

GOVERNMENT OF THE REPUBLIC OF ZAMBIA

Ministry of Local Government and Housing (MLGH)

**National Urban and Peri-Urban
Sanitation Strategy**

(2015 - 2030)

November 2015

Ministerial Foreword

The Water and Sanitation sector in Zambia has been undergoing reform since 1993. With the enactment of the Water Supply and Sanitation Act No. 28 of 1997, an institutional framework has been created with a focus on service provision and regulatory functions. From 2005 to 2015 the sanitation coverage increased from 32% to 60.7% for the urban population (NWASCO reports). In 2011, the Government, through the Ministry of Local Government and Housing (MLGH), launched the National Urban Water Supply and Sanitation Programme (NUWSSP 2011 – 2030) which sets the objectives and provides operational guidance for the provision of water supply, sanitation services and management of solid waste in urban and peri-urban areas.

Despite important improvements in the field of water supply, sanitation continues to lag behind and it is unlikely that the Millennium Development Goal (MDG) of halving the number of people without access to adequate sanitation by 2015, will be met. It is therefore necessary to find sustainable solutions to scale up sanitation coverage in order to improve living conditions in urban areas of the country, inclusive of those living in informal settlements.

To address the challenges and operationalise the National Urban Water and Sanitation Programme, the National Urban Sanitation Strategy (NUSS) has been developed. The Strategy elaborates the sanitation service delivery component of the NUWSSP. The process is closely related to the ongoing revision of the Water Supply and Sanitation Policy which shall include Solid Waste Management. The Ministry is also developing an Open Defecation Free Zambia Strategy. The Urban Sanitation Strategy and the ODF Strategy describe the key measures to end open defecation and promote universal access to sanitation by 2030.

The NUSS builds upon two previous sanitation strategies for the urban sector: (i) the Environmental Sanitation Strategy for Peri-urban and Rural Areas, 1997 and (ii) the Peri-Urban Sanitation Strategy, 2001. Lessons learnt from implementation of those strategies have been incorporated into the development of the new Urban Sanitation Strategy.

MLGH appreciates the support and participation of sector partners in the development and implementation of the National Urban Sanitation Strategy (NUSS).



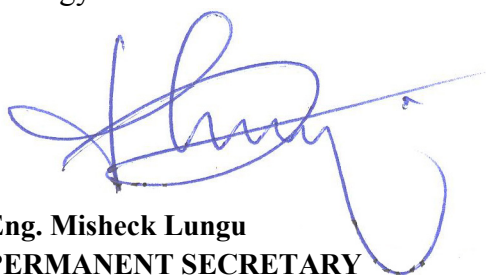
Hon. Stephen Kampyongo, MP
MINISTER OF LOCAL GOVERNMENT AND HOUSING

Acknowledgements

In developing the National Urban Sanitation Strategy (NUSS), the Department of Housing and Infrastructure Development (DHID) was mandated to facilitate and coordinate the consultative process on behalf of the Ministry of Local Government and Housing (MLGH). The Ministry appreciates the hard work and dedication shown by the Department throughout the process.

The MLGH acknowledges and appreciates the contributions and active participation of local and international stakeholders from Government Ministries, Local Authorities, and Commercial Water and Sewerage Companies. The Ministry is particularly grateful to the members of the Technical Committee, Cooperating Partners and NGOs who participated in the consultative processes and provided valuable contributions that supported the development of the strategy.

The Ministry of Local Government and Housing wishes to extend its profound gratitude to the *German Agency for Technical Cooperation (GIZ)* and *Kreditanstalt für Wiederaufbau (KfW)* who, with the Government of the Republic of Zambia, jointly financed the development of this Strategy.



Eng. Misheck Lungu
PERMANENT SECRETARY
MINISTRY OF LOCAL GOVERNMENT AND HOUSING

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Abbreviations

ALRI	Acute Lower Respiratory Infection
BCC	Behavioural Change Communications
BORDA	Bremen Overseas Research and Development Association
CSI	Corporate Social Investment
CSR	Corporate Social Responsibility
CU	Commercial Water Utility
DEWATS	Decentralised Wastewater Treatment System
DHID	Department for Housing and Infrastructure Development
DHS	Demographic Health Survey
DTF	Devolution Trust Fund
DSA	District Situation Analysis
EHRA	Environmental Health Risk Assessment
FS	Faecal Sludge
FSM	Faecal Sludge Management
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
HH	Household
IDP	Integrated Development Plan
IEC	Information Education Communication
INGO	International Non-Governmental Organisation
IPC	Interpersonal Communication
IWRM	Integrated Water Resource Management
JWSR	Joint Water Sector Review
KPI	Key Performance Indicator
LA	Local Authority
MCTI	Ministry of Commerce, Trade and Industry
MDG	Millennium Development Goal
MFI	Micro Finance Institutions
MIS	Management Information System
MLGH	Ministry of Local Government and Housing
MCD	Ministry of Community Development
MoE	Ministry of Education
MEWD	Ministry of Energy and Water Development
MOF	Ministry of Finance
MOH	Ministry of Health
NGO	Non-Governmental Organisation
NIS	NWASCO Information System
NWASCO	National Water Supply and Sanitation Council
NWP	National Water Policy
NUSS	National Urban Sanitation Strategy
NUWSSP	National Urban Water Supply and Sanitation Programme
ODF	Open Defecation Free
O&M	Operation and Maintenance
PET	Participatory Education Theatre
PHA	Public Health Act
RBF	Results Based Financing
R&D	Research and Development
SME	Small and Medium Enterprise
UDDT	Urine Diverting Dry Toilet
WC	Water Closet
WASHE	Water, Sanitation and Hygiene Education
WWG	Water Watch Group
WSC	Water and Sewerage Company
WSS	Water Supply and Sanitation

WSUP	Water and Sanitation for the Urban Poor
WUA	Water Utilities Association
ZABS	Zambian Bureau of Standards
ZEMA	Zambia Environmental Management Agency
ZUWSSM	Zambia Urban Water Supply and Sanitation Model (Financial)

Definitions

Adequate sanitation - a sanitation system that is *accessible* and *available* (located not more than 100 meters away from home and is easy to access for children, elderly and handicapped at all times during the day); it is *acceptable* for the user and provides a safe, convenient, private, secure and dignified place and complies with the socio-cultural norms of society (e.g. smell and reuse aspects); it is *affordable* and can realistically be paid for by the households and provides a handwashing facility.

Appropriate – provides a function that is considered to be suitable from the perspective of the user, or for those that benefit from its operation.

Concessional (or 'soft') loan – a loan provided under lending terms which in general includes low interest rates, longer repayment periods and an initial grace period, than those practised by commercial lending institutions.

Faecal sludge – comes from on-site sanitation technologies and has not been transported through a sewer. It is raw or partially digested, a slurry or semi-solid and results from the collection, storage or treatment of combinations of excreta and wastewater with or without greywater.

Faecal sludge management – a system for safe collection, transport, treatment, disposal and/or reuse of faecal sludge.

Improved sanitation – WHO/UNICEF define an improved sanitation facility as one that “hygienically separates human excreta from human contact”.

Latrine – a toilet facility (public or private) comprising of a superstructure around it.

Off-site sanitation – components of the sanitation chain that are located away from the immediate vicinity of the toilet.

On-site sanitation - these facilities are associated with individual household latrines, but also include facilities shared by several households living together on the same plot or in the immediate neighbourhood.

Peri-urban area – informal or formal settlements within the area of jurisdiction of a local authority, with high population density and high-density low-cost housing having inadequate or lacking basic services such as water supply, sewerage, roads, storm water drainage and solid waste disposal.

Safe – the function of a system creating barriers between humans and excreta to reduce the incidence of water and vector- borne diseases and parasitic infestations. A safe sanitation system

- i) effectively prevents human, animal and insect contact with human excreta and wastewater, and
- ii) ensures a long term clean and healthy environment (not polluting ground and surface water bodies, soil and air) both at home and in the neighbourhood of users; the concept of safe sanitation comprises treatment/discharge points that are part of the sanitation chain. To be considered “safe” the sanitation facility must provide a handwashing facility.

Sanitation – safe collection, containment, transportation, treatment and disposal or reuse of human excreta, domestic liquid waste and industrial effluents.

Sanitation chain – incorporates the various steps required to sanitise excreta and waste water, between the user interface (household or public, industrial and commercial excreta and waste water production sites) and final sites for disposal or reuse of sanitized material.

Sanitation services - in accordance with the Water Supply and Sanitation Act No. 28 from 1997, sanitation services refer to: i) the disposal, on-site or off-site of human excreta ii) the collection of wastewater¹ (excluding untreated toxic waste and storm water) from residential, commercial or industrial sources, and iii) the treatment and disposal of waste water in accordance with this Act and the standards established under the Standards Act, the Public Health Act, the Environmental Protection and Pollution Control Act or any other written law.

Sanitation service area - the area defined in the CUs operator's licence approved by NWASCO.

Sanitation surcharge - surcharge on the monthly water bill collected from each water consumer (apart from those served by public water points) to finance sanitation projects.

Sanitation tax - additional tax imposed by national/local government to support provision of services to the poor.

Simplified sewerage – a reticulated sewerage system that adopts less stringent design and construction standards that are appropriate for areas where water consumption is lower and residents are low-income. Types of simplified sewerage include *small-bore* and *settled* sewerage.

Small scale finance - financing below approximately USD 100,000 for small and medium enterprises (SMEs) and micro enterprises (meso finance) and micro-finance services (including small loans below a few thousand USD).

Toilet (often referred to as a “user interface”) – consists of Water Closet (WC), pour flush or latrine.

¹ The Act refers to “sewerage”

Preface on the Strategy Development Process

The strategy development was based on a participatory and consultative approach to learn from experience and to ensure that stakeholders' key interests and contributions were adequately incorporated into the strategy. Engagement with stakeholder groups has been an essential activity during the three phases of development of the strategy.

Phase 1: Status Quo and Analysis

Strategy development was based on a review of existing relevant policies and strategies and of the institutional framework under which urban sanitation services are delivered. During Phase 1, the current status and relevant experiences were analyzed to identify key constraints affecting the scaling of sustainable sanitation services, and potential for change. The analysis was based on desk studies, review of relative literature, including from other countries and interviews with key stakeholders. The findings were presented and debated during a national stakeholder workshop, in April 2014, where recommendations were collected for strategy development.

Phase 2: Strategy development

During step 2, a First Draft of the National Urban Sanitation Strategy was developed and presented at the second stakeholder workshop to discuss specific topics and agree on the way forward in May 2014. The investment needs were computed using an adaptation of the financial model that was initially developed during the preparation of the National Urban Water Supply and Sanitation Programme (NUWSSP). The model was used to estimate overall investment needs and associated operation costs for urban sanitation over a 15-year period. Based upon feedback and additional work on the draft document, a second draft was prepared.

Phase 3: Final draft of strategy and approval

During Phase 3, the Second Draft Strategy was reviewed extensively by a peer review group. Their comments were presented to the Technical Committee. These were then used to prepare the Final Draft of the Urban Sanitation Strategy, for approval.

Executive Summary

PART 1 - Status Quo and Analysis

Urbanisation, population growth and lack of planning have generated “sanitation stress” mainly in low income areas. Inadequate sanitation services negatively affect the health of all Zambians and cost Zambia approximately US\$194 million every year. The strategy development process revealed eight key constraints for sanitation development:

- 1) Inadequate institutional responsibilities for sanitation services,
- 2) Low level of planning and prioritization at the local authority level,
- 3) Insufficient focus on sanitation and too much emphasis on reticulated sewerage,
- 4) Inadequate financing and cost recovery for sanitation systems,
- 5) Limited investments in smaller scale infrastructure and on-site facilities,
- 6) Dilapidated condition and low operational performance of wastewater assets,
- 7) Insufficient management models for delivery of decentralised sanitation services,
- 8) Unsuitable monitoring and regulatory mechanisms for sanitation.

PART 2 - Strategic objectives and framework for implementation

Goal and objectives

In line with the NUWSSP, the implementation of the National Urban Sanitation Strategy aims to provide adequate, safe and cost-effective sanitation services to 90 percent of the urban population by 2030. As at 2014, national urban sanitation coverage stood at 60.7% (*NWASCO Urban and Peri-Urban Water Supply and Sanitation Sector report 2014*). The Ministry is developing an Open Defecation Free Zambia strategy with a target of attaining ODF by the year 2020. The Urban Sanitation Strategy and the ODF Strategy describe the key measures to end open defecation and promote universal access to sanitation.

In order to achieve this goal, the strategy pursues the following objectives: (a) improve access to *adequate* and *safe* sanitation; (b) manage sanitation facilities so as to reduce the incidence of water and vector-borne diseases and parasitic infestations; (c) promote improved hygiene practices (including menstrual hygiene); and (d) mitigate environmental degradation, through safe disposal of wastewater and sludge.

To achieve these objectives, it is necessary to strengthen governance and institutional capacities at national, local and community levels; develop enhanced legal and regulatory frameworks; and implement measures that enhance mainstreaming of cross-cutting issues.

Scope

In terms of sanitation facilities and infrastructure for management of liquid waste and sludge, the strategy focuses on residential properties; institutional buildings (schools, hospitals and health facilities); public places (shops, restaurants, train/bus stations and markets); and commercial premises.

Components of the strategy

The NUSS elaborates in eight components how to address the most relevant aspects of urban sanitation in the field.

- 1 Advocacy, awareness raising and strengthening institutional framework,
- 2 Preparation of urban sanitation plans and prioritization of sanitation investments,

- 3 Sanitation market development, improvement of sanitation facilities and hygiene behaviour,
- 4 Strengthened Commercial Utilities for sanitation service chains including faecal sludge management ,
- 5 Delegated management models,
- 6 Financing sanitation improvements and ensuring cost recovery,
- 7 Monitoring, regulation and enforcement,
- 8 Capacity building.

Roles and responsibilities

In addition to existing responsibilities, the strategy proposes following roles and responsibilities:

MLGH	• Overall responsibility for implementation of the NUSS, guidance and coordination for implementation. • Lead on strategic budgeting to ensure harmonization and sharing of financial information related to beneficiary institutions. • Facilitate support and funding to local authorities to assist with the preparation for urban sanitation plans. • Development of a national action plan for sanitation advocacy/promotion and market strengthening. • Monitoring and reporting on sanitation sector development and NUSS implementation.
Local Authorities	• Carry out the mandate for sanitation and assure the lead in the sanitation planning process in partnership with the Commercial Utilities based on overall urban planning documents. • Establishment of sanitation task forces to represent local stakeholder interests in decision making. • Liaising with community based organisations. • Strengthening the enforcement of the Public Health Act and relevant by-laws.
Commercial Utilities	• Prepare investment planning and designs for WSS infrastructure development. • Provide effective, efficient and affordable sewerage / wastewater services and propose appropriate tariffs to the regulator. • Develop service provision in non-sewered areas. • Collect data from small-scale service providers and delegated management operators. • Take responsibility for managing information database so that local authorities can also utilise the data to support sanitation planning and enforcement of Public Health Act.
NWASCO	• Define sanitation service levels and standards (in accordance with MLGH). • Provide guidance to support service delivery enhancements, including tariffs for onsite sanitation provision. • Develop regulatory instruments, benchmarks and monitoring scheme for on-site sanitation service providers. • Reporting on on-site and off-site service coverage.

	• Collect data from the CUs and submit selected information to MLGH for the preparation of an annual statement on progress of NUSS implementation.
MoH	• Enhance framework for public health aspects.
MCD	• Develop guidelines for risk mitigation and sanitation safety planning. • Promote hygiene behavior change through health workers. • Support CUs and LAs in identifying vulnerable and marginalized individuals/groups.
MoE	• Increase sanitation services and hygiene education in schools.
MCTI	• Support private sector development. • Through ZABS develop appropriate sanitation standards.

Guiding principles

The following guiding principles have been followed to develop the strategy:

1. Equitable access to adequate and safe sanitation is a basic human need.
2. Adequate-household-sanitation-facilities are a household responsibility.
3. Mainstreaming cross cutting issues (gender, inclusiveness, HIV mainstreaming).
4. Environmental sustainability.
5. Incremental and appropriate approach towards implementation according to the availability of resources.
6. Affordability and financial viability of sanitation services.

Implementation issues

The strategy maintains the principle that household facilities should not be directly subsidised. However, to enable low-income households to access adequate sanitation, the strategy provides support measures like: (a) approved lower cost sanitation technologies with designs and standards approved by ZABS; (b) establishment and development of supply chains to manufacture and facilitate distribution of affordable components for construction; (c) support to households for construction of latrines through NGOs and trained masons; (d) access to finance via micro-finance institutions; (d) voucher systems for marginalized households; (e) increased enforcement of the Public Health Act underlining responsibility of landlords to provide sanitation systems to their tenants.

Four sanitation service delivery options have been identified: (1) Conventional wastewater system; (2) Decentralised sewerage systems connected to DEWATS; (3) Onsite sanitation/pour flush; (4) Onsite sanitation/dry toilet. They are ranked according to the service level they provide (option 1 providing the best level of sanitation). Appropriate and affordable solutions shall be defined by local decision making processes and technological choices shall be based on value-for-money considerations.

The strategy proposes that urban planning is an integral part of enhancing service delivery and should highlight priority areas for improvements under the leadership of the Local Authorities supported by Commercial Utilities. Existence of urban sanitation plans is recommended as a criterion for funding.

In terms of Management arrangements, the Commercial Utilities have the overall responsibility to implement sanitation service provision and (public) asset management, but may adopt alternative arrangements by delegating sanitation service delivery. The strategy proposes the following service models:

Model 1 – CU integrated management	Most appropriate for conventional sewerage (Service Delivery Option 1) and for formal areas where the commercial utility is responsible for all aspects of service provision.
Model 2 – Semi-delegated management	Suitable for Service Delivery Option 3: Onsite sanitation (pour flush) or Option 4 (dry toilets with desludging)
Model 3 – Full- delegated management	Suitable for Option 2 (Decentralised sewerage connected to DEWATS), and Option 3: Onsite sanitation (pour flush) or Option 4: On-site sanitation (dry toilet).

Cost to implement the strategy and costs for sanitation infrastructure.

The costs to realize the strategy are divided into two main categories:

Immediate implementation cost (strategy)	Costs of measures proposed in the strategy not including investment costs for sanitation infrastructure (see below). For the period 2015 till end 2020 these costs have been estimated at 29.6 million ZMW (3.84 million USD)² . A more detailed breakdown is provided in the Annex 1.
Long term implementation cost (infrastructure)	Costs for investment, operation and maintenance requirements for service providers and users to achieve 90% access with adequate sanitation in 2030. For the period 2015 – 2030 long term costs between 4.8 and 5.8 billion USD are projected.

In terms of monitoring of sanitation coverage and services, the strategy incorporates two levels of monitoring (1) Monitoring of sanitation services provided by the Commercial Utilities and delegated service providers, and (2) monitoring of progress in the implementation of the strategy and sanitation sub-sector development.

PART 3 - Strategic objectives and framework for implementation

This chapter provides guidance and orientation for implementation through detailing each of the eight strategy components with specific aims, rationales and specific objectives/outputs. It corresponds closely with the implementation matrix (Annex 1) and components of the strategy listed above.

² converted on 28.07.15 exchange rate USD – ZMW (1 – 7.69)

Part 1 Status Quo and Analysis

1.1 Demographics of the urban population on Zambia

Zambia is one of the most urbanised countries in Sub-Saharan Africa. According to the Census of Population and Housing (2010), the total population in 2010 was 13.1 million (a 32% increase from 9.9% in the year 2000). The country's urban population was reported to be 5.17 million (39.5 %). The overall population growth has been 2.8 % p.a. between 2000 and 2010, while the population in urban areas grew at a rate of 4.2 %, respectively.

Peri-urban areas have absorbed the bulk of Zambia's urban population growth, including the effects of the ongoing internal migration from rural to urban areas. The formal settlement structures are unable to cope with this pressure; the percentage of the population living in peri-urban areas is estimated between 25% in smaller towns to about 70% in the big cities. The city of Lusaka has 33 peri-urban areas which account for at least 60% of its entire population³. These low income areas have become a major feature of Zambia's urban landscape and are characterized by inadequate economic and social infrastructure.

1.2 Sanitation service coverage

According to the Sixth National Development Plan (2011- 2016), one of the main constraints to the nation's development is inadequate growth-enhancement through infrastructure investment. Sanitation infrastructure in particular stands out as one of the issues that negatively affect the health of Zambia's population, as well as productivity and competitiveness of the country's economy (see Box 1).

Due to rapid, unplanned growth, these problems are particularly pronounced in the peri-urban areas of the larger towns and cities, but are also recognized to be an increasing problem in smaller regional centres. As shown in Figure 1.1, current coverage rates vary considerably, from Mulonga and Nkana Water and Sewerage Companies (WSC) in the Copperbelt region with the highest rates of connections to a sewerage network (> 40%), compared to Lusaka and Southern (15%) and the Western, Northern and North-Western regions with less than 5%.

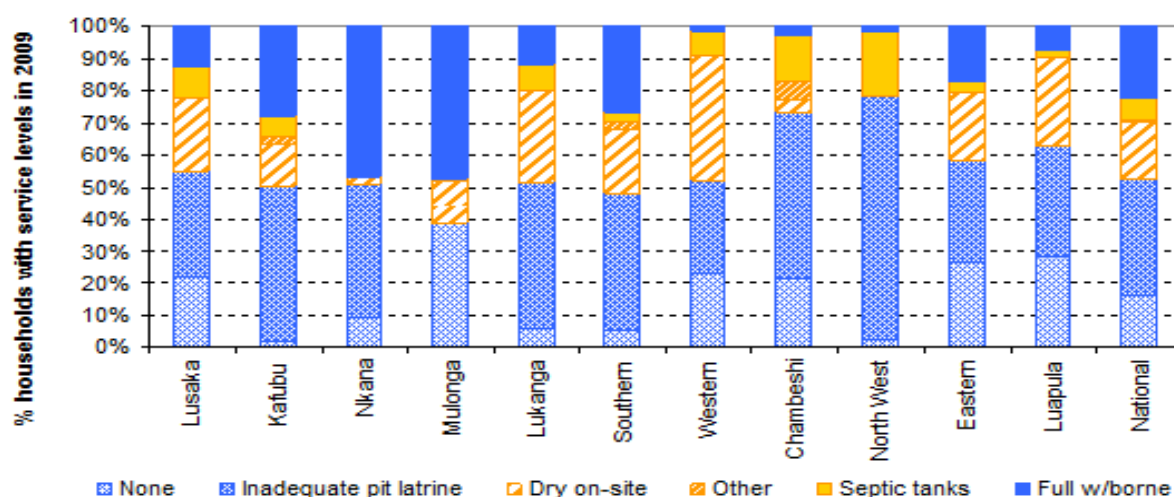


Figure 1.1: Access to sanitation service levels in 2009 per commercial utility (Source: Guidelines for Investment Plans for Commercial Utilities and Local Authorities. Phase 2, published 2009)

³ Source : NUWSSP, 2011

There is a deficit of information describing the situation with respect to collection and disposal of wastewater and faecal sludge across the country, but Figure 1.2 illustrates the situation in Lusaka, clearly showing the lack of infrastructure and facilities for safe management of faecal sludge: 75 % of all sewage/waste water remains inadequately treated.

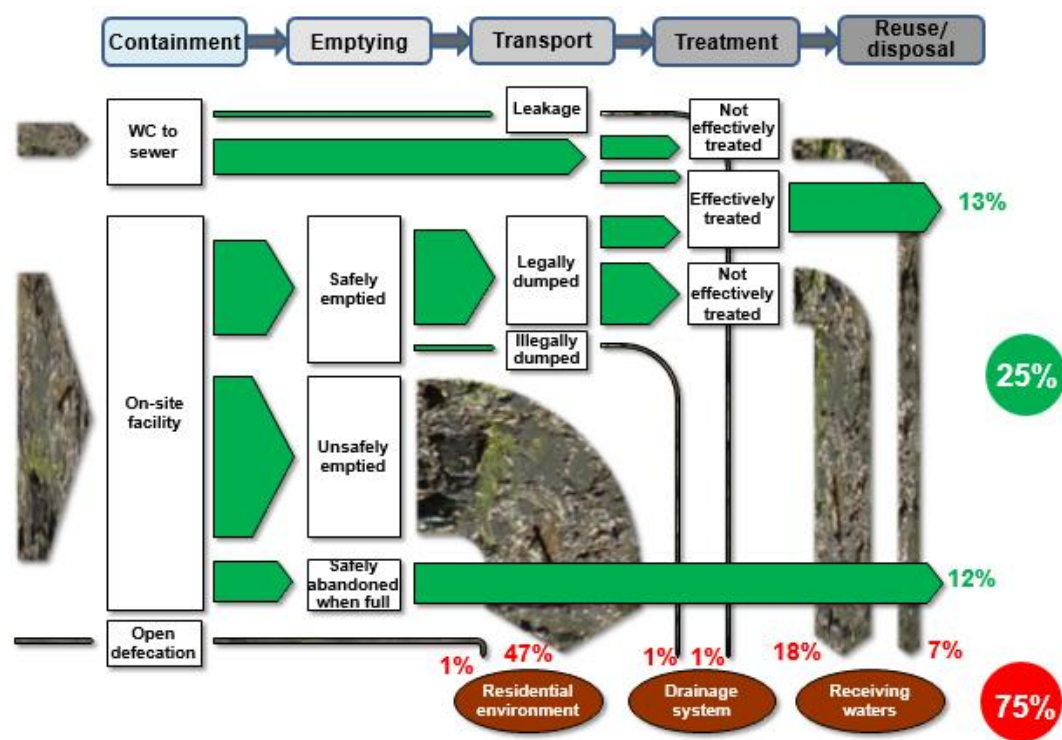


Figure 1.2 Lusaka faecal waste flows (Source: WSP, 2014)

Box 1. Adverse economic impacts of poor sanitation

(Source: <http://www.wsp.org/sites/wsp.org/files/publications/WSP-ESI-Zambia.pdf>)

Poor sanitation costs Zambia approximately US\$194 million every year, equivalent of US\$16.4 per person or 1.3% of the national GDP. Approximately 8,700 Zambians, including 6,600 children under 5 die each year from diarrhoea – nearly 90% of incidences are directly attributed to poor water, sanitation and hygiene (WASH) conditions which results in an estimated US\$167 million lost each year due to premature death. In addition to that, poor sanitation is a contributing factor – through its impact on malnutrition rates – to other leading causes of child mortality including malaria, respiratory infections and measles.

1.3 Existing institutional and regulatory framework

Ministry of Local Government and Housing (MLGH)

Ministry of Local Government and Housing is the lead Ministry responsible for policy and strategy development and mandated to coordinate implementation of GRZ strategies related to WSS and Solid Waste Management. MLGH has the responsibility for Local Authorities (LA) and in accordance with the National Water Policy 1994 and 2010 (Principle 3); MLGH has to support devolution of authority to its lower levels (provinces, LA) and support private sector

involvement in service provision. Its mandate includes sanitation planning and implementation under LAs, CUs and private sector actors. This entails close coordination with other Ministries, sector actors and partner agencies. Figure 1.3 illustrates the existing institutional framework for the urban water and sanitation sector and the interfaces with other key institutions described below.

Local Authorities (LA)

Under the direction of MLGH, the Local Authorities focus primarily on the enforcement of Ministry of Health's Hygiene regulations and, in the larger towns, development of bi-laws on sanitation service provision through the Public Health Departments. LAs are shareholders of CUs and mandate service provision to them, as per the WSS act No. 28 of 1997. Local Authorities, through Environmental Health Officers and Health Inspectors, are mandated to enforce and regulate the sanitation relevant laws related to the Public Health Act (Drainage and Latrine), Regulation 1994 (Amended 2006) related to collection, transportation and treatment of waste water. Local Authorities also have a mandate for other services that relate to the quality of the urban environment and therefore have a broader remit for sanitation that also includes solid waste management and storm-water drainage.

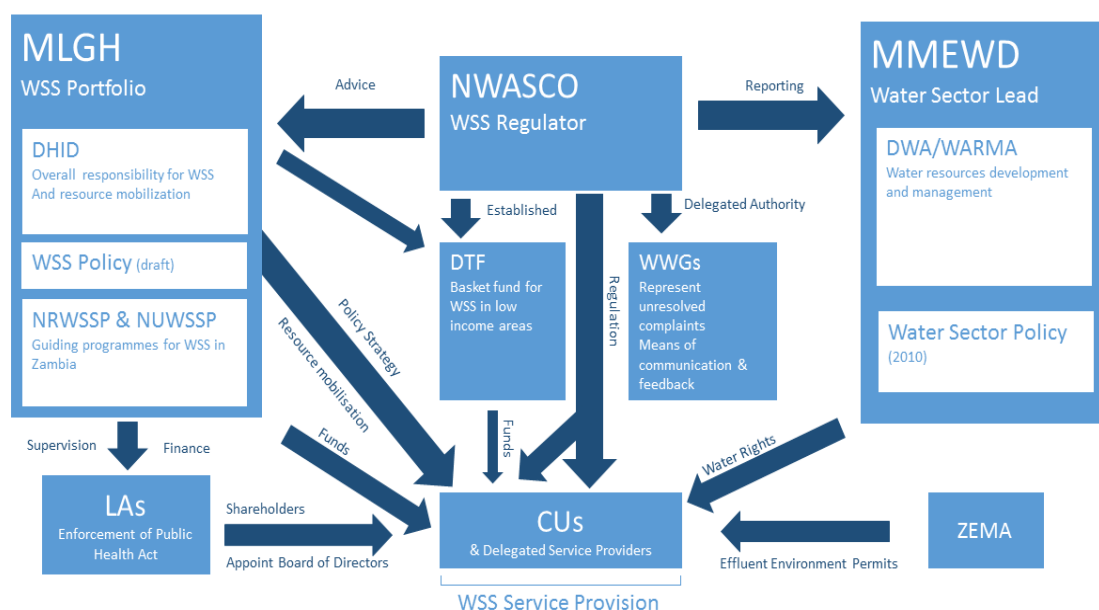


Figure 1.3 Existing institutional framework for the urban water supply and sanitation sector

Commercial Utilities (CUs)

The Water Supply and Sanitation Act (1997) empowers Local Authorities to form Commercial Utilities (CUs), which are water and sewerage companies under the Companies Act (1964) and its Amendment Cap 388. The CUs operate along commercial principles for the provision of water and sanitation services and have formed an association called Water Utility Association (WUA). There are currently eleven Commercial Water Utilities (see Figure 1.4). The “Sanitation Service Area”, under which the water and sewerage companies are mandated to provide services, is prescribed by the operators’ licence provided by NWASCO (National Water Supply and Sanitation Council).

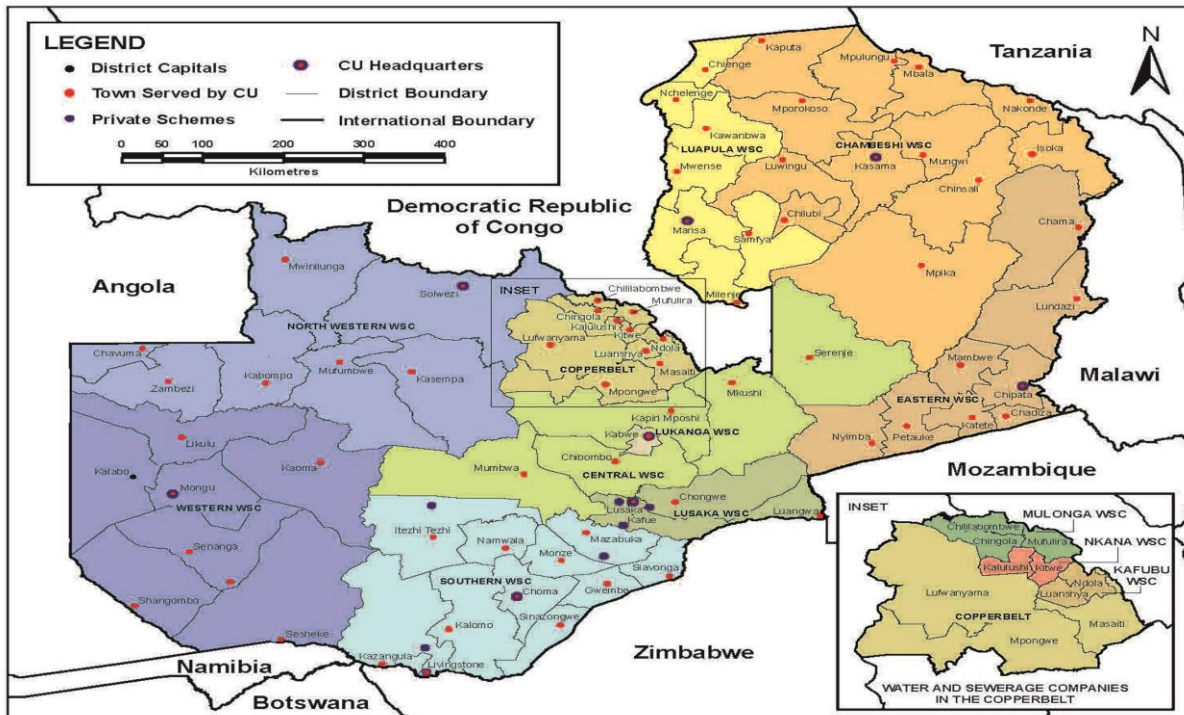


Figure 1.4 Existing Commercial Utilities in Zambia (Source: NUWSSP)

National Water Supply and Sanitation Council (NWASCO)

In principle 2, the National Water Policy 1994 states the need for separation of regulatory and executive functions within the water supply and sanitation sector. Under the Water Supply and Sanitation Act from 1997, the mandate of advising, licensing and regulation for sanitation services lies with NWASCO. NWASCO's functions are defined as: *"providing for the establishment, by local authorities, of water supply and sanitation utilities; providing for the efficient and sustainable supply of water and sanitation services under the general regulation of the body; and providing for matters connected or incidental to the foregoing"*. Thus, NWASCO regulates the CUs with the aim to improve delivery, efficiency and sustainability of water supply and sanitation services. As such it is responsible for defining and monitoring services with time-bound benchmarks to be adhered to by the licensed providers⁴ and preparing an annual review.

Other line Ministries and key stakeholders

Ministry of Energy and Water Development

Ministry of Energy and Water Development (MEWD) has the overall Water Sector lead. It is responsible for Water Resources Management and Development.

Ministry of Finance (MOF)

Ministry of Finance (MOF) manages the Government's budget and overall implementation monitoring. In the field of water and sanitation services, it supports infrastructure development

⁴ NWASCO Guidelines on Required Minimum Service Level (December 2000)

and other activities to promote improved sanitation and enhanced hygiene behaviour. There are a number of financing instruments through which sanitation improvements are funded. In addition to sector funding from MoF, sanitation improvements are currently funded through a number of financing channels and agencies, at central and regional levels as shown in Figure 1.3. Grants can be sought from GRZ, from international donors and NGOs and through the Devolution Trust Fund (DTF), which provides funds to CUs for sanitation services in peri-urban areas.

Ministry of Health (MoH)

Ministry of Health works in close collaboration with the Ministry of Local Government and Housing regarding public health aspects in urban areas (cities and municipal councils) and the promotion of improved sanitation and hygiene behaviours. Through the public health departments of the Local Authorities, MoH aims to uphold acceptable standards and general sanitary supervision and monitoring throughout the country in line with the Public Health Act, Cap 295 (enacted in 1930).

Ministry of Community Development

MCD focuses on the needs of woman and children, and other vulnerable or marginalized groups and promotes improved hygiene behaviours through community health workers and WASHE Committees.

Ministry of Education

MoE is responsible for Water, Sanitation and Health Education (WASHE) Programmes, which focus on improved sanitation in schools and the involvement of school children in hygiene promotion activities.

Zambia Environmental Management Agency (ZEMA)

ZEMA is responsible for applying the legal framework for the protection of the environment and the control of pollution. Under the *Environmental Management Act No 12* of 2011, ZEMA regulates discharges into the environment and promotes water pollution monitoring and prevention programmes based on enforceable water quality guidelines and standards.

Zambian Bureau of Standards (ZABS)

ZABS plays an important role in the provision of sanitation services defining the technical standards that must be utilized by the various actors in the sector to enable the installation of sanitation systems that provide affordable but good quality services. These standards are compiled in NWASCO's Guidelines on Required Minimum Service Level (NWS/G001/12-2000) which complements the standards approved by the ZABS for the water and sanitation sector.

1.4 Key constraints towards the development of the sanitation sub-sector

Key constraints hindering the development of the sanitation sub sector that need to be addressed by the NUSS are summarized below:

Institutional responsibilities for sanitation services

As described above, the institutional framework for water and sanitation service provision is well structured since the establishment of the Water and Sewerage Commercial Utilities (CUs) and the regulatory agency, National Water Supply and Sanitation Council (NWASCO) based on WSS Act 1997; but there is a weakness in the linkages and coordination amongst the institutions promoting/ financing and managing urban sanitation. As a result, the various Ministries involved tend to focus on their own sectoral programmes, which hinders the development of an integrated approach towards the planning, design and delivery of decentralized sanitation services.

Planning and prioritization at the local authority level

The limited resources available for planning and the lack of capacity for LAs combined with poor information systems are recognized as key limitations. There is a lack of effective co-ordination for urban sanitation planning, and Local Authorities need incentives and the capacity to be proactive in sanitation planning. To add to this, local level community structures are not effectively engaged in sanitation programming and delivery.

At the household level, there is often insufficient demand to invest in improved facilities and especially for paying for sewerage connections and ongoing tariffs. Lack of attention to hygiene communication is an issue, especially because there are no standardized approaches for sanitation / hygiene promotion specifically for the urban sanitation sub-sector.

Insufficient focus on sanitation and too much emphasis on reticulated sewerage

CUs business plans are primarily focused on sewerage coverage extension. With the current tariffs and the cost of operating and maintaining the water supply systems, there are insufficient resources for sanitation systems and much of the asset base is deteriorating and in need for rehabilitation. Existing wastewater treatment plants are not performing well.

Financing and cost recovery

Sanitation improvements are currently funded through a number of financing channels and agencies at central and regional levels, but this has led to a lack of coordination between project funders and implementers, and limited investments in less prioritised areas. Although, collection efficiency of bills has improved in recent years to an average of 88% in 2013 (NWASCO 2013 sector report), only five out of the eleven Commercial Utilities are able to recover their operations and maintenance costs (excluding asset rehabilitation and financial charges) through user charges.

The sanitation sector in Zambia has been historically under-funded in terms of capital investments, large maintenance and operating expenditure. Although efforts have been made in recent years to improve the performance of Commercial Utilities and increase tariffs, revenues are still insufficient to recover operations and maintenance costs for most CU's, let alone asset rehabilitation.

Investments in smaller scale infrastructure and on-site facilities are limited

Lack of capital and access to financial services is a key constraint for investments to improve access in low-income and peri-urban areas. For household level sanitation facilities, there is

limited leveraging of household funding and only some of the Commercial Utilities collect a sanitation surcharge on water bills to utilise the revenue effectively to finance sanitation projects in low-income areas.⁵

Current condition and operational performance of wastewater assets

Conventional sewerage is an expensive means to provide services and many households, especially in peri-urban areas cannot afford the connection fee or the ongoing service charges. There is a lack of systems for Faecal Sludge Management (FSM) and many existing arrangements are not adequately formalized. There are very few sites for treatment of faecal sludge.

Management models for delivery of decentralised sanitation services

There are an increasing number of service delivery models adopted in different projects. Notably, projects are those funded by the Devolution Trust Fund (DTF), the African Development Bank (AfDB) and those implemented by various NGOs such as CARE, WSUP and BORDA. The Water Trust model is the main institutionalised approach for delegated management from the CUs involved in improving water services in peri-urban areas, and in Kanyama, this has been extended to provide sanitation services.

Monitoring and regulatory mechanisms

NWASCO's mandate for monitoring sanitation services has not been fully implemented because the regulatory system is primarily focused on sewer services. Enforcement of the Public Health Act for installation of sanitation facilities and relevant by-laws is not proving to be effective in low-income areas. NWASCO has a comprehensive database on the operations of CUs. However, querying the database to generate key management information is still problematic. Lack of consistency between NWASCO indicators and service levels as defined by NUWSSP is also an issue.

⁵ Lusaka WSC, Mulonga WSC and Nkana WSC (NWASCO WSS Sector Report 2013, p.22).

PART 2 Strategic objectives and framework for implementation

2.1 Goal and objectives

The NUSS provides a framework for financing and implementing the sanitation component of the National Urban Water Supply and Sanitation Programme (NUWSSP 2011-2030) in order to ensure improved health and economic well-being of all Zambian citizens in a sustainable and equitable manner. As at 2014, national urban sanitation coverage stood at 60.7% (NWASCO *Urban and Peri-Urban Water Supply and Sanitation Sector report 2014*). The Ministry is developing an Open Defecation Free Zambia strategy with a target of attaining ODF by the year 2020. The Urban Sanitation Strategy and the ODF Strategy describe the key measures to end open defecation and promote universal access to sanitation.

In line with the NUWSSP, the implementation of the National Urban Sanitation Strategy aims to “**provide adequate, safe and cost-effective sanitation services to 90 percent of the urban population by 2030**”.

In order to achieve this goal, the following specific objectives have been set:

- Improve access to *adequate* and *safe* sanitation (see Box 2);
- Manage sanitation facilities so as to reduce the incidence of water and vector-borne diseases and parasitic infestations;
- Promote improved hygiene practices (including menstrual hygiene management); and
- Mitigate environmental degradation, through safe disposal of wastewater and sludge.

To achieve these objectives, it is necessary to address the following overall action areas:

- Governance and institutional capacities at national, local and community levels;
- Legal and regulatory frameworks;
- Mainstreaming of cross-cutting issues.

2.2 Scope

In terms of sanitation facilities and infrastructure for management of liquid wastes and sludge, the strategy focuses on:

- *Residential properties* – both privately owned and rented accommodation.
- *Institutional building* such as markets, schools, hospitals and health facilities.
- *Public places* including shops, restaurants, train/bus stations, markets etc., and
- *Commercial premises*, factories and other places of work.

The development of sanitation infrastructure is an integral part of urban development that needs to be planned in response to population and settlement growth, housing needs and service requirements such as water supply and drainage and solid waste management. Consequently, sanitation planning needs to be undertaken in conjunction with integrated development planning which sets the framework for land use (allocation and development) and the identification of programmes and projects in all sectors that will guide and enhance sustainable development and improved standards of living in these developments.

Successful implementation of the strategy also depends upon developments in other areas of municipal management – notably solid waste management and (storm water) drainage.

- i) *Solid waste management* - Improvements to solid waste management are required to ensure that sanitation systems do not get blocked with solid waste. Service providers providing solid waste collection are well positioned to expand their businesses to incorporate faecal sludge collection and transportation.

- ii) *Drainage development* - Areas that are prone to flooding require improved drainage to ensure that sanitation systems are not flooded. Sewerage systems are also used for drainage of grey water and other types of wastewater.

Sanitation is a municipal mandate which incorporates solid waste and drainage as well as excreta management. However, solid waste management and drainage development are not included in the NUSS. They shall be covered under separate strategy documents (refer to Chapters 6 and 7 of the NUWSSP).

As detailed below in Table 2.1, the NUSS has strong linkages to a number of other sectors – both those related to a) social sectors for community development, health, education and a gender balanced social development process and b) the management of the natural and physical environment in relation to resource management and disaster risk mitigation.

Table 2.1 Intersectoral linkages

	Linkage	Activity	Governmental body responsible for implementation
Health	Improved sanitation is widely recognized to form a cornerstone of individual and family health by cutting the transmission of a host of diseases that infect humans, causing diarrhoea, intestinal nematode infections, lymphatic filariasis, trachoma and schistosomiasis, among others.	The health sector has an important role to play in promoting sanitation. Creating demand and changing behaviours are both areas where the health sector has a strong track record and recognized comparative advantage.	Ministry of Health
Community development	Sanitation is integral to community development as it provides the basis for social and economic benefits.	Community engagement during planning, implementation and maintenance is core to the success of the strategy	Ministry of Community Development
Education	Improved sanitation facilities at schools leads to better attendance at school (particularly for girls) and reduced diarrhoeal diseases result in better health and improved intellectual ability.	Working closely with the MoE to ensure that all schools have adequate sanitation and promote improved hygiene behavior.	Ministry of Education
Gender	Gender plays a key role in the design of sanitation projects and technologies need to adequately cater for the respective needs of men and women. Women are key agents in hygiene behavioral change, childcare and are often responsible for preparing food and family health.	During all part of the strategy implementation, women will play a key role in decision-making about making investments to improve household facilities and in promoting improved hygiene behaviors.	Ministry of Gender/Ministry of Community Development
Environmental management	Wastewater and faecal sludge contain water, carbon and nutrients which provide valuable sources of resources that can be recovered and reused.	Sanitation systems need to be planned, designed and implemented to ensure that the quality of the environment is preserved and improved.	Ministry of Lands, Natural Resources and Environmental Protection/(ZEMA)

2.3 Components of the strategy

The NUSS is structured into eight components addressing the most relevant aspects of urban sanitation. In line with the implementation matrix (Annex 1), the document defines objectives, sub objectives, outcomes and activities to overcome challenges in these eight areas of action in chapter 3.

Component 1: Advocacy, awareness raising and strengthening institutional framework

To raise awareness for increased sanitation coverage and service levels in urban and peri-urban areas.

Component 2: Preparation of urban and peri-urban sanitation plans and prioritization of sanitation investments

To enable local government to realize their lead role in the preparation of Urban Sanitation Plans with increased participation from civil society and private sector actors.

Component 3: Sanitation-market development, improvement of sanitation facilities and hygiene behaviour

To ensure equitable and sustainable access to better sanitation facilities in private, communal, public and institutional buildings while enhancing hygiene behavior.

Component 4: Strengthening of Commercial Utilities on sanitation service chains, incl. FSM

To upgrade sewerage systems and service quality in already covered areas, extend sewerage services into expanded and newly developed urban areas, provide treatment facilities for wastewater and faecal sludge treatment and ensure that assets are sustainably managed.

Component 5 Development of delegated management models.

To ensure that Commercial Utilities take on board wider responsibilities for sanitation service provision and promote delegated management models to improve service delivery for on-site sanitation facilities and decentralised wastewater infrastructure.

Component 6: Financing sanitation improvements and ensuring cost recovery.

To ensure that sanitation services are affordable for all households and that pricing structures ensure cost recovery of sanitation services to achieve financial sustainability.

Component 7: Monitoring, regulation and enforcement.

To apply harmonized monitoring, regulation and enforcement tools to support implementation of the strategy.

Component 8 Capacity building

To enhance organisations' capacities and staff skills and expertise to effectively plan, implement and efficiently manage sanitation systems in a gender sensitive manner.

2.4 Roles and responsibilities for strategy implementation

In addition to responsibilities lined out in chapter 1.4, the proposed roles of key stakeholders in relation to the implementation of the National Urban Sanitation Strategy are described below:

Ministry of Local Government and Housing (MLGH)

MLGH holds overall responsibility for implementation of the strategy, working with key partners (other Ministries, donors and NGOs) through a high level technical committee to provide support and promote institutional co-ordination. Specific responsibilities for strategy implementation:

- Overall responsibility for implementation of the NUSS, guidance and coordination for implementation.
- Lead on strategic budgeting to ensure harmonization and sharing of financial information related to beneficiary institutions.
- Facilitate support and funding to Local Authorities to assist with the preparation for urban sanitation plans.
- Development of a national action plan for sanitation advocacy/promotion and market strengthening.
- Monitoring and reporting on sanitation sector development and NUSS implementation.

Local Authorities

- Carry out the mandate for sanitation and assure the lead in the sanitation planning process in partnership with the Commercial Utilities based on overall urban planning documents.
- Establishment of sanitation task forces to represent local stakeholder interests in decision making.
- Liaising with community based organisations.
- Strengthening the enforcement of the Public Health Act and relevant by-laws.

Commercial Water Utilities

- Prepare investment planning and designs for WSS infrastructure development.
- Provide effective, efficient and affordable sewerage / wastewater services and propose appropriate tariffs to the regulator.
- Develop service provision in non-sewered areas.
- Collect data from small-scale service providers and delegated management operators.
- Take responsibility for managing information database so that local authorities can also utilise the data to support sanitation planning and enforcement of Public Health Act.

National Water Supply and Sanitation Council (NWASCO)

- Define sanitation service levels and standards (in accordance with MLGH).
- Provide guidance to support service delivery enhancements, including tariffs for onsite sanitation provision.

- Develop regulatory instruments, benchmarks and monitoring scheme for on-site sanitation service providers.
- Reporting on on-site and off-site service coverage.
- Collect data from the CUs and submit selected information to MLGH for the preparation of an annual statement on progress of NUSS implementation.

Roles of other Government Agencies

Ministry of Health - Implement legal framework in relation to all public health aspects of strategy (along the sanitation chain) and develop guidance for risk mitigation through sanitation safety planning.

Ministry of Community Development (MCD) to support the LAs and CUs identifying vulnerable and marginalized groups and promote improved hygiene behaviours through community health workers and WASHE Committees.

Ministry of Education (MoE) will work with MLGH to ensure that sanitary facilities and hygiene education is available in all schools.

Ministry of Commerce, Trade and Industry (MCTI) supports the private sector development through the Zambia Development Agency and development of appropriate standards by the Zambian Bureau of Standards (ZABS).

Coordination Mechanisms

In order to ensure effective coordination at national, regional and local level (District, Municipal and City Councils), structured coordination mechanisms at each level are required. Formation of regional task forces to work with CUs and LAs is necessary. These task forces will be required to co-ordinate strategy implementation and communication with stakeholders. Quarterly progress reports and a bi-annual meeting to review and plan activities shall facilitate that all relevant partners interact for effective co-ordination.

2.5 Guiding principles for strategy implementation

1. Equitable access to adequate and safe sanitation is a basic human need

Implementation of the strategy should meet the needs of all communities in urban and peri-urban areas including low-income and informal settlements. Specific attention is required for the needs of women and children. The design of sanitation facilities must be user friendly and take into account the needs of vulnerable groups such as the people with physical disabilities.

2. Adequate household sanitation facilities is a household responsibility

Due to individual household nature and the differing social, economic and cultural requirements, household sanitation facilities are a responsibility of the household but will be guided by nationally established standards that take into account the specific local socio-economic and environmental conditions.

3. Mainstreaming cross cutting issues

Various cross cutting issues affect the utilisation of sanitation services and the resultant benefits that the use of these services brings to the users. These relate to social and community

development as adequate sanitation is fundamental for education, nutrition, prevention of stunting in children, poverty alleviation and gender balanced social development.

4. *Environmental sustainability*

The environment and sanitation services are interlinked as poor sanitation pollutes the environment which in turn can pollute water bodies/resources. Therefore, all sanitation systems should be developed and implemented with the full sanitation chain in mind with a view towards safe treatment and disposal of effluents. Wherever feasible and economically viable, reuse and resource recovery should be core elements of urban sanitation projects which should be developed in line with principles of Integrated Water Resource Management (IWRM).

5. *Incremental approach toward implementation according to the availability of resources*

Within the context of limited resource availability and equitable access to sanitation services, the strategy upholds the principle of “some for all rather than more for some” in line with the New Delhi 1990 Statement (IELRC, 1990). The strategy promotes a stepwise approach towards improving sanitation services which encourages implementing agencies to use resources equitably and in a cost-effective manner. This does not detract away from higher level goals but it means that resources are distributed to a wider number of projects that provide benefits to the maximum number of people.

6. *Affordability and financial viability of sanitation services*

Sanitation systems should aim for sustainable cost recovery from user charges in line with Principle 4 of the Water Policy (2010) to cover operation and maintenance costs and, in the long run, capital recovery. Consumers should pay for services rendered, but it is the responsibility of the designated service provider to ensure that sanitation services are cost effective and affordable for all users.

Therefore, the following two principles are upheld by the strategy:

- i) *Sustainable financing of the life-cycle costs of services.* The delivery of sustainable sanitation services requires that financial instruments are in place to ensure the operation of services and the maintenance of infrastructures and replacement at the end of their useful life. Financing instruments need to be identified to finance the entire life-cycle of assets, i.e. to cover the costs of what is needed to build, sustain, repair and renew a sanitation system throughout its cycle of use.
- ii) *Cost recovery from user charges.* Principle 4 of the Water Policy (2010), states that user charges have to be set so as to achieve full cost recovery for sanitation services (operation, maintenance and capital recovery) in the long run. But in the short-medium term, it will be difficult to finance asset rehabilitation and extension through user charges.

2.6 Framework for improving access to adequate sanitation

Figure 2.1 illustrates the various dimensions of the strategy that are required to improve access to adequate sanitation. These interventions provide an integrated framework for environmental health improvements. The diagram illustrates the need for complementary interventions in the private (household level facilities) and public domains (public infrastructure and communal facilities), and underlines the importance of hygiene promotion, community mobilisation and strengthening of local level service delivery arrangements.

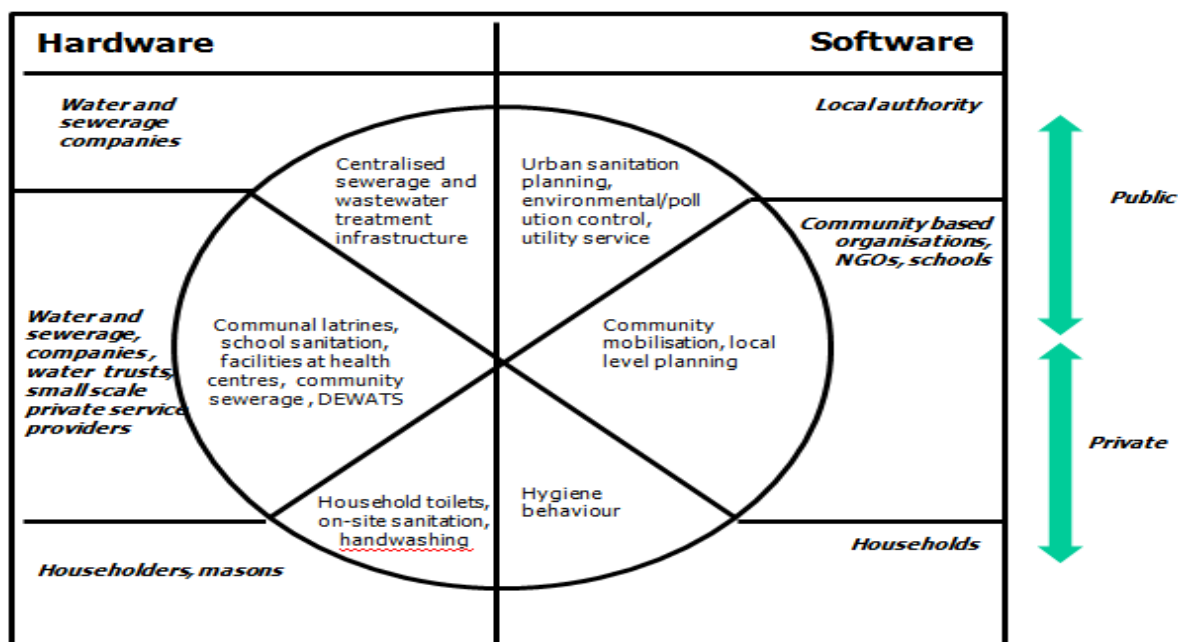


Figure 2.1 Integrated framework for improving sanitation across the value chain

Integrated approach to water supply, sanitation and hygiene promotion

Water, sanitation and health are closely inter-related and therefore socio-economic benefits can best be optimised by an integrated approach to water supply, sanitation and hygiene promotion. Awareness and behaviour change campaign is therefore essential for achieving sustainable improvements and should complement investments in sanitation infrastructure.

There is also a need for an integrated approach to water and sanitation, drainage and solid waste. Without investments to improve city / municipal-level services, improvements at the local level may be compromised by ineffective offsite waste management systems. These interventions are not necessarily discrete.

2.7 Improving access to adequate sanitation

The strategy is based on the requirement that all new developments demand for some form of *adequate* sanitation. For those households that currently have either no or inadequate sanitation, the strategy is based on a steady upgrade to the various forms of adequate sanitation.

Households are responsible for investing in their own household-level sanitation facilities. This includes construction of latrines or toilets, internal piping, connections to sewerage network and septic tanks. However, as described in Box 3, the strategy includes various mechanisms to assist less affluent households access the support to upgrade their facilities.

Different service delivery options are available for service level enhancement. They are presented in Table 2.2. These options are ranked according to the service level they provide (option 1 providing the best level of sanitation). The service models are based on technological solutions that require different levels of investment and operational costs. In principle it can be said the better the service level, the higher the costs. Hence, the choice of combining the *service delivery options* targets (ration between the options) has important consequences on overall costs, especially on user investment costs. The NUWSSP proposes a mix of *service delivery options* targets, with 55% of urban population covered with conventional sewerage by 2030. The resulting total cost is high given the current level of funding from both public and household/private sources.

Hence, the strategy proposes, two *service delivery options* cost scenarios for the service delivery mix proposed by the NUWSSP and a low income oriented scenario.

2.8 Upgrading the sanitation service delivery chain

The strategy proposes a set of recommended technological improvements for different parts of the sanitation chain to support improved sanitation service delivery. Various permutations are possible but four predominant sanitation systems are considered appropriate for the majority of situations in urban and peri-urban areas – see Table 2.3. Within each system, there are various technological options for achieving optimal environmental and service sustainability. A more detailed description of these options can be found in Annex 2. With this aim, the strategy encourages ongoing research, development and implementation as a part of ongoing optimisation of service delivery.

Table 2.2 Service delivery options for sanitation system upgrade

Service delivery options		Household facility	Waste collection and Transportation	Waste treatment
1	Conventional wastewater system	Full flush WC	Conventional sewerage	Centralised wastewater treatment
2	Decentralised sewerage connected to DEWATS	Low-flush toilet	Simplified sewerage (includes small-bore and solids free sewerage)	Simplified sewerage connected to decentralised wastewater treatment or to a conventional sewerage system
3	Onsite sanitation (pour flush)	Pour flush toilet connected to individual low-cost septic tank or a shared/communal septic tank and a full flush WC connected to high-cost septic tank).	Either individual, low cost septic tanks with desludging or shared septic tank	Sludge from septic tanks removed and treated at centralised facility
4	Onsite sanitation (dry toilet)	Improved dry pit latrine (include Ventilated Improved Pit latrine (VIP), Urine-diverting dry toilet (UDDT) or compost latrine.	Faecal management sludge	Faecal sludge treatment meeting ZEMA standards

Selection of appropriate technological solutions

The strategy is not prescriptive about which technologies to be used in specific circumstances. Appropriate and affordable solutions should be defined by a local decision making process led by the CU working in partnership with the Local Authority as part of the sanitation planning process (see Section 2.9). Technological choices will be oriented at efficient and cost effective provision of services. Therefore investment choices for the differing service cluster areas and conditions will be based on appropriate cost-benefit analyses and guidelines. Thus, the decision-making process should take into account the relative cost of these different options (using a life cycle costing model) in relation to affordability and willingness to pay.

2.9 Preparation of urban sanitation improvement plans

Planning forms an integral part of the service delivery cycle in which the projected outcome/objectives determine the prioritisation of improvements and the design of projects to meet the identified needs.

This process will then lead toward recommendations for funding from national finances to support the implementation of these plans via various financing instruments (see Section 2.11), based on nation-wide agreed criteria.

Detail guidelines and key elements in the planning process include shall be developed under the implementation matrix.

2.10 Management arrangements

The strategy embraces a service delivery perspective in which management arrangements and financing instruments are cardinal for the achievement of sustained sanitation improvements as well as infrastructure development and technological upgrade.

The Water and Sewerage Companies have the primary responsibility for sanitation service provision and (public) asset management. However, the strategy encourages CUs and LAs to consider the participation of community-based, non-governmental and private sector organizations in service delivery, so as to bring in additional capacity and financing in the sector. Subject to agreement with the Local Authority, the Commercial Utilities may adopt an alternative management arrangement by delegating certain tasks for sanitation service delivery to a public and private sector company. The delegated service provider may engage small scale service providers (formal or informal sector) to be performing designated tasks such as pit emptying or sewer cleaning. This approach is particularly appropriate for peri-urban areas and small towns where there is no immediate plan for sewerage expansion. As shown below in Figure 2.2 and in more detail in Figures 2.3, 2.4 and 2.5, there are various management models that may be adopted. The delegated management models are deemed to be more appropriate for peri-urban areas. These are described below in relation to options for sanitation system upgrade presented in Table 2.2.

Model 1 - is most appropriate for conventional sewerage (Option 1) and for formal areas where the Commercial Utility is responsible for all aspects of service provision.

Model 2 - suitable for Service Delivery Option 3: Onsite sanitation (pour flush) or Option 4: dry toilets with desludging.

Model 3 - suitable for Option 2: decentralised sewerage connected to DEWATS, Option 3: Onsite sanitation (pour flush) or Option 4: On-site sanitation (dry toilet).

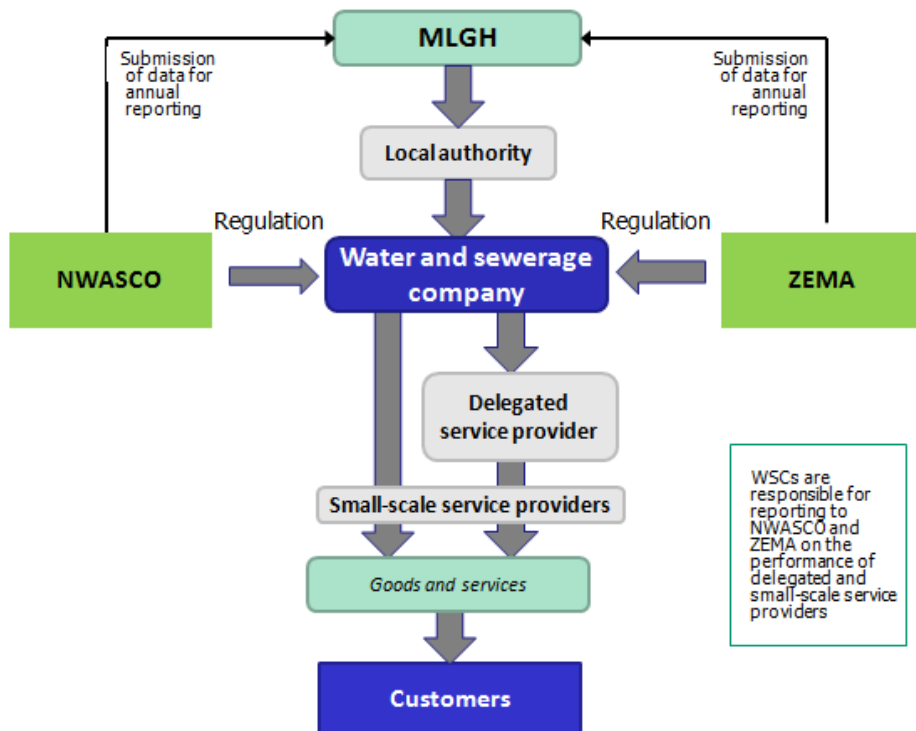


Figure 2.2 Institutional framework for service delivery

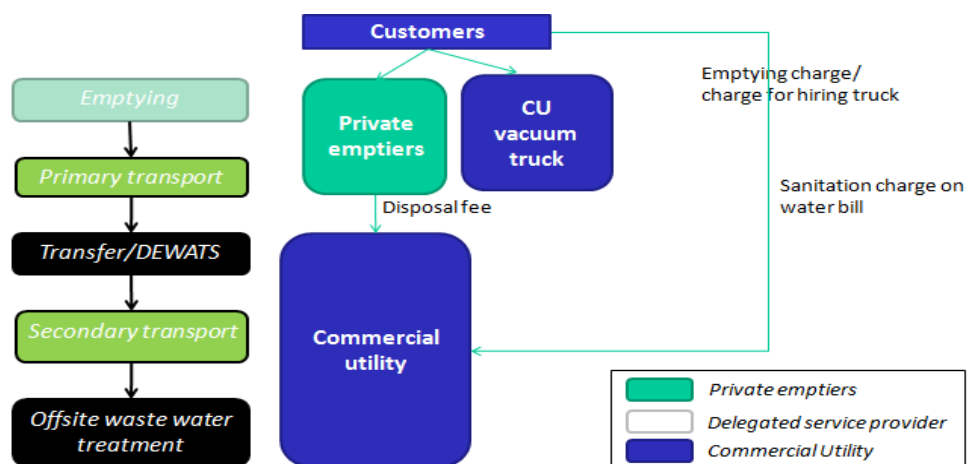


Figure 2.3 Model 1: CU integrated management

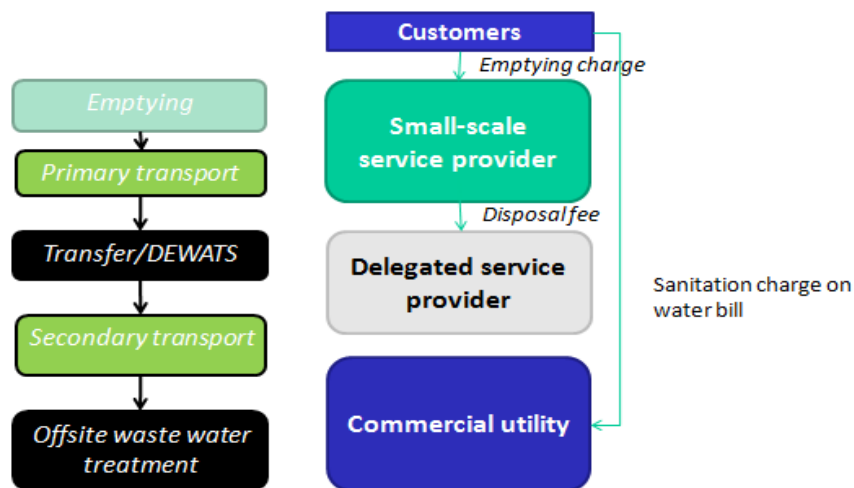


Figure 2.4 Model 2: Semi-delegated management

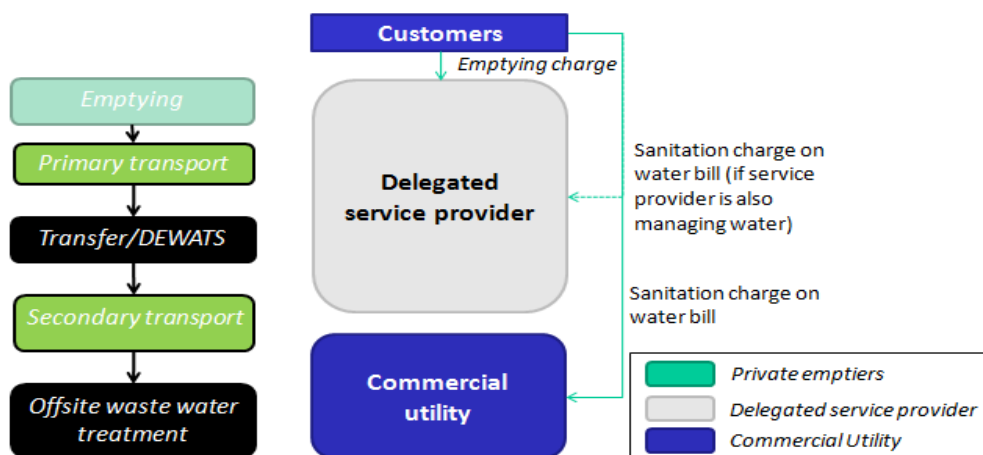


Figure 2.5 Model 3: Full- delegated management

2.11 Financing the implementation of the strategy

2.11.1 Cost of implementing the strategy

The strategy proposes two scenarios applying different mixes of targets for each service delivery options. Both scenarios are modelled taking into consideration the aim of the 2030 vision “90% of the urban population has access to adequate, safe and cost effective sanitation services by 2030.” The two scenarios were developed, because the financial modelling revealed that the NUWSSP scenario creates huge costs for the public and users, as it is based on an ambitious target of 55% of urban population covered with conventional sewerage by 2030. A service delivery mix prioritizing more affordable options would have more positive health and socio-economic impacts for a large proportion of urban Zambians and is more affordable. The two scenarios shall assist decision makers to understand the financial implications when deciding on a mix of service delivery options, as well as their impacts on the effectiveness and efficiency of public funding.

- The **NUWSSP or status quo scenario**⁶ builds on the service delivery mix proposed in the NUWSSP. Coverage increase is proposed through massive expansion of conventional sewer systems. It assumes that by 2030, 55% of urban Zambians will have access to conventional sewerage systems, 5% to simplified sewerage systems connected to decentralized waste water treatment, 5% to pour flush toilets connected to septic tanks, 25% to dry onsite toilets and 10% to unimproved dry onsite toilets and/or shared toilets.
- In contrast the “**low cost scenario**” proposes to improve coverage by increasing the proportion of simplified sewerage systems and improved dry-onsite toilets. This aims to answer to the growth of peri-urban areas. It assumes that by 2030 44% of urban Zambians will have access to improved dry onsite toilets (with appropriate Faecal Sludge Management services), 20 % to conventional sewerage systems, 18% to simplified sewerage systems connected to decentralized waste water treatment, 18% with pour flush connected to septic tanks and 10% to unimproved dry onsite toilets and/or shared toilets by 2030. The majority of coverage growth responds to physical and socio economic characteristics of low income areas.

The figure 2.6 below shows the projection for the service delivery mix for both scenarios for the period 2015 - 2030.

⁶ Based on the “Zambian Urban Water Supply and Sanitation Model” developed in the frame of the NUWSSP in 2009

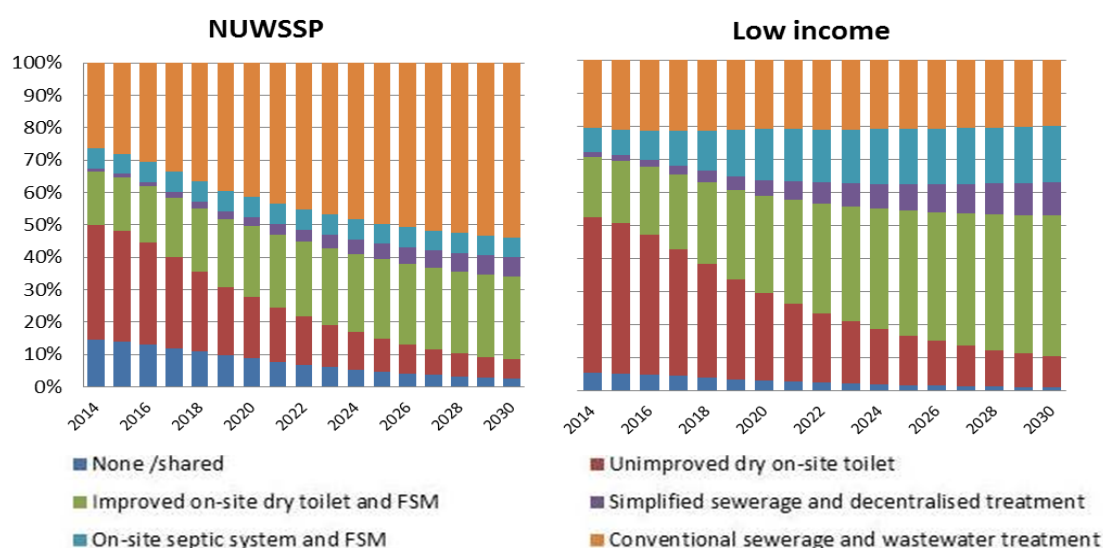


Figure 2.6 Projections of service delivery mix for both scenarios

In table 2.3 below, the advantages and disadvantages of both scenarios are summarized:

Table 2.3 Advantages and disadvantages for NUWSSP and the Low-cost-scenario

Scenario	NUWSSP scenario	Low cost scenario
Advantage	Provides a higher level of service	- Incremental improvement in sanitation service level with broad service delivery mix - Less expensive
Disadvantage	- Requires important investment and O&M costs for both users and service providers - More expensive	Provides a lower level of service

The strategy's implementation costs are divided into two categories, infrastructure & O&M, and strategy implementation costs:

- A.1 The **construction and rehabilitation of the infrastructure and equipment** required to extend access to adequate sanitation to 90% of the population in 2030. This also includes the recurrent costs of large maintenance for the new assets built.
- A.2 The recurrent **operation and maintenance costs** required to deliver sanitation services to the adequate service level.
- B. The **implementation costs of the strategy**. These are based on the NUWSSP and include expenditure on: capacity building, communication, planning, NUWSSP management, regulation of sanitation, Information Management, research and education

Costs are further categorized according to the stakeholder group that will most likely bear them:

- **Users** cover costs of getting access to a sanitation facility (construction of a toilet with a pit or septic tank, connection to sewerage network etc.), as well as costs of operations and maintenance.
- **Service providers and implementers** (government at national and local levels) cover the costs of investing in transport and treatment equipment and infrastructure as well as the costs required to implement the strategy and conduct sanitation promotion.

For the period 2015 – 2030, implementing the NUWSSP scenario will cost a total of US\$ 5.8 billion, while the low income scenario will cost of US\$ 4.8 billion. For the period 2015 till end 2020 immediate implementation costs have been estimated at 29.6 million ZMW (3.84 million USD)⁷. A more detailed breakdown is provided in the Annex 1.

	NUWSSP scenario		Low cost scenario	
	Total in Million (USD)	Cost per beneficiary (USD)	Total in Million (USD)	Cost per beneficiary (USD)
Costs covered by services providers and implementing agencies (Capital investments for transport and treatment of waste water and FSM)				
New investments in transport and treatment	1,550.79	348.14	870.58	195.44
Transport and treatment assets rehabilitation	665.88	149.48	500.75	112.41
Sanitation Marketing and Hygiene promotion	19.52	4.38	19.25	4.32
NUSS implementation support costs*	46.40	10.42	46.40	10.42
Total costs for service providers and implementers	2,299.39	516.19	1,483.38	333.01
Costs covered by users				
Users investments on connections	1,977	443.80	1,101	247.23
Total OM cost of transport and treatment of waste	1,492	334.84	2,278	511.46
Total cost for users	3,468.12	778.56	3,379.59	758.69
TOTAL STRATEGY COST	5,759.33	1,292.92	4,862.97	1,091.70

* NUSS implementation support costs include: Capacity building, Communication, Planning, NUWSSP management, Regulation of Sanitation, Information Management, Research and Education.

⁷ converted on 28.07.15 exchange rate USD – ZMW (1 – 7.69)

Table 2.4 Total cost of the implementation of the NUSS

The figure 2.7 compares the annual long term investment costs for both scenarios in USD.

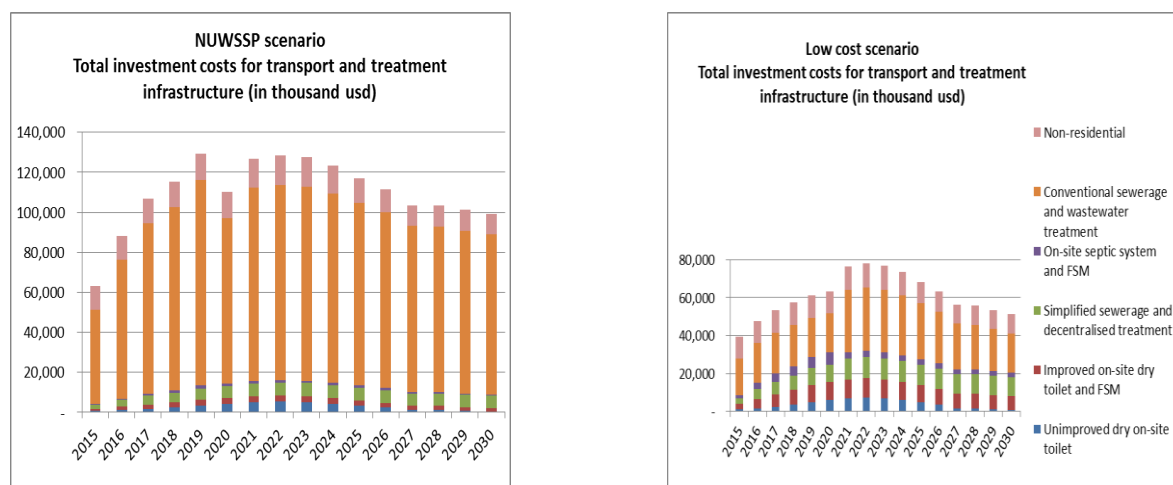


Figure 2.7 Total investment costs of sanitation transport and treatment infrastructure in thousand USD

Figure 2.8 below compares the total cost of the different service delivery options per household. It differentiates between the investment costs for treatment facilities, collection and transport and connection costs. It shows that providing access to conventional sewerage systems for each household is nearly two times more expensive than providing access to pour-flush toilets connected to septic tanks and to simplified sewerage systems.⁸

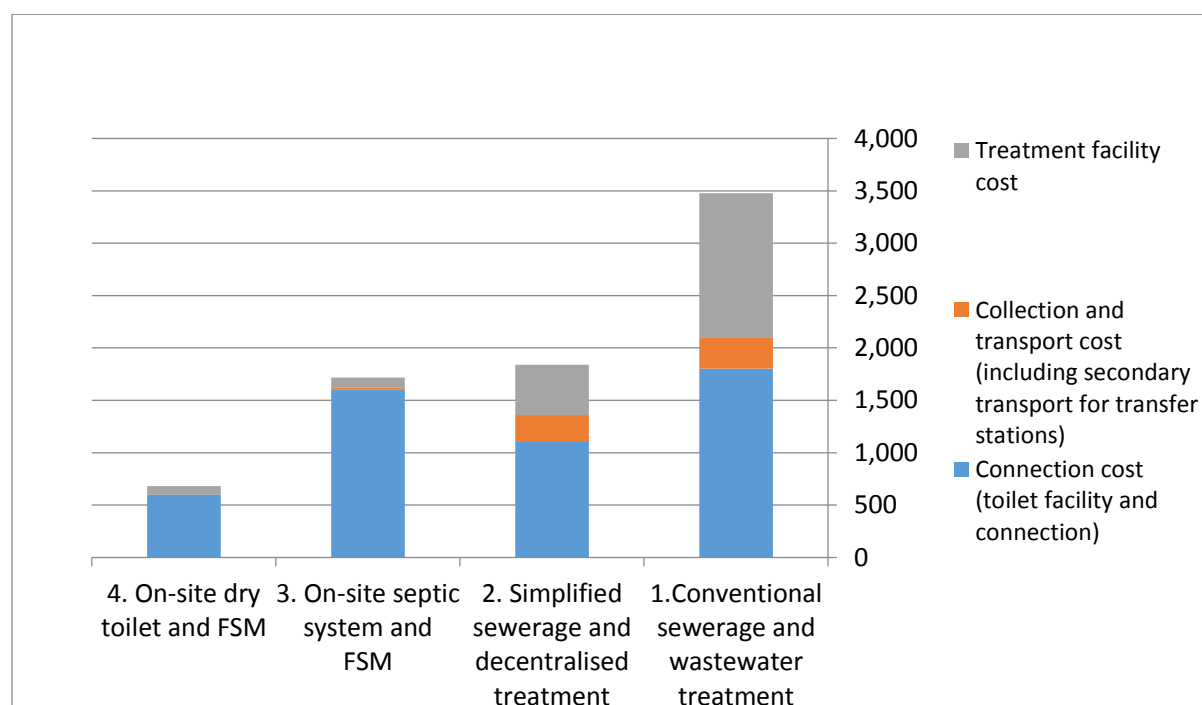


Figure 2.8 Investment cost per household for the four service delivery mixes in USD

⁸ These unit costs per household are based on the assumption that each facility is only used by one household.

2.11.2 Financing sources for implementing the strategy

Implementing the NUSS requires a significant increase in the amount of funding available for urban sanitation, so as to cover the costs of investments in hardware, sanitation and hygiene promotion, and capacity building activities for a range of actors at all levels.

GRZ needs to reform its financing arrangements in order to focus on performance and to attract more funding to the sector, and channel it to implementers in a more coordinated and structured manner. In order to help mobilise funding and increase funding towards sanitation, the strategy recommends establishing a dedicated funding scheme for a larger set of actors, including Commercial Utilities, Local Authorities, NGOs and private enterprises.

Sources of finance

The strategy aims to leverage additional funding from a wider range of financing sources as summarised in Tables 2.5 below including:

- i) Public sources including GRZ domestic transfers from tax revenues and international transfers from donors; and
- ii) Private sources from households and other users via user charges or investments in self-supply and private grants).

To bridge the financing gap, it will also be necessary to mobilize repayable financing in the form of microfinance, concessional loans and private equity.

Figure 2.9 summarises the financing instruments available to finance the investment and operation and maintenance (O&M) costs of sanitation service provision for the different types of actors as well as the support costs for the implementation of the strategy.

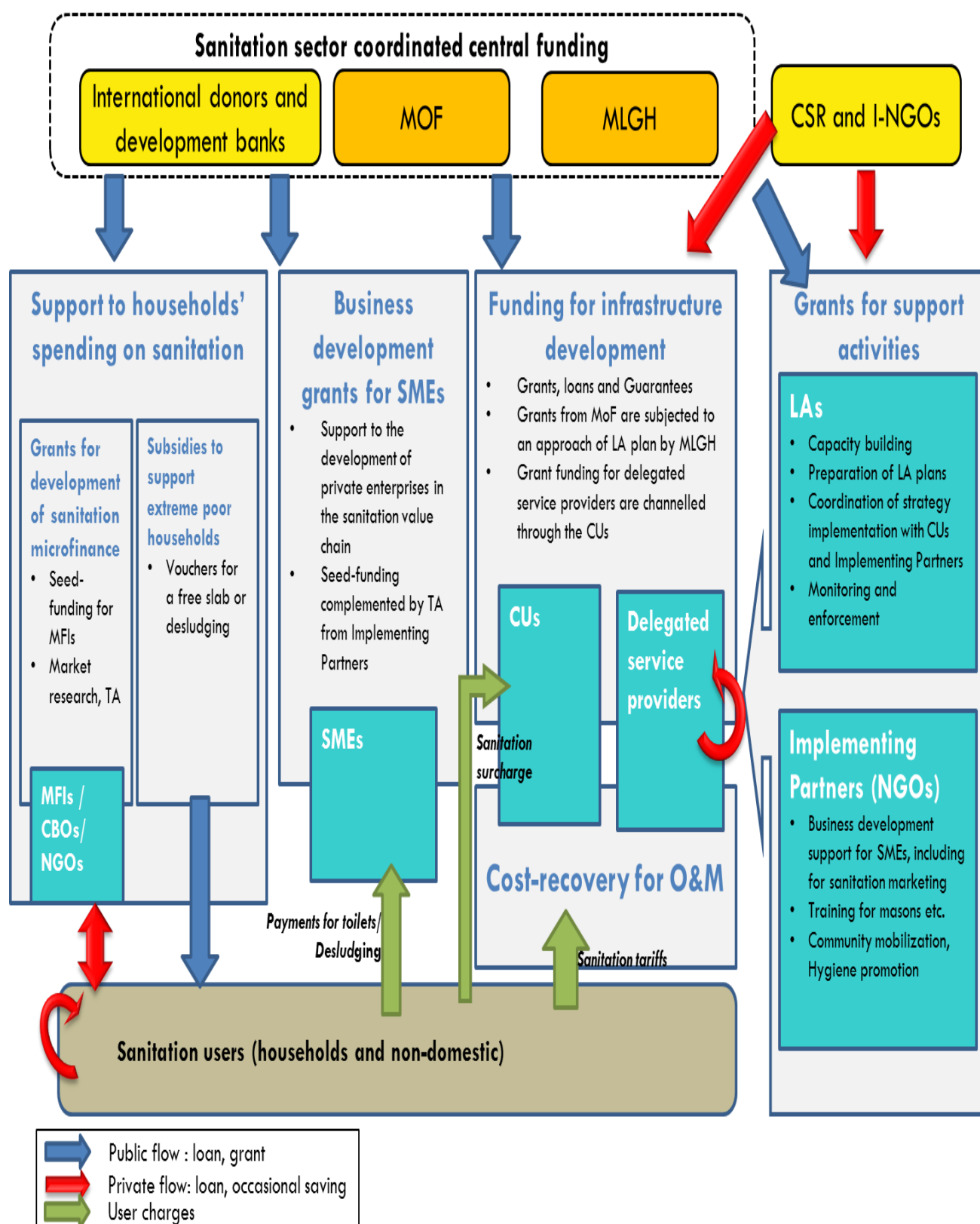


Figure 2.9 Summary of financing instruments available to finance sanitation

Recovering operation and maintenance costs of service provision through tariffs

The sustainability of sanitation service provision depends on the ability of CUs to recover the costs of operation of services and the maintenance of sanitation infrastructures. The CUs are required to charge for the use of sanitation facilities, so as to ensure that they support effective management and sustainable and equitable use of sanitation systems.

In line with Principle 4 of the Water Policy (2010), user charges have to be set to meet full cost recovery for water supply and sanitation services (operation, maintenance and capital costs recovery). However, the policy acknowledges that at short term, it will be difficult to finance asset rehabilitation and extension through user charges, and that thus this goal should be reached progressively.

To achieve cost recovery on O&M costs, there is a requirement to set a scale for sanitation tariffs so that people pay according to the volume of wastewater or estimated volume of fecal sludge they discharge (based on the number of person per household). The sanitation tariff should also depend on the type of customers (domestic, commercial/industrial, institutional) and their level of income. It could be set so as to recover only operation and maintenance costs for low income customers, but also to include asset rehabilitation expenditure for higher income customers.

Table 2.5 Current and recommended design for user charges collected by CUs.

Type of user charge	Current design (as set by NWASCO)	Design proposed by the strategy
Sewerage tariff	• This charge represents 20 to 40% of the water bill for users connected to the sewerage system • Commercial Utilities are expected to ring-fence 20 to 50% of this charge for capital investments for sewerage, but in practice, as it is not ring-fenced, it is often used to cover operation and maintenance costs related to water supply and sewerage services.	• The charge should be ring-fenced to cover at least operations and maintenance costs of sewage transport and treatment services in the short term. • In the longer term, it can be increased to cover asset rehabilitation and financial charges as well.
Sanitation tariff	• Not systematically applied at present by CUs – they only charge a fee to users using their emptying services and a dumping fee for emptiers at the entrance of their FS treatment plants.	• If Commercial Utilities are managing FS treatment (directly or indirectly through a delegated management arrangement), a new charge should be created for all users which are not connected to sewers, to finance FS treatment operational expenditure if CU gets involved in FSM. This could be charged on the water bill

Grants from GRZ and international donors

The NUSS requires allocating a larger proportion of the national budget to finance its implementation, including investments in hardware, sanitation and hygiene promotion, and capacity building activities for a range of actors at all levels.

The majority of capital investments made by Commercial Utilities need to be fully or partially subsidised. The investment in public infrastructure such as schools, hospitals or public toilets also needs to be entirely subsidised. In addition, low-income households also need to be supported to invest in sanitation facilities. To achieve this, the GRZ budget needs to be specifically increased for the sanitation sub-sector. A dedicated budget line for sanitation shall be maintained in order to monitor this allocation. An earmarked sanitation tax could also leverage additional public funding specifically for sanitation. Grants can also be received from international public and private donors (such as private foundations or corporates through their Corporate Social Responsibility schemes).

As non-reimbursable sources of finance will be limited, results-based finance (RBF) instruments, such as Output-based Aid (OBA) can be used to ensure that funding is used effectively. These targeted performance-based grants are disbursed to service providers after pre-identified outputs have been delivered and verified independently. This approach aims to provide grants in a way that motivates service providers to extend service coverage or improve service delivery levels for the urban poor. It can be applied along the sanitation service chain, for on-site as well as for offsite sanitation, and for all levels of the sanitation value chain. RBF requires that the service providers have the capacity to pre-finance the outputs.

Sanitation surcharge

A sanitation surcharge is currently collected by some Commercial Utilities from all users connected to the water network, as a percentage of their total water bill (between 2 and 3%).⁹ In comparison with the other sanitation user charges, this surcharge is not billed for a service which is directly provided to the user. Funds are ring-fenced for capital investments in low income and peri-urban areas, but are mainly used to finance sewerage network extensions.

Gradually, Commercial Utilities should all adopt a sanitation surcharge and use this revenue to finance capital investments on faecal sludge treatment infrastructure in low income and peri-urban areas.

Repayable sources of finance

It is important to diversify the source of finance for the sector so that it becomes less dependent on public funding.

Access to finance for service providers should be facilitated by providing them with concessional (soft) loans, with more favourable terms than what they could otherwise access in the commercial banking system. International development financial institutions or domestic banks may be approached by CUs to request a concessional loan. A national fund should be set up to facilitate access to concessional loans for CUs, by providing them with guarantees.

Private enterprises should also be encouraged to invest in the sector, especially by developing faecal sludge management and decentralised waste water treatment services. These are likely to be social enterprises with the potential to attract private equity investors or bringing in their own seed-funding. Dedicated schemes need to be developed to encourage private investments in FSM:

- Grant co-founding should be offered to private companies investing a minimal amount in the sector.

⁹ In 2013 only the three best performing Commercial Utilities (Lusaka WSC, Mulonga WSC and Nkana WSC) are collecting a sanitation surcharge and utilising them for sanitation projects. NWASCO encourages Commercial Utilities to do so when they are able to recover over 100% of operation and maintenance costs (NWASCO WSS Sector Report 2013, p.22).

- Tax incentives should be offered to these companies.

Table 2.6 summarizes the main sources of repayable and non-repayable finance proposed to bridge the financing gap.

Table 2.6: Instruments to finance sanitation

Financing instruments	Definition	Design proposed by the strategy
Non-repayable source of finance :		
• Domestic public grants	Public transfers from GRZ government agencies (central or local government) to WASH actors. These are derived from taxes or other sources of revenues of the government.	MOF creates a new tax with revenues earmarked to provide grants transferred for sanitation projects. This tax could be levied on water abstraction for instance.
• Grants from International donors	Funds from bilateral and multilateral donor can be provided either in the form of grants, concessionary loans (i.e. through the grant element included in a concessionary loan) – see table 2.7	Funding from different donors requires greater co-ordination
• Results based financing (ex-post grants)	Also referred to as “performance-based payment”, “results-based financing” is a funding approach where payments are only made after specified outcomes can be proven to have taken place.	Grants provided based on results achieved ex-post (i.e. once results have been verified) e.g. for on-site sanitation: payments could be based on a number of latrines built or a volume of FS treated, or for sewerage: payments could be based on a number of connections or a volume of waste water treated
• Corporate social responsibility	Philanthropic grants provided by large companies as part of their CSR initiatives to assess and take responsibility for the company's effects on the environment and impact on social welfare.	A dedicated programme to attract CSR Grants to finance social infrastructure projects.
• Sanitation surcharge	User charge collected from water consumers to finance capital investments for low income areas	Revenues from surcharge will be earmarked for financing Faecal sludge treatment facilities for low income areas
Repayable source of finance:		
• Concessional loans	Loans provided on concessionary lending terms, which may include a lower interest rate than the market rate, a longer repayment period or a grace period. These can be provided by public donors and multilateral agencies that come from other countries. They need to be repaid by borrowers.	Loans blended with grants or guarantees could be provided by donors to Commercial Utilities and private providers to leverage commercial repayable finance.
• Commercial loans	Loans extended by commercial banks or development finance agencies at commercial rates, i.e. interest rates that reflect market conditions. They need to be repaid by borrowers.	
• Private equity	Private equity investment is a form of finance in which private investors invest in a company, by purchasing shares.	A dedicated programme will be created to attract private equity to finance FSM and Dewats projects, through financial incentives.

Disbursement mechanisms

In order to help mobilise funding and increase funding towards sanitation, the strategy recommends establishing a dedicated funding scheme for sanitation. This fund would capture funding from a variety of sources (including international public transfers (grants and concessional loans), domestic grants from GRZ and private grants) and allocate such funding based on clear rules and priorities, preferably on a results-based financing basis.

Financing the NUSS implementation will therefore require a number of different portfolios, so as to earmark some funding for peri-urban and low income areas for instance, and funding to software support activities. Funding will be allocated to implementing bodies based on requests either from Local Authorities or Commercial Utilities or via specific funding opportunities for small sector private sector operators and NGOs. Requests from LAs or CUs should be based on the urban sanitation plan to ensure that financing is based on a coherent and strategic plan for improvements.

Figure 2.10 below represents the financing flows and channels required to finance sanitation improvements.

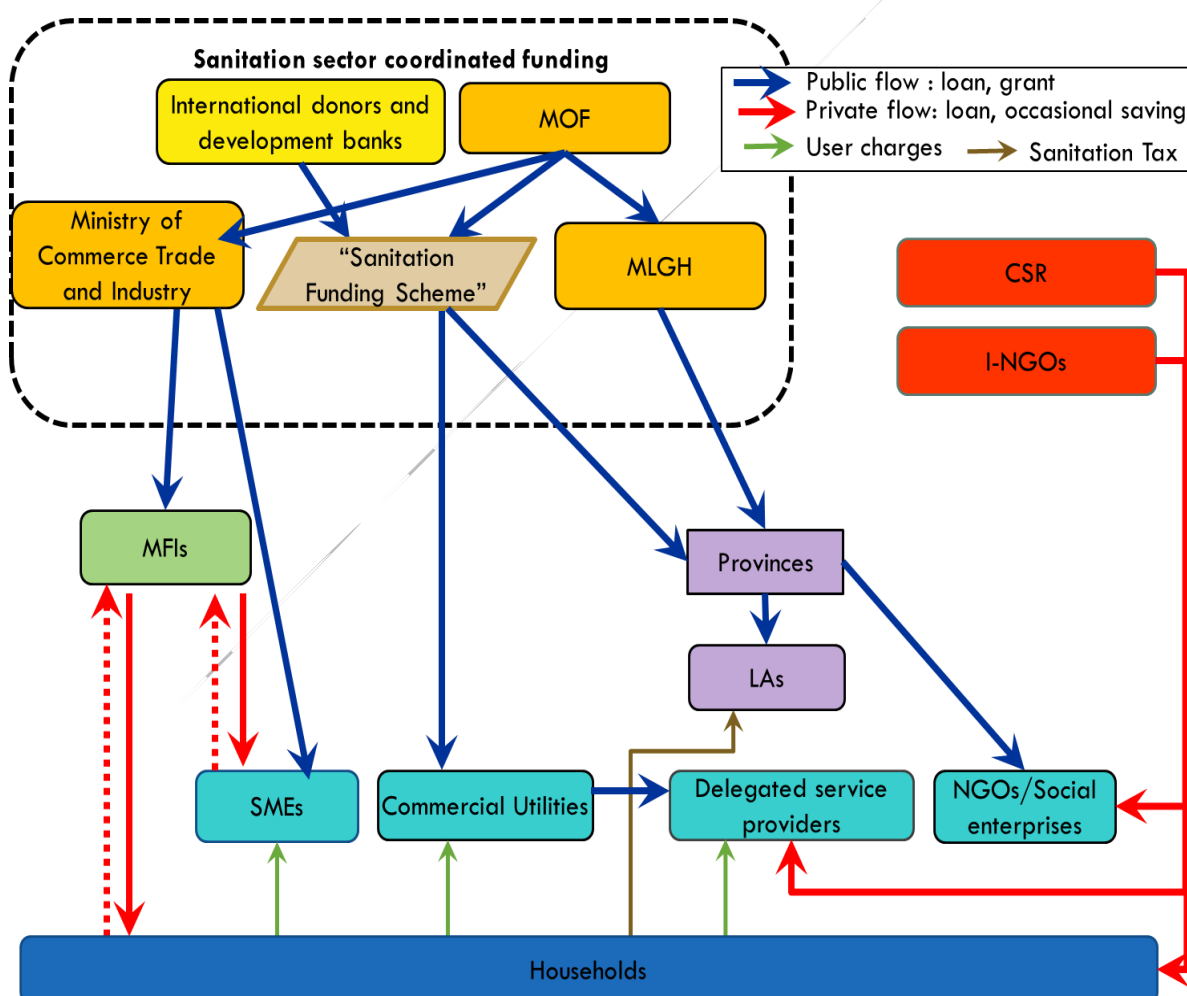


Figure 2.10 Financing channels for sanitation

2.12 Monitoring sanitation services and sector development

The strategy incorporates two levels of monitoring. At one level, there is the need to strengthen the monitoring of sanitation services provided by the Commercial Utilities and delegated service providers and at macro level there is a need to monitor progress in the implementation of the strategy and sanitation sector development. At both levels, there is a need to monitor improvement in relation to:

- a) *Customers* - In terms of user requirements, the key considerations are related to access to facilities, convenience of use and privacy; comfort, compatibility with cultural norms and level of hygiene (including smell).
- b) *The environment* - Users are not immediately concerned about the downstream impacts of poor sanitation facilities on the environment. However, local and national government authorities have the responsibility to maintain the quality of the natural watercourses in accordance with national policies.

The principle for effective monitoring adopted by the Strategy is to ensure that the data collected is seen to be of value at the level at which it is collected. Therefore, the data should directly benefit Local Authorities, Commercial Utilities and/or the delegated operators, allowing them to enhance their efficiency and quality of the planning and implementation processes.

Monitoring sanitation services

NWASCO's service indicators fall into the following two categories:

- 1) ***Technical indicators*** : those related to infrastructure development for wastewater collection and treatment, which require further development to cover all forms of sanitation (including on-site); and
- 2) ***Commercial indicators*** for customer services which need to be developed to be aligned with water supply indicators. The indicators should be linked with the parameters of accessibility, privacy and safety to be able to monitor progress towards the overall strategy objective and may be defined in terms of 'adequate' sanitation or 'basic' sanitation for peri-urban settlements where the achievement of higher levels of services are not affordable or feasible.

Monitoring strategy implementation and sanitation sector development

Service indicators need to be developed with data obtained from other sources related to finance mobilisation and monitoring of investments by Municipal and Commercial Utilities. The indicators can be used for national monitoring in relation to key criteria of access, health and the environment. Reference is made to Sustainable Development Goals, but where national targets are more specific the latter should be considered.

MLGH will prepare an annual statement for GRZ and international donors funding the strategy to monitor sector development and progress towards implementation of the strategy. These will be collated and documented in the Annual WASH Sector Report produced by MLGH. In

addition, independent reporting from the National Demographic and Health Survey (DHS) and the Census of Population and Housing will be used to validate progress towards achievement of key strategy objectives and outcomes.

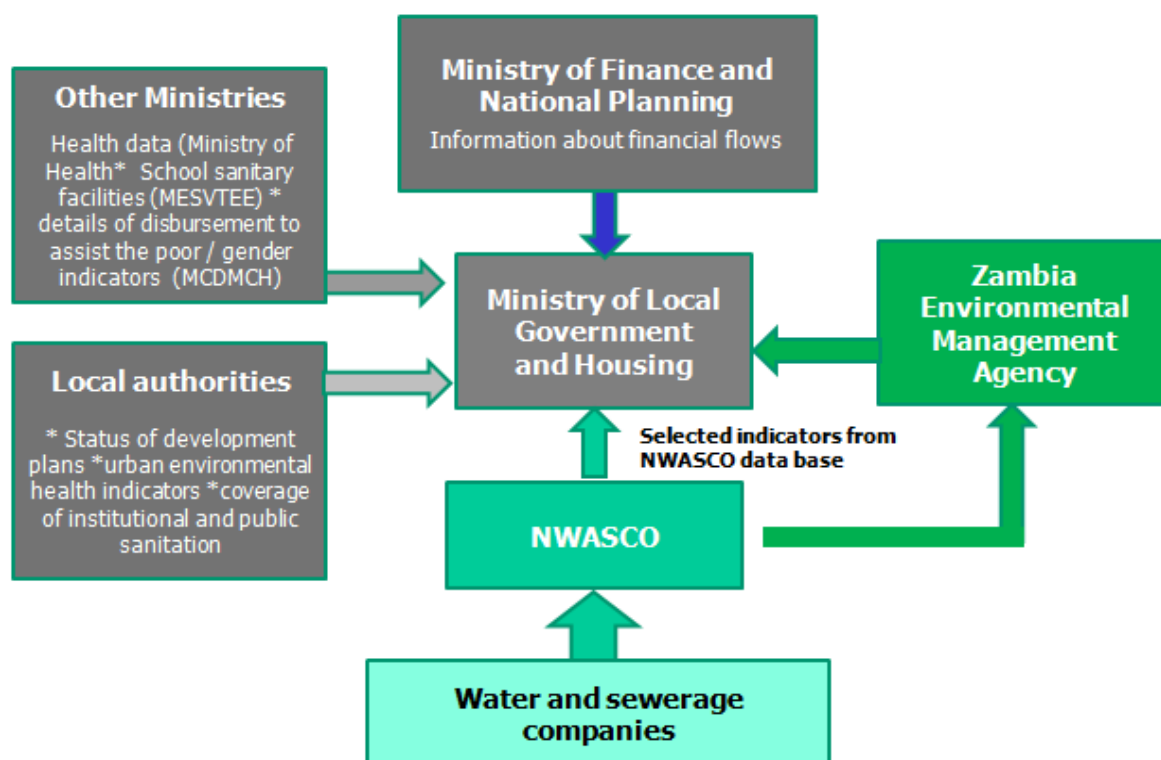


Figure 2.11 Monitoring of strategy implementation and sanitation sector development

Part 3 - Guidance for implementation of the strategy

3.1 Strategy Components

This chapter provides guidance and orientation for implementation through detailing each of the eight strategy components with specific aims, rationales and specific objectives/outputs. It corresponds closely with the implementation matrix (Annex 1).

The overall implementation period of the strategy is as mentioned before linked to the Vision 2030 and National Urban WSS. The components and its specific objectives outputs are measured against the strategy timeframe.

Component 1: Advocacy, awareness raising and strengthening the institutional framework.

Objective/Aim:

To raise awareness for increased sanitation coverage and service levels in urban and peri-urban areas.

Rationale:

The rationale for this component rests on the fact that actors at all levels, notably political actors, need to buy into the strategy and recognise the role that they can play in its implementation. This is important at the national level to promote greater alignment and coordination between different ministries. It is also important to mobilise Local Authorities to take a lead in the preparation of sanitation improvement plans.

Specific Objectives:

- 1.1 To ensure sanitation is recognized by all stakeholders and in other sectors as being integral to Zambia's socio-economic development.
- 1.2 To ensure government officials recognize the importance of sanitation and are mobilized.
- 1.3 To develop and instigate a national ranking and reward scheme for sanitation for Zambian cities.
- 1.4 To ensure governmental, non-governmental and civil society organizations are conversant with the strategy and subscribe to its implementation plan.
- 1.5 To improve communication between LAs, CUs and residents.

Objective 1.1 To ensure sanitation is recognized by all stakeholders and in other sectors as being integral to Zambia's socio-economic development.

This involves the development and rolling out of a national awareness-raising and advocacy campaign to promote the benefits of adequate sanitation in terms of environmental health and socio-economic development. The focus will be upon promoting an understanding of the linkages between poor sanitation and the related health productivity losses and the impacts on household budgets and government spending on health care, impacts on childhood diarrhoea on nutrition, stunting and cognitive development. These messages can be disseminated most effectively by the use of various communication channels, including mass media channels (including both conventional media and also social/digital media). Engagement with civil society organisations is a good basis for informing and educating people and working with media organisations is a good platform for public debate about the importance of sanitation.

Objective 1.2 To ensure government officials recognize the importance of sanitation and are mobilized.

The objective requires working with Local Authorities to promote a wider understanding about their designated role for the NUSS implementation. The aim is to encourage Government officials – particularly those at regional and sub-regional levels – to feel sufficiently motivated or obliged to take action to improve sanitation services within their area of jurisdiction. Engagement with civil society organisations can have an important impact in articulating demand from community level towards pressuring official response regarding inadequacies of access. This social pressure can be used constructively by national government providing support to sub-national authorities to respond to these demands. Therefore, there is a need for MLGH to communicate with Mayors and local politicians so that they understand the avenues that are open to them to be able to respond to social pressures.

Objective 1.3 To develop and instigate a national ranking and reward scheme for sanitation for Zambian cities

This objective instigates the development of a national ranking system for best improvements in sanitation services at city level. Mayors and LA officials might be awarded for the efforts at city level. It is assumed that the ranking would create awareness for sanitation and trigger competition between the cities, similar to the NWASCO award system. Ultimately, the MLGH has the lead for the establishment of such a system. MLGH might work together closely with Local Government Association of Zambia (LGAZ) and LAs.

Objective 1.4 Civil society and non-governmental organizations at all levels are conversant with the strategy and understand the arrangements for its implementation.

Once Local Authorities and other institutional stakeholders are familiar with the strategy and the implementation plan, the next step is to stage a series of events to disseminate information about the strategy and to initiate dialogue between civil society and non-governmental organisations about the implementation plan. This dialogue should allow for those organisations working at the community to consider the implication of the strategy and what it will mean for their projects.

Objective 1.5 To improve communication between LAs, CUs and residents.

Communication between the LA, Service Provider and residents are crucial for raising awareness for sanitation in general and plans for improvement and service level enhancements in particular. Joint communication campaigns / efforts shall be initiated between LAs and CUs.

Component 2: Preparation of sanitation plans and prioritisation of investments.

Objective/Aim:

To enable local government to realize their lead role in the preparation of Urban Sanitation Plans with increased participation from civil society and private sector actors.

Rationale:

Sanitation improvement plans provide the link between national strategy and implementation activity on the ground. The planning process adopts a bottom-up approach, starting from local level with gradual consolidation at district, provincial and ultimately central level. The preparation of sanitation plans demonstrates the intention of the Local Authority to improve sanitation services and provides the basis for partnership with the designated Commercial Utility for implementation of the strategy. The submission of the plan to MLGH also provides the means to identify the appropriate development partners and funding sources to finance the plan.

Specific Objectives:

- 2.1 To improve co-ordination between Service Providers and Planning Authorities regarding sanitation services for residential and commercial land developments.
- 2.2 To develop urban sanitation plans with adequate participation of stakeholders and civil society under consideration of health aspects and results based oriented resource allocation.

Objective 2.1 To improve co-ordination between Service Providers and Planning Authorities regarding sanitation services for residential and commercial land developments.

To support the achievement of the objectives in this component it requires MLGH to prepare guidelines for the Local Authorities to support the preparation of urban sanitation plans. The guidelines will highlight that LAs should take a lead role in the planning process but the co-ordination with Commercial Utilities and other service providers is a key part of the planning process. Other relevant stakeholders include representatives from NGOs, CBOs and the private sector such as the mining companies. The establishment of multi-stakeholder urban sanitation task forces provides the means to mainstream cross-cutting issues into local authority plans and is the mechanism through which the relevant stakeholders are involved in the planning process. The task force also provides the means to define the roles and responsibilities of the respective stakeholders for the implementation of the plans.

Objective 2.2 To develop urban sanitation plans with adequate participation of stakeholders and civil society under consideration of health aspects and results based oriented resource allocation.

Plans should be developed in close partnership with stakeholders, including end users/beneficiaries at household level in a shared strategic planning approach. Consultation with communities and other service users about proposed service level improvements and associated costs is a necessary activity with the involvement of NGOs to facilitate interaction with civic society.

In order to achieve this, the strategy supports the establishment of new and strengthening of existing community based organisations involved in WASH activities at national, provincial, district, and sub-district levels.

Environmental health risk assessments are a recommended approach to identify priority areas where health risks related to sanitation are most pronounced. Spatial planning tools can be used to map risks providing effective communication tools to visualize the current situation and

target attention on those parts of the city where deficiencies in the sanitation chain are concentrated.

Planning decisions should be based on robust decision-making support tools to ensure that investments are demonstrated to be cost beneficial and proposed technologies are selected on the basis that they are the most cost-effective solution.

Component 3: Sanitation market development, improvement of sanitation facilities and hygiene behaviour.

Objective/Aim:

To ensure equitable and sustainable access to better sanitation facilities in private, communal, public and institutional buildings while enhancing hygiene behavior.

Rationale:

Many households lack access to adequate sanitation facilities but do not prioritise the need for investing time and resources for making improvements. This component therefore focuses on the actions that are required to provide the incentives and the means for households to upgrade their toilets and on-site sanitation facilities.

Sanitation in rented accommodation is frequently poor and special attention is required to ensure that landlords upgrade toilets in the properties that they let out. Toilet facilities in schools, health centres, public places and places of work also require targeted activities for improvements.

Specific Objectives:

- 3.1 To promote sanitation as a desirable commodity and generate demand /willingness to invest in sanitation facilities / services.
- 3.2 To increase availability of affordable, good quality components for construction of sanitation facilities.
- 3.3 To improve hygiene behavior in communities.
- 3.4 To ensure that needs of women, children and the physically challenged are considered.
- 3.5 To enhance stakeholder co-ordination regarding sanitation facilities in schools, hospitals and clinics, and public places.

Objective 3.1 To promote sanitation as a desirable commodity and generate demand /willingness to invest in sanitation facilities / services.

Achievement of this objective requires the development and implementation of a well-designed sanitation marketing approach to promote sanitation as a desirable commodity and generate demand /willingness to invest in sanitation facilities / services. Based on a good understanding of what types of sanitation facility residents aspire towards and what they are willing to pay for, it is possible to focus on the supply of affordable, good quality components for construction of sanitation facilities.

This requires the services of a specialist organisation with the right skills and expertise contracted by the Commercial Utilities to:

- a) Understand and prioritize key participants groups, key influencers and desired change (in norms, attitudes/ behaviours, practices) across these participants groups.
- b) Define appropriate strategies to reach out to and engage with different stakeholder groups.

There should be no impediments to access to sanitation facilities and therefore special attention to the needs of women, children and the physically challenged is required. Development of the sanitation market therefore involves promotion and dissemination of designs for latrine construction that take into account access by the women, children, the old and the physically challenged.

Landlords require specific attention for sanitation marketing due to the high number of residents living in rented accommodation. The focus of the sanitation marketing needs to be upon promoting the benefits of investing in proper sanitation for their properties in relation to the importance to attract and retain tenants.

Objective 3.2 To increase availability of affordable, good quality components for construction of sanitation facilities

This is an iterative process, and the piloting of new products before going to scale on communications campaigns is essential. Pre-fabricated components are particularly appropriate for meeting this objective. Another means to increase the affordability of construction components and materials is to provide credits to producers for them to offer households to pay in instalments. Implementing such schemes will depend on the interest of product providers and on their capacity to pre-finance the products.

The Zambia Bureau of Standards will be responsible for approving appropriate standards involving:

- i) Review existing and prepare new technical standards for sanitation technologies (design, production and construction).
- ii) Approve sanitation technologies with designs and standards appropriate for peri-urban and low-cost areas.
- iii) Certify manufacturers of components for construction of sanitation systems. These should include: pipes, manhole/access chambers, septic tank (low and high cost), pour flush toilets, slabs for dry pits etc.

Objective 3.3 To improve hygiene behaviour in communities.

To achieve health benefits, the strategy supports the implementation of measures to mainstream hygiene promotion using a set of standardised approaches. There is a specific need for sanitation and hygiene promotional campaigns focusing on children and to include menstrual hygiene management in school curriculum.

Promotion of hand-washing with soap is a core element of the strategy as it is recognized to be the most cost-effective intervention to reduce transmission of diarrheal disease. Recommended community level hygiene behaviour improvement programmes include road shows and media campaigns (e.g. community radio), door-to-door campaigns through community health workers, and use of role models and personalities. Community drama and Participatory Education Theatre (PET), song and dance (folk media), and working with traditional and

cultural events will be used in the communities to sensitise people on sanitation/health issues. However, a detailed evaluation of Information Education Communication (IEC) approaches is required prior to the development of guidelines for hygiene promotion in peri-urban areas. Hygiene promotion campaigns should also incorporate community driven approaches that promote ending Open Defecation.

Objective 3.4 To ensure that needs of women, children and the physically challenged are considered.

The achievement of that objective includes development, promotion and dissemination of sanitation standards that take into account cross cutting aspects and inclusiveness. Further roles of women and their voice in decision making shall be increased throughout the sanitation implementation activities.

Objective 3.5 To enhance stakeholder coordination regarding sanitation facilities in schools, hospitals and clinics, and public places.

Sanitation in schools: MLGH will work with the Ministry of Education (MoE) to ensure that sanitary facilities and related drinking water supplies and hygiene education are available in all schools. The goal is to improve health, learning and performance of school pupils and teachers by providing a cleaner and safer learning environment. Guidelines on School Sanitation should be promoted including school-based menstrual hygiene management program.

Sanitation in public places: Sanitation in public places to be incorporated in urban sanitation plans and implemented by LA with support from MLGH. Local Authorities have the responsibility for public toilets in city and town centres – next to markets and transportation hubs etc. Responsibilities for operation and maintenance should be clearly defined.

Sanitation in hospitals and health clinics: Programme to be implemented by Ministry of Health (MOH). Hospitals and health centres have special requirements for sanitation and there are a number of key points which must be addressed when planning for adequate sanitation in hospitals and health centres: i) Toilets for patients with infectious diseases must be separated from toilets for staff and other patients ii) Toilet facilities should be thoroughly cleaned several times per day and routine procedures need to be established accordingly iii) Hospitals should have their own treatment facility iv) Health centres should be connected to sewerage network or desludged regularly if not connected to sewerage; and v) Treated wastewater / sludge should not be reused on land used for food production.

Sanitation in commercial properties and places of work: Industrial and commercial establishments shall be maintained in a sanitary condition and, in accordance with the Public Health Act, the Local Authority shall survey establishments to ensure that owners uphold sanitary conditions in places of work.

Component 4: Strengthened Commercial Utilities for sanitation service chains including faecal sludge management.

Objective/Aim: To upgrade sewerage systems and service quality in already covered areas, extend sewerage services into expanded and newly developed urban areas, provide treatment

facilities for wastewater and faecal sludge treatment and ensure that assets are sustainably managed.

Rationale:

Sanitation service delivery by CUs need to be strengthened considerably in order to extend sanitation services, promoting improved access equitably by ensuring that services are affordable. Increasing the capacity of treatment facilities and ensuring the sustainable operations of these facilities – for both wastewater and faecal sludge is a key priority in urban areas.

Objectives:

- 4.1 To ensure that CUs have a good understanding of the quantity and quality of sanitation assets and rehabilitate critical infrastructure
- 4.2 To improve CUs operational performance of sanitation service delivery.
- 4.3 To increase the proportion of wastewater and faecal sludge treatment as per national standards.
- 4.4 To upgrade sanitation infrastructure in peri-urban areas.

Objective 4.1 To ensure that CUs have a good understanding of the quantity and quality of sanitation assets and rehabilitate critical infrastructure.

Closely linked to the preparation of the Local Authority sanitation plans is the preparation of asset management and sanitation safety plans by the CUs. This initially requires the CUs to undertake a detailed inventory of the state of repair and functioning of existing sanitation assets in all towns. A key part of asset management is to consider those assets which are most prone to natural disasters and the implications on serviceability indicators caused by failure. The risk assessment takes into account a) the probability of failure b) the consequence of failure measures the direct and indirect impacts of an asset failure; and c) redundancy, the presence of backup equipment, which helps to decrease the overall risks of a failure when available.

The information obtained in the asset identification is used as the basis to prepare asset management and sanitation safety plans for sewerage and non-sewerage infrastructure. Assets which are identified to be most prone from disasters and have the highest impact upon these serviceability indicators should be prioritised for investment to increase resilience. The asset management plans should include emergency measures and rehabilitation of existing core urban sewerage systems. Sanitation safety planning provides the basis for these assets and identifying the most critical elements of the system in terms of the impact of their failure in terms of health risks.

Objective 4.2 To improve CUs operational performance of sanitation service delivery.

To achieve enhanced service quality in terms of both adequacy and reliability, CUs need to define performance targets to ensure improved operations in terms of commercial management and technical aspects of service delivery by applying the principles of operational efficiency and financial viability and sustainability. A strategic business plan supported by a sound baseline allows the utility to understand the shortcomings in service delivery. A sanitation costing study should be done in all CUs to ensure that sanitation expenditures are tracked separately for sewerage and FS management. This will enable water, sewerage and faecal sludge management costs to be separated in CUs financial statements.

Objective 4.3 To increase the proportion of wastewater and faecal sludge treatment as per national standards and promote reuse.

The aim is to ensure that all sanitation facilities are connected to appropriate waste and effluent disposal systems and quality of the environment is improved and water resources protected. This is to be achieved by increasing the capacity and improving the performance of wastewater and faecal sludge treatment facilities. Initially there is a need to rehabilitate existing sewage / sludge treatment works prior to the development of additional sewage and faecal sludge treatment facilities. CUs should investigate demand for treated wastewater and for recycling sludge and promote wastewater reuse and increase resource recovery of nutrients/energy contained in wastewater and sludge.

Objective 4.4 To upgrade sanitation infrastructure in peri-urban areas.

Evidently the peri-urban areas have the highest sanitation stress and need urgent improvement. The upgrade of household sanitation facilities at the beginning of the sanitation chain (interface) and faecal sludge management systems at the other end of the sanitation chain have been proven to be effective to upgrade sanitation infrastructure and services in peri-urban areas.

This can be achieved through an incremental approach toward implementation according to the availability of resources (see guiding principle 5). Experience has shown that even with little investment the hygiene at a toilet can be enhanced (e.g. proper smooth slab and pedestal/pan). An incremental approach is not just affordable to users; it also activates the potential of their self-efficacy. On the other end of the sanitation chain, adequate faecal sludge emptying and treatment services are required. With Faecal Sludge Management Stations implemented under Lusaka Water in Kanyama and Chazanga compound, FS emptying and management services for up to 30,000 people each station are provided. This is a first step of enhancing the situation, especially in peri-urban areas. A rapid planning/screening process could identify potential of improvement on a sub city level.

Component 5: Delegated management models

Objective/Aim:

To ensure that Commercial Utilities take on board wider responsibilities for sanitation service provision and promote delegated management models to improve service delivery for on-site sanitation facilities and decentralised wastewater infrastructure.

Rationale:

Specific attention is required to assure that proposed solutions provide services for all, including those who live in hard-to-serve areas. These are often the areas that challenge conventional service delivery approaches. This component focuses on the need for alternative approaches for service provision in peri-urban areas through innovative service delivery models.

Objectives:

- 5.1 To adopt delegated management models widely to provide services in peri-urban area.
- 5.2 To improve management of public and institutional sanitation.

5.3 To increase the role of SMEs as providers of sanitation services.

Objective 5.1 To adopt delegated management models widely to provide services in peri-urban area.

Under the NUSS, CUs are expected to take on board increasing responsibility for provision of sanitation services in peri-urban areas. However, as defined by sanitation plans and in agreement with the Local Authorities, many peri-urban areas will be serviced under a delegated management agreement in which a third party will be contracted as the service provider. This arrangement results in increased participation in sanitation service delivery and potentially community ownership and management in peri-urban areas through the establishment of new or support to existing Water Trusts to provide sanitation services. This arrangement will be particularly appropriate for un-sewered areas where households with on-site sanitation require services for faecal sludge removal.

NWASCO will support the development of sanitation services in peri-urban areas by preparing standard contracts and guidelines for CUs for delegated management models. Competition between small scale service providers is to be encouraged so as to drive costs down and ensure that they are affordable for the poor. This will be done through the regulation of service providers by licensing to ensure that these service providers do not form a cartel. CUs can also support this by setting up a call centre for residents to enable them to receive a quote for desludging from more than one service provider and keep prices down.

Objective 5.2 To improve management of public and institutional sanitation.

The strategy proposes that public toilets owned by Local Authorities are leased out to the private sector under service contracts for operation and maintenance according to a set of defined performance indicators. The cost of construction will be covered by the LA's sanitation tax (*see Component 6*) but the costs of O&M will be covered by service charges. O&M of school sanitation facilities will be covered by SME who will be contracted to provide the services to specified number of schools in the area of the LA's jurisdiction.

Objective 5.3 To increase the role of SMEs as providers of sanitation services.

Support from Zambia Development Agency (ZDA) to sanitation SMEs for business development to either directly providing services (for instance for desludging) or for producing/manufacturing components for latrine construction. The SMEs require technical advice to ensure that they have access to the most effective equipment for emptying pits and establishment of funding mechanism to provide business development grants for social/poor sanitation SMEs.

As well as increased GRZ budget to finance capital investments for sanitation, a scheme is to be set up to support business development of FSM service providers by providing financial incentives (tax incentives and results-based grants).

- i) A national fund that would provide guarantees for Commercial Utilities to access concessional loans from commercial banks can be set up.
- ii) A national programme can be set up to support MFIs and banks to provide facilitated loans to FSM businesses.

Loans for SMEs for business development

Access to finance should also be facilitated specifically for small sanitation entrepreneurs developing emptying or FSM businesses. At present, the development of small and medium enterprises (SMEs) working in faecal sludge management is limited, partly because of the lack of access to finance to set up a business. Therefore, banks or micro-finance institutions should be supported to work with these SMEs and help them finance business development and equipment.

Increase in private financing of SMEs

Private enterprises should be encouraged to invest in the sector through dedicated schemes, especially by developing faecal sludge management and decentralised waste water treatment services. These are likely to be social enterprises with the potential to attract private equity investors or bringing in their own seed-funding.

- Grant co-funding should be offered to private companies investing a minimal amount in the sector.
- Tax incentives should be offered to these companies.
- Conduct a detailed study on the potential for attracting private investments. Identify the type of enterprise and entrepreneurs to target.
- Develop a national programme to support the development of private FSM businesses.

Component 6: Financing sanitation improvements and ensuring cost recovery.

Objective/Aim:

To ensure that sanitation services are affordable for all households and that pricing structures ensure cost recovery of sanitation services to achieve financial sustainability.

Rationale:

To be able to meet the needs of the sector there is a need to introduce some significant changes in the way that sanitation infrastructure is financed especially for alternative systems.

Objectives:

- 6.1 To increase investments in sanitation infrastructure.
- 6.2 To incentivized CUs to extend sanitation services to low-income areas.
- 6.3 To increase user charges collected by CUs for sanitation services.
- 6.4 To increase earmarked revenues for LA sanitation departments from Municipal or national taxation.
- 6.5 To provide households and landlords with financial support for latrine construction.
- 6.6 To ensure subsidies for the poorest of the poor.

Objective 6.1 To increase investments in sanitation infrastructure.

Development partners and GRZ will provide concessional loans and guarantees to service providers through a national fund. A sector financing scheme for both hardware and software is set up to allocate public funding (grants, loans and guarantees) to the sector in a coordinated manner.

In addition to public grants, private grants can also be captured to contribute to sector funding. A source of funding could be harnessed from Corporate Social Responsibility (CSR) funds. The scheme could promote current projects to private companies, attract and manage funding with the private sector supporting the initiative through Corporate Social Investments (CSI). At regional level, service providers should mobilise private grant funding from large private companies operating in their localities. These companies often provide CSR grants to finance projects that would benefit their workers and their reputation.

Commercial Utilities should phase in the sanitation surcharge and use this revenue to finance capital investments on faecal sludge treatment infrastructure in low income and peri-urban areas. Support is required for CUs to develop investment plans for FSM on which sanitation surcharges would be spent.

Objective 6.2 To incentivise CUs to extend sanitation services to low-income areas.

The strategy proposes to introduce results-based financing, a financing mechanism which delivers the grant once results are achieved. This links the payments of grants to the achievement of predetermined performance targets and therefore can be used to incentivise service providers to extend service coverage or improve service delivery levels for the urban poor. This approach can be applied along the sanitation service chain, for on-site as well as for offsite sanitation, and for all levels of the sanitation value chain. For instance, a service provider could receive a grant for supporting the construction of household latrines based on the number of sanitation facilities built for low income households or receives a grant for the number of connections of low-income households made by the CU or on the volume of waste water treated.

Before the sector financing scheme uses a results-based principle to allocate funding to service providers' projects, a detailed study is required to assess whether RBF should be introduced as part of the Urban WASH fund, or remain programme/project-based. One specific consideration is the fact that results-based financing implies that service providers have the capacity to pre-finance the investments (through loans or private finance). If Result Based Financing RBF is deemed to be a viable financing mechanism, then a results-based financing project will be developed with one well-performing CU as a pilot.

Objective 6.3 To increase user charges collected by CUs for sanitation services.

Revisions to the level and structure of sanitation tariffs so as to recover at least operation and maintenance costs are required in the short term. In line with Principle 4 of the Water Policy (2010), the level of sanitation user charges needs to gradually increase so as to fully recover costs of operation and maintenance. Provision for asset rehabilitation should also be included gradually in the tariff. The increased charges will need to be decided with NWASCO based on Commercial Utilities' business plans. The structure of sanitation user charges also needs to be reformed, so as to ensure that every customer is paying for a service he is receiving.

Therefore, a detailed study should be conducted with NWASCO to:

- (i) review and assess the current arrangements for setting and reviewing sanitation tariffs,
- (ii) determine how effective the current arrangements are, and

- (iii) design a plan for improving the setting of sanitation tariffs, and strengthening NWASCO's capacity to do so.

The study should investigate the following proposals:

- a) *Set the water tariff to recover water operation and maintenance costs on the one hand and the sanitation tariffs for sanitation operation and maintenance costs on the other hand.* This would ensure that customers pay for the service they are provided. It would require that CUs are able to separate water and sanitation costs. In the next tariff review, NWASCO should set time targets for each CU to achieve full cost recovery.
- b) *Translate the sanitation tariffs into actual responsibilities for Commercial Utilities to invest in both sewerage and faecal sludge management and treatment* (depending on the location); so that users get the service they are paying for. The tariffs should be earmarked to cover the costs related to the service for which it is charged. Currently they are no earmarked revenues to cover the costs of FS treatment. Therefore it is proposed to introduce a new sanitation tariff to recover costs of FS treatment. This would enable to remove the dumping charge at FS treatment plants so and would reduce the dumping of FS in the environment.

Objective 6.4 To increase earmarked revenues for LA sanitation departments from Municipal or national taxation.

At local level, additional resources need to be collected to complement the national budget, so as to ensure that Local Authorities' activities can be sustainably financed. A new tax should be collected by LAs to raise the budget allocated to environmental activities (including sanitation, solid waste, drain cleaning and sanitation) and to raise additional revenue for staff salaries through Municipal taxation in the case of the larger urban centres, or through funding derived from national taxation for smaller towns.

The tax would be earmarked to finance in priority support activities undertaken by Local Authorities (planning, sector coordination, monitoring and enforcement) and local sanitation activities such public toilets. This tax could be levied as part of the property tax, or be levied on a specific activity such as water abstraction or the sale of a product. More details studies would have to be done so as to decide how this tax could be levied without affecting the economy.

Objective 6.5 To provide households and landlords with financial support for latrine construction.

Rather than directly subsidise the sanitation facilities or connections, public finance should be used to incentivise households to invest in sanitation and to lever private finance. Although Municipal Councils have set by-laws requiring all landlords to provide sanitation facilities, there is little incentive for the landlords to invest in their properties because some tenants are poor and can only afford low rents. Providing landlords with access to loans for toilets appropriate to this situation will enable them to meet the sanitation requirements whilst still keeping rents affordable. To do this there is a need to work with landlords, financial institutions and the private sector to develop new, affordable credit schemes and loan cost-recovery plans.

The aim is therefore to replace subsidies and establish schemes to promote households' self-investment in sanitation via sanitation marketing and microfinance. The objective would be for micro finance institutions involved in sanitation to offer services in a self-sustainable manner in the medium term.

These solutions are summarised in Figure 2.12 below.

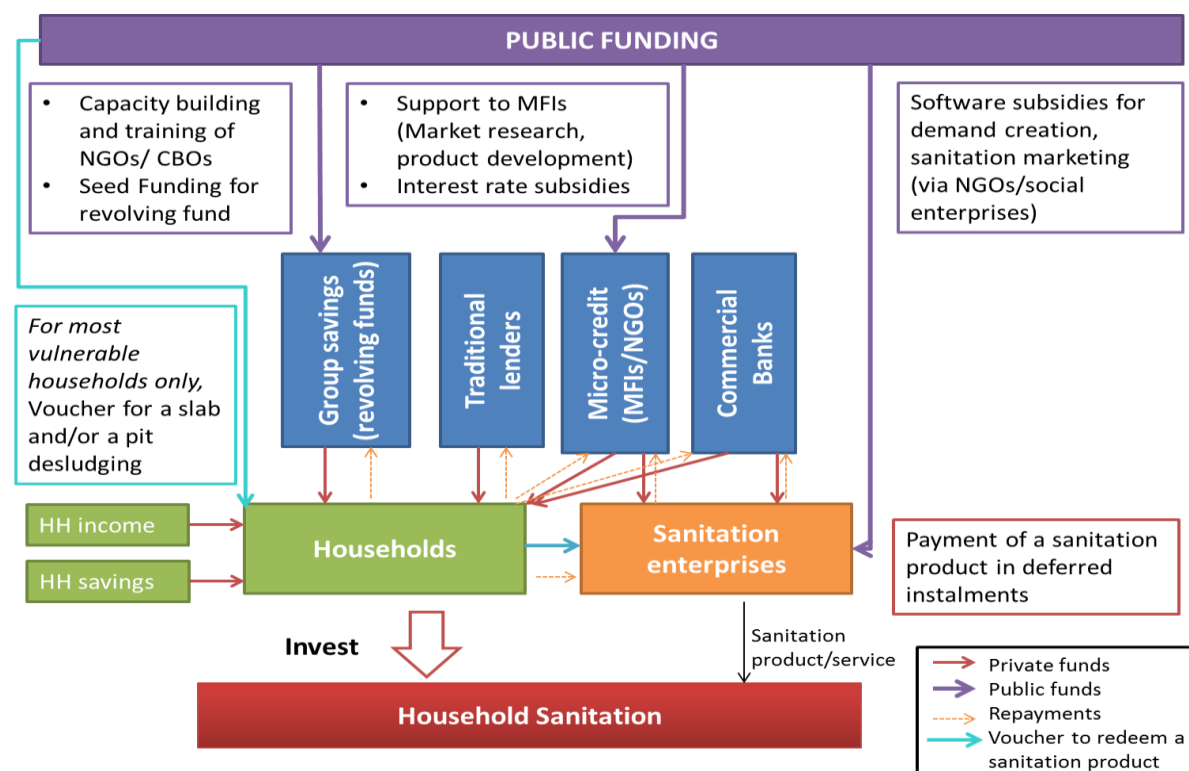


Figure 2.12 Financing instruments to support household investment in sanitation

Objective 6.6 To ensure subsidies for the poorest of the poor.

Micro-finance and reduced cost of materials/components through subsidised supply chains may not be sufficient for the poorest of households to invest in sanitation upgrades. Therefore, it is expected that there will still be a need for a programme that will help those who cannot afford to invest in improving their toilet facilities. This will be achieved by subsidising the supply chain of good/services in the market (e.g. slabs and/or desludging services for the lowest income households (*the bottom decile*)). The vouchers have no value except for sanitation services and household must use the voucher only to purchase components, pay for costs of labour or desludging services from licenced service providers.

Eligible households should be identified using the same criteria as the Social Cash Transfer program (single mother families, families with handicapped persons etc.) and eligible households receive a voucher from their Local Authority which can then be used as payment (or part payment) for good/services from a registered service provider. The service provider collects the vouchers and takes them to the designated manager of the social fund in the Local Authority to receive a rebate.

The stages in the process are as follows:

- 1) Ministry provides guidelines on the eligibility criteria.
- 2) During the preparation of sanitation plans, the LAs estimate the number of households that fall into this category and, based on this, the LA makes a request to MLGH for funding.
- 3) Based on the approval, MLGH makes a grant transfer to the LA.
- 4) The NGOs responsible for sanitation marketing and MFI baseline distribute vouchers up to a specified value to the agreed poor.
- 5) The household gives the voucher to the service provider in exchange for the goods or services.
- 6) The service provider collects the vouchers and then goes to the LA to claim back the money.

Component 7: Monitoring, regulation and enforcement.

Objective/Aim:

To apply harmonized monitoring, regulation and enforcement tools to support implementation of the strategy.

Rationale:

The strategy requires a sound framework for monitoring progress towards strategic goals at national level and for monitoring the quality of services provided by the CUs and other service providers.

Objectives:

- 7.1 To harmonise monitoring and reporting between MLGH, other line agencies and CUs.
- 7.2 To update NWASCO regulatory indicators for sanitation services.
- 7.3 To enhance information management system for planning, development and monitoring of sanitation improvements.
- 7.4 To strengthen lines of accountability between customers and service providers.
- 7.5 To promote effective water pollution monitoring and prevention programmes based on enforceable water quality guidelines and standards.
- 7.6 To ratify innovation through standardisation and codes of practice.
- 7.7 To strengthen Public Health Act and ensure enforcement of it.

Objective 7.1 To harmonise monitoring and reporting between MLGH, other line agencies and CUs.

Through the *Sanitation and Water for All* Partnership, GRZ has committed to establish a national Management Information System (MIS) for the water supply and sanitation sub-sector. A National harmonized framework for monitoring and reporting urban sanitation developments (led by MLGH with inputs from line agencies and CUs) will be developed. The MLGH sector monitoring database will also collate information from other line agencies to maintain a comprehensive overview of the sector as a whole.

Objective 7.2 To update NWASCO regulatory indicators for sanitation services.

NWASCO's information and monitoring system (NIS) will be expanded to accommodate a wider set of regulatory indicators for sanitation services (both sewerage systems and on-site

sanitation services) focussing on delivery of services to customers and protecting the quality of the environment. NWASCO will be responsible for collection and collation of data from CUs and, by default, the delegated service providers contracted by the CUs. Selected data from the NWASCO database will be passed on to MLGH to feed into the national monitoring system (Objective 7.1).

Objective 7.3 To enhance information management system for planning, development and monitoring of sanitation improvements.

The database information can support the development and monitoring the implementation of urban sanitation plan and progress towards sanitation improvements. The database will be on-line and linked to satellite imagery which will be used to assist sanitation service providers, NWASCO, Local Authorities, MLGH and civil society work together collectively using the same baseline to invest in areas where sanitation improvements are identified to be a priority.

There will be need for baseline surveys to populate the information management system building upon the existing data collected under the District Situation Analysis (DSA) process. This includes the type, availability, access and availability and condition of sanitation facilities at health centres, which needs to be expanded to include schools and other institutional buildings. Specific focus will be made to develop the arrangements for monitoring developments for on-site sanitation and sanitation services in low-income and informal areas.

Objective 7.4 To strengthen lines of accountability between customers and service providers.

One of NWASCO's responsibilities is to ensure that consumers are protected and service standards are upheld by the Water Companies. To effectively meet this objective, NWASCO has set up Water Watch Groups (WWGs) to assist on monitoring service delivery. Their role is informing their communities about their rights and obligations regarding Water Supply and Sanitation so much so that consumers can demand the service they are entitled to and also assist in resolving pending complaints. Under the strategy, WWGs will become more activity involved in sanitation service delivery.

Objective 7.5 To promote effective water pollution monitoring and prevention programmes based on enforceable water quality guidelines and standards.

Develop a wastewater quality monitoring programme incorporating provisions for environmental assessment, biological diversity impact assessment. Develop industrial processes that bear on waste water reduction and improved waste water quality, reduce pollution and promote wastewater reuse. Introduce penalties that will encourage the timely payment of the tariffs. Enforce a polluter-payer principle so that industries pay for the treatment of their effluents in accordance with a national waste water treatment pricing.

Objective 7.6 To ratify innovation through standardisation and codes of practice.

Standardisation can help to maximise quality and reliability of sanitation services/facilities. In Zambia standards are defined by the Zambian Bureau of Standards (ZABS). Further NWASCO, as a national council, can define standards for service provision. Yet there are no recent standards or code of practices for sanitation facilities and services available. An update and ratification of those is recommended under that objective (see also 8.5).

Objective 7.7 To strengthen Public Health Act and ensure enforcement of it.

The Local Authority, through Environmental Health Officers and Health Inspectors, is mandated to enforce the laws related to sanitation. The state and council police might support them in fulfilling their tasks. Usually enforcement becomes active after sanitation issues are identified through either routine inspection in peri-urban areas or complaints. Challenges to enforcement such as lack of capabilities by officers to conduct their enforcement duties efficiently (transport, training, inadequate support from key stakeholders) need to be overcome.

The legal basis for enforcement is the Public Health (Drainage and Latrine) Regulation that states that (i) every household be provided with latrine accommodation, (ii) no latrine other than a water closet be constructed within 70 meters of a sewer and (iii) no refuse should be thrown in the drainage.

The Section 68 of the Public Health Act Cap. 295 prescribes the procedure to take when enforcing the laws and involved 1) Warning the author of nuisance for the abatement of the nuisance and 2) where the author of nuisance does not respond, the court of law should take charge. Typically, landlords may be convicted for failing to provide sanitary facilities to their tenants.

Enforcement can be a powerful mechanism to create pressure towards landlords to fulfil their duties. A continuous effort in prosecuting the Public Health Act PHA under public awareness (radio, TV shows and newspaper articles) will increase pressure on landlords and institutions to adhere to regulations. Local Authorities need to ensure that sufficient resources are budgeted for and made available for enforcement.

Component 8: Capacity building

Objective/Aim:

To enhance organisations capacities and staff skills and expertise to effectively plan, implement and efficiently manage sanitation systems in a gender sensitive manner.

Rationale:

In line with the Principle 5 of the National Water Policy (Human resource development leading to more effective institutions), the strategy places emphasis on ensuring that the various actors involved in sanitation service delivery have the necessary capacity to provide adequate services. In this context, the capacity of institutions responsible for sanitation services is a combination of i) *Institutional capacity* – the number of available staff and the amount of time they can allocate for implementation of improved sanitation services, and the availability of tools and equipment to support these activities and ii) *Human capacity* - the skills and knowledge of staff to plan and implement sustainable sanitation interventions.

Objectives:

- 8.1 To strengthen the capacity of Local Authorities in sanitation implementation.
- 8.2 To develop CU capacity to plan and support the development of faecal sludge management services in their area of jurisdiction.
- 8.3 To increase private sector and NGO capacity in sanitation service delivery.
- 8.4 To develop technical standards and guidance for construction and O&M of on-site sanitation, simplified sewerage and facilities for faecal sludge management.
- 8.6 To strengthen role of academic and research institutions in sector development.

Objective 8.1 To strengthen the capacity of Local Authorities to prepare sanitation plans and enforce the Public Health Act.

Under the strategy, Local Authorities will be expected to increase the number of staff with dedicated time to support the implementation of the strategy. The first activity will be to conduct an assessment of staff capabilities in LAs and to develop a strategy to develop their skills for strategic and participatory planning, stakeholder consultation and public engagement, and monitoring and regulatory activities especially for onsite sanitation especially in rented and commercial properties. Alternative means to provide LAs with technical support, such as the establishment of regional support units will also need to be considered.

Hence increased capacity of NGO/community workers and development and implementation of a training of trainers programme. In order to strengthen capacity to implement and monitor BCC programme, there is a need to focus on health workers, teachers, local media practitioners, key community social mobilizers for dissemination of key WASH messages.

Objective 8.2 To develop CU capacity to plan and support the development of faecal sludge management services in their area of jurisdiction.

Utilities require support to monitor the costs of sewerage and FS management activities separately and review operations and propose an improvement plan to reduce inefficiencies. NWASCO will be expected to prepare more detailed and specific guidance for the CUs with regards to sanitation services, and particularly with respect to the provision of services outside of the core sewered areas.

NWASCO to prepare guidelines to support CUs for developing faecal sludge management services, especially in relation to increasing technical and managerial capacity and training on contractual guidelines for delegated management. CUs will receive capacity building to improve operational performance and reduce operational costs in the process to improve financially viability and reduce inefficient spending.

There is a need for a strengthened role of CU Association to support dissemination and capacity building activities for CUs. This will involve technical issues such as planning, construction and supervision of treatment facilities and training for operators and orientation of engineers and technical staff to understand the social dimensions and need for community engagement.

Objective 8.3 To increase private sector and NGO capacity in sanitation service delivery.

Technical support needs to be provided to small scale private sector service providers/artisans to offer sanitation products to households that meet national standards. These actors need support through business development programs providing business skills combined with access to finance. This shall involve i) the establishment of a national certified training scheme for business development in the sanitation sector and ii) vocational training in business development to apply for social enterprise grants.

Objective 8.4 To develop technical standards and guidance for construction and O&M of on-site sanitation, simplified sewerage and facilities for faecal sludge management.

Development of technical standards and guidelines for construction and O&M of on-site sanitation, simplified sewerage and facilities for faecal sludge management are considered necessary. Promotion of appropriate technologies and documentation and dissemination of experiences of implemented projects is crucial for sector learning and capacity building. MLGH Technical manuals for design, construction and operation in accordance with standards set by ZABS and ZEMA. Research and Development (R&D) into toilet construction using pre-fabricated units manufactured at low cost and good quality.

International cooperation is required to support R&D for innovative sanitation solutions and *standardisation of new technologies needs to go through ZABS*. To be officially recognised, manufacturers or suppliers will require each technology to be assessed and approved.

Objective 8.5 To strengthen role of academic and research institutions in sector development.

Capacity building and dissemination activities and professional support to sanitation sector practitioners involving the development of academic curricula and vocational training courses.

3.2 Implementation Plan

The implementation of the measures contained in the strategy document is further elaborated in Annex 1.

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Annex 1: Implementation matrix for Zambian National Urban Sanitation Strategy (2015 – 2030)

Version: 15th October 2015

Overall objective ¹⁰	Outcomes	Measurable Indicators	Means of verification
To provide equitable and sustainable access to adequate sanitation meeting GRZ objectives for improved health and poverty alleviation in line with Vision 2030 and Sustainable Development Goals.	Reduced incidence of water and vector-borne diseases and parasitic infestations related to poor sanitation.	National Demographic and Health Survey (DHS) data and Living Standards Survey data	Publication of National Demographic and Health Survey (DHS)
	90% of the urban and peri-urban population has access to adequate, safe and cost effective sanitation services by 2030.	Relevant indicators in the Census of Population and Housing and NWASCO's and MLGH annual reports	- Publication of Census of Population and Housing data. - Publication of NWASCO report. - MLGH Annual Reports.
	Improved efficiency and accountability of service providers to provide affordable and equitable sanitation services to their customers.	- Technical and Financial Performance indicators of service providers. - Number of new customers and resolved complaints. - Reports from Water Watch Groups	- NWASCO Annual Reports including indicators on sanitation and sewerage. - Technical and Financial Audits of CUs.
	Wastewater and faecal sludge are safely collected and treated, with due regard to improve the quality of surface and groundwater bodies.	- Quality of waters bodies % of polluting industrial facilities complying with environmental legislation. - Compliance with health and safety regulations for workers.	- ZEMA Annual reports - Report of Public Health - Documentation of workplace conditions.
	Enhanced organisational and human capacities, policy, and legal frameworks, information management for planning and development considering cross cutting issues.	- Strategy implementation taken up by different co-operating institutions. - Cross-cutting (HIV, gender) mainstreaming and workplace activities implemented.	- Reports from Capacity building strategy - NWASCO Annual Reports including indicators on cross cutting.
Component 1: Advocacy, awareness raising and strengthening institutional framework.			
Objectives: To raise awareness for increased sanitation coverage and service levels in urban and peri-urban areas.			

¹⁰ The overall timeframe for the strategy is 2015 – 2030.

- Converted on 28.07.15 at exchange rate USD – (1 – 7.69)

Overall objective ¹⁰		Outcomes		Measurable Indicators		Means of verification	
Specific objectives/ outputs	Activities	Output indicators	Timeframe	Responsible	Budget in ZMW		
1.1 To ensure sanitation is recognized by all stakeholders and in other sectors as being integral to Zambia's socio-economic development.	Conduct national communication campaign to promote the benefits of improved sanitation.	20 Newspaper articles per year. 10 Reports on radio, TV and various forms of social media per year.	Q4/2030	MLGH	1,000,000		
1.2 To ensure government officials recognize the importance of sanitation and are mobilized.	Prepare advocacy materials and communication strategy specifically orientated towards Local Authorities (e.g. Mayors, Councilors, and MPs).	10 Mayors and local politicians pronounce intention to improve sanitation in their cities (press releases). - LAs take a lead role in preparation of district urban sanitation plans (articles in local media).	Q4/2030	MLGH/ LGAZ	300,000		
1.3 To develop and instigate a national ranking and reward scheme for sanitation for Zambian cities.	- Develop ranking and reward system - Conduct annual nominations for cities recognized for progress in improved sanitation.	- Urban sanitation indicator framework (approved indicator framework) - Cities ranked and rewarded according to urban sanitation indicator framework annually (reports).	Q4/2016 Q4/2030	MLGH/ LGAZ	1,000,000		
1.4 To ensure governmental, non-governmental and civil society organisations are conversant with the strategy and subscribe to its implementation plan.	Disseminate information about the strategy and implementation plan to different stakeholders.	10 relevant stakeholder institutions have plans that support implementation of NUSS (institutional documents).	Q4/2018	MLGH/NGO WASH Forum	500,000		
1.5 To improve communication between LAs, CUs and residents.	CUs and LAs jointly prepare communication campaigns to residents/customers to disseminate information about plans for improvement and service level enhancements.	1 sanitation related communication campaign (e.g. newsletter articles, community event) by each CU in partnership with at least one associated LA (e.g. MoU btw LA and CU). - CBOs report effective communications from LAs and CUs (source: Water Watch Groups)	Q4/2016 Q4/2018	CUs/LAs CUs/LAs	500,000		

Component 2: Preparation of urban sanitation plans and prioritization of sanitation investments. Objective: To enable local government to realize their lead role in the preparation of Urban Sanitation Plans with increased participation from civil society and private sector actors.					
<i>Specific objectives/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
2.1 To improve co-ordination between Service Providers and Local Authorities regarding sanitation services for residential areas and commercial land developments.	• Production of MLGH national guidelines for preparation of urban sanitation plans. • Support LAs to adopt their lead role in planning process and establish urban sanitation task forces.	• MLGH guidelines for urban sanitation planning including community participation, cross cutting issues and cost effectiveness published and disseminated. • 4 urban sanitation task forces established and MoUs signed between LAs and CUs.	Q2/2016 Q2/2016	MLGH LAs/CUs	500,000
	2.2 To develop urban sanitation plans with adequate participation of stakeholders and civil society.	• LAs elaborate sanitation plans as per guidelines involving communities and other stakeholders in decision-making/ sanitation planning processes. • Support establishment of new and strengthening of existing community based organizations involved in WASH activities. • Conduct environmental health risk assessments to identify priority areas where health risks related to sanitation exist.	Q2/2016	LAs/CUs	2,000,000

Component 3: Sanitation market development, improvement of sanitation facilities and hygiene behavior. Objective: To ensure equitable and sustainable access to better sanitation facilities in private, communal, public and institutional buildings while enhancing hygiene behavior.					
<i>Specific objectives/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
3.1 To promote sanitation as a desirable commodity and generate demand /willingness to invest in sanitation facilities / services.	Development and implementation of a well-designed sanitation marketing approach.	- Urban sanitation marketing tools and campaign developed. - Increased willingness to pay for sanitation services. - Households and landlords invest in improved sanitation facilities and connection to collection systems	Q2/2016 Q2/2020 Q4/2030	MLGH	1,000,000
3.2 To increase availability of affordable, good quality components for construction of sanitation facilities.	Support development of SMEs to produce and distribute to the market affordable, good quality sanitation components.	Availability of affordable sanitation commodities on the market is increased.	Q2/2018	MLGH/ MCTI/ ZABS	1,000,000
3.3 To improve hygiene behavior in communities.	Development and implement national strategy for hygiene behavior change	- Hygiene Behavior Change approach developed, applied and evaluated in at least Municipal 2 areas. - Upscaling approach defined	Q2/2017 Q4/2019	MLGH/ MCD/MoE/ MOH	1,000,000
3.4 To ensure that needs of women, children and the physically challenged are met.	Development, promotion and dissemination of sanitation standards that take into account equity and inclusiveness.	- Code of practice for sanitation developed included in standard sanitation designs for facilities for children and physically challenged. 50% of newly constructed public and institutional sanitation facilities comply with standard (Joint Water Sector Review).	Q2/2016 Q4/2019	NWASCO/ ZABS/ MLGH	1,000,000
3.5 To enhance stakeholder coordination regarding sanitation facilities in all schools, hospitals and clinics, and public places.	MLGH engages and coordinates with relevant ministries at national, provincial and district levels.	- At least 4 technical working group meetings per year at national level. - In at least 4 provinces P-WASHE and D-WASHE meetings are held regularly. 2 jointly conducted evaluation on sanitation programmes/projects.	Annually quarterly Q4/2018	MLGH/ MoE/ MoH/ MCD	750,000

Component 4: Strengthened Commercial Utilities for sanitation service chains including faecal sludge management.					
Objective: To upgrade sewerage systems and service quality in already covered areas, extend sewerage services into expanded and newly developed urban areas, provide treatment facilities for wastewater and faecal sludge treatment and ensure that assets are sustainably managed.					
<i>Specific objectives/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
4.1 To ensure that CUs have a good understanding of the quantity and quality of sanitation assets and plans for rehabilitation of critical infrastructure.	- Detailed inventory of the status of sanitation infrastructure in all towns. - Preparation of asset management plans - Sanitation safety plans for sewered and non-sewered infrastructure.	- Status report on sanitation infrastructure for all CUs. - Asset management plans available by all CUs as per regulatory standards - Sanitation safety plans prepared by all CUs and submitted to MoH.	Q4/2016 Q4/2018 Q4/2018	CUs/MLGH CUs CUs/MoH	500,000
4.2 To improve CUs operational performance of sanitation service delivery.	- CUs conduct studies to improve their operational performance and reduce their O&M costs per capita served. - Develop guidelines for enhancing operational performance of wastewater and FSM facilities.	Guidelines for enhancing operational performance of wastewater and FSM facilities developed.	Q4/2017 Q4/2017	CUs NWASCO	1,000,000
4.3 To increase the proportion of wastewater and faecal sludge treatment as per national standards and promote reuse.	- Review of national wastewater treatment standards. - Development of a sewerage infrastructure rehabilitation project pipeline.	- National wastewater treatment standards reviewed, including aspects of reuse. - At least 11 sewerage development and rehabilitation projects identified¹¹. - Identified sewerage rehabilitation projects undertaken (refer to footnote 11)	Q2/2016 Q2/2017 Q2/2017-2030	ZEMA/ NWASCO/ ZABS MLGH	500,000
4.4 To upgrade sanitation infrastructure in peri-urban areas.	Enhancement of household sanitation facilities and faecal sludge management systems.	- At least 3 more CUs have applied FSM practices for onsite sanitation facilities¹². - Operational performance of infrastructure assessed and improved in 5 systems by 20% (effluent quality measured in BOD, energy use of sewerage plants, efficiency of FSM facilities)¹³	Q4/2018	CUs	5,000,000

¹¹ Investments for larger infrastructure projects are not considered under this budget

¹² Refer footnote 2

¹³ This budget is for TA only

Component 5: Delegated management models. Objective: To ensure that Commercial Utilities take on board wider responsibilities for sanitation service provision and promote delegated management models to improve service delivery for on-site sanitation facilities and decentralised wastewater infrastructure.					
<i>Specific objective/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
5.1 To adopt delegated management models widely to provide services in peri-urban area.	- Development of standard contracts and guidelines for CUs to apply delegated management models. - Development of service level agreements, including service areas for private service providers. - Enhancing service quality and allow competition for sludge emptying services. - Include FSM services in the mandate of existing and new water trusts.	- Guidelines and standard contracts developed by NWASCO. - Service level agreements developed - At least one service telephone line/center established at CU for residents to inquire sludge emptying service. 2 more water trusts provide sanitation services to peri-urban communities.	Q4/2016 Q4/2016 Q2/2017 Q4/2016	NWASCO NWASCO NWASCO/ CUs CUs/water trusts	1,000,000
5.2 To improve management of public and institutional sanitation.	- Development of public sanitation concept (including designs, guidelines and service contracts). - Liaise with other actors (MoE, MoH) for school sanitation and sanitation in health centers.	- Public sanitation concept developed and published. - Institutional sanitation is integrated into the urban sanitation plans.	Q4/2016 Q2/2018	NWASCO/ LAs/CUs LAs/CUs MLGH/MoE/ MoH	500,000
5.3 To increase the role of SMEs as providers of sanitation services.	Promote business development in the field of sanitation.	5 businesses went undergo business development programme. - At least 10 new businesses in the field of FSM/sanitation registered.	Q2/2016 Q4/2016	ZDA/ MLGH Private Sector	500,000

Component 6: Financing sanitation improvements and ensuring cost recovery.

Objective: To ensure that sanitation services are affordable for all households and that pricing structures ensure cost recovery of sanitation services to achieve financial sustainability.

<i>Specific objective/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
6.1 To increase investments in sanitation infrastructure.	- Develop infrastructure investment planning for CUs. - Explore opportunities of CSR funding. - Development of sanitation investment mechanism.	- Infrastructure development tool available - National funding scheme invests in sanitation infrastructure. - Development partners and GRZ provide concessional loans and guarantees to service providers. - Improved cost recovery of sanitation services.	Q4/2016 Q2/2017 Q4/2018 - 2030 Q4/2019	MLGH /NWASCO MLGH MLGH MLGH	1,000,000 500,000
6.2 To incentivize CUs to extend sanitation services to low-income areas.	- Assess opportunities and development of incentive mechanism. - Investigate the possibility of introducing a FS treatment charge or increasing the sanitation surcharge to cover FS treatment costs. - Develop scheme to support business development of delegated FSM service providers.	- Incentives available to invest in sanitation (e.g. tax incentives and results-based grants). - Increased private investments in the sector by providing financial incentives.	Q4/2016 -2030 Q2/2018	MLGH NWASCO /MLGH	500,000 500,000
6.3 To increase user charges collected by CUs for sanitation services.	Revise the level and structure of sanitation tariffs so as to recover at least operation and maintenance costs in the short term.	- Water, sewerage and fecal sludge management costs are separated in CUs financial statements. - The “polluter pays principle” introduced for polluting industries in waste water treatment pricing.	Q4/2017 Q4/2017	NWASCO NWASCO/ ZEMA	500,000 500,000
6.4 To increase earmarked revenues for LA sanitation departments from Municipal or national taxation.	Develop local sanitation levy (e.g. on ground rates) and national tax.	- Applied sanitation levy and tax scheme - Increased LA’s revenue earmarked for sanitation activities.	Q4/2017	MLGH	500,000
6.5 To provide households and landlords with financial support for latrine construction.	Assess opportunities and promote households’ self-investment in sanitation via sanitation marketing and microfinance.	- Increased sanitation investments from landlords. - Established financial support system for landlords (e.g. micro finance scheme).	Q4/2017	MLGH, NGOs, MFIs	250,000

6.6 To ensure subsidies for the poorest of the poor	Develop smart subsidy approach for the lowest income households (the bottom decile).	X no of HH that benefitted from subsidy (e.g. supply chain of goods/services, slabs or desludging services).	Q4/2017	MLGH, MCD	250,000
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Component 7: Monitoring, regulation and enforcement. Objective: To apply harmonised monitoring, regulation and enforcement tools to support implementation of the strategy.					
<i>Specific objective/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
7.1 To harmonize monitoring and reporting between MLGH, other line agencies and CUs.	Development of a national harmonized framework for monitoring and reporting urban sanitation developments.	- Harmonized sanitation coverage / access definitions developed. - Annual coverage and sanitation access rates published.	Q2/2016– 2030 Q4/2016– 2030	MLGH/ NWASCO MLGH/ NWASCO	250,000 250,000
7.2 To update NWASCO regulatory indicators for sanitation services.	Development of NWASCO regulatory tools (performance indicator, guidelines) for onsite sanitation services.	- Annual sector report includes customer oriented sanitation performance indicator. - NWASCO – CU Service Level Indicator include onsite sanitation. - NWASCO sanitation regulation guidelines published.	Q4/2016-2030 Q2/2017 Q2/2017	NWASCO NWASCO NWASCO	500,000 500,000 500,000
7.3 To enhance information management system for planning, development and monitoring of sanitation improvements.	- Include onsite sanitation into NWASCO urban National Information System. - Mapping of wastewater management and other sanitation infrastructure / facilities. - Development performance monitoring system for emptying services and FSM.	- Annual sanitation coverage data includes other onsite sanitation facilities (other than septic tanks) - Map with coverage data published - At least 3 Shit Flow Diagrams published. - Water Watch Group report on sanitation. 75% of complaints about on-site sanitation services resolved. - Results from water quality monitoring published.	Q4/2016-2030 Q4/2016-2030 Q4/2016 Q2/2017 Q4/2017	NWASCO NWASCO CUs/LAs NWASCO NWASCO	1,000,000 1,000,000 250,000 250,000
7.4 To strengthen lines of accountability between customers and service providers.	- Including sanitation service quality into Water Watch Group framework. - CUs to strengthen existing customer relations to respond to calls relating to on-site sanitation services.				
7.5 To promote effective water pollution monitoring and prevention programmes based on	Development of a wastewater quality monitoring programme incorporating				

enforceable water quality guidelines and standards.	provisions for environmental and public health assessment.				
<i>Specific objective/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
7.6 Ratification of innovation through standardisation and codes of practice.	- Development of standardisation of new sanitation technologies. - Development of Codes of Practice	- Published standards - Published Code of Practices and Building codes	Q2/2016 Q4/2016	ZABS ZABS	500,000 500,000
7.7 Strengthen Public Health Act and ensure enforcement of it.	- Review Public Health Act and bylaws - Strengthen human and financial resources for Public Health Department - Develop Information Campaign targeting landlords and informing about their obligation to provide sanitation facilities for their tenants and consequences of not complying to the law - Enforce Public Health Act	- Public Health Act review - Increased budget for Public Health Department - Information campaign launched - No. of warning letters per annum issued to landlords not adhering to public health laws and followed up by LAs.	Q4/2016 Q1/2016 Q4/2016 Q4/2016	LA LA LA LA/Police	500,000 500,000 500,000 500,000

Component 8: Capacity building					
Objective: To enhance organisations capacities and staff skills and expertise to effectively plan, implement and efficiently manage sanitation systems in a gender sensitive manner.					
<i>Specific objectives/outputs</i>	<i>Activities</i>	<i>Output indicators</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Budget in ZMW</i>
8.1 To strengthen the capacity of Local Authorities in sanitation implementation (e.g. to prepare sanitation plans and enforce the Public Health Act).	- Training activities for LA staff on enforcement - Establishment of a national support unit to provide technical advice to Local Authorities - Develop a toolkit for LA and CUs	5 trainings conducted per annum - Capacity Development Hub established - Toolkit published	Q4/2016 Q4/2015 Q4/2015	LAs MLGH	1,000,000 1,000,000 1,000,000
8.2 To develop CU capacity to plan and support the development of faecal sludge management services in their area of jurisdiction.	- CU training in contractual guidelines for delegated management. - Strengthened role of CU Association to support dissemination and capacity building activities.	2 trainings conducted per annum - Increased activities of CU association	Q4/2016 Q2/2016	CUs WUA-Z	500,000 500,000

8.3 To increase private sector and NGO capacity in sanitation service delivery.	- Establishment of a national certified training scheme for business development in the sanitation sector. - Enhance vocational training in sanitation - Development and implementation of a training of trainers programme for NGO/community workers	- Increased number of registered private companies with staff receiving vocational training - Vocational training course in the field of sanitation - Number of trained NGO/community workers (at least 50% women)	Q4/2016 Q4/2015 Q4/2015	PACRA TEVETA NGO WASH Forum	1,000,000
8.4 To develop technical standards and guidance for construction and O&M of on-site sanitation, simplified sewerage and facilities for faecal sludge management.	- Development of technical standards and guidance for sewerage connections - MLGH Technical manuals for design, construction and operation in accordance with standards set by ZABS and ZEMA.	Production of NUSS technical guidance approved by MLGH	Q2/2016	MLGH	500,000
8.5 To strengthen role of academic and research institutions in sector development	- Strengthened international cooperation and partnerships to support R&D and capacity-building programmes - Development of academic curricula and vocational training courses - R&D in toilet construction using pre-fabricated units manufactured at low cost and good quality - Documentation and dissemination of experiences of implemented projects	- Increased number in research activities - One more academic and vocational courses on sanitation established (with at least 50% female participants) - Lower costs toilet construction using pre-fabricated units 5 research reports published annually	Q4/2016 Q4/2016 Q2/2017	MLGH TEVETA ZDA UNIVERSITIES	500,000
NUSS - overview implementation responsibility and costs¹⁴.					
Specific objective/outputs		Main Responsibility	Budget in ZMW		
Component 1 - Advocacy, awareness raising and strengthening institutional framework.		MLGH	3,300,000		
Component 2 - Preparation of urban sanitation plans and prioritisation of sanitation investments.		MLGH/Las	2,500,000		
Component 3 - Sanitation market development, improvement of sanitation facilities and hygiene behavior.		MLGH	4,750,000		
Component 4 - Strengthened Commercial Utilities for sanitation service chains including faecal sludge management.		CUs/MLGH	7,000,000		
Component 5 - Delegated management models		MLGH/NWASCO	2,000,000		
Component 6 - Financing sanitation improvements and ensuring cost recovery.		MLGH/NWASCO	3,000,000		
Component 7 - Monitoring, regulation and enforcement.		NWASCO/ MLGH	3,500,000		
Component 8 - Capacity building		MLGH/ LA	3,500,000		
Overall implementation cost			29,550,000		

¹⁴ The infrastructure investments costs are not included. The budget includes software costs mainly.

Annex 2: Details of service delivery options

Service Delivery Option 1 : Conventional wastewater system					
Components of sanitation chain		Household facility	Greywater collection and disposal	Waste collection and transportation	Off-site treatment
		WC	Greywater combined with blackwater	Combined wastewater conveyed by conventional sewerage	Large scale wastewater treatment
		Responsibility	What needs to be financed?	Financing	
Household facilities	Construction of facilities	Developer or house owner	In house full flush water closet (WC) and connection up until boundary of private land.	Households / developers pay for the WC. Options for financing connection up until boundary of private land: 1) Households pay connection fee 2) Paid for by CU and then recovered through service charges	
	Promotion, capacity building, supervision		None		
	Operation and maintenance	Household responsibility	Operation and maintenance of latrines and removal of blockages in household connection.	Household self-financed	
Collection and transportation	Infrastructure development	Commercial Utilities	Conventional sewerage up until household boundary up until sewer pipe line	Low interest commercial loans from development banks. Results based Grants channelled through an earmarked fund to finance extension of sewerage systems.	
	Promotion, capacity building, supervision	Consultants	Technical assistance for managing OBA funding and developing asset management strategy	Grants from donors/GRZ	
	Operation and maintenance	Commercial Utilities	Sewer cleaning and repairs	Service charges (households and non-domestic users)	
Treatment	Infrastructure development	Commercial Utilities with private consultants and companies contracted for design, supervision and construction	Conventional wastewater treatment	Financing from international development bank (potentially under OBA financing arrangement)	
	Promotion, capacity building, supervision	External consultants	Technical assistance for managing OBA funding and developing asset management strategy	Grants from donor	
	Operation and maintenance	Commercial Utilities	Operation and treatment of treatment plant and sludge management	Customer service charges	

Service Delivery Option 2 : Decentralised sewerage connected to DEWATS

Components of sanitation chain		Household facility	Greywater collection and disposal	Waste collection and transportation	Off-site treatment
		Flush toilets (W/Cs or Pour flush)	Greywater combined with blackwater	Simplified sewerage	DEWATS (or connection to centralised sewerage)
Responsibility					
What needs to be financed?			Financing		
Household facilities	Construction of facilities	Households or private developer	Pour flush toilets and connections to simplified sewerage.	Households pay for the toilet Options for financing connections to sewers: 1) Households pay full connection fee 2) Connections subsidized via sanitation surcharge 3)Revolving fund to finance improvements and connections (established with donor funding) 4) Costs paid for by CU but paid back through service charges	
	Promotion, capacity building, supervision	Agent contracted by MLGH	Technical support to households, sanitation promotion, and dissemination of information about financial support for households	Donor grant funded	
	Operation and maintenance	Household responsible for OM of latrines and connections up to house boundary. Commercial utility	Maintenance and repair of latrine and connection pipe	Self-funded by households	
	Infrastructure development		Simplified sewerage up until private boundaries and connection/access chambers	i) Grant / Loan to CU, ii) Sanitation surcharge for areas with significant poverty.	
Collection and transportation	Promotion, capacity building, supervision	Utility partnerships	Capacity building for CUs	Donor funded	
	Operation and maintenance	CU responsibility or delegated management to private sector	Cleaning/maintenance activities (rodding/jetting to remove blockages and structural repairs).	Service charges from users (households and non-domestic users). Potentially cross subsidies between high and lower income users	
	Infrastructure development	Private consultants/companies responsible for design and construction under supervision by CU.	DEWATS (small scale wastewater treatment facility) owned by CU	Grants channeled through revolving fund based on CU performance.	
	Promotion, capacity building, supervision	Umbrella technical support agency	Capacity building / Technical support for operator of DEWATS	IFI funded – to be phased out over period of time.	
Treatment	Operation and maintenance	Treatment plant managed by CU or delegated management to another private operators if there are many DEWATS		By users service charges (households and non-domestic users) Cross subsidies between high income users and lower income user	

Service Delivery Option 3: Onsite sanitation (pour flush)

Components of sanitation chain		Household facility	Greywater collection and disposal	Waste collection and transportation	Off-site treatment
		Pour flush toilets combined with washing facility with individual or shared septic tank	Greywater reused for flushing	Desludging trucks	Septage treatment
		Responsibility	What needs to be financed?		
Household facilities	Construction of facilities	Household with local masons contracted for construction	Pour flush toilets combined with washing facility connected to low-cost septic tanks	Microfinance revolving fund (supported by IFIs) to enable households to invest in latrines.	Financing
	Promotion, capacity building, supervision	NGOs or private companies contracted by MLGH for a) Social marketing to promote demand b) Provision of technical support to households once they have decided to invest	Promotion and IEC but these households are likely to be upgrading from a pit latrine to an improved pour flush latrine, therefore less software/ promotion activities will be required than for option 1.	Donor funder	
	Operation and maintenance	Households responsible for cleaning and maintenance	- Desludging - Other latrine OM cleaning (including and soap)	O&M costs covered by households	
Collection and transportation	Infrastructure development	CU's	Desludging trucks	Grants to purchase and lease trucks.	
	Promotion, capacity building, supervision	Organised by CUs/ city councils		Loans for desludging companies buy trucks with	
	Operation and maintenance	CU offer mechanical desludging service or outsource these services to private desludging companies. Private desludging companies operate independently from the CUs	Training and equipment for desludging	Leasing companies could offer to lease desludging trucks to desludging companies	
Treatment	Infrastructure development	CU with private companies for design/supervision and construction	Support to structure the market	From the sanitation surcharge for lower income households	
	Promotion, capacity building, supervision		Emptying of latrines by desludging trucks	Companies receive payment directly from households for emptying latrines	
	Operation and maintenance	CU or delegated management to private operator	Septage treatment plant	Grant	
			None		
			OPEX and capital maintenance	Desludging companies pay a tipping fee to operator Pay licensing fee to the local authority Local authority pays the CU or private operator	

Service Delivery Option 4: Onsite sanitation (dry toilet)

Components of sanitation chain		Household facility	Greywater collection and disposal	Waste collection and transportation	Off-site treatment
		Improved dry pits	On-site disposal or discharge to drains	Improved manual emptying	Anaerobic digester
What needs to be financed?					
Household facilities	Responsibility		Financing		
	Construction of facilities	Household with local masons contracted for construction.	Construction of improved dry pits latrines. Support to supply chain to produce good quality/affordable materials /components for latrine construction	• Microfinance revolving fund (supported by IFIs) to enable households to invest in latrines.	
	Promotion, capacity building, supervision	Private companies/manufacturers of toilet NGOs or private companies contracted by MLGH for a) Social marketing to promote demand b) Provision of technical support to households once they have decided to invest	• IEC campaign • Sanitation marketing (setting up Sanimart, hiring salesman) • Training masons and artisans • Support to supply chains • Setting up a microfinance scheme	Grants (supported by IFIs)	
	Operation and maintenance	Households responsible for cleaning and maintenance	• Desludging • Other latrine OM cleaning (including and soap)	O&M costs covered by households	
Collection and transportation	Infrastructure development	Manual emptiers borrow equipment for desludging from manager of digester / transfer station).	Desludging and other equipment for manual emptiers	Financed by CUs using grants financing	
	Promotion, capacity building, supervision	Umbrella training institution	Training of manual emptiers	Donor financed	
	Operation and maintenance	Manual emptiers, with support from the DEWATS operator.	Manual desludging costs	Either manual emptiers are paid by households or are contracted for work through the operator of the treatment / transfer station who receives the payment from households and schedules the desludging activities in the area.	
Treatment	Infrastructure development	Asset is owned either by CU or Water Trust. CU responsible for construction with private companies/consultants contracted for construction	Construction of anaerobic digester (or transfer stations)	Co-financed by CUs using grant financing and funds accumulated from sanitation surcharge	
	Promotion, capacity building, supervision	“Umbrella” technical support agency	Operator to receive ongoing assistance	Financed by CUs who receive monthly payments from operators	
	Operation and maintenance	i) CU or ii) Private company under lease contract from CU; or ii) Water trust Contract specifies O+M requirements.	O+M of anaerobic digester. Sludge emptying	Either manual emptiers pay fee to discharge OR operator collects payments from households and pay for all O+M costs, capital maintenance and money for technical support agency.	