability, with support ranging from between 20.9 and 70.9 percent of that channeled through the Budget to the sector (*Table 4*). In terms of Government's contribution to the water sector, the allocations made over the period are equivalent to an average of 1.5 percent of the overall budget.

Table 4.2: Contributions to the Water Sector Budget

	2002	2003	2004	2005	2006	2007	2008	2009
GRZ US\$ Water Sector	17,2	45,9		41,3	19,4	35,1		
GRZ % Water Sector	35.5	79.1		29.1	30.9	31.5		
GRZ Water % of Total	1.2	2.6		1.7	0.7	1.1		
CP US\$ Water Sector	31,3	12,2		100,4	43,5	76,4		
CP % Water Sector	64.5	20.9		70.9	69.1	68.5		
CP Water % of Total	2.2	0.7		4.1	0.7	2.4		

The allocations made to the sector represent an average of 1.26 percent of GDP. Per capita allocation is also low (*Table #*).

	2002	2003	2004	2005	2006	2007	2008	2009
Water Sector as % GDP		1.35	2.15	1.93	0.60	0.96		
% GDP GRZ Water Sector		1.07		0.56	0.19	0.30		
% GDP CP Water Sector		0.28		1.37	0.41	0.63		
Per capita (US\$)^v	4.24	5.07	10.22	12.37	5.50	9.74		

There are three main contributors to the sector total. They are Loans and Investments-Ministry of Local Government and Housing (LI-MoLGH), Loans and Investments-Ministry of Finance and National Planning (LI-MoFNP) and Ministry of Energy and Water Development (MEWD) (*Table #*). Most of the financial support provided by the CPs is channeled through Loans and

Investments in MLGH (LI-MLGH) in support of water supply and sanitation activities. Under LI-MLGH the department of Infrastructure and Support Services has a water unit through which funding for water and sanitation is provided. LI-MoFNP is the spending agency through which additional funding is provided to all line ministries for specific projects (usually supported by CPs). The focus of the support to Urban Water Supply and Sanitation has primarily been directed toward upgrading and maintaining infrastructure and supporting the efforts of the Commercial Utilities to improve service delivery and realize full cost recovery. Support to Rural Water Supply and Sanitation is largely directed toward drilling and maintenance of boreholes for water supply. There has been limited explicit support for Water Resources Management and Development, with only EU support to MEWD in 2003 for the rehabilitation and construction earth dams reflected, along with the provision of Anti Retroviral (ARVs).

Table #: Contribution of Spending Agencies to Total **Authorised Allocation (US\$ million)**

	2002	2003	2004	2005	2006	2007	2008	2009
MEWD	4.3	4.1	1.5	4.2	6.8	7.1		
LI-LGH	21.2	30.4	53.1	101.7	45.2	82.4		
LI-MoFNP	13.4	12.3	55.7	24.5	0	7.5		
MoLGH	2.8	0.3	1.4	3.8	1.2	1.6		
COMT	0.9	0.5	1.1	2.6	2.4	3.5		
WS	0	0	1.1	0.8	0.5	1.3		
MTENR	0	0	0	0	0	0		
MACO	5.4	9.4	1.4	1.3	3.3	4.7		
Provinces	0.6	1.1	1.7	2.8	3.5	3.4		
Totals	48.5	58.1	117.0	141.7	63.0	111.5		

Sources: Republic of Zambia - Estimates of Revenue and Expenditure 2002- 2007

The increase (100%) observed in 2004 may be attributed to scaling up of rural water supply programmes (LI-LGH) (*Annex 2a*) and Water Improvement Programmes allocated US\$ 53.1 million (LI-MoFNP). The 56% reduction observed in 2006 may be attributed to both the ending and scaling-down of allocation to certain programmes (*Annex 2b*). The Department of Infrastructure and Support Services (DISS) scaled down a number of its key activities in both rural and urban supply and sanitation in 2006; waste management programmes also experienced marked decline. The Water improvement Programmes and Small Scale irrigation Programme were also scaled-down (LI-MoFNP) (from US\$23 million and US\$2.6 million respectively to nothing in 2006).

The biggest contribution to the sector over the period is from the multilateral development banks, with both the African Development Bank (AfDB) and the World Bank (WB) providing roughly US\$70 million to the sector over the period. These are reflected in the financial system as loans taken out by the GRZ. Bilateral support includes direct support as well as that often associated with in-kind contributions and internal costs. It is therefore difficult to determine specific flows through the respective institutions within the sector. The Yellow Book reflects contributions of about US\$ 43 million from the German government; about US\$ 19 million from China; and in the order of US\$12 million through Danish programmes.

The GRZ and CPs have been trying to ensure that financial support to the sector is better reflected in the national Budget. However, there are a number of persistent challenges. These are associated with reporting mechanisms, maintenance of database and efforts to capture off-budget bilateral support, particularly that provided to non-state actors. Despite this, systems are improving and most of the financial support provided by CPs in the water sector is now reflected in the Yellow Book. This includes details on the specific activities supported and the origin of such support. This information is mostly captured under Loans and Investment to the respect Ministries. Most of these are directed through Loans and Investment to the MLGH (LI-LGH) rather than through the MoFNP.

4.2. Distribution of Budgeted Allocations within the Sector

Allocations made under the national Budget are categorised as either:

- i. *personal emoluments*, benefits that accrue to individuals, mostly as salaries and wages for services rendered but also including leave travel benefits, staff welfare and capacity building;
- ii. *general administration*, daily office management and administration, transport management, personnel management, work plans and budget;
- iii. *other recurrent costs*, costs regularly incurred in operations and management other than those related to administration; and
- iv. *investment* activities that enhance or add value.

The largest allocation both in terms of the absolute amount and the overall proportion is toward *Investments* (Table #), which make up at least 80 percent of the total in all fiscal years with investments over the period equal to US\$482.4 million. Allocations toward investments show a high degree of inter-annual variability, having been drastically reduced in 2006. Investments is also the only category not to have increased steadily since 2004. The bulk of these investments are directed toward water and sanitation with allocation to LI-LGH and LI-MoFNP. The MLGH receives limited direct allocation in comparison, in the way of *investment*, except that for CU capitalisation.

Personal Emoluments account for between 3.4 and 6.1 percent of the total authorised allocations to the sector, while *General Administration* are never more than 3.2 percent of the total in any given year. Both have shown a steady increase in the overall proportion of allocated resources over the past five years.

Table #: Allocation authorized to water sector by classification (in million US Dollar)

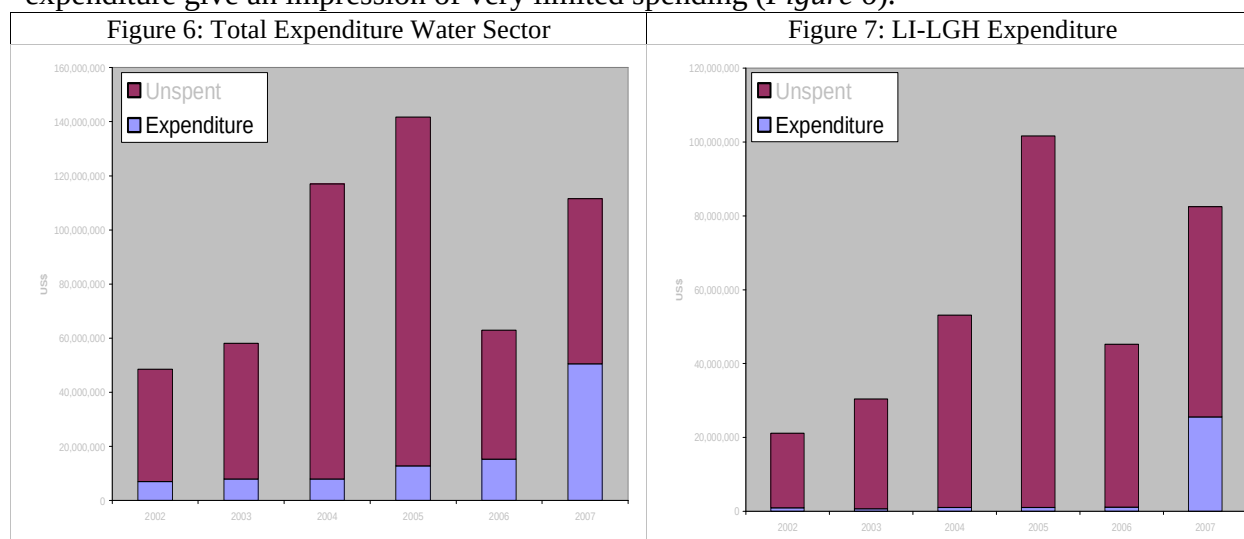
	2002	2003	2004	2005	2006	2007	2008	2009
Personal Emoluments	1.8	3.1	2.2	2.7	2.9	3.8		
General Administration	1.6	1.4	0.6	1.2	1.4	2.5		
Other Recurrent Costs	3.9	3.2	2.5	4.7	8.8	9.0		
Investment	41.2	50.4	111.7	133.1	49.8	96.2		
Total	48.5	58.1	117.0	141.7	63.0	111.5		

Sources: Republic of Zambia - Estimates of Revenue and Expenditure (Blue Book) 2002- 2007

Allocations made to the main sector institutions – MEWD (including provincial Departments of Water Affairs), and MLGH - when aggregated with those under LI-LGH and LI-MoFNP account for over 80 percent (*Table #*) of the total in any given year; leaving less than 20 percent to be attributed to allocation under Ministry of Agriculture and Cooperatives (irrigation and fisheries), Ministry of Communications and Transport (maritime department), and Ministry of Works and Supply (Construction of Chirundu Bridge – water and sewerage system). When the two main institutions MEWD and MLGH are examined in detail, differences may be observed with regard to proportions contributed by *PEs*, *GA*, *ORCs*, and *Investment*. The analysis of allocations within the MEWD indicates that while the absolute value of investments is lower, they constitute a higher proportion of the overall Ministerial budget, averaging 55 percent (or US\$2.4 million) per annum over the period. However, the majority of these are through the central structures and provincial allocations within the Department of Water Affairs show that *PEs* and *GA* account for more than 58 percent of the total.

4.3. Water Sector Expenditures

Total expenditure reported in the annual Financial Report (the Blue Book) is characterised by very low levels of expenditures reported against the original allocation in the national Budget (the Yellow Book). Expenditures are typically as low as ?? percent (Figure 6 and 7). These have improved in recent years with strengthened efforts aimed at improving monitoring and reporting systems. The low levels of observed expenditures is due largely to the fact that allocation made based on support from CPs is recorded in the budget but not reconciled at the end of the financial year to record actual disbursements. Many such disbursements are made through direct payments and while CPs record commitments in the budget, they do not necessarily report back on disbursements made throughout the course of the year. As such details on total sector expenditure give an impression of very limited spending (*Figure 6*).



The issues associated with reporting from CPs and the role played in supporting investments in the sector is highlighted in the recorded levels of investment expenditures. Given that the bulk of allocation for the sector as a whole is through LI-LGH, the ‘unreported’ expenditures under LI-LGH (*Figure 7*; *Table 3*), mirror those of the sector total (*Figure 6*).

This is also reflected in the steady increase in the patterns of expenditures for *PEs*, *GA* and *ORCs*. All three categories show consistently high levels of expenditures with a continual increase across all categories observed since 2004. In absolute terms the costs associated with *PEs* have doubled over the period.

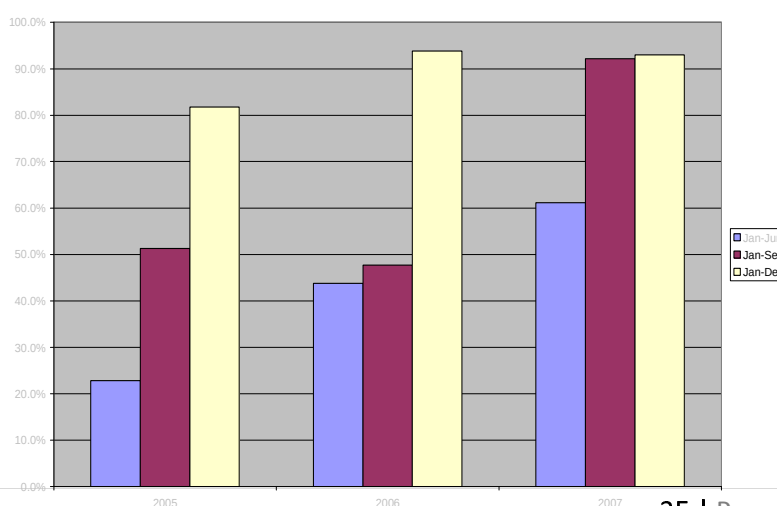
Table #: Disaggregated Total Expenditure Expenditure as Proportion of Authorised Allocation

	2002	2003	2004	2005	2006	2007	2008	2009
Total Budget (US\$m)								
Total Expenditure (US\$m)	7.0	7.9	8.0	12.9	15.2	50.6		
Total Expenditure (%)								
Personal Emoluments (US\$m)	1.7	1.9	1.8	2.0	2.6	3.3		
Personal Emoluments (%)	92	60	80	75	89	88		
General Administration (US\$m)	0.9	0.7	0.5	1.0	1.3	2.0		
General Administration (%)	59	50	76	86	87	78		
Other Recurrent Costs (US\$m)	1.4	2.8	0.9	3.8	6.6	6.8		
Other Recurrent Costs (%)	35	88	35	81	75	75		
Investment (US\$m)	3.0	2.5	4.8	5.9	4.7	38.5		
Investment (%)	7	5	4	4	10	40		

Many factors influence the effective utilisation of resources allocated under the national budget. Decentralised procurement and a lack of capacity at local levels is often out of alignment with the budget process, with construction activities also dependent on weather and site access. Another important factor relating to implementation efficiency is the ability to ensure that resources are available in a timely manner. The timing of releases from the Treasury has an important role in supporting the efficiency of expenditures. Releases to the various spending agencies are generally made monthly, particularly in the case of salaries, while those for technical activities are usually made upon request. The general rule is that at least 50 percent of annual allocations should have been made available by June.

An analysis of releases to the Department of Water Affairs under MEWD (Figure 9)

Figure 9: Releases to Department of Water Affairs at HQ



indicate that 50 percent of releases are typically only released by September. The analysis indicates that in no given year was the full amount allocated under the budget made available. This, and other analyses^{vi}, appears to suggest the release of resources by the Treasury is frequently delayed, although improvements have been observed since 2007.

4.4. Off-Budget Support

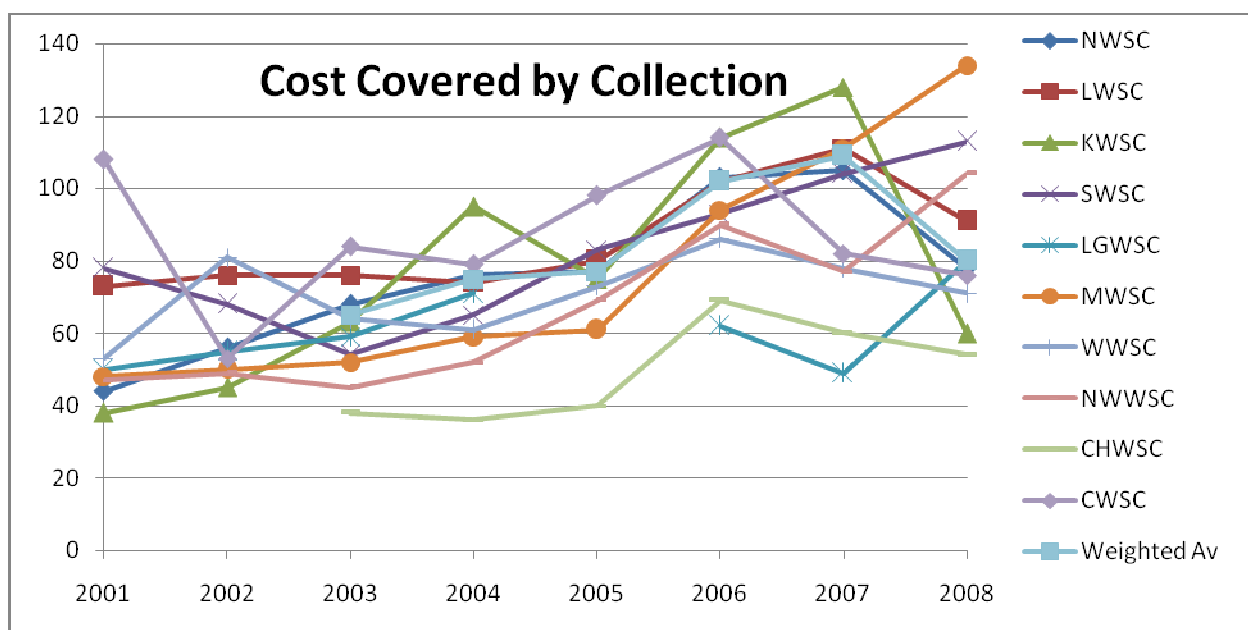
Besides the money provided through Government channels and reported in the national Budget, support is also provided through programmes run unilaterally by CPs and activities by NGOs. These are not reflected in the Government system. One such programme is the Support to Water Sector Reform by the German Development Cooperation implemented through the German Technical Cooperation (GTZ) with a value estimated at US\$?? [pls confirm]. This programme supports the Government Ministries of MLGH and MEWD, Commercial Utilities, the National Water Regulator (NWASCO) and the Devolution Trust Fund. Such support is typically provided through in-kind advisory services and funds not accounted for in the Yellow Book but directly supporting institutions in the water sector.

[awaiting updated information from Lead CPs donor mapping exercise] There are a number of international and national NGOs active in the water sector. Some of these are supported financially through bilateral funds that may be captured under the bilateral information contained within national Budget. For example, CARE International is implementing EU financed support to the sector. This highlights the complexities of budget tracking and raises the risk of double accounting in financial support to the sector. Other significant partners whose input in the sector does not appear in the Government system are NGOs like Care International, World Vision and WaterAid (Box 4^{vii}).

4.5. Urban Water Sub-sector

Through the sector reforms and the subsequent establishment of Commercial Utilities the sector committed to achieving full cost recovery for the water supply and sanitation services. This includes capital recovery along with operation and maintenance to be financed through user charges with the tariff being regulated by NWASCO. While these reforms have contributed to increasing overall access to water and improvements in service delivery in the urban areas, many of the CUs have yet to achieve commercial sustainability due to the burden of inherited Government debt, the inability to cover operating costs and the need for significant investments. The transfer of responsibility for water supply and sanitation services from the Local Authorities to the CUs was accompanied by a Government committed to support working capital and pay off all outstanding debt. As part of the reform process, the Government also committed to finance the costs associated with the retrenchment of staff in the Local Authorities. However, retrenchments were limited and the CUs were forced to absorb a substantial portion of the labour forced^{viii}. In 2007 recoded expenditures included only *PEs* which had been allocated to cover the costs associated with retrenchments.

The tariffs approved by the regulator have typically been too low to allow the CUs to improve their performance through own resources. Only five out of the 10 operational CUs generate revenues above operating expenses through water and sewerage services billings. Collection efficiencies vary among the CUs, and the operating deficit does not include outstanding debts, which in Lusaka amount to over US\$4.3 million from Government alone. [see update financial analysis from OBA Assessment].



Data source: NWASCO Urban Water Supply and Sanitation Sector Reports (2001/02 to 2008/09)

Revenues are also undermined as a result of high levels of un-accounted for water⁷ (UfW). Levels of UfW average 47 percent, equivalent to annual losses worth around US\$50 million (Table #). The CUs in Lusaka and the Copperbelt account for more than 90 percent of these lost revenues. In the absence of these revenue streams, investment in rehabilitation measures and new infrastructure is deferred and regular operations and maintenance suffer. A reduction in UfW requires significant time and investments, but reducing these from the current levels to the target of 30 percent would save 46 Mm³ per year, sufficient water to serve over one million additional people (Table 3.5). Based on the 2006/07 average tariff and the same operating conditions, this would equate to an increase in revenues by US\$16 million across the 10 CUs and allow all but Nkana, Lukanga, and Chambeshi to achieve over 100 percent operational cost recovery.

Table #. Production and financial efficiency of the 10 Commercial Utilities in Zambia.

Commercial Utility	Water Prod ⁿ (Mm ³)	Average Tariff (Kw)	Value of Water Prod ⁿ (Mm ³ *Kw)	UFW (%)	Value of Water Sold (Mm ³ *Kw)	Collection Efficiency (%)	Cash Revenue (Kw/Mm ³)	Total Cos (MKw)	% Cost Covered
Nkana	113.6	731	83,042	35	53,977	80	43,182	52,547	82.18
Lusaka	78.9	1,433	113,064	51	55,401	83	45,983	53,177	86.47
Kafubu	49.8	947	47,161	58	19,807	85	16,836	21,702	77.58
Southern	17.8	1,200	21,360	43	12,175	102	12,419	12,451	99.74
Mulonga	21.4	969	20,737	56	9,124	64	5,839	7,285	80.16
Lukanga	15	761	11,415	61	4,452	64	2,849	5,212	54.67
Chambeshi	8.5	656	5,576	54	2,565	65	1,667	2,662	62.63
Chipata	2.5	1,981	4,953	31	3,417	121	4,135	4,066	101.69
Northwestern	3.2	2,310	7,392	36	4,731	85	4,021	4,056	99.14
Western	5.6	797	4,463	47	2,365	108	2,555	3,21	79.56

⁷ UfW is defined by NWASCO as the difference between the quantity of water produced and the quantity of water billed, including technical and commercial losses. The NWASCO benchmark for UfW is 25%.

Total	316.3		319,161		168,015		139,486	166,369	
Average	31.63	1,179	31,916	47	16,802	86	13,949	16,637	82

Source: Zambia CWRAS: adapted from NWASCO Urban and Peri-Urban Water Supply and Sanitation Sector Report 2006/2007. Nkana WSC disaggregated its assets in 2007/08 reducing its size and asset base.

Issues associated with poor and degrading water quality also have an impact on operational efficiencies and financial sustainability. Water quality compliance among the CUs is generally acceptable, but monitoring only includes bio-physical parameters and does not include measures of heavy metal and chemical contamination. Such contamination results in low pH water with heavy metals, such as lead, copper and zinc, both dissolved and in suspension. Despite ongoing attempts at implementing mitigation measures, there is a lack of monitoring and regulatory enforcement. In addition to the health implications, the low pH increases corrosion, raises operation and maintenance costs and accelerates investment requirements. Based on the figures from NWASCO, the production values suggest that while Nkana WSC produces slightly higher levels than Lusaka, the associated chemical costs are about two and a half times higher.

	Lusaka WSC	Nkana WSC
Connections	52,488	41,171
Daily Water Production (m ³)	220,000	233,000
Annual Chemical Cost (million Kw)	1,437	4,144

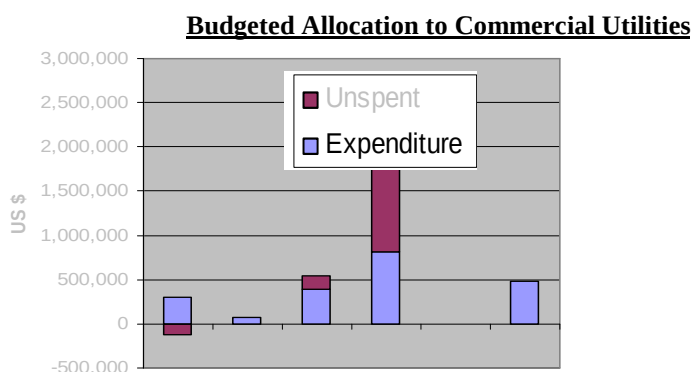
The financial gap between the collected money and the cost to be paid is usually closed by the non-payment of electricity, chemicals and other bills along with deferring on maintenance and service extension. This undermines the quality of service and increases the risk of associated water borne disease. A large part of the associated cost is associated with the energy costs and if creditors, such as the power utility, were to have exercised its rights on the outstanding debt most of the CUs would have been bankrupt in 2001 (see NWASCO Report).

The estimated investment needs for the individual commercial utilities vary from US\$0.8 million to over US\$700 million with the combined investment requirements estimated at over US\$1.4 billion⁸. Most of this is required to address the non-revenue water and extend services to the peri-urban areas. In Lusaka it is estimated that 70 percent of residents reside in peri-urban areas, in homes with inadequate access to municipal water supplies, sewer systems or safe and hygiene onsite sanitation systems. These inadequate water and sanitation services, together with over-crowding, contribute to a high burden of preventable diseases, such as Cholera, with water related diseases contributing a large proportion of diarrheal deaths, particularly among children under the age of five.

⁸ National Urban Water Supply and Sanitation Programme: Background and Analysis. Draft June 2008. MLGH.

In light of the above, Government support continues to be required for urban water supply and sanitation services. Although the annual transfers are limited, they represent an important supplement given the inherited levels of debt, low levels of payment from some Government institutions and the tariffs that continue to be below cost. Finances are channeled through the

Department of Infrastructure and Support Services (LGH) and are mainly capital investment or support for staff (PEs). For a number of years the MLGH facilitated the purchase of chemicals due to tight liquidity within the CUs. In 2002 the CUs spent more than they were allocated while recorded expenditures in 2005 were low due to CP disbursements not being reflected.



There is a need to continue to pursue tariffs that can support the operational and maintenance costs associated with service delivery. However the significant investment needs and current tariff regime are not sufficient to support the levels of investments needed to improve the levels of service within the existing networks and support extended services to the peri-urban areas. The Ministry of Local Government and Housing is preparing the design of an appropriate financing mechanism to channel resources I support of urban water supply and sanitation investments under the NUWSSP. However, there is also a need to look in more detail at the cost trade-offs between recurrent costs of annual health campaigns and emergency response to determine the efficiency of Government spending against the capital investments in extending the network to unserved areas and provide longer, improved service levels that can provide protection against water borne disease.

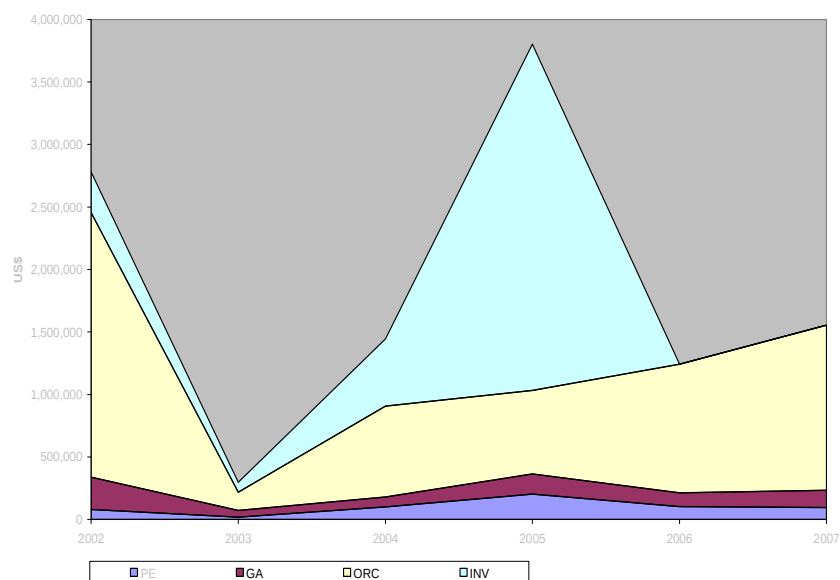
The type of action necessary for the improvement of the ruinous financial positions has to be tailor-made for the individual CUs. However, all would benefit financially from tariff increases, cost savings, and increasing collection efficiencies. Relatively simple interventions directed toward improving billing and collection systems, focusing on data integrity and the detection of illegal connections would increase the revenue base and allow fiscal space to support additional interventions.

4.6. Rural Water Supply Sub-sector

Among the specific objectives of the NRWSSP is to increase and improve the number of functioning water supply facilities in rural areas through systematic investments in new facilities and rehabilitation of existing facilities on the basis of a single comprehensive RWSS programme. The overall cost of the National Rural Water Supply and Sanitation Programme (2006-2015) is estimated to be almost US\$300 million, with Phase 1 estimated to cost US\$116 million and Phase 2 US\$176 million. [need to confirm numbers from budget and CP support as % of total]

Budget allocations reflected in the Yellow Book to the MLGH average less than US\$2 million annually, with Loans and Investments averaging to more than US\$50 million a year and totaling over US\$300 million for the period. The majority of the resources allocated are in support of *ORCs* (operations and maintenance, support to institutions, monitoring and evaluation). These have increased steadily from 2004. Most of the resources allocated to *Investment* in support of water supply and sanitation are channeled through LI-LGH and LI-MoFNP as stated above. This makes it difficult to disaggregate values in support of specific programs. However, in 2002 there was a specific budget-line for ‘capital expenditure’ dedicated to the rural water supply programme.

Figure 4: Disaggregated Allocation to MLGH



Given that the resource envelope required in support of the NRWSSP is well in excess of the budget allocations and support from the CPs, the Government is working on a clearly defined, systematic framework to guide investments. In the absence of such a mechanism, the first phase support to the NRWSSP has been implemented according to a number of area based programmes as part of the NRWSSP (see below). The current area based programmes lack a defined analytical framework within which to position the decision making process and direct financial support to maximize development impacts. The financing mechanisms is therefore aimed at prioritising those areas with high levels of poverty and low levels of access to systematically address poverty and reduce the water-related disease burden on rural communities.

Area Based Programs	Province								
	Central	Copperbelt	Eastern	Luapula	Lusaka	Northern	NW	Southern	Western
AfDB									
Denmark									
EU									
Germany									
Ireland									
Japan									
UNICEF									
WaterAid									
WorldVision									

Given the limitations of reporting in the national budget, the occurrence of a number of non-state actors in supporting water supply and sanitation and the large number of CPs supporting the NRWSSP there is a need to identify and outline the various pathways through which resources are channelled to the district level in support of rural water supply. The decision making process should be defined through explicit criteria that ensure equitable mechanisms based on levels of poverty, access to water, and health indicators, including Infant mortality and others related to water borne diseases, such as Diarrhoea, Cholera, Dysentery and Malaria. The definition of resource flows should be accompanied with a more detailed tracking survey to verify resource flows and determine the impact levels associated with expenditures.

4.7. Water Resources Sub-sector

The water resources sub-sector includes support to a number of different institutions, primarily within the Ministry of Energy and Water Development (MEWD), which is responsible for the management and development of water resources, and those within the Ministry of Agriculture and Cooperatives (MACO). These include support to irrigation through the technical services branch, the department of fisheries and irrigation programmes.

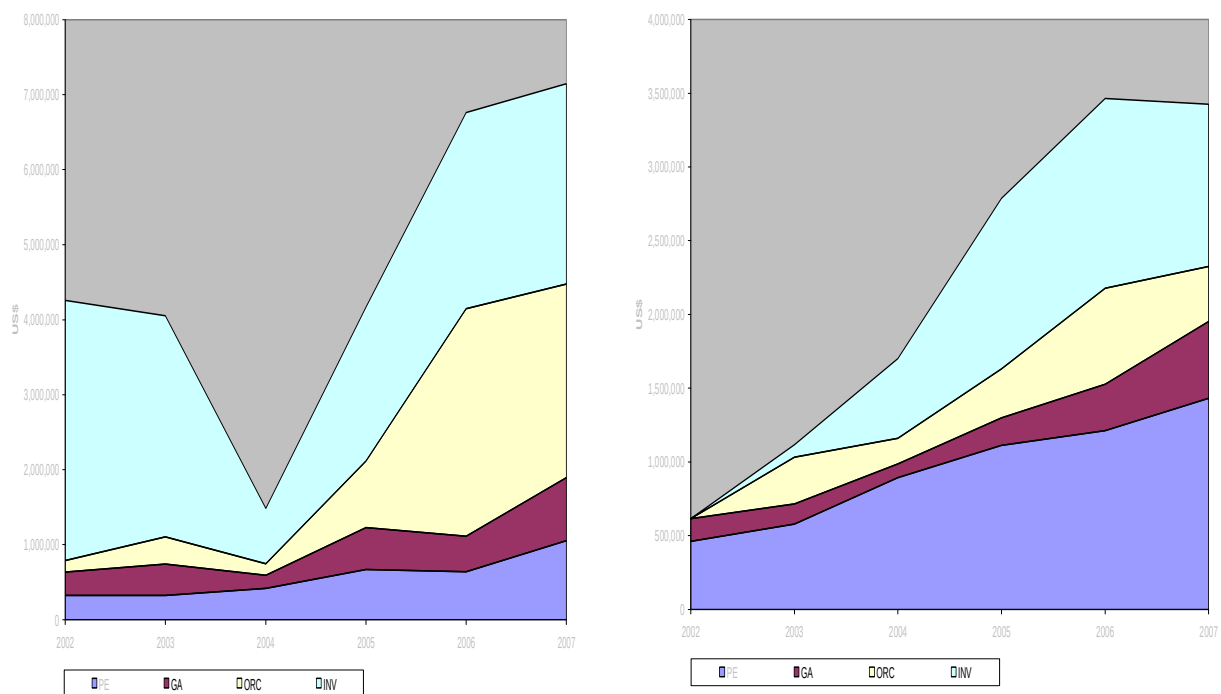
program through the European Commission. *Investments* at the level of the Ministry remains a significant proportion of the total and has shown an overall increase from 2004. In 2002 and 2003 the budget reflects significant allocations for civil works in the MACO (US\$ 2.3 million), the rehabilitation of fisheries training centres (US\$ 4.5 million), and support for irrigation in 2007.

The budget allocation to *Investments* are mostly related to the construction and rehabilitation of earth dams; strengthening of hydrological network; groundwater development (drilling of boreholes) and groundwater mapping. In terms of proportion, however, *investment* has declined in recent years, from 49.6 percent in 2004 to 37.4 percent in 2007. This is due mainly to an increase in resource allocations to *ORCs*, including project inspections, procurement and supply, water resources information centre, grants and other payments. The resources for *PEs* have increased three-fold over the period; while *GA* has fluctuated with more than a two fold increase over the period.

Allocations to the Provincial Water Affairs Departments reflect structural differences in structure of the institutional processes reflecting the centralized planning and execution. Resources allocated to provincial departments in aggregate have been increasing; trebling from US\$143,614 in 2004 to US\$ 484,850 in 2007 (Figure). The nine provinces shared about US\$143,000 in 2004, and although in 2007 the allocation increased to just under US\$500,000. However, drought prone areas such as the Southern and Eastern provinces as well as those with limited infrastructure such as Luapula, and Northern Provinces have been receiving the most attention (annex 3). Salaries at the provincial level generally make up the largest proportion budget allocations. These have increased over the period (*Figure 3*). When considered in aggregate, *Salaries*, *GA* and *ORCs* constitute 58 percent of the total in any given year, with provincial allocations in 2002 showing only those for *PEs* and *GA*. There is little fiscal space for undertaking local investments with the decision making process centralized and the focus at the provincial level directed toward daily operations and provincial administrative.

Figure 4.7.1: Disaggregated allocation to MEWD

Figure 3: Provincial DWA Budgeted Allocations

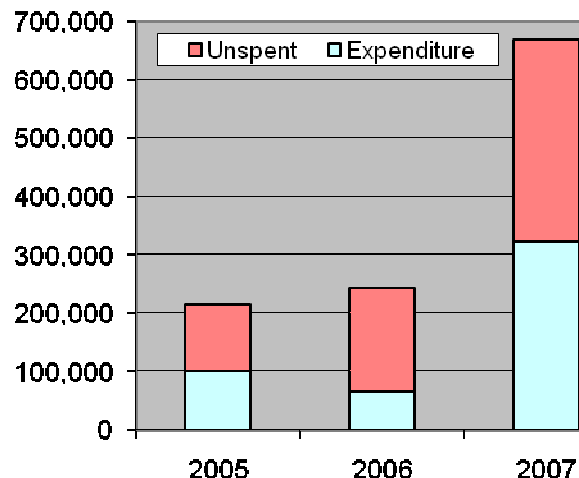
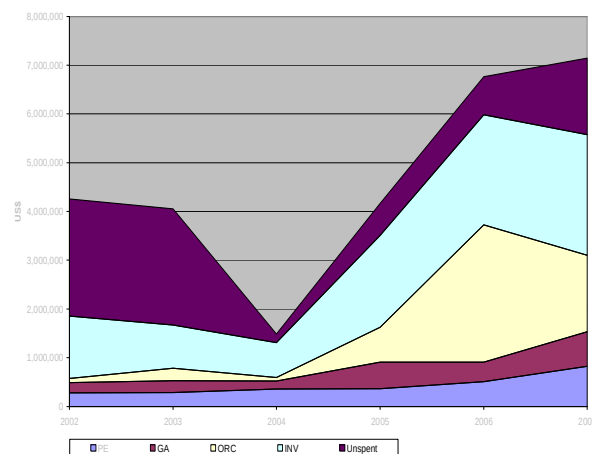


Sources: Own analysis of the Blue Book 2002-

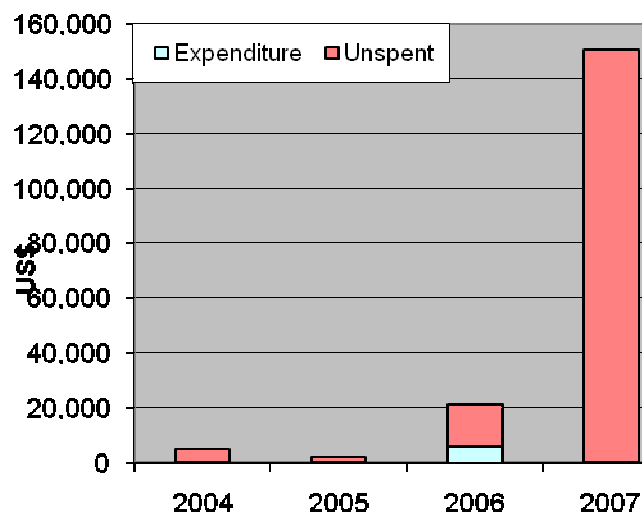
Levels of expenditures within the MEWD have shown steady levels of improvement, although investments remain the most variable. Whereas allocations are between 37 and 82 percent of the agency total, actual expenditures are between 22 and 48 percent. The patterns of expenditures among the various different institutions and agencies also highlights the need for better integration in resource mobilization to capitalize on the synergies and multi-purpose benefits that can be derived from an integrated approach to water resources development. For example, the expenditure of resources allocated in support of fisheries research has displayed consistently low levels (Figure #). Low expenditures may be attributed to insufficient capacity, limited budget implementation periods and weak administrative processes within the sub-sector but highlights opportunities to work toward collaborative mechanisms that can inform sustainable benefits to local communities. A strategic program of coordinated actions within a national research framework to support the effective mobilization of resources could realize substantive impacts within the sector.

Figure 8: MEWD Expenditure

Expenditures in Fisheries research



The pattern of budget allocations and expenditures in support of International Waters further highlights structural issues that can inform that development of more efficient programs. Zambia has a strategically important geographic position within Sub-Saharan Africa. Account for a large part of the Zambezi River basin and playing an important role in the Congo River basin, there is a recognized need to consolidate the capacity for engaging in international negotiations around management of these shared water resources. Initial support has been provided through CPs under the WRAP, which lead to the establishment of measures within Government structures and securing a specific budget line item in 2004. Although modest in the initial allocations increasing recognition of the importance of this within Government has seen increased allocations amount to US\$150,000 in 2007. Despite this recognition the absence of a clearly designated, responsible unit with a strategic plan expenditures have been limited, undermining the potential contribution to national development.



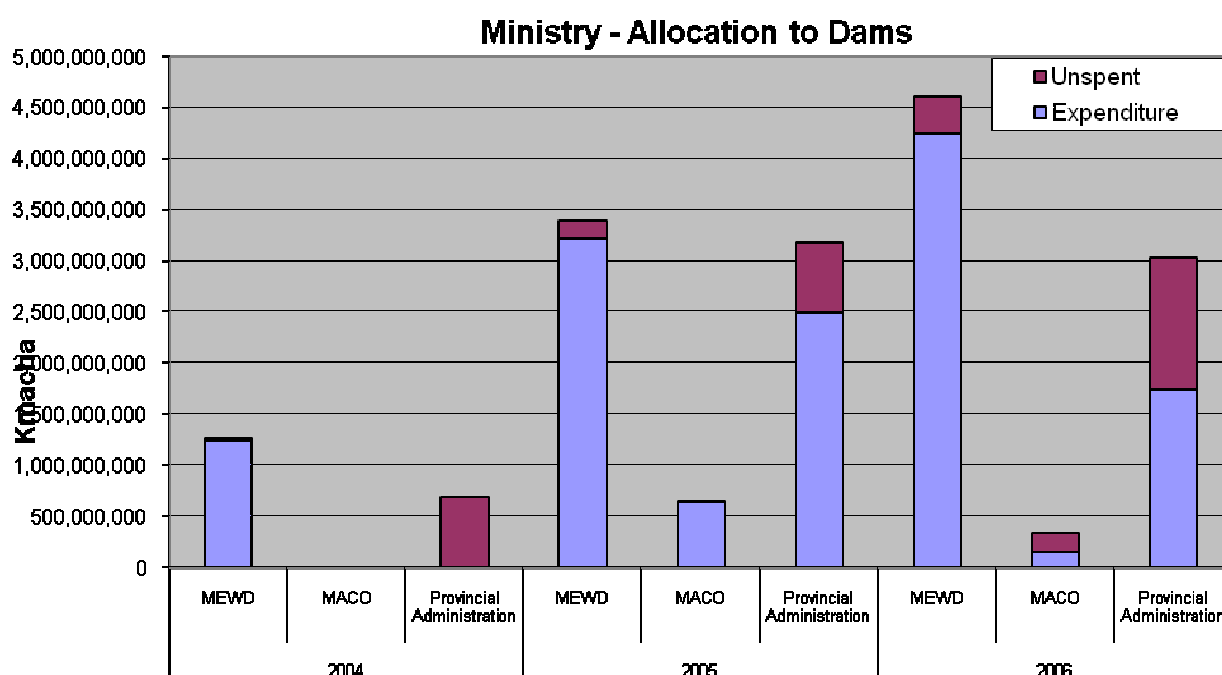
The FNDP included provisions for the construction of four dams per year for economic production. The cost associated with such a program depends largely on the location, dam type and source of materials but can be summarized below based on experience within the DWA⁹. The dams are constructed to perform various functions, including: town water supply; irrigation use; livestock watering; fish farming; and hydro power. Based on these the construction of four dams per year would require in excess of US\$1 million.

⁹ Conversion assumed to be average over set period, for example: K 4,533.31, 2002-2003; K 4,292.75 2004-2006; and K 3,994.95 for 2007.

Dam Height	2003 (US \$)	2004-2006 (US \$)	2007 (US \$)
< 5 m	132 400 (K600 m)	186 400 (K800 m)	300 400 (K1200 m)
5-10 m	264 700 (K1200 m)	326 100 (K1400 m)	400 500 (K1600 m)
> 10 m	441 200 (K2000 m)	582 400 (K 2500 m)	750 900 (K3000 m)

Source: MEWD (2009)

The resources required to meet the targets in the FNDP are available under the investments allocated to the MEWD and on average the DWA supports the construction of between 1 and 2 small dams annually. This is supplemented by a number of rehabilitation programs. Analysis of the aggregated expenditures in support of dam programs have improved in recent years, from less than 50 percent of resources being spent in 2002 to over 80 percent in 2006 (Figure #). This varies among the different institutions, with the MEWD demonstrating continued improvement over the years toward successfully realizing almost complete budget expenditure. The failure of other Ministries, Departments and Government agencies to adequately mobilize resources suggests the need for a more cohesive mechanism for cross-sectoral integration and collaboration.



The allocation of resources at the provincial level to small dams program does not appear to be sufficient to support construction costs associated with new dams and so would appear to be directed toward rehabilitation measures (figure i). While the levels of expenditure at the provincial level has improved since 2004 the levels remain highly variable with often low levels of expenditures (figure ii). This would suggest the need to develop and support interventions aimed at improving capacity and systems that can help in mobilization of resources.

Figure i: Provincial Allocation for Small Dams¹⁰

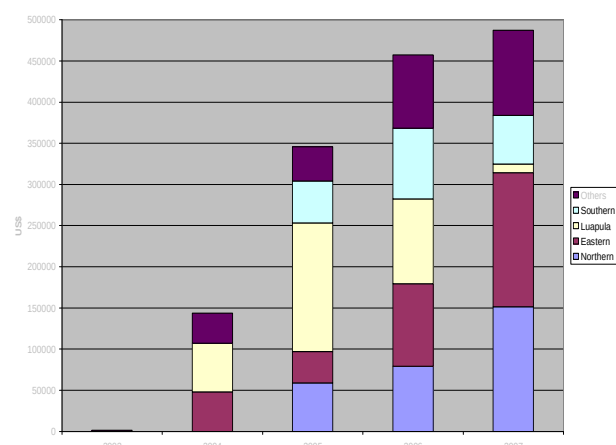
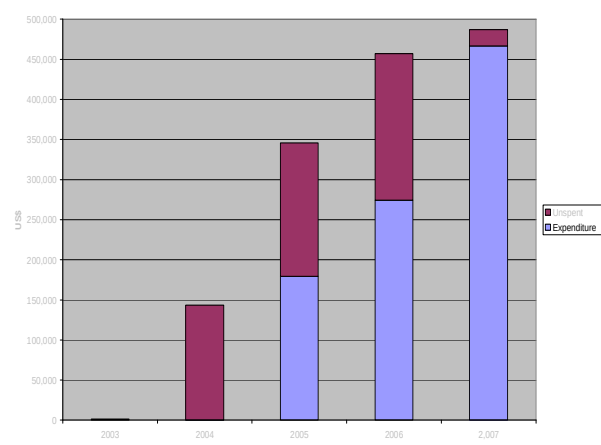


Figure ii: Provincial Expenditure on small dams



The Water Development Board was established by an Act of Parliament Cap 198 of the Laws of Zambia of 1998 to regulate the use of surface water in Zambia by issuing rights to applicants. The Water Development Board approved budget consists of allocations from the government treasury, appropriation in aid and an allowed retention of 50 percent of the revenue collected. This amounted to K2.4 billion or US\$690,000 in 2007, equivalent to approximately 26 percent of revenues due from non-hydropower users.

All water right holders and those using public water on temporal basis without exception are required to pay for the water. Water rights are granted for renewable period of five (5) years. Water used for secondary, irrigation or aquaculture, or tertiary use, industrial mechanical and hydroelectricity, are considered beneficial uses under the Water Act Cap 198 of 1948 and thus attract charges prescribed under the Statutory Instrument No. 20 of 1993 – The Water Board (Charges and Fees) Regulations. Groundwater is currently not regulated and thus exempt from any such provisions. These regulations provide the following charges:

- K5,000 for water abstracted up to 500m³/day
- K1 for the temporary use of water (minimum 1 year) for every excess cubic meter of water abstracted above 500m³/day
- K2 for a new water right for water abstracted for every excess cubic meter of water abstracted above 500m³/day
- K3 for a renewed water right to abstract water for every excess cubic meter of water abstracted above 500m³/day

In the Estimates of Revenue and Expenditure for the financial year ended December 31, 2007, provisions of K785,800,280 were made in respect of revenue collections from Water Board fees. Of this amount K427,748,867 was collected, resulting in under collections of K358,051,413. In this regard, as of

The Zambezi River Authority is responsible for operation and maintenance of Kariba, including collection of hydrological and environmental data for the Zambezi River, while responsibility for generation and transmission was handed over to the two utilities, ZESCO and the Zimbabwe Electricity Supply Authority (ZESA). Under the agreement, ZRA has a water purchase agreement with the utilities. Operating income is based on water tariffs charged based on the water consumed in the generation of electricity as invoiced to the two utilities. The formulae is intended to provide ZRA with sufficient revenues to carry out its mandate, not to generate profit, and generates around US\$10 million in water sales revenues annually. The tariff is reviewed every three years.

¹⁰ In cases allocation for construction and rehabilitation is aggregated; No explicit allocation in 2002

December 2007, the Water Development Board was owed amounts totaling K138,735,240,195 (in excess of \$US30 million) by various clients in outstanding water rights charges. This is related primarily to a dispute over the level of charges applicable to the hydropower sector. Some of the amounts have been outstanding for more than five years. In addition to this, it is estimated that there is almost 9,000 hectares under irrigation by groundwater in the Kafue River catchment alone. This is equivalent to ?? Mm³ and were these abstractions be subject to the regulatory provisions applied to surface waters it would amount to an additional ?? in annual revenues. Under the proposed Water Resources Management Bill provisions have been included for the establishment of a Water Development Trust Fund (Section 154(1)). The Water Development Trust Fund is intended to support the development, conservation and management of water resources. It will be managed by trustees under a trust deed prepared by the Minister. The trust deed will provide for the tenure of office of the trustees, staff, finances, financial management and procedures of the trusteeship. It is intended that trustees representing the following will be appointed by the Minister:

- i) the Institute of Chartered Accountants;
- ii) the Lusaka Stock Exchange;
- iii) any national institution dealing with investments;
- iv) the Law Association of Zambia;
- v) the Ministry responsible for water development;
- vi) the Ministry responsible for tourism; and,
- vii) the Ministry responsible for finance.

[Bill actually says 5 trustees but includes ref to all 3 ministries? which would give 7 trustees]

The Bill proposes that the WDTF will be financed through:

- (a) moneys as may be appropriated by Parliament for the purposes of the Fund;
- (b) such moneys as may be received by the Fund from donations, grants, and bequests from whatever source; and
- (c) such other moneys as may, by or under any law, be payable to the Fund.

5. Conclusions and Recommendations

It is estimated that the water sector absorbs between 1 and 3 percent of state budgets, with African countries providing on average less than 1 percent of their annual budgets to the water sector^{ix}. Further estimates indicate that public spending in the sector as a whole typically represents 0.5 percent of GDP^x. Faced with limited state resources and significant investment costs, the budget allocations in support of the water and sanitation sector must be subject to competing demands, especially where basic social services such as education and health are prioritised.

Developing countries are estimated to spend in the order of US\$27-30 billion annually on the water and sanitation sector. Of this amount, close to 70 percent comes from the domestic public sector. A further 20 percent comes from international aid flows, and the remaining 10 percent from international private sector and community/household investments. In Zambia it has been estimated that overall investment for all sectors in the FNDP is 65 percent by Government and 35 percent by Cooperating Partners. However, with regard to the water sector, CPs are estimated to contribute on average over 70 percent of the financing. For example, 91 percent of the investment cost for National Rural Water Supply and Sanitation Programme (2006 to 2011) will be financed by CPs^{xi}.

Spending on water in sub-Saharan Africa is low not only in relation to national income, but also to other areas of social spending such as health and education particularly. In Zambia, the water and sanitation sub-sector accounted for 3.5 percent (US\$42.4 million) of the core PRSP (2002-2004) budget, and accounts for 3.7 percent (US\$400 million) of that of the FNDP. In contrast, the proportion of resources allocated to Health and Education in the FNDP are 20.1 and 27.3 percent, respectively.

At the household level, the ratio of household spending on water to household income provides a benchmark commonly used to assess affordability^{xii}. Household spending associated with water supply should not account for more than 3 to 5 percent of household income. While the tariff regime in Zambia is largely below the cost of service, it has been estimated that low-cost water is unaffordable for about 40 to 60 percent of urban dwellers in Lusaka and the Copperbelt.

The water supply and sanitation sector has been a government priority since the 1990s. What began as reform of the sector then has evolved into a comprehensive programme to provide safe drinking water and basic sanitation facilities for both urban and rural dwellers. Action is driven by the commitment made by Government in collaboration with its Cooperating Partners to achieve the MDGs.

National budgeting is a key component for achieving progress in any sector. The budget as a tool facilitates implementation of decisions or activities through the application of available resources. Regarding the water sector in Zambia, the application of budget resources characterised by:

- i. inadequate and inadequately targeted investment
- ii. general failure to utilise available resources due to reasons including late releases by the treasury and complicated procurement procedures,
- iii. a limited budget implementation period

- iv. absence of specific, operational strategies to integrate planning functions and increase absorption capacity
- v. lack of proper planning and capacity related to procurement procedures, challenge the achievement of long-term progress.
- vi. inter-annual variability in terms of both allocation and expenditure;
- vii. significant donor supported intervention;
- viii. high expenditure on staffing rather than investment, particularly at decentralised level;
- ix.

Some of the latter factors influence the predictability of financing, in the absence of which it is difficult to establish achievable target and goals. Others hamper results and best use of available resources; for example it seems to be a choice in favour of water supply and sanitation; and rehabilitation of existing rather than investment in new infrastructure.

Limitations to this analysis include: inability to gauge and make statements on whether financing for the sector has been adequate, no case was identified on which comparison could be based; neither was it possible to make an assessment on efficiency or effectiveness of resource application. The analysis was also constrained by the fragmented nature of the sector, which complicated method used and made difficult the presentation of a comprehensive overview.

Cooperating partners, through grants and loans provided to Government, are the main source of financing for the sector as a whole, putting in on average, over 60% of the total allocation for the Sector. This proportion is higher with regard to water supply and sanitation; for example, 80% of the National RWSS programme financing is supported by donors.

Funding, to the sector is via various sources: *on-budget*, by Government and CPs; and *off-budget* by CPs and various NGOs. Although difficult to gauge whether or not funding has been adequate, on average the sector is 4% of the total annual national budget. This compares well with the worldwide average of between 1 and 3 percent of state budgets^{xiii}. In absolute amount allocation ranges between US\$ 50 million and 150 million; in terms of GDP, over the period the sector averaged 1.26% of GDP; GRZ contribution however is estimated at only 0.41% of GDP. In per-capita terms allocation is between US\$4 and US\$13 in any given year.

The character of allocation and expenditure vary according to administrative level. Allocation is mostly centralised, with the bulk of resources allocated at ministry level. Most resources for investment are located at this level, no doubt due to availability of technical and managerial expertise.

However, in terms of performance, significant proportions of resources earmarked for investment are not spent. Lower administrative levels, in this case provincial departments of water affairs for example, tend to be allocated and are also spending the largest proportion of resources on salaries; both allocation and expenditure on ORCs and *Investment* related activities are lower. Inadequate implementation capacity at the various levels is assumed to be among the constraints.

When information on the state of existing infrastructure is factored in, such as extent of disrepair, questions over productivity of the provincial workforce arise. Recent reporting on the implementation of the FNDP, indicate that with regard to dams for example, 3 have been constructed and 29 rehabilitated between 2006 and 2007 (no information is available for

2008)^{xiv}. The fact that rehabilitation takes precedence implies limited commitment to develop water resources in terms of infrastructure, at least in the short-medium term. .

Both allocation and expenditure are characterised by high inter-annual variation in terms of both absolute amount and composition, particularly when disaggregated. This uncertainty undoubtedly has an influence on effective planning. In 2008, the budget performance against the FNDP targets and release against the approved budget are said to have been poor for example, and releases particularly unsatisfactory (8 percent) resulting in failure to implement programmes as planned^{xv}. Complications associated with exogenous factors such as lengthy procurement procedures, exacerbate further the ability to achieve goals.

Existing arrangement of institutional roles and responsibilities suggest fragmentation in the management and development of the water sector, likely to undermine efficiency and effectiveness. The tracking of progress becomes particularly difficult as indicated by failure by the sector to report on key performance indicators in 2008^{xvi}.

There are challenges or short comings associated with the status quo. In the medium to long-term, although Government is increasing its contribution to the sector, cooperating partners remain the main protagonists. The latter raises questions of sustainability, particularly with regard to the WSS sub-sector which is currently receiving significant support and will continue to do so in the medium-term due to commitments made to achieve the Millennium Development Goals.

The urban water supply sector has achieved significant improvements in service delivery but is faced with a number of challenges. In the absence of fully cost reflective tariffs, the CUs are reliant on government transfers. Timely collections and continued efforts to recover outstanding debt, reduce un-accounted for water and reduce losses will assist are needed to consolidate predictable revenue streams that can support core operations and maintenance. Efforts to extend services should be limited in the absence of such improvements as they can potentially further undermine operating losses, tie up the limited available cash and further erode the revenue base.

Investment decisions should be made within the framework of national planning efforts with Government support. The importance of both access to clean drinking water as well as safe sanitation, hygiene and food handling practices is underscored by the incidence of prevented water borne diseases in the peri-urban areas. Cholera is one of a number of water related diarrheal disease acquired through consumption of water or food contaminated with infected faecal matter. First recorded in Zambia in 1979 it has been a recurrent phenomena since the early 1990s, with more than 10,000 related deaths recorded annually during the 1990s.

In the absence of formal systems of water supply and sanitation in the peri-urban areas the Government launches annual campaigns to respond to the cholera out-breaks. These involve in-home or point-of-use water disinfection using Chlorine, which is distributed free or subsidised; opening of emergency treatment centres, which requires requiring personnel, dehydration therapies and other supplies; promotion messages and communication campaigns; infrastructure improvements, including latrines in public places such as markets, to minimise cross contamination; and improving quantity and quality of municipal water.

Although the Government succeeds in managing such epidemics when they occur, the diseases (cholera, dysentery, and malaria,) are not eradicated and impose a heavy burden every wet season. Significant recurrent costs are incurred in the annual response to epidemics with limited

attention placed on preventing disease outbreak through the provision of water and sanitation infrastructure and services and there is a further need to look at the long-run efficiency of community based responsive measures contrast against the capital investments required to provide water and sanitation infrastructure and services in peri-urban areas.

The national rural water supply and sanitation program requires significant resources that are unlikely to be fully realized. In order to ensure that the available resources are applied with maximum impact on poverty alleviation, to leverage associated health benefits and reduce child mortality there is a need to examine the equity principles on which prioritise are determined.

Water resources development and the associated management measures have traditionally received less attention with an increasing focus on service delivery. There has been no significant intervention for over three decades with the National Water Policy acknowledging the absence of any explicit strategy for financing water resources development. Despite the abundance of water, the application of this to productive purposes is limited by human, institutional, and financial capital creating conditions of economic scarcity. As a result, hydropower potential remains largely untapped, at 27 percent of the estimated 6,000 MW, less than five percent of arable land is under irrigation and access to safe drinking water supply remains low.

The progressive reforms implemented over the past two decades have provided a solid platform for capitalizing on the abundance of water, driving economic growth and development and addressing poverty alleviation while achieving the MDGs for water supply. In order to achieve this potential it is recommended that the following be addressed;

- o Water sector reporting is currently spread across a number of Ministries and different headers. To facilitate more sectoral approach to reporting there should be a review of the budget structure to enable cohesive program of tracking for water related activities to enable better reporting and analysis.
- o Develop standard template for tracking allocations and expenditures. This should be integrated into planning department and be updated during the annual joint sector review to assist in the identification of key constraints and opportunities.
- o All CP contributions should be included in the Yellow Book (Budget) and disbursements reported to the MoFNP for inclusion in to the Blue Book (Financial Report). The nature (loan or grant) and amount of CP contribution as well as direct GRZ funding would thus be outlined enabling analysis of short and long-term obligations.
- o Effective implementation strategies and supporting implementation plans should be developed annually to allow for timely mobilization of resources.
- o Procurement processes need to be better integrated and capacity enhanced to facilitate the movement of resources in support of annual work plans.
- o The relatively high level of expenditures in certain categories, such as small dams, suggest the space for increased absorption and scaling up of programs (ie small dams) through both Government and CP resource.
- o Undertake more detailed tracking studies to assess the application of expenditures and determine the impact of these.
- o Government should find more sustainable means to finance the sector in the long-term and reduce the high level of dependency on external resources for financing investments.

- o Investments in urban water supply should be directed toward reducing non-revenue water, through reduction in losses, improvements in billing and collections, more efficient application of staffing.

6. References

7. Annexes

ⁱ Appearing in the Yellow Book

ⁱⁱ Including: Water Aid, Care, World Vision,

ⁱⁱⁱ Figure Adapted from ODI (2004) Source: From Plan to Action : Water Supply and Sanitation for the Poor in Africa

^{iv} An analysis of allocations to the sector from 1999-2003 in the annual budget, reveals that budget allocations have been greater than the resource envelope stated in the PRSP. Slaymaker, T. & Newborne, P. (2004)

^v CSO 2003 Population projection Report shows figure for 2005 as 11,441,000 (medium projection)

^{vi} Slaymaker & Newborne (2004) in their analysis found that fund releases by the Ministry of Finance to line agencies were substantially delayed even where they had been approved ODI, 2004

^{vii} Conversion rate used is as prevailing July 2009, K5200 per US\$

^{viii} NWASCO (2004) Water Sector Reform in Zambia

^{ix} GTZ (2005) Sector reforms for sustainable financing of water and wastewater services. Paper presented at the thematic group meeting on Water at German Development Institute (DIE), Bonn< October 2005

^x Human Development Report, 2006

^{xi} GRZ, 2007. National Rural Water Supply and Sanitation Programme

^{xii} *Human Development Report* (UNDP, 2006) & The International Poverty Centre (2008 June)

^{xiii} GTZ (2005) Sector reforms for sustainable financing of water and wastewater services. Paper presented at the thematic group meeting on Water at German Development Institute (DIE), Bonn, October 2005

^{xiv} MoFNP (2009) Draft FNDP Progress Report

^{xv} MoFNP (2009) Draft FNDP Progress Report

^{xvi} MoFNP (2009) Draft FNDP Progress Report