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Malawi Climate Resilient WASH Financing Strategy 2022 - 2032



FOREWORD



The government of Malawi has recognized the challenges of climate change and its consequences on the well-being of its nationals. As such, the government has prioritized preventive and remedial actions to achieve universal access to sustainable WASH services that are resilient to climate change and its impact. This is boldly stipulated in the national overarching “Malawi 2063” and the “Malawi Growth and Development Strategy” (MGDS III, 2017-2022).

As a country with the highest proportion of people at risk of frequent water shortage, underdeveloped water service infrastructure, and additionally, a rapid population growth, Malawi is facing a rapid per capita water decline. While the country made significant progress in increasing access to water and sanitation in the past two decades, the functionality and maintenance of the systems and services remain a challenge. Hence the country needs immense sectoral investment to further accelerate the rate of progress made to meet sector targets set out in the First 10 Year Implementation Plan (Malawi Implementation Plan 1- MIP-1) and Malawi 2063 where the population using safely managed drinking water services needs to increase from 87% to 100%, the population using improved sanitation services needs to increase from 52 to 65% and population practicing open defecation needs to be reduced to 0%.

As indicated in the 2012 Malawi Water Sector Investment Plan (WSIP), substantial socio-economic gains linked to investing in the sanitation sector will ensure the achievement of high net cost-benefit. The water sector also plays a critical role in Malawi’s economy, as most of the constraints to growth are related to water. Water-reliant sectors contribute an estimated 35 percent to the country’s GDP.

Hence, the Climate Resilient Financing Strategy for the Water, Sanitation, and Hygiene sector is a strategic document developed to ensure the achievement of WASH sector targets envisioned in the MIP-1 and Malawi 2063, by closing the financial gap Malawi is facing.

This strategic document is developed for the next nine years in alignment with MIP-1, and the Malawi Nationally Determined Contributions (NDCs), which feature adaptation measures specific to the WASH sector. It has been developed at a strategic period when His Excellency Dr Lazarus McCarthy Chakwera, the President of the Republic of Malawi has created the Ministry of Water and Sanitation to provide full attention to the delivery of water and sanitation services.

The Malawi Government will lead the rollout and implementation of the Climate Resilient WASH Finance Strategy in partnership with the private sector, public entities, and development partners. The government seeks the support of stakeholders of the WASH sector to avail commitment to the implementation of this strategy to ensure that all Malawians access climate-resilient WASH services and so that Malawi gets to achieve its development targets.

Hon Abida Sidik Mia, MP
Minister of Water and Sanitation

PREFACE



The Climate Resilient Financing Strategy for the Water, Sanitation, and Hygiene Sector (WASH) – “Madzi ndi Zanyengo” is a strategic document that sets out a path to close the finance gap hindering the achievement of national sectoral goals for the WASH Sector in Malawi.

The Climate Resilient WASH Finance Strategy provides a long-term view of the likely evolution of the finances of the WASH sector, exploring and proposing practical and feasible ways to close the finance gap to ensure the financial sustainability of the WASH sector, considering future climate scenarios and the general socio-economic context of the country. It also critically assesses the extent to which the foundational factors to mobilize additional finance are in place and whether there are initiatives to enhance them.

This strategy was developed through a comprehensive stakeholder consultation led by the Ministry of Water and Sanitation’s Planning department. It was done by employing technical assessment of sources of finance for the WASH Sector; assessment of costs of WASH services; identification and analysis of financial gaps to ensure achievement of sectoral goals; identification of sectoral bottlenecks; and most importantly, designing of a financial strategy that envisions reduction of costs and increases in sectoral financial flows that ensure closing of the financial gap.”

I would like to call upon all development players including the private sector and development partners to take part in the implementation of the strategy. I urge all stakeholders to align their programs and activities to this strategy so that together we can achieve the sectoral goals envisaged in Malawi 2063.

Joseph Magwira

Acting Principal Secretary for Water and Sanitation

Acknowledgements

The development of the climate resilient WASH financing strategy has involved many stakeholders working in the water, sanitation and finance sectors in Malawi. They have provided their feedback and inputs under the leadership and guidance of Dr. Max Wengawenga (Ministry of Water and Sanitation) and Michele Paba (UNICEF).

Executive Summary

The Malawi Climate Resilient water, sanitation and hygiene (WASH) sector Financing Strategy has been developed for the next nine years, aligned with Vision 2063 and the First 10 Year Implementation Plan (MIP-1). The strategy is also aligned with the Malawi Nationally Determined Contributions (NDCs), which feature adaptation measures specific to the WASH sector.

This strategy sets out a path to close the finance gap in the WASH sector in Malawi, and to ensure the financial sustainability of the WASH sector – considering future climate scenarios and the general socio-economic context of the country. It provides:

- A long-term view of the likely evolution of WASH sector finances;
- Practical and feasible ways to close the finance gap;
- Critical assessment of the extent to which the foundations to mobilise additional finance are in place and whether there are initiatives to improve on them.

The institutional set-up for the water sector in Malawi

The water sector has been facing institutional changes. Since 2020, the Ministry of Forestry and Natural Resources (MoFNR) has been responsible for water service provision, water resource management and sanitation services (on-site, sewerage, and solid waste). In February 2022, a new Ministry of Water and Sanitation was created.

The National Water Resources Authority (NWRA), established in 2018, has the responsibility to develop, manage, administer and protect water resources for the sustainable, effective and efficient provision of water for all its uses. The NWRA's current does not include regulation of tariffs and pricing for water. Malawi does not have an independent water supply and sanitation sector regulator. This is one of the reform areas under the Ministry (number 19 from the MoFNR, 2020).

Urban and small-town water supply is the responsibility of two urban water boards (Lilongwe and Blantyre) and three regional water boards (Northern, Central, and Southern). The five water boards are state-owned enterprises that need to cover all their operating costs.

The Waterworks Act (No. 17 of 1995) gives Water Boards the mandate to provide water-borne sewerage sanitation within their water areas. However, the provision of water-borne sanitation in urban centres is currently handled by the City Councils.

There are 28 District Councils whose mandate is to provide services in a broad range of policy areas, including solid waste disposal, water supply and sanitation systems. Rural water service delivery has operated mainly through a community-based management approach since the 1980s. The most prevalent service provision is through Water Point Committees, which contract local area mechanics to conduct repairs.

Private sector engagement in the sector is limited to drilling and consultancy companies and masons and technicians. Private waste operators also manage some waste collection and transport in urban areas.

Targets for the sector

In 2015, Malawi ranked five out of the top 10 countries (with a population greater than one million) with the highest proportion of people at risk of frequent water shortages (Sadoff et al., 2015). Malawi's water resources vary between wet and dry seasons and from year to year. The country's stock of water storage infrastructure is one of the lowest in the region. Population growth has led to a rapid decline in per capita water availability.

Malawi has made significant progress in the past two decades to increase access to water and sanitation services. The 2030 targets for the WASH sector in the MIP-1 (and in Vision 2063) are based on the 2016 government data baselines:

- Population using safely managed drinking water services from 87% to 100%;
- Population using improved sanitation services from 52% to 65%;
- Population reporting practising open defecation from 6% to 0%.

Despite the progress made, the country needs to accelerate progress to meet the targets set for the first 10 years of Vision 2063. Challenges preventing the government from speeding up coverage rates include the functionality and maintenance of existing assets.

The investment case for the sector and main constraints

It is estimated that Malawi loses about MK 3097 (USD 3.8) per capita or 1.1 percent of the country's annual GDP due to poor health outcomes attributed to, among others, low access to safely managed sanitation services (WB, 2021).

The 2012 Malawi Water Sector Investment Plan (WSIP) indicates substantial socio-economic gains linked to investing in the sector. The highest net cost-benefit is achieved by providing sanitation and ensuring every school has hygiene facilities. This leads to a return of more than MK 11,410 (USD 14) per each Malawian Kwacha (or dollar) invested.

The water sector plays a critical role in Malawi's economy, as most of the constraints to growth are related to water. Water-reliant sectors contribute an estimated 35 per cent to the country's GDP (WB, 2021).

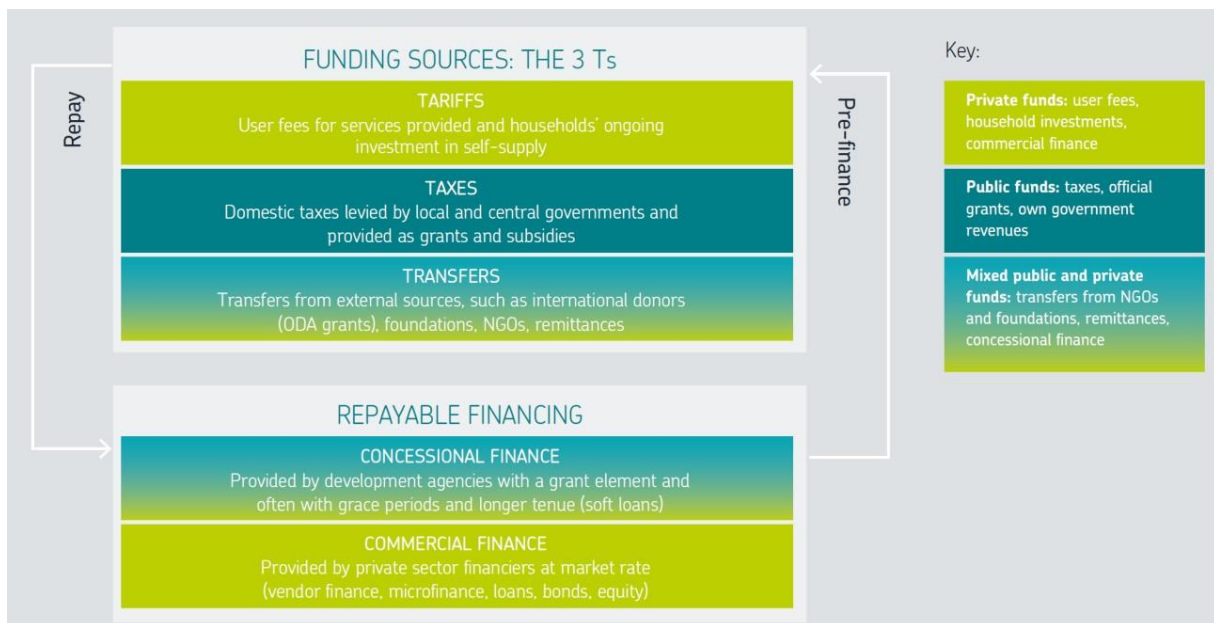
Despite the investment case, *"from the community level to politicians, everyone has put water among their top priorities. But when it comes to funding, it does not match"*. The water sector is a government priority but does not receive adequate funding; most funding goes towards health, education and agriculture.

The primary constraints for funding and financing the sector include both the institutional set up and how finance is allocated, namely: an inadequate budgeting process; a fractured decentralisation process; a sector where funding is dominated by infrastructure-focused water projects and limited attention to post-construction funding.

Sources of finance

The analysis of the three main sources of finance, the 3 Ts – taxes, transfers and tariffs - show that even though **tariffs** recently increased for urban water, there still remains a large finance gap in the maintenance of rural and urban infrastructure (both operational and capital maintenance expenditure).

Moreover, the national budget allocations confirm strong competition among several sectors. National budget (**taxes**) for the sector is too low and skewed to water infrastructure. There is a large gap to finance sanitation infrastructure and for ongoing service delivery (direct support expenditure). External aid (**transfers**) is also skewed to infrastructure and repayable finance. Finally, the private sector (for wastewater and solid waste collection and recycling) can access both **concessional and commercial loans** but the market is too small and not regulated, which makes it unattractive.



Source: SWA, 2020 based on World Bank

The major options to increase funding are therefore limited:

- Explore increasing national budget through dedicated taxes. There could be more ring-fenced taxes allocated to the sector. For instance, the existing VAT on water bills, could be reinvested in the sanitation sector. This is happening in other sectors such as energy and roads.
- Ensure there is a more balanced expenditure towards maintenance, rehabilitation and sanitation to avoid further asset deterioration.
- The efficiency ratios of the water utilities also require improvements and there can be significant additional revenues from tackling non-revenue water.
- Support access from private sector to concessional and commercial loans through market regulation. Overall, the conditions for private investment (or private service providers) have not yet been created, but commercial banks are ready and willing to provide the required finance if regulations remove the almost monopoly on wastewater and solid waste management.

The WASH finance gap

The Water Sector Investment Plan (SIP) (2012) outlined that MK 102 billion (USD 125 million) was needed annually between 2015 and 2030 for the sector to achieve 98% access to improved water supply by 2025 and 90% access to improved sanitation by 2030. More recent estimates using the UNICEF Sustainable Development Goal (SDG) costing tool (2019) point to a need of MK 78 billion/year for basic coverage and MK 207 billion/year for safely managed.

More **detailed calculations from District Development Plans (2017-2022)**, show that for four districts alone, a total of MK 117 billion is required to adequately finance the water sector just in 2019/20 financial year (GoM, 2021).

From a climate adaptation perspective, using the costing estimates in the Malawi NDCs, the additional finance required per year for a climate resilient WASH sector is estimated at MK 19 billion (USD 24 million).

From a purely mathematical perspective, using different scenarios and the data available, it seems that there is not a finance gap for reaching basic coverage, including climate resilient infrastructure. **This points on the one hand for an underestimation of cost estimates**, which become more realistic once districts develop their own costed investment plans including all the life-cycle costs for climate resilient services. On the other hand, all the sources of funds are skewed towards capital investment, for water infrastructure in urban areas.

The consolidation of sources of funds hides a real finance gap for rural areas and for sanitation. Which means that a more balanced and equitable distribution of funds is required in future funding allocations, knowing that the majority of the population will also be living in rural areas.

Options for closing the WASH finance gap

Closing the WASH finance gap in Malawi can be done with three main approaches. Each of the 18 options proposed has been tried in Malawi. Section III describes each option in detail and provides indicative costs and estimated returns, which are briefly summarised here.

1. Reducing the costs of achieving the WASH targets by:

- Reducing technical and non-technical losses to increase revenue;
- Reducing the need for rehabilitation investments through timely maintenance;
- Reducing long-term operational costs (e.g. energy) and investing in lower costs-higher return infrastructure.

A 10% reduction on non-revenue water by the Water Boards is estimated to raise additional MK 1-2 billion a year (WB, 2021). Reducing the need for rehabilitation by increasing preventive maintenance would ensure the serviceability and quality of services as well as reducing costs in the medium term. Finally, more than half the expenditure of Water Boards is on energy bills. Decreasing dependency on the electricity grids by half would release significantly operational expenditure. For rural water, investing in resilient solar power piped schemes could decrease the cost of production per cubic meter by 35-50% while increasing climate resilience.

2. *Mobilise additional funding by:*

- Increasing government budget allocations to the sector with better engagement, sector coordination and accountability mechanisms; Decentralise water and sanitation entirely to district and city councils
- Rural and peri-urban water: Performance-based finance mechanisms; Reform the borehole fund; Increase climate funding
- Rural and peri-urban sanitation: Support market-based approaches
- Urban water: Annual revision of the tariffs; Improving billing and collection systems
- Urban sanitation: Create a fund for sanitation using the VAT on water bills; Support the city councils to develop business plans for faecal sludge management (and make investment decisions based on these); Regulate neighbourhoods and fees for waste operators.

Each of these measures is estimated to generate several millions MK more for the sector. The most promising ways to generate the billion MK required to close the finance gap are the ring fencing of the VAT on water bills to be reinvested in the sector (and specifically sanitation) and the climate funding proposal being submitted to the Green Climate Fund (GCF) for rural water (MK 8 billion). A 10% average increase in billing and collection would also raise additional MWK 1-2 billion per year for the Water Boards.

3. *Increase repayable finance through:*

- Performance-based loans for Water Boards
- Loans from commercial banks to small and medium sized enterprises (SMEs)
- Microfinance for household latrines
- Microloans for maintenance of rural and peri-urban water infrastructure

To access financing from domestic and international finance institutions (IFIs) it is critical to increase the creditworthiness of WASH service providers. The NBS Bank is already financing SMEs in the sector - mostly companies that are drilling boreholes and small shops that sell hardware. The opportunity to develop SMEs in the area of wastewater management, waste collection, recycling and composting is enormous. Opening business opportunities for entrepreneurs by providing area concessions would allow more funding for SMEs and the business focused on activities in line with environmental protection as well as climate mitigation and adaptation.

Next steps

The recommended next steps include:

1. The Ministry of Water and Sanitation sets up a multi-stakeholder Steering Committee or/and a Coordination Platform to oversee the implementation of this finance strategy and prioritise and sequence the 18 options;
2. The Steering Committee proposes priorities and discusses an implementation plan for 2022/23 seeking alignment among sector stakeholders;
3. The Coordination Platform has dedicated activities to reach out to other sectors which take a considerable size of the national budget (health, education, agriculture) to also include relevant WASH budget lines in their own budgets;
4. Support District and City Councils in the development of district financial plans for the water and sanitation sector. This includes asset inventories and direct support estimates to inform the recurrent budget allocations;
5. Support District and City Councils contextualise the climate risk assessment and develop disaster mitigation and preparedness budgeting.

The Steering Committee or/and the Coordination Platform are to be chaired by a high-level representative from the Ministry of Water and Sanitation and co-chaired by an equivalent representative from the Ministry of Finance. The Coordination Platform can develop terms of reference for the Steering Committee.

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List of acronyms

ADC	Area Development Committee
AfDB	African Development Bank
CapEx	Capital expenditure
CapManEx	Capital maintenance expenditure
CRWB	Central Region Water Board
DEHO	District Environmental Health Officer
DHO	District Health Officer
EIB	European Investment Bank
EHO	Environmental Health Officer
FSM	Faecal sludge management
GCF	Global Climate Fund
GoM	Government of Malawi
HSA	Health Surveillance Assistant
IFIs	International finance institutions
IRC	IRC WASH
LDF	Local Development Fund
KPI	Key performance indicators
MIP-1	Malawi Implementation Plan (for 2021-2030)
MoAIWD	Ministry of Agriculture, Irrigation and Water Development (no longer exists)
MENR	Ministry of Environment and Natural Resources
MoEST	Ministry of Education, Science and Technology
MoF	Ministry of Finance
MoFNR	Ministry of Forestry and Natural Resources
MoH	Ministry of Health
MoLGRD	Ministry of Local Government and Rural Development
MoWS	Ministry of Water and Sanitation
NDCs	Nationally Determined Contributions
NRWB	Northern Region Water Board
NWRA	National Water Resources Authority
ODA	Overseas Development Assistance
ODF	Open Defecation Free
OpEx	Minor operational and maintenance expenditure
ORT	Other recurrent transactions (direct and indirect support costs)
PER	Public Expenditure Review
SACCO	Savings and Credit Cooperatives
SDG	Sustainable Development Goals
SRWB	Southern Region Water Board
SWAp	Sector Wide Approach
UNICEF	United Nations Children’s Fund
VDC	Village Development Committee
VSLA	Village Savings and Loan Association
WASH	Water, Sanitation and Hygiene
WB	World Bank
WESNET	Water and Environment Sanitation Network
WFP	Water for People
WHO	World Health Organization
WUA	Water user association
WASAMA	Water Services Association of Malawi
WSIP	Water Sector Investment Plan

1. A climate resilient financing strategy for the water and sanitation sector

1.1 Introduction

This **Climate Resilient WASH sector financing strategy** sets out a clear path to close the financing gap in the water, sanitation and hygiene (WASH) sector. It provides a long-term view of the likely evolution of the finances of the WASH sector. It explores ways to close the finance gap to ensure the financial sustainability of the WASH sector – considering future climate scenarios.

The strategy is designed to be adopted by national, regional or local government and embraced by major stakeholders involved in WASH service provision with a view to achieving national development targets.

The key questions the WASH finance strategy aims to answer for the sector are:

- How much money do we spend?
- How much money do we need?
- What is the finance gap?
- What are the options for filling the finance gap?

The climate resilient financing strategy aims to:

- Strengthen the capacity of the WASH sector leadership to steer the sector towards reaching the targets set in the MIP-1 (Annex 1) and Vision 2063;
- Inform the development of WASH sector policies, plans and programmes in line with the country’s National Determined Contributions (NDCs) and WASH risk assessment;
- Develop a consensus among key sector actors of how to put the WASH sector on a financially and environmentally sustainable path;
- Increase the credibility of the WASH sector viz-a-viz the Ministry of Finance, development partners and financial institutions;
- Improve alignment of development partners’ support with WASH policy objectives and coordinate external partners amongst themselves and the government.

1.2 Methodology

The process for developing the content of the finance strategy, consists of the following steps.

Step	Data collection and analysis methods
1: Sources of finance	Understanding the landscape of funding to the sector. This document uses the OECD (2009) framework of the 3T’s (taxes, tariffs and transfers) as the potential sources of funding, and concessional and commercial financing. Secondary data and recent documents have been used in this document.
2: Cost of services	Current and desired services cost to cover the life cycle costs (Figure 1). Secondary data and recent documents have been used as sources.

Step	Data collection and analysis methods
3: Finance gap	Identifying the gap between projected costs (i.e. what is needed to reach targets) and available sources of funding (Figure 2). Recent documents provide this gap for Malawi.
4: Financial bottlenecks to reduce the finance gap	Identify the barriers to mobilising more resources (see the 10 foundations required below). This was collected and analysed based on recent documents and key informant interviews.
5: Finance strategies	Determine options to reduce the costs and increase financial flows, overcome the challenges identified in Step 4, and quantify how each strategy would contribute to lowering the finance gap. This was primarily done through key informant interviews.

1.3 Definitions

1.3.1 Life-cycle costs of services

The life-cycle costs include the following Figure 1 and Box 2. For some of the sub-sectors, and for some of the costs, estimates have been made by UNICEF Malawi using the Sanitation and Water for All (SWA) finance framework and validated by different stakeholders see (Annex 3).

Figure 1 The six life-cycle cost categories for sustainable WASH service delivery



Source: WHO, 2020

Box 1 The life-cycle costs for sustainable WASH

Capital expenditure (CapEx), hardware and software The capital invested in constructing fixed assets such as concrete structures, pumps and pipes. Investments in fixed assets are occasional and ‘lumpy’ and include the costs of initial construction and system extension, enhancement, and augmentation. CapEx software includes one-off work with stakeholders prior to construction or implementation, extension, enhancement, and augmentation, (such as costs of one-off capacity building).

Capital maintenance expenditure (CapManEx). Expenditure on asset renewal, replacement and rehabilitation costs, based upon serviceability and risk criteria. CapManEx covers the work that goes beyond routine maintenance to repair and replace equipment, to keep systems running. Accounting rules may guide or govern what is included under capital maintenance and the extent to which broad equivalence is achieved between charges for depreciation and expenditure on capital maintenance. Capital maintenance expenditures and potential revenue streams to pay those costs are critical to avoid the failures represented by haphazard system rehabilitation.

Operational and minor maintenance expenditure (OpEx). Expenditure on labour, fuel, chemicals, materials, regular purchases of any bulk water. Most cost estimates assume OpEx runs at between 5% and 20% of capital investments. Minor maintenance is routine maintenance needed to keep systems running at peak performance, but does not include major repairs.

Costs of capital The cost of capital is the cost of financing a programme or project, considering loan repayments and the cost of tying up capital. In the case of private sector investment, the cost of capital will include an element distributed as dividends.

Direct support costs. Includes expenditure on post-construction support activities direct to local-level stakeholders, users or user groups. In utility management, expenditure on direct support such as overheads is usually included in OpEx. However, these costs are rarely included in rural water and sanitation estimates. The costs of ensuring that local government staff have the capacities and resources to help communities when systems break down or to monitor private sector performance are usually overlooked.

Indirect support costs This includes macro-level support, planning and policy making that contributes to the enabling environment for service provision but is not particular to any programme or project. Indirect support costs include government macro-level planning and policy-making, developing and maintaining frameworks and institutional arrangements, and capacity-building for professionals and technicians.

Source: WHO, 2020

1.3.2 Sources of funds

It is important to distinguish between funding and financing. **Funding** is an amount of money provided by an organisation or government (or customers) on the basis of an agreement. These are primarily made up of the ‘3Ts’: taxes, tariffs and transfers (see Box 2). **Financing, or repayable finance,** is an amount of capital or the sum of money provided to an organisation with the expectation of repayment it can be provided through concessional or commercial finance. Organisations are liable to pay back the capital amount along with a certain percentage of interest. In short, funding does not need to be paid back while financing does. See Figure 2.

Box 2 Sources of funding

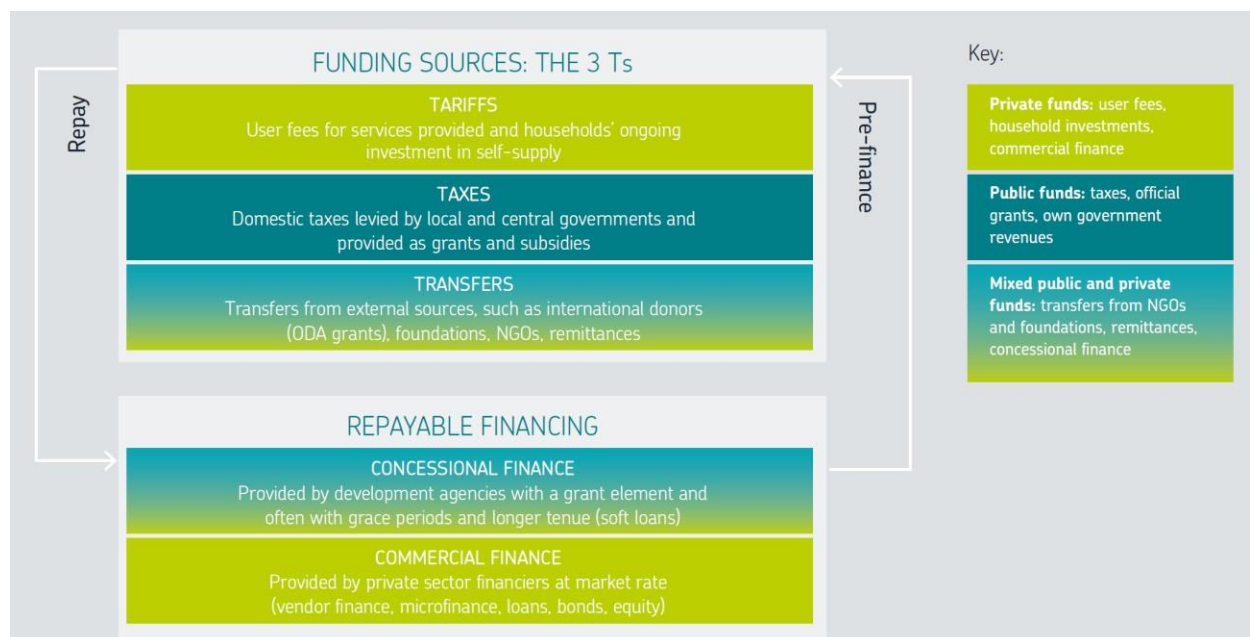
Taxes refer to funds originating from domestic taxes that are channelled to the sector via transfers from all levels of government, including national, regional and local. Such funds would typically be provided as subsidies, for capital investment or operations. “Hidden” forms of subsidies may include tax rebates, soft loans (i.e. at a subsidised interest rate) or subsidised services (e.g. subsidised electricity).

Tariffs are funds contributed by users of WASH services for obtaining the services. Users generally make payments to service providers for getting access to the service and for using the service. When the service is self-provided (e.g. when a household builds and operates its own household latrine), the equity invested by the household (in the form of cash, material or time – “sweat equity”) would also fall under “tariffs”.

Transfers refer to funds from international donors and charitable foundations (including NGOs, decentralised cooperation or local civil society organisations) that typically come from other countries. These funds can be contributed in the form of grants, concessionary loans (i.e. loans that include a “grant” element in the form of a subsidised interest rate or a grace period) or guarantees.

Source: WHO, 2020

Figure 2 Sources of funding and financing



Source: SWA, 2020 adapted from World Bank

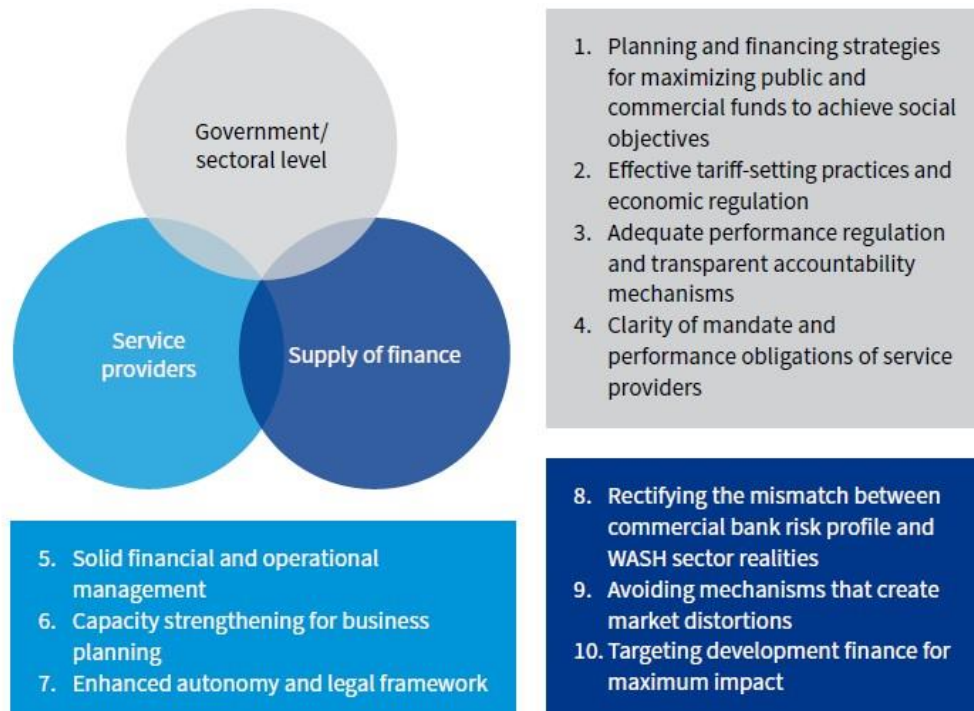
1.3.3 Climate resilient WASH

A climate resilient WASH sector means that WASH infrastructure and services are sustainable and resilient to climate related risks and that the sector works towards lowering greenhouse gas (UNICEF, 2020a).

1.4 Financial bottlenecks to reduce the finance gap

The finance strategy critically assesses the extent to which the foundational factors to mobilise additional finance are in place (Figure 3), and whether there are initiatives to improve on them. This was done based on document review and interviews with sector experts. The fiduciary risk analysis done in 2017 has also been reviewed. The results are presented in a short scorecard in section 7.

Figure 3 Foundational factors to mobilise additional finance



Source: Pories et al., 2017

1.5 Determine strategies and develop a finance strategy

To determine the specific strategies that are most feasible to reduce the finance gap, the framework of the Sanitation and Water for All (SWA, 2020) handbook for finance Ministers was used (Figure 4). The framework identifies four main strategies to reduce the finance gap, and identifies the conditions required for applying these strategies.

Figure 4 SWA framework: strategies for reducing the gap



Source: SWA, 2020

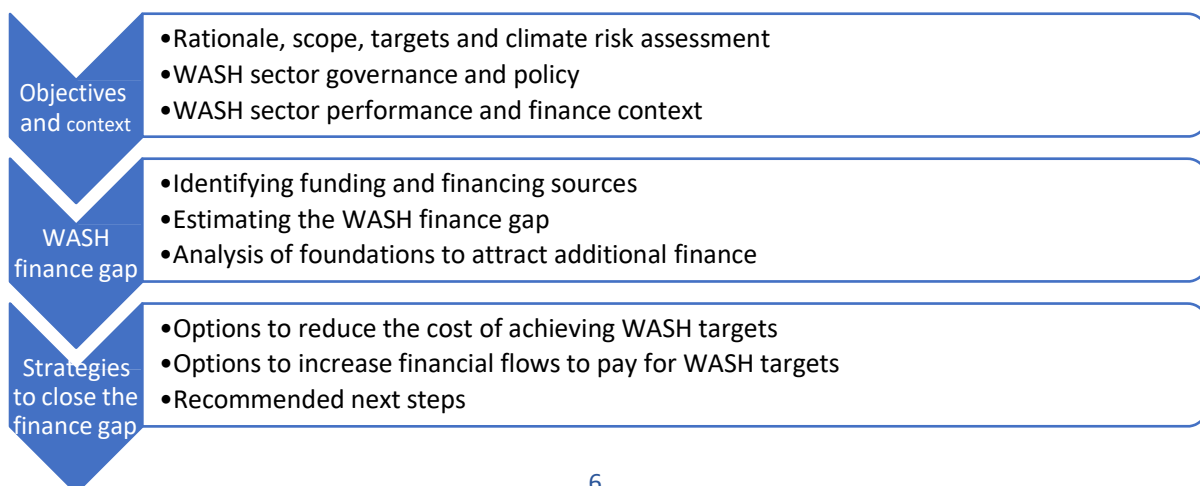
This framework allows identifying the potential for resource mobilisation i.e. the extent to which it can reduce the gap quantitatively and the level of effort in terms of reforms required to remove the bottlenecks identified. A quantitative estimate of each strategy element's potential for gap reduction will be made based on existing financial data. The strategy elements and options were identified based on examples provided by stakeholders in Malawi and key informant interviews.

1.6 Currency

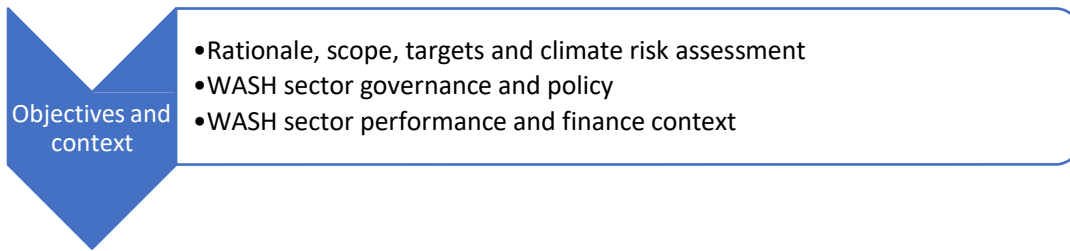
The original currencies have been used throughout the document and the market currency conversion to Malawi Kwacha (MK) from January 2022 has been used. No deflators or inflators have been used in the currency conversions.

Currency	MWK January 2022
1 EUR	908,82
1 USD	815
1 XUA African Development Bank	1142,63

1.7 The outline of the climate resilient finance strategy



Part I Climate resilient finance strategy: the context



2. Objectives and scope

The climate-resilient finance strategy aligns with the ambitions set in the Malawi Vision 2063 and the Malawi Implementation Plan 1, which sets out the targets and priorities until 2030. It is a component of the new water policy (under revision), and it also includes strategies that support the NDCs.

2.1 Water, sanitation and hygiene in the Malawi Vision 2063

The Malawi Vision 2063, launched in 2020, states the ambition of the country to be an inclusively wealthy and self-reliant industrialised upper-middle-income country with a vibrant knowledge e-based economy, and a competitive and robust manufacturing industry driven by a productive and commercially vibrant agriculture and mining sector. But also, to be an environmentally sustainable economy (GoM, 2020).

Industrial growth is water-intensive and has led to increased demand and pollution. “Industrial activity associated with unregulated waste disposal, discharge of untreated industry effluents, no proper waste treatment systems and leaking of toxic waste leads to modification of the ecosystem and related services” (GoM, 2020). Therefore, it is imperative to address future water and waste challenges beyond individual households and communities.

Box 3 Clean Water, Sanitation and Hygiene in Malawi Vision 2063

“In envisioning a healthy population of Malawians, ensuring the provision of clean water, sanitation and hygienic services will be critical at the household and community level. Government shall take the lead and rally partners and communities in promoting the adoption of safe water and sanitation practices at the individual and household level.

This shall include the provision and promotion of the use of improved and accessible sanitation facilities in all public places as well as improving the management and disposal of liquid and solid waste. There shall be introduction of voluntary community services and awards for cities, towns and local communities in support of good sanitation and hygiene practices. Beyond this, we shall develop water networks that cater for agricultural, industrial and household usage across the country.

As we industrialize, we shall focus on the management and development of water resources so that we have adequate and unpolluted water for both industrial and domestic use throughout the year.”

Source: GoM, 2020, pages 39 and 44

2.2 WASH sector targets in the Malawi Implementation Plan-1

The Malawi Government launched in 2021 the First 10 Year Implementation Plan (MIP-1). The MIP-1 covers the period from 2021 to 2030 and replaces the Malawi Growth and Development Strategy III as the country's new medium term development strategy. It aims to reach most of the Sustainable Development Goals (SDGs) by the year 2030 and help Malawi graduate into a middle-income economy. The key outcomes, strategy and priority interventions are in Annex 1.

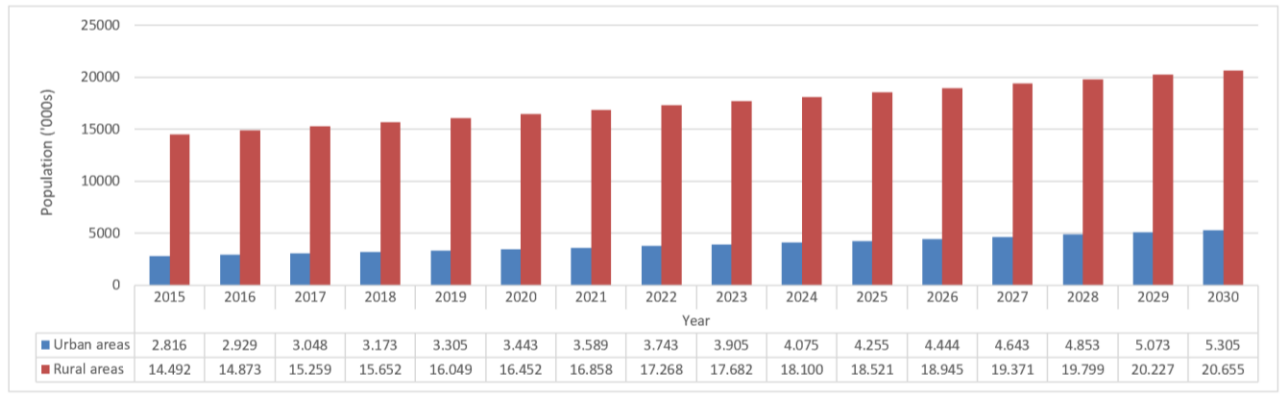
The targets for the WASH sector in the MIP-1 (and in Vision 2063) for the next 9 years are shown in Table 1. Currently, only 35 percent of the population uses safely managed sanitation services. The MIP-1 will ensure the provision of clean water, sanitation and hygiene services, especially at the household and community level, to achieve universal coverage of access to clean water and improve the use of safe sanitation services to 74 percent of the population and 75 percent hygiene coverage by 2030; while also strengthening Government systems to ensure the sustainable utilisation of Malawi's water resources (GoM, 2021:80).

Table 1 WASH sector targets in the MIP-1

SDG 6.1.1 Proportion of population using safely managed drinking water services							
		Annual targets					
	Baseline	2021	2022	2023	2024	2025	2030
Total	87% (2016)	90%	92%	94%	96%	95%	100%
Rural	85% (2016)	87%	91%	93%	95%	96%	100%
Urban	98% (2016)	98%	98%	99%	99%	100%	100%
SDG 6.1.2 Proportion of population using safely managed sanitation services, including a handwashing facility with soap and water National indicator (Malawi): proportion of population using improved services							
		Annual targets					
	Baseline	2021	2022	2023	2024	2025	2030
Total	52% (2016)	53%	54%	55%	56%	57%	65%
Rural	45% (2016)	46%	47%	48%	49%	50%	60%
Urban	53% (2016)	54%	55%	56%	57%	58%	65%
SDG 6.1.2 Proportion of population using safely managed sanitation services, including a handwashing facility with soap and water National indicator (Malawi): percentage of population reporting practicing open defecation							
		Annual targets					
	Baseline	2021	2022	2023	2024	2025	2030
Total	6% (2016)	5,5%	5%	4,5%	4%	3,5%	0%
Rural	7% (2016)	7%	6,5%	6%	5,5%	5%	0%
Urban	1% (2016)	1%	0%	0%	0%	0%	0%

The population estimates point to a yearly 3.3% growth (National Statistics Office), but the vast majority of the growth, in absolute numbers, will take place in rural areas (Figure 5).

Figure 5 Population size in 2015 and projections to 2030, in rural and urban areas



Source: National Statistics Office and SDG Costing Tool

Surface water makes up 98 percent of the available water resources. However, the water resources are under threat from severe watershed degradation and climate change. The total renewable water resource available in Malawi is estimated at 927 cubic meter per capita, per year, which is very close to water scarcity. Due to population growth, watershed degradation and climate change, per capita water availability has declined by 44 percent in the last 20 years (Hettinger et al, 2020).

There is also lack of water storage infrastructure which limits the ability to regulate unpredictable hydrological variability and mitigate the effects of floods and droughts. The country's dam storage capacity is significantly underdeveloped (at 2.24 cubic meter per inhabitant) and the lowest in the Southern Africa region (Hettinger et al, 2020).

2.3 WASH sector finance strategy and the new national water policy

The WASH finance strategy fits objectives 10 and 11 of the new national water policy 2021 (under revision), namely the priority area 5, which seeks sectoral coordination, financing and investment (Box 4).

Box 4 Excerpts from the new national water policy (under revision)

Objective 10: To increase funding and investment as well as strengthen proper coordination, effective monitoring and evaluation and results accountability of the water sector.

Policy Statement 2: An investment programme for sustainable development of the water sector is clearly defined.

- Strategy 1: Review the existing water sector investment plans and develop and implement National Water Sector Strategy and Investment Plan; and
- Strategy 2: Establish the NWDP III to pool resources into programmatic financing rather than project-based financing.

Objective 11: To promote public and private sector investment in the water sector and encourage independent water service providers.

Policy Statement 3: Adequate funds for implementation of all water sector projects and programmes are generated.

- Strategy 1: Develop and implement Water Sector Resource Mobilisation Strategy;
- Strategy 2: Advocate for increased annual budgetary allocation for the water sector;
- Strategy 3: Advocate for the more shifts towards financing rural water supply and community-based water resources management;
- Strategy 4: Develop a Water Sector Financing Strategy to ensure adequate provision of financial resources in line with the annual investment plan and costs through multi-sectoral financial window by the development partners; and
- Strategy 5: Develop and implement guidelines for attracting cost effective investment in the water sector through appropriate Public Private Partnership models.

2.4 The WASH climate risk assessment

The temperature increases and changing precipitation patterns are a risk to WASH services in Malawi. Vulnerable populations are already suffering the brunt of these consequences, threatening their livelihood, dignity and health. Currently, numerous initiatives are contributing in a piecemeal way to climate resilience in the WASH sector.

To understand which part of the WASH System runs the most risk, a comprehensive risk assessment has been conducted and validated with stakeholders during November 2021.

The risk ranking has been based on the following formula: Risk = Hazard x Exposure x Vulnerability. Each of the factors has been analysed, leading to a total of 83 combinations. The 9 top ranking risks are presented in Table 2. Definitions in Table 3.

These results demonstrate that **climate resilience is not just an infrastructural challenge – but needs a system approach. In fact, half of biggest risks relate to finance.**

Table 2 Summary high risks WASH sector Malawi

Hazard		Exposure		Vulnerability	Risk		
Hazard	Score	Exposure	Score	Factor	Score	Score	Rank
Drought	3	Hygiene behaviour	3	Community-wide knowledge and understanding of risks and WASH benefits	3	27	1
Tropical Cyclone	3	Finance	3	Ability to draw on emergency funds	3	27	1
Drought	3	Point source	3	Resilience of WASH infrastructure	2	18	3
Drought	3	Finance	2	Ability to draw on emergency funds	3	18	3
Flooding	3	Toilet/latrine	3	Resilience of WASH infrastructure	2	18	3
Flooding	3	Hygiene behaviour	2	Community-wide knowledge and understanding of risks and WASH benefits	3	18	3
Flooding	3	Finance	2	Ability to draw on emergency funds	3	18	3
Tropical Cyclone	3	Toilet/latrine	3	Resilience of WASH infrastructure	2	18	3
Tropical Cyclone	3	Hygiene behaviour	2	Community-wide knowledge and understanding of risks and WASH benefits	3	18	3

Source: GoM/UNICEF, 2021

Table 3 Key definitions for risk assessments

Hazard	The term hazard can be defined as “a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage”.
Exposure	The term exposure can be defined as “people, property, systems, or other elements in places or settings that could be adversely affected by hazards and that are thereby subject to potential losses”.
Vulnerability	The term vulnerability can be defined as “the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard”. There are many aspects of vulnerability, arising from various physical, social, economic and environmental factors.

2.5 WASH sector finance strategy and the Nationally Determined Contributions

The Government of Malawi recently released its National Determined Contributions (NDCs), submitted to the United Nations Framework Convention on Climate Change (UNFCCC) ahead of the 26th Conference of the Parties (COP26) of November 2021. The submitted NDC has 35 mitigation and 80 adaptation measures.

The importance of water in adaptation is made very clear as *all* of the 80 adaptation measures should align with SDG6. Analysis indicates that nine adaptation measures are specific or related to WASH (see Table 4 and complete overview in Annex 4) (GoM/UNICEF 2021).

Table 4 Selected adaptation measures in the NDC related to resilient WASH

Reference	Measure	Mitigation benefits
6.4.1.1	Nationwide community-based Early Warning System and flood monitoring, prioritised in problematic rivers	Protection of assets that promote low carbon development and mitigation
6.4.2.1a	Water supply, storage, harvesting in drought-prone areas, including water point rehabilitation	Savings in energy used to alleviate water shortages
6.4.2.3d	Monitoring of leakage and control in piped networks	Money savings in energy costs may be used to alleviate floods and droughts
6.4.2.3e	Water use efficiency	Money savings in energy costs may be used to alleviate floods and droughts and water treatment
6.4.2.3f	Improvement in the coverage of rural piped water supply	Savings in energy used to water needs
6.4.2.3g	Development of nationwide water quality monitoring framework systems	Savings in energy used to water needs
6.4.2.3c	Increase of sustainable utilisation and monitoring of groundwater resources	Money savings in energy costs may be used to alleviate floods and droughts
6.4.6.1a.1	Increase practices of boiling drinking water, filtration and chlorination of drinking water and improvement in personal hygiene	Use of renewable energy sources and promote energy efficiency
6.4.6.1a.2	Enhance public awareness about water, sanitation and hygiene practices	Use of renewable energy sources and promote energy efficiency Carbon sequestration and other ecosystem services

3. WASH sector governance, policy and financing context

This section draws from several existing recent reports, namely the public expenditure review (GoM, 2020b), budget briefs (UNICEF, 2021), the World Bank analysis of Malawi public financial management over the years (WB 2018, 2019, 2021) and the WASH sector fiduciary risk framework report (PEM Consult, 2017). Information has been validated and updated with interviews.

The water sector plays a critical role in Malawi's economy, as most of the constraints to growth are related to water. Water-reliant sectors contribute an estimated 35 percent to the country's GDP.

Surface water makes up 98 percent of the available water resources, and currently, the hydropower schemes are the primary source of power generation for Malawi. (WB, 2021).

3.1 Malawi broader finance context

Malawi is on course to graduate to upper-middle income status by 2063 (GoM, 2020a), although the economy has been severely affected by COVID and more recently cyclone Anna. Nevertheless, recent estimates predict a recovery with real GDP growth at 4.5% by 2023. These projections assume maintaining external deficits at 10% of GDP and continue to access regional and domestic financing (IMF, 2021).

Given the government deficit to cover its expenditure, the country is increasingly dependent on debt and donor contributions (UNICEF, 2022b).

Malawi's **central government debt stands** at 63% of GDP. The payment of arrears and bailouts have been primarily financed by domestic borrowing. Malawi is at 'moderate risk' of external debt distress, but overall high risk of debt distress (WB, 2021). Over the last five years interest payments as a proportion of government expenditure have remained relatively constant, at just under 20% (GoM, 2020b). Debt service is therefore the second largest expenditure item after education.

With 50.7% of the population living below the national poverty line as of 2019/20 (UNICEF 2022b), Malawi is highly dependent on **donor contributions**. Between FY2014/15 and FY2018/19 external resources were consistently between 80% and 90% of all development expenditure. Since 2014, budget support has decreased sharply, and aid has been channeled for projects and dedicated funds (GoM, 2020b).

The main issues that need **improvement in public financial management** and impact the availability of finance in the WASH sector include:

- Investment needs for infrastructure are growing but the fiscal space is declining driven by increased borrowing and low revenue mobilisation.
- There are clear procurement guidelines, but weak implementation or non-compliance with procurement rules in infrastructure programmes. Evidence points to delays, cost overruns, loss of credibility and trust. The report (WB, 2021) shows only 25 percent of tenders go through an open and competitive process.
- There are substantial off-budget donor financed projects (including in the WASH sector).
- There are delays in monthly and quarterly disbursements from national to district and city councils which create cash management problems and severe delays in implementing the district development plans and provision of services.

Programme based budgeting has been introduced by the MoF and is now being used. There is also, since 2021, a new system for automated approvals and budget transfers from national to district and city councils which are expected to disburse timely both recurrent and development funds.



3.2 Water sector governance

3.2.1 The Ministries involved in the sector

The water sector has been facing institutional changes. Since 2020, the Ministry of Forestry and Natural Resources (MoFNR) has been responsible for water service provision, water resource management and sanitation services (on-site, sewerage, and solid waste). The Ministry has six technical departments: Forestry, Environmental Affairs, Climate Change and Meteorological Services, Water Resources, Water Supply and Sanitation, and Fisheries and Aquaculture Development. In February 2022, a new Ministry of Water and Sanitation (MoWS) has been created.

The Ministry of Health (MoH) leads on the design and implementation of standards related to containment solutions and hygiene promotion, including the management of frontline staff. The Ministry of Local Government and Rural Development (MoLGRD) is responsible for supporting sector ministries to reform in line with decentralisation and to support districts to adopt their devolved functions. The Ministry of Education, Science and Technology (MoEST) has the responsibility to deliver school-based WASH services.

In addition, the National Water Resources Authority (NWRA), established in 2018, has responsibility to develop, manage, administer and protect water resources for the sustainable, effective and efficient provision of water for all its uses and utilisation. The current mandate of the NWRA does not include regulation of tariffs and pricing for water.

Malawi does not have an independent water supply and sanitation sector regulator. An effective and independent regulatory mechanism is required, at a minimum, to oversee tariffs setting and cost recovery policies and to set and enforce technical standards. This is one of the reform areas under the Ministry of Forestry and Natural Resources (number 19 from the MoFNR, 2020). The revision of the Waterworks Act 1995 is ongoing to shape an adequate framework supporting a future regulator.

3.2.2 Service providers and mandates

Urban and small-town water supply is under the responsibility of the two urban water boards (Lilongwe and Blantyre) and the three regional water boards (Northern, Central, and Southern). The five water boards are state-owned enterprises that need to cover all their operating costs.

The Waterworks Act 1995, also mandates urban water boards to provide waterborne **sewerage services** within their areas of jurisdiction in the municipalities. None of the water boards provides waterborne sewerage services, and all sewerage assets remain with the city councils. This is one of the reform areas under the Ministry of Forestry and Natural Resources (number 20 from the MoFNR, 2020).

Sanitation in urban areas is currently the city council's mandate, but the GoM intends to transfer the responsibility to water boards. This is critical in the peri-urban areas where contamination and disease outbreaks have been frequent.



The Environment Management Act of 2017 requires all industrial firms to purify liquid waste and remove all hazardous chemicals before discharging wastewater into natural waterways, which is not happening, leading to recent court cases against local authorities and industries (The Nation, 2021).

Service provision in rural areas is less clear. The primary water source for rural communities is through boreholes fitted with Afridev pumps. Rural water service delivery has operated through a community-based management approach since the 1980s (Truslove et al., 2020).

The Water Act promotes a community management model, but many different implementation models are being applied across the country in practice. The most prevalent service provision is through Water Point Committees, which contract local area mechanics to conduct repairs (Truslove et al., 2020).

There are 28 District Councils whose mandate is to provide services in a broad range of policy areas, including solid waste disposal, water supply and sanitation systems, and health and education. However, most districts do not have water and sanitation master plans, and NGOs and other stakeholders working in the sector work somewhat independently.

Private sector engagement in the sector is limited to drilling and consultancy companies and masons and technicians. Private waste operators also handle some waste collection and transport in urban areas. With the Water Act and the Water Policy under review, there are discussions on **Public-Private Partnerships** where an investor invests in the WASH infrastructure and hands it over to the Water Boards or where the Water Boards delegate some of their services such as wastewater collection and disposal.

4. WASH sector performance and finance context

4.1 WASH sector performance

“We do not have a state of the WASH sector document, neither a document that shows where we want to go. Other sectors have clear strategies which guide all donors and stakeholders.” Interview, December 2021

In 2015, Malawi ranked 5 out of the top 10 countries (with a population greater than 1 million) with the highest proportion of people at **risk of frequent water shortages** (Sadoff et al., 2015).

Malawi’s water resources vary between wet and dry seasons and from year to year. The country’s stock of water storage infrastructure is one of the lowest in the region. Population growth has led to a **rapid decline in per capita water availability**.

Within this context, **Malawi has made significant progress** in the past two decades to increase access to water and sanitation services. According to the last census, access to basic water services is 85%. Access to improved water increased from 52.9 per cent in 2010 to 68.8 per cent in 2017. Access to basic sanitation services has slightly improved from 20.8 per cent in 2000 to

26.2 per cent in 2017. Open defecation rates fell from 13% in 2008 to under 6% in 2015, but have since risen to over 7% in 2018 (GoM, 2020b).

Despite the progress made, **the country needs to accelerate progress** to meet the targets set for the first 10 years of Vision 2063. Challenges preventing the government from speeding up coverage rates include functionality and maintenance of existing assets.

Nationally, **water point functionality** fell from 77% to 71% between 2016/17 and 2017/18, mostly due to lack of preventive maintenance. Efforts to improve functionality in rural areas have centred on training area mechanics and linking these to shop partners who stock parts.

The **Water Boards have performance targets** set with the Government. The President signs the performance targets, monitored through the office of the President and the Cabinet. The Water Services Association of Malawi (WASAMA) also conducts checks and balances. Monitoring performance information from Water Boards can be assessed upon request.

In Lilongwe, only 5 per cent of the population is served by a sewer system, while most rely on on-site sanitation systems (70 per cent pit latrines and 25 per cent septic tanks). However, there are **systemic issues with maintaining existing piped sanitation assets**.

Existing sewers and sewage treatment plants are dilapidated due to lack of maintenance, resulting in environmental pollution, as most of the sewage ends up in the environment without treatment. Small-scale private sector operators mainly do the emptying and collecting faecal sludge from on-site systems.

4.2 Financing context in the WASH sector

“From the community level to politicians, everyone has put water among their top priorities. But when it comes to funding, it does not match. We need to raise our voices jointly and improve the profile of WASH.” Interview, December 2021

It is estimated that Malawi loses about MK 3097 (USD 3.8) per capita or 1.1 percent of the country’s annual GDP due to poor health outcomes attributed to, among others, low access to safely managed sanitation services (WB, 2021).

The 2012 Malawi Water Sector Investment Plan (WSIP) indicates substantial socio-economic gains from investing in the sector. The highest net cost-benefit is achieved by providing sanitation and ensuring every school has hygiene facilities. **This leads to a return of more than MK 11,410 (USD 14) per each Malawian Kwacha (or dollar) invested.**

The water sector plays a critical role in Malawi’s economy, as most of the constraints to growth are related to water. **Water-reliant sectors contribute an estimated 35 per cent to the country’s GDP** (WB, 2021).

4.2.1 The budgeting process for the sector is inadequate

The MoF sets the framework for the budgeting process. The line Ministries make their proposals, and decisions are made based on historical information and submissions from all the sectors. The engagement across all sectors is good. The MoF organises strategic hearings where all the line Ministries present their sectors in strategic outlines. However, the MoF cannot meet all the yearly budget requirements.

Until 2021, the fiscal year ran from July to June. As of 2022-2023 the fiscal year will start in April and end in March. This change is linked to Malawi's agricultural-based economy, and the period where resources are available is concise, making the planning process tight.

The **water sector is a government priority but does not receive adequate funding**, as most funding goes towards health, education and agriculture. Yet, WASH is a main driver of success or failure in all these three sectors.

WASH interventions are budgeted for under two main sub-programs under the MoFNR, namely Water Resources, Development and Management (sub-program 04.03), which absorbs 99.5% (MK 86.3 billion) of the budget, and Water Supply and Sanitation (sub-program 04.04) receiving the remaining 0.5% (MK 465 million).

The WASH sector budget included a transfer of funds via District Councils for the Borehole Fund (MK 2.3 billion) and other recurrent expenditures for travel, allowances, and goods and services (MK 223 million). A small percentage was allocated to the MoH (Vote 310) for environmental health, and a total of MK 210 million was given to the NWRA in 2020/21. Within the water sector, there are not yet budgets allocated to increase climate resilience of the infrastructure and services.

The **execution of the government budget on recurrent expenditure** personnel emoluments (PE) and other recurring transactions (ORT)) has been close to 100%; however, the execution of the development budget was 60.7% of the original budget (GoM, 2020b). See Table 5 for the description of the budget elements.

Table 5 Description of budget elements

Budget elements		Description
PE		Salaries and related costs.
ORT		Other recurrent expenditures covering all purchases of goods and services, travel and allowances, fuel, etc.
Dev.	Part II	Domestically-financed projects' non-recurrent expenditures. Within local authorities this is further sub-divided into the DDF, a borehole/ water structures fund (separated from the DDF since 2016/17), and the Constituency Development Fund (CDF), which is an allocation for each MP's constituency.
	Part I	Donor-financed projects/ non-recurrent expenditures. Part I donor-financed projects include those that use some elements of GoM financial systems.
	Off-budget	Other donor-financed projects which are included in the GoM budget document but not within the overall GoM budget total.

The main limitation the WASH sector has when presenting and defending the budget is the lack of coordination among its stakeholders, reflected in the lack of strategic prioritisation of activities to be funded through the national budget to achieve the highest impact. This means that to stay within the indicated ceiling, the MoF has to cut all the activities by a certain percentage, curtailing their capacity to impact and generating cashflow issues for development projects.

The other limitation of the WASH sector in the budget discussions is **not clearly showing how many funds are coming into the sector and what is being achieved**. The Ministry of Finance uses a programme-based budgeting process focused on the results for each sector and is reviewed quarterly. However, there is no regular monitoring in the WASH sector, making it impossible to evaluate how the funds are spent beyond the salaries and minor recurring expenditures. This is a handicap to argue for budgetary increases since it is not possible to show progress and where O&M is needed to ensure preventive maintenance and timely rehabilitation of non-functional infrastructure.

The Water Boards decide their budgets based on the previous year's income and expenditure in line with their aspirations and strategies, which they present to their board of directors and later submit to the Treasury for approval. Parliament has to approve if loans are involved as they require a government guarantee. Upgrade and expansions of the urban water systems also require government support through loan guarantees when needed.

Some CSOs focus on budgeting processes like the Malawi Economic Justice (MEJN). Within the sector, the Water and Environment Sanitation Network (WESNET) and its members have been lobbying for increased budgetary allocation to the sector with parliamentarians and the responsible ministries (MoFNR, MoF, MoH). They have also been at the forefront advocating for cost-reflective tariffs.

4.2.2 An incomplete decentralisation process

Decentralisation of the WASH sector has been fractured, uneven and incomplete since 1998. There are inadequate fiscal decentralisation policies, weak oversight over financial management and incoherence in the devolution of functions and resources (PEM Consult, 2017).

The disbursement of funds at the local level is through the Local Government Finance Committee, and disbursement is based on the monthly cash flow projections. It's the local government's responsibility to maintain WASH infrastructure, but there are very few resources allocated from the district councils or city councils to the WASH sector. Interviewees mentioned that accessing district budgets and expenditures are a challenge.

Meanwhile, district and city councils struggle with capacity gaps, minimal financial capability and accountability, and low-performance incentives, which are then cited by MoF as justifications for holding back resources, creating a vicious cycle of underinvestment in the water sector.

4.2.3 Sector funding dominated by (water) projects

The development budget is used to fund “projects”. There is no cohesive long-term plan for the sector where different entities support different components, but all contribute to the same goals, monitored for results. For instance, currently, almost all development cooperation funds are being directed to urban water. As per policy, the Water Boards should be autonomous, and the limited GoM and donor resources are expected to be directed toward rural water supply and sanitation.

After 2014, many donors started funding and implementing their programmes and projects off-budget¹. At the time, given the corruption cases in the country, it made sense but now that many of the governance issues have been solved, these fragmented systems are entrenched. They bypass government systems and are not transparent (based on interviews).

In an attempt to coordinate funding for the sector, in 2015/6, a Sector Wide Approach (SWAp) was implemented by the Ministry of Agriculture, Irrigation and Water Development (MAIWD) and supported by the World Bank, UNICEF, and others. The SWAp had its own project management unit and deputised ministry staff. The SWAp and the management unit ended when the World Bank-financed the NWDP II programme came to an end (PEM Consult, 2017). There have been no more proposals or appetite for SWApS in the sector.

In 2020/21, the development budget (MK 88.9 billion), constitutes 98% of the total WASH budget. This is 3.5 times more than the MK 25.6 billion allocated in the previous year. This significant increase is linked to substantial on-budget donor investments for existing and new projects, focused on urban water supply.

Major development projects (CapEx) include:

- Ongoing Lilongwe Water and Sanitation Project, which was allocated MK 33.6 billion, as compared to the MK 11.4 billion of 2019/20
- Nkhatabay Town Water Project (MK 10.2 billion)
- Malawi NRW Water Efficiency Project (MK 10.1 billion)
- Karonga Town Water Supply Project (MK 9.5 billion)
- Lilongwe Water Resource Efficiency Project (MK 6.5 billion)
- Proposed new water supply intake for Blantyre Water Board along Shire River (USD 165 million / MK 134 billion of which USD 78 million/ MK 63 billion are already secured from the Indian Investment Bank)
- Proposed hydropower generation for Blantyre Water Board (USD 115 million / MK 94 billion of which USD 72 million / MK 59 billion are already secured from the Indian Investment Bank).

¹ Off-budget expenditures refer to financial transactions that are not accounted for in the official national budget

4.2.4 Limited attention to post-construction funding

Over 80% of GoM expenditure in the five-year period of the Public Expenditure Review (PER) was capital expenditure (GoM, 2020b). This leaves only 20% to cover all the remaining life-cycle costs.

In the cities and small towns, current tariffs do not cover large maintenance or rehabilitations. Water Boards take loans to cover major rehabilitations. Some Water Boards can barely cover their operational costs. The low expenditure on operational maintenance leads to higher costs of large maintenance.

At district level there is the Constituency Development Fund (where members of Parliament decide on allocation and what to do) and in some cases it is used to help with rehabilitation works but these funds can support anything including schools and bridges.

At community level, the Water User Association Guide and the Community Based Management manual are clear on minor maintenance and rehabilitation. National water policy recommends that tariffs are calculated taking the costs of supply over 15 years, including all the minor maintenance, replacement costs and preventive maintenance (MoAIWD, 2015). In reality, water points are seen as a onetime investment since replacement costs are seldom considered when setting the tariffs (Truslove et al, 2020).

4.2.5 Implications for the finance strategy

The sector performance and context set above have the following implications for the development of the finance strategy:

- The rate of progress needs to accelerate towards the sector targets while at the same time ensuring water point functionality and avoiding asset deterioration in rural and urban areas (rehabilitation is more expensive than regular maintenance).
- Based on the finance strategy, there needs to be a balanced budget developed for the sector (between recurrent and development expenditures; between urban and rural services and between water and sanitation), to be coordinated with other relevant stakeholders and then discussed with MoF. The budget needs to be inclusive of all the needs of the sector and not only relying on large projects with typically cover new capital infrastructure investments. Priorities need to be clearly set.
- Annual reporting and monitoring of what is being achieved (coverage and quality of services) by the city councils, districts and Water Boards will allow to understand how the public budget is being spent and provides the much-needed increased confidence in the water sector.
- External agencies will need to increasingly provide on-budget support (can be ring fenced) to ensure better alignment, prioritisation and reporting by government entities on WASH expenditure.



- Frequent water shortages and flooding will require more climate resilient infrastructure. The increasing costs of energy also calls for more energy efficient infrastructure.
- Emptying and collection of faecal sludge can be monetised but it needs to be regulated to ensure there is an interesting market for entrepreneurs.



Part II Sources of finance and the WASH finance gap

WASH finance gap

- Identifying funding and financing sources
- Estimating the WASH finance gap
- Analysis of foundations to attract additional finance

5. Funding and financing sources

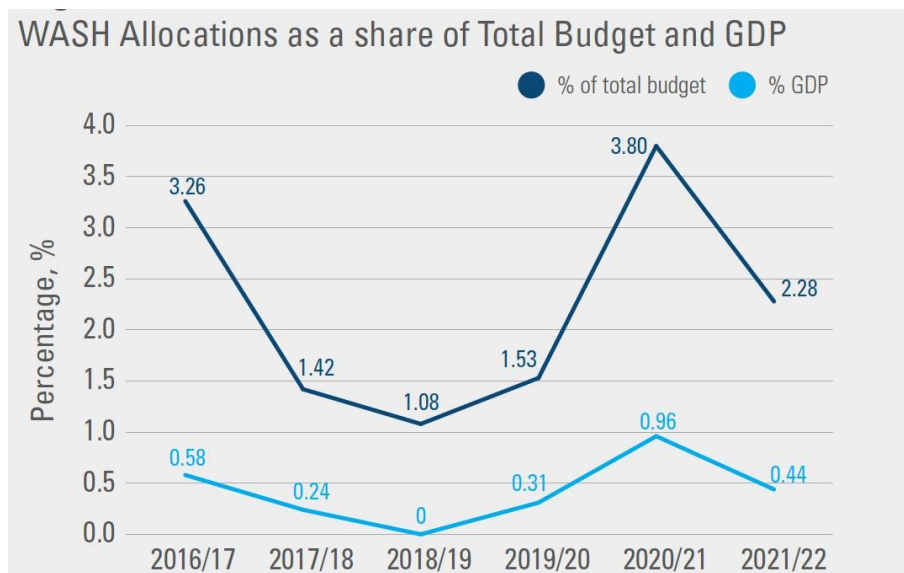
This section is based on secondary available studies and reports. Namely it summarises findings from the 2020 public expenditure review of the water sector (GoM, 2020b) and updated with the UNICEF budget brief 2021/22.

5.1 Taxes

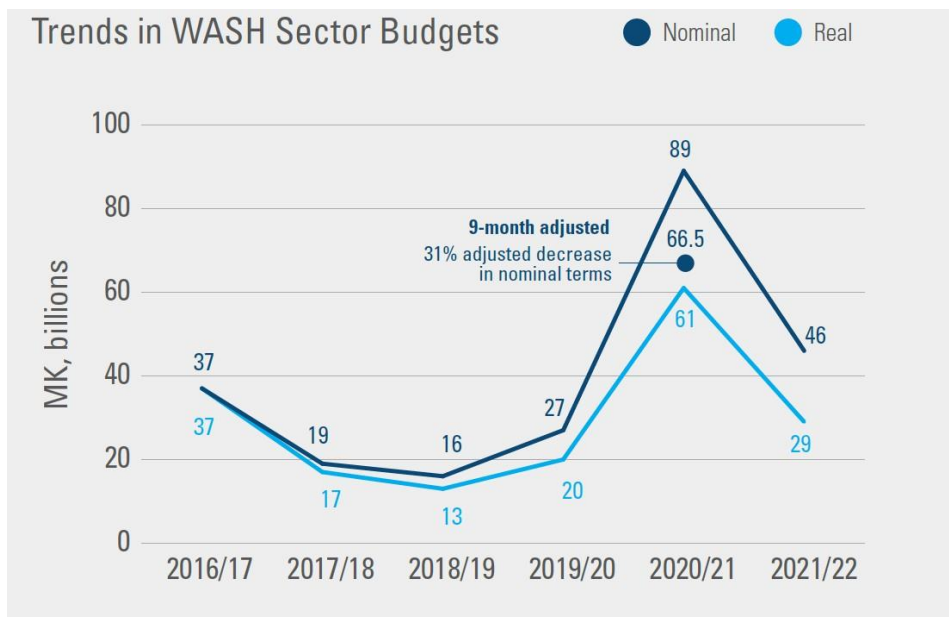
5.1.1 National budget allocations

The national budget allocation to the water sector has been irregular and declined from 3.8% (FY 2020/21) to 2.3% (FY 2021/22). It has amounted to MK 45.5 billion (USD 55.8 million) for nine months in 2021/22. See Figure 6, Figure 7.

Figure 6 WASH spending as percentage of total budget and GDP



Source: UNICEF, 2022 based on GoM budget documents

Figure 7 WASH sector budget 2016-2022

Source: UNICEF, 2022 based on GoM budget documents

Two infrastructure projects receive a large bulk of the budget:

- Lilongwe Water and Sanitation Project (MK 15.8 billion or USD 19.4 million)
- Nkhatabay Town Water Supply and Sanitation Project (MK 5.6 billion or USD 6.9 million)

While the development budget has more than tripled, the recurrent budget has only increased by 28 percent in nominal terms, from MK 1 billion in 2019/20 to MK 1.3 billion in 2020/21. Compared to the total sector resources, a very low share (2%) is allocated for recurrent purposes to cover operations and maintenance, monitoring, behaviour change campaigns and awareness raising.

GoM budget allocations to WASH as a proportion of GDP is low compared to that of other countries in the region. Available data show that the GoM's allocation of resources to WASH is 0.44% of GDP (UNICEF, 2022). The eThekweni Declaration spending target requires governments to commit at least 1.5% of their GDPs to WASH (UNICEF, 2021).

Over 80% of GoM expenditure over the five-year period was capital expenditure. With 65 percent of GoM funding going to the water subsector and 35 percent going to hygiene and sanitation. The expenditure in sanitation is 70 percent constituted by the salaries of district level staff.

5.1.2 Allocation of funds to other agencies

There is annual allocation of funds to other government agencies (Table 6).

Table 6 Allocation of funds to government agencies (budget lines)

Ministry, Department or Agency (MDA)	Programme/Sub-programme included
Ministry of Forestry and Natural Resources (Vote 470)	04.03. Water Resources Development and Management
	04.04. Water Supply and Sanitation
Ministry of Health (Vote 310)	22.01 Environmental Health
National Water Resources Authority (Vote 275)	Entire Vote
Local Councils	Borehole Fund
	ORT Water Sector

The Borehole Fund, introduced in 2017/18 for the construction of water structures in districts, provides a fixed allocation (currently at MK 12 million per year - USD 14,700) per each constituency.

There are resources for water services under the District Development Fund and Constituency Development Fund. The exact amounts spent on water vary per district, dependent on the discretion of the Controlling Officers.

The allocation under the MoH totalled MK 763 million in 2020/21, 3.6 times higher than the MK 213 million allocated in 2019/20.

5.1.3 Main findings relevant for the strategy

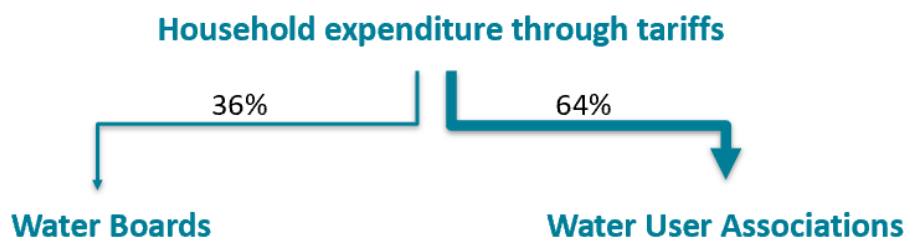
An analysis of the WASH budgets found some critical challenges that need to be overcome (UNICEF, 2021 and 2022):

- **The majority of WASH resources remain largely centralised**, despite the drive towards fiscal decentralisation. In 2020/21, for example, only 3 percent of the sector resources are provided for Local Councils. The majority, (97%) of the sector resources, are centrally managed.
- The **WASH budget is skewed to development expenditure** with limited expenses to other recurrent transactions (ORT). There is no systematic correlation between ORT budget allocations and access to improved water source across districts.
- **ORT budget allocations to Local Councils for the water sector remain less than 1 percent of the global ORT transfers to Local Councils, compared to health (32%) and education (28%)**. On average, the district ORT budget for water was MK 8 million (USD 9,800) in 2020/21. These budgets are too low to meaningfully impact the delivery of WASH services in communities, endangering the sustainability of capital investments.
- There are notable **inequalities in access to basic WASH services**. The 2020 WASH PER revealed that four districts registered improvements in access to both water and sanitation facilities between 2013 and 2018 while the outcomes regressed in 12 districts.

5.2 Tariffs

Household expenditure accounts for 60 percent of funding to the sector. In 2016 households were estimated to spend MK 35 billion (2016 prices) on water – 36 percent of which was directed to water boards (Figure 8). As such, 64 percent of household expenditure on water is spent on Water User Associations (WUAs), self-supply and purchasing water and materials from private suppliers (GoM, 2020b).

Figure 8 Household’s expenditure in water



5.2.1 Water User Associations

For rural water supply it is stipulated in the WUAs and handpump training manuals that tariffs will be calculated based on the cost of fast wearing parts of the pump or facility and how often they can break. The tariffs vary from community to community, but they are meant to cover operational costs and some direct costs for the care takers.

A study across the 28 districts with a sample of 22,316 boreholes found that only 18 percent of water points had no tariffs for operation and maintenance. For the remaining, single tariff collection dominate (96%). Mostly the tariffs are collected per month (47%) or when repairs are required (23%) and per year (18%). In 2019, most tariffs were equal or lower than 500 MK (USD 0.6) per household per month (Truslove et al., 2020).

5.2.2 Water Boards

Tariffs vary per Water Board, per type of supply, per type of customer and per water consumption (see Box 5 and Box 6). Table 7 shows the weighted average tariff (MK per m³) for the past 10 years.

Until the end of 2021, only Lilongwe Water Board and NRWB were able to cover operational costs from tariffs and service long-term concessionary loans. The tariffs (which had not changed since 2018) were not adequate to maintain the financial sustainability of the Water Boards, while at the same time service delivery is poor. After two years of negotiations, in November 2021 the water tariffs have increased.

Water Board revenue has increased dramatically mostly driven by increasing the tariffs of institutional and commercial clients, rather than an expansion of services. Electricity costs are the major expenditure from the Water Boards (Box 7).

“The most challenging are the government institutions. Now we have been allowed to install pre-paid water meters in government institutions, which has helped with revenue collection. It was difficult to collect tariffs from government institutions or disconnect them for non-bill payment.” Interview, December 2021

Table 7 Water Boards water tariffs

Water Board	2010/11		2020/21		November 2021	
	Production million m3	Weighted average tariff (MK per m ³)	Production million m3	Weighted average tariff (MK per m ³)	Weighted average tariff (MK per m ³)	% increase
Blantyre	40	134	35	863	Na	
Central Region	7	138	9	656	Na	
Lilongwe	33	116	39	998	Na	
Northern Region	10	149	11	1044	Na	
Southern Region	11	111	15	815	Na	

Sources: Water Boards (latest data not available)

Box 5 Cost reflective tariffs at Lilongwe Water Board

Lilongwe Water Board uses a rising block tariff structure (except with the kiosks). The lowest tariff is at the kiosk level at MWK 198 (US\$2 per m³) rising to MWK 1,523 (US\$2.03) for high consumption commercial consumers. Lilongwe Water Board’s tariff has risen considerably at a CAGR of 29.2 percent between 2010 and 2018, reflecting the high inflation rate; this is in line with rates in other countries. The anticipated capital investment program will require that the tariff be regularly adjusted at least with the Consumer Price Index (CPI) to maintain a healthy financial position and allow sufficient discretionary surplus to be generated to service larger loan amounts, without the risk of financial stress.

Source: WB, 2021

Box 6 Tariff with cross subsidies at Northern Region Water Board

NRWB uses a simple volumetric tariff structure that charges water on the basis of usage, with a unit price of water fixed per cubic meter. The tariff structure incorporates cross-subsidisation to lessen the burden on poor households. The lowest tariff is at the kiosk level at MWK 483 per m³ (US\$0.65 per m³) with commercial and industrial consumers on the upper end at MWK 2,331 per m³ (US\$3 per m³). NRWB’s average tariff has risen considerably between 2010 and 2019, at a compound annual growth rate (CAGR) of about 27 percent. Although NRWB has been able to consistently cover operating costs inclusive of depreciation and finance costs, the gap between average unit tariff and unit cost, including financing costs, has remained narrow. The existing tariff levels (already high) pose a challenge on further water tariff increases moving forward. It is therefore imperative that NRWB looks at improving efficiency as a way of cushioning the narrow gap between average unit tariff and cost.

Source: WB, 2021

Box 7 The high operating costs of Blantyre Water Board

Blantyre Water Board's biggest challenge is the high cost of pumping water from the current water source (Walker Ferry) on the Shire Valley. The long distance from the water source (40 km from Blantyre) and the high head (800 meters) translates to high energy cost of pumping water—at 41 percent of BWB's gross revenue in 2017/18. With staff cost and debt servicing cost amounting to 45.5 percent and 13.8 percent of gross revenue, respectively, the Water Board is left in a loss-making position.

Distance from the water source and the high head translates to an electricity requirement of 1.9 kWh per cubic meter pumped. The energy costs amounted to USD 0.30 per m³ in 2016/17, contributing substantially to a production cost of USD 0.58 per m³. In 2017/18, a total of MWK 6.1 billion in electricity cost was incurred to pump water to the Blantyre reservoirs.

The 2018 electricity cost of MWK 6.1 billion represents about 41 percent of BWB's gross revenue of MWK 14.84 billion and constitutes 55.5 percent of operating costs (excluding cost of sales).

Source: WB, 2021

5.3 Transfers

Unlike other social sectors where donor resources are declining, the WASH sector experienced an increase in donor funding. But while total official donor overseas development assistance (ODA) to Malawi has risen since 2014, the proportion of ODA provided to the WASH sector has dropped by two-thirds.

The proportion received by the WASH sector dropped from MK 190 billion (USD 233 million) in 2014 to an average of 84 MK billion (USD 103 million) per year between 2015-2019 (GoM 2021b). The largest funders to the sector are the World Bank, the African Development Bank (AfDB) and UNICEF. The composition of finance is mostly loans directed to Water Boards.

The remaining transfers from donors are disbursed directly through civil society and NGOs. In 2021, 16 CSOs have reported projects with aggregated annual budgets of about MK 8.9 billion (USD 11 million) (WESNET, 2021).

Malawi receives MK 2600 (USD 3.2) per capita external funding for WASH. The ratio of Malawi's external funding to financing from domestic resources is 8.8 (higher than Kenya's 2.9 and Zambia's 2.0, and higher still than Mali's and Ghana's.) (GoM, 2021b).

5.4 Concessional finance

The main concessional finance to the sector comes from the World Bank, followed by the AfDB (WB, 2021). Donor-funded capital projects increased from 84% of total funding of capital expenditure in FY2017/18 to 93% 2018/19, that is MK 12.1 billion (USD 15 million).

Blended finance is non-existent in the sector. Public finance, development grants and concessional loans are largely dedicated to funding investment in new infrastructure. As such, they are not being used to leverage private capital flows, for example by softening lending conditions, providing guarantees, or used as technical assistance to support capacity building and increased creditworthiness of borrowers/utilities.

5.4.1 Urban water and sanitation

There are several large investments in the sector from International Development Banks: WB, AfDB, Arab Bank for Economic Development in Africa (BADEA) and European Investment Bank (EIB). Concessional finance is mostly directed to urban water (see Box 8 and Table 8). The focus of the loans is on constructing infrastructure, there is limited technical assistance to support improvements in performance. Financiers are not interested in rehabilitation. This means that increasing funding for water production – dams or treatment plants – when there are serious technical issues with existing pipelines and distribution systems will lead to more unsustainable investments.

The loans are provided with a sovereign guarantee. A large debt from Lilongwe Water Board was paid by the national government to the EIB. This is de facto a subsidy to those that are already connected to water services.

There is also a gap in the financing needs of the Water Boards (for instance to make smaller improvements in their water systems), and what the IFIs are interested in financing, which is usually more than USD 30 million. The need for smaller loans which can be linked with performance improvements is an area to explore with national banks and development partners.

Generally, there is not enough technical assistance (TA) to ensure that the capacity needed to manage water services after infrastructure is built remains in place. For instance, there is a loan of USD 100 million for Lilongwe Water Board. VEI² have mobilised USD 16 million (over 5 years) for institutional support. This TA concerns the development of environmental assessments, water safety plans, continuity plans, groundwater assessments, environmental safeguards etc., which was not part of the loan agreements.

Box 8 Assessment of NRWB and BWB to take on additional loans

NRWB is not market ready. The entity has been making small profits but is largely sustained by ad hoc grants from the GoM and is also substantially committed to concessional loans. Without grants, NRWB's revenues would not be adequate to service substantial amount of commercial debt. NRWB's current debt-service coverage ratio (DSCR) is below 1, and it faces liquidity challenges due to high levels of outstanding receivables. NRWB should not take additional debt (including concessional loans) in the short term. It would be prudent for NRWB to first concentrate on efficiency improvement to increase internally generated revenue and repay the expensive overdraft facilities. The GoM will need to step in with further assistance for capital investments, especially for expansion of services in rural areas where higher investments per capita will be needed than in urban areas.

Blantyre Water Board is technically insolvent with negative equity. It displays all the symptoms of a cash-strapped utility, struggling to make ends meet. No one action would be adequate to resolve the Water Board's situation—a comprehensive turnaround programme would be required. The only opportunity for private sector involvement would be through a service and management contract to improve operational performance.

Source: WB, 2021

² VEI is a full subsidiary of Vitens N.V. and Evides N.V. and implements their international Corporate Social Responsibility policy on behalf of seven Dutch drinking water partners

Table 8 Water Boards' debt (both concessional and commercial finance)

Water Board	Debt as of Nov 2021 (MK)	Examples of concessional finance
Blantyre	21 billion	<ul style="list-style-type: none"> - Bank of India for the development of an independent power plant for BWB (US\$ 150 million) along Shire. - From FDH Bank (local) for prepaid metering
Central Region	4.5 billion	<ul style="list-style-type: none"> - Loan with National Bank for Dwangwa Water Scheme.
Lilongwe	1.5 billion	<ul style="list-style-type: none"> - World Bank loan for Lilongwe Water Board. Rehabilitation of dam and capacity building MK 900 million. - BADEA loan for Chitipa and Nkhatabay - JICA loan for capacity building - EIB drought resilience programme loan of EUR 15 million (2020)
Northern Region	4.9 billion	<ul style="list-style-type: none"> - Mzuzu and Ekwendeni, EUR 24.6 million loan from EIB for water efficiency (2017) - Karonga, USD 26.7million loan from BADEA, OPEC Fund and Malawi Government - Nkhataba, USD 30.55million loan from AfDB, OPEC Fund and Malawi Government - AfDB co-financed the Mzimba Integrated Urban Water Supply (2015-2021) with a loan of UA 3,600,000 (MK 4 billion)
Southern Region	1 billion	<ul style="list-style-type: none"> - EIB loan of EUR 26 million (2020) for rehabilitation of Liwonde Water Scheme - Bank of India: US\$ 60 million - Kuwait Fund US\$ 16.4 million for the Mangochi project - FDH Bank (local) for prepaid metering

Source: Water Boards, interviews with IFIs

5.4.2 Rural water and sanitation

For rural water and sanitation, there were less examples of concessional loans.

The AfDB co-financed (2014-2022) the Sustainable Rural Water and Sanitation Infrastructure for Improved Health and Livelihoods Project which seeks to increase the resilience of water supply systems through rehabilitation and expansion, and to address sanitation and hygiene challenges. It covers five districts, namely: Rumphi (northern), Nkhatakota, Ntcheu (Central), Mangochi and Phalombe (Southern). It aims to increase coverage of sustainable and clean water to a total population of approximately 516,000 and increase coverage of improved and inclusive sanitation to a total population of about 575,000. The loan component from AfDB was UA 15 million (MK 17 billion) in addition to a UA 2.8 million (MK 3.2 billion) grant from the Bank-hosted Rural Water Supply and Sanitation Initiative Trust Fund.

5.5 Commercial finance (domestic)

There is only one National Public Development Bank in Malawi, the Export Development Fund which was set up in 2012 and aims to strengthen export-oriented value chains by providing targeted access to financial services to generate foreign exchange for the country.

Public Development Banks are public financial institutions initiated by governments to proactively achieve public policy objectives. Which means that in Malawi, the fulfillment of policy objectives in different sectors is left to private, commercial banks.

The National Bank of Malawi was set up in 1971 and it's the oldest and largest banking institution in the country. It became a private institution in 1994 and the previous state owned assets were placed under a trust. The trust is still used to pursue public policies in the country. It provides mostly working capital loans to the Water Boards. The only capital infrastructure financing in the water sector they are involved in is the Lilongwe Salima water supply project which is still under development.

There are a couple of banks financing the Water Boards in Malawi; this has started in the past 2-3 years. The five Water Boards are receiving loans from the National Bank, Standard Bank, CDH Investment Bank and FDH Bank. The minimum size of the loans for the Water Boards is about MK 250 million and can go up to a MK 1 billion. The repayment period is about 3 years. Interest rates are about 18 percent to 21 percent (premium of 5% to 8% over the reference rate which is now 12.7%).

NBS Bank is financing small and medium enterprises in the sector mostly companies that are drilling boreholes and small shops that sell hardware. The loans for the SMEs vary between MK 100 -200 million. Capital financing loans need to be paid back in five years but the most common repayment period for SMEs is 12 months. The interest rate charged on the loans is on average 21 percent (consisting of a premium of 8% or 9% over the reference interest rate).

The commercial banks are also providing other services to the sector:

- Specific contracts with NGOs, clubs and associations providing basic transaction services.
- As a disbursement channel for NGOs to finance their water and sanitation projects.
- For acquisition of prepaid water meters.
- Support being provided to the Water Boards with revenue collection. Customers can buy water tokens and pay bills through the banks which set up kiosk on behalf of Water Boards against a fee.
- Promoting digital payments for water tokens through mobile and online banking.

The major constraints for banks to provide more loans and other services to the sector include:

- Banks are not lending long term and have very short maturities of less than a year. The commercial banks cannot provide a loan for businesses that only get a rate of return after 6 or 7 years.
- From a bank's perspective, the water sector is the most difficult to finance. The loans need to be de-risked by government guarantees. For the education sector this is not required because there are private institutions which have the capacity to provide collaterals and the cash flows are solid.
- City assemblies, districts councils and Water Boards control 90 percent of the water sector market which means there are very few opportunities for entrepreneurs to develop financially sustainable businesses. Now, even the business of waste collection is not profitable, the market is small and not sustainable which means that the cash flows do not support financing.



“Sanitation and other very profitable waste related activities are being funded by banks corporate social responsibility funds. We are treating recycling as a hobby instead of big business. We have been trained on green growth, on the circular economy. We are ready to provide concessional rates in this area”.
Interview, December 2021

The banks see the following opportunities to increase commercial loans and other services to the sector:

- Since water is such a strategic sector for the country, Water Boards could focus on water abstraction and treatment and unbundle and decentralise the remaining of their functions. The most cited example includes sewerage management, which would require changes in the legal framework.
- Water Boards could also focus on borrowing for cost savings and revenue generating projects ensuring more scope to access commercial loans (a common cited example is Lilongwe Water Board).
- The recent increase in the tariffs makes the sector more attractive. If the VAT can be ring fenced (as is happening with the road sector) than most of the banks would be more active in the sector.
- Syndication of loans³ is taking place in other sectors which also require loans with longer maturity periods, but not in the water sector. This is happening among the different commercial banks and the national bank, which means that a loan is shared between different banks, lowering the risk for each bank.
- Support SMEs that issue tokens and payments for the water meters and ensure maintenance of infrastructure.
- Recycling and turning waste into products can also be supported by commercial loans or matching funds, but again requires regulation on waste management and identification and support to the early entrepreneurs in this area.

5.6 Conclusion on the main sources of finance

The analysis of the three main sources of finance, the 3 Ts – taxes, transfers and tariffs, show that even if **tariffs** recently increased for urban water, there still remains a large finance gap in the maintenance of rural and urban infrastructure (both operational and capital maintenance expenditure).

Moreover, the national budget allocations confirm strong competition among several sectors. National budget (**taxes**) for the sector is too low and skewed to water infrastructure. There is a large gap in financing sanitation infrastructure and for ongoing service delivery (direct support expenditure). External aid (**transfers**) is also skewed to infrastructure and repayable finance.

³ Loan syndication is the process of involving a group of lenders in funding various portions of a loan for a single borrower. Loan syndication most often occurs when a borrower requires an amount too large for a single lender to provide or when the loan is outside the scope of a lender's risk exposure levels.

Finally, the private sector (for wastewater and solid waste collection and recycling) can access both **concessional and commercial loans** but the market is too small and not regulated, which makes it unattractive.

The major options to increase funding and financing are therefore limited:

- Explore increasing national budget through dedicated taxes. There could be more ring-fenced taxes allocated to the sector. For instance, the existing VAT on water bills, could be reinvested in the sanitation sector. This is happening in other sectors such as energy and roads.
- Ensure that there is a more balanced expenditure towards maintenance, rehabilitation and sanitation to avoid further asset deterioration.
- The efficiency ratios of the water utilities have also much to be improved and there can be significant additional revenues from tackling non-revenue water.
- Support access from private sector to concessional and commercial loans through market regulation. Overall, the conditions for private investment (or private service providers) have not yet been created, but commercial banks are ready and willing to provide the required finance if regulations remove the near monopoly on wastewater and solid waste management.

6. The WASH finance gap

6.1 Available funds to the sector

In the previous sections, scattered data add to an estimated MK 174 billion to the WASH sector in 2020/21 (Table 9). This amount is indicative only as it comes from many different sources. The amounts do include all the life-cycle costs except for the costs of capital which were not available (annual costs/payments of the loans taken for the sector).

Table 9 Estimated available funds to the sector

Main sources of funds 2020/21	Estimates and projections
Tariffs (including household contributions)	MK 35 billion
Taxes (Government of Malawi budget)	MK 46 billion
Aid (partly loans)	MK 84 billion
NGO contributions	MK 9 billion
Total	MK 174 billion

6.2 Cost estimates for the SDGs

The Water Sector Investment Plan (WSIP) (2012) outlined that MK 102 billion (USD 125 million) was needed annually between 2015 and 2030 in order for the sector to achieve 98 percent access to improved water supply by 2025 and 90 percent access to improved sanitation by 2030. The WSIP estimated that, to achieve full access to improved water and access to sanitation services by 2030, CAPEX of about MK 91 billion (USD 112 million) would be required every year (

Table 10).

Table 10 WASH sector investments requirements (USD, millions) CapEx only

	2021-25	2026-30	Total
Urban water supply	242	260	502
Urban sanitation	36	39	75
Rural water supply	195	107	302
Rural sanitation	46	55	101
Mega projects in bulk water	6	131	137
Total	525	592	1,117
Annual investments			112

Source: GoM, 2020b

The WSIP is dated from 2012, the more recent **UNICEF SDG costing tool** done in 2019 points to a need of:

- MK 78 billion/year for basic coverage
- MK 207 billion/year for safely managed

The more **detailed calculations from District Development Plans** (2017-2022) for Kasungu, Mulanje, M'Mbelwa and Machinga district councils, show that the four districts alone required a total of MK 117 billion to adequately finance the water sector just in 2019/20 financial year (GoM, 2021).

6.3 Additional finance for climate resilient WASH

The most relevant adaptation measures in the Malawi NDCs total an estimated additional MK 553 billion (USD 678 million) required till 2040 (Table 11 and Annex 3 for more details). Of these, 80 percent is estimated to be capital expenditure, with MK 204 billion (USD 250 million) for flood warning system and the remaining MK 349 billion (USD 428 million) for WASH.

The average additional finance required per year for the WASH sector is therefore estimated at MK 19 billion (USD 24 million).

Table 11 Summary estimated total funds needed till 2040 for climate resilient WASH mitigation measures

WASH infrastructure, services and behaviours	Contribute to building community resilience	Low-carbon WASH sector
<ul style="list-style-type: none"> • Coverage increase • Secure water supply 	<ul style="list-style-type: none"> • Public awareness • Increased practices • Groundwater 	<ul style="list-style-type: none"> • Non-revenue water • Water use efficiency • Solar
78%	13%	9%
MK 433 billion (USD 531 million)	MK 73 billion (USD 89 million)	MK 47 billion (USD 58 million)

6.4 Estimated finance gap

From a purely mathematical perspective, using different scenarios and the data available, it seems that there is not a finance gap for reaching basic coverage, including climate resilient infrastructure (Table 12). Using the SDG costing tool results (cost assumptions in Annex 2), the finance gap for reaching safely managed water and sanitation varies between MK 33 billion /year and MK 52 billion / year if climate resilient infrastructure is taken into account.

This points on the one hand to an underestimation of cost estimates, which become more realistic once districts develop their own costed investment plans including all the life-cycle costs for climate resilient services. On the other hand, as concluded in the previous sections, all the sources of funds are skewed towards capital investment, for water infrastructure in urban areas.

The consolidation of sources of funds hides a real finance gap for rural areas and for sanitation. Which means that a more balanced and equitable distributions of funds is required in future funding allocations, knowing that the majority of the population will also be living in rural areas.

Table 12 Scenarios for the finance gap using SDG tool costing estimates

Scenarios	Description	Cost estimates MK / year	Available funds MK/ year	Finance gap MK/year
Scenario 1	Basic coverage	78 billion	174 billion	
Scenario 2	Basic coverage + climate resilient	78 + 19 billion= 97 billion		
Scenario 3	Safely managed	207 billion		33 billion
Scenario 4	Safely managed + climate resilient	207 + 19 billion = 226 billion		52 billion

7. The foundations required to attract additional finance

The WASH sector in Malawi has seen very positive progress the past 10 years. Recent reforms and political commitment to the water sector have improved coverage and governance indicators. With the high ambitions for the sector, both public and private finance are available (to different degrees in different sub-sectors) but are difficult to mobilise.

A systems approach has been used for the analysis of the bottlenecks (Pories et al, 2019). This approach assumes that addressing only one or two bottlenecks (or foundational issues) will not be enough to see the required (financial) changes in the sector.

The 10 critical foundational issues that have been assessed, include:

✓ Sectoral access to finance:

1. The need for financing strategies and a system for maximising funds to achieve social objectives
2. More effective tariff-setting practices and economic regulation

3. The need for adequate regulation and accountability mechanisms
4. Clarity of mandate and performance obligations of service providers
- ✓ Service providers' access to finance:
 5. The need for solid financial and operational management
 6. Capacity strengthening for business planning and client acquisition
 7. Autonomy and legal framework
- ✓ Suppliers of finance:
 8. Addressing the mismatch between commercial bank risk profile and sector realities
 9. Avoiding market distortions
 10. Preventing development funds from "crowding out" private investment

In Figure 9 each of the foundational issues is given a traffic light color coding:

- **Red** –this specific area is blocking additional finance
- **Yellow** – The foundation is there, but it is not working optimally
- **Green** – The foundation is in place, there are no constraints to raise additional finance

The findings (Table 9) provide priority areas that can be discussed by country stakeholders to plan and develop concrete and feasible strategies to attract and mobilise additional financial resources to the sector (see next sections). The assessment was done based on the interviews and with recent reports namely GoM, 2020b, PEM Consulting 2017, Oates and Mwachungu, 2018, GoM 2018 and Godfrey, 2020.

7.1 Sectoral access to finance

In Malawi "there is lack of programme-based financing in form of National Water Development Programme (NWDP) with multi-sectoral financing window that include the development partners and grants and more shift towards financing rural water supply and community-based water resources management" (GoM, 2021:9). There is political commitment to the WASH sector in Malawi, but the finances do not match with the ambition. "Funding in the water sector is also fragmented, project-based and usually falls short of the annual investment plans and costs" (GoM. 2021: 31).

There was a SWAp process in 2015-16 that aimed at a credible and comprehensive sector workplan, a transparent and effective monitoring and evaluation system and a joint financing arrangement (PEM Consult, 2017). While there is desire to coordinate funding in the sector, there does not seem to be an appetite at the moment among stakeholders for attempting another joint funding programme.

The implementation of this document, **the finance strategy**, is critical to ensure that public finance and grants are directed towards achieving social objectives. The financing strategy is required to attract and mobilise a significant amount of additional resources. These will need to cover the funding gap in larger urban utilities – and specially sanitation - while freeing up

taxes and transfers to prioritise services to populations with rural and lower income areas. The implementation of the finance strategy will be an important step to solve some of the institutional blockages preventing the sector to attract additional funds.

Figure 9 Assessment of the foundational elements required to attract additional finance and priority interventions per sub-sector

Foundational elements required to attract additional finance	Urban water	Urban sanitation	Rural water	Rural sanitation
Sectoral Access to finance				
Finance strategies and policy	Yellow	Red	Yellow	Red
Tariff setting and economic regulation	Yellow	Red	Red	Red
Regulation and accountability mechanisms	Red	Red	Red	Red
Clarity of mandate and obligations of service providers	Green	Yellow	Green	Yellow
Service providers' access to finance				
Service providers financial and operational management	Yellow	Red	Red	Red
Business planning and client acquisition	Yellow	Red	Red	Red
Autonomy and legal framework	Green	Yellow	Yellow	Yellow
Suppliers of finance				
Commercial bank risk profile	Red	Red	Red	Red
Market distortions	Not applicable			
Development funds crowding out private investments	Not applicable			

The process for budget allocation to the sub-sectors is led by the Ministry of Finance (MoF). Budgets have to be proposed and defended by each of the line ministries and then discussed with MoF and Parliament within the ceilings set.

At present, there is no dedicated budget line for sanitation services at local level. Sanitation services receive funding from the district health budgets, at the discretion of the District Health Officer (DHOs). As revealed during the WASH PER district visits, the funding for sanitation services is in most cases less prioritised in most districts. Activities on sanitation and hygiene promotion – led by the District Environmental Health Officer (DEHO) with Environmental Health Officers (EHOs) and Health Surveillance Assistants (HSAs) acting as the frontline staff – are therefore carried out with very little to no funding (UNICEF, 2019; 2020).

Tariff-setting practices and economic regulation are weak. It is the Ministry that regulates tariffs in the sector. The Water Boards are mandated to cover all their costs but have no independence to change tariffs to meet inflation and cope with increasing costs of energy.

There is an absence of a regulatory framework and accountability in the water sector. There is no easily accessible data made available on revenue and expenditure by Water Boards and local authorities against service targets. There is no analysis of expenditure in the sector concerning: efficiency, effectiveness, equity or sustainability (UNICEF, 2019; 2020).

Under the MIP-1, one of the priority interventions for human capital development includes to fully capacitate the Water Boards for its full regulatory function operationalization. The strategy, which falls under the Ministry responsible for public sector reforms aims to provide regulatory oversight on tariff setting and tracking performance of the Water Boards.

For accountability, there are some key performance indicators (KPIs) for district councils and Water Boards have their KPIs in their agreements with the Office of the President, but there is not an ongoing structured monitoring process in the sector.

The Joint Sector Reviews provide an opportunity for engagement and discussion among different stakeholders in the sector, but they are not regularly done. The government is not holding the donors accountable either. There are a multitude and fragmentation of funds off budget.

The mandates for **who is responsible for the whole sanitation chain** is less clear regarding roles and responsibilities between Water Boards and City Councils.

7.2 Service providers' access to finance

Service providers can only attract commercial and concessional finance if they can demonstrate that their finances and operational performance are in good shape. Part of this proof will be that they can show that their revenues and tariffs are sufficient to cover the costs of operations. It will also be important to show a track record of financing management and transparency.

There is considerable progress to be made for **service providers in Malawi to be more efficient financially and operationally**. Only two Water Boards are able to cover minor operation and maintenance (Lilongwe and NWB – see Box 9). There is no asset management in place and there is also no system to link tariff increases to improved efficiency such as reducing non-revenue water and technical losses.

The Water Service Association of Malawi does some benchmarking of the Water Boards, but it is not a legal entity.

Strong financial management and client connection plans are critical foundations for a WASH service provider to operate with self-sufficiency. **Business planning**, asset management planning, and determining optimal cashflows all feed into these plans and serve as the components for a strong project preparation plan. These exist for urban water to some extent but are emergent for faecal sludge management and waste collection.

The autonomy and legal framework for services providers does exist. The legislation for the sector establishes clear roles and responsibilities. Service delivery functions are performed by the district councils (rural) and the water boards (urban), with the Water Boards focused on



urban areas. Operation and maintenance functions for rural water systems are to be performed by WUAs. (GoM, 2021b)

Box 9 Tariff setting in the Northern Region Water Board

NRWB's tariff was last revised in November 2021 but this was after a two-year period over which the tariff remained static. The NRWB has been able to obtain government approval and adjust tariff to keep up with inflation in some years. For other years, it has not been possible to secure government approval to adjust the tariff.

NRWB's tariff policy is to recover all costs which comprise operation and maintenance, depreciation, interest (finance) as well as cost of replacement of assets. However, prevailing tariffs over the years have fallen short of meeting the ideal full cost recovery tariff.

The balance on the accounts after operational and maintenance costs costs was not adequate to cover major repairs and future expansion. Relatively lower tariffs coupled with reduced billed volumes resulting from economic downturn triggered by the COVID-19 Pandemic meant that the NRWB could not generate adequate revenue to cover major repairs and future expansion.

Source: World Bank 2021

7.3 Suppliers of finance

In terms of supply of finance, **there is a perceived high risk to provide loans to the sector**. As such commercial banks do not make the finance required readily available or when available loans are very costly, have short repayment periods. The Water Boards have been able to access concessional finance from international finance institutions (IFIs) and national commercial banks because there is a sovereign guarantee that ensures that the debt is repaid to the financier.

Concessional loans from IFIs are very infrastructure oriented – dams, piped network – but without ensuring asset management and preventive repairs increasing the capacity of the systems to have more water will not necessary mean increase in services if the distribution network is in disarray. There is not much technical assistance linked with the loans, but there is no demand for it either from the government side.

Concessional loans from domestic commercial banks are, on the other hand mostly for Water Boards working capital and to ensure salaries are paid and small investments can take place.

The quasi-monopoly in service provision by Water Boards in urban areas can be considered a **market distortion** in the sense that it prevents private operators to enter the market.

Preventing development funds from “crowding out” private investment and avoiding market distortions is not relevant at this stage since **conditions for private investment have not yet been created**. Concessional loans from both international financing agencies and domestic commercial banks are still relevant and necessary due to the large finance gap (IMF, 2021).

Currently the more critical aspect is that debt service is being paid back by taxes with limited or no contribution from tariffs (situation before the tariff increase in November 2021).

Part III Closing the WASH finance gap

Strategies to close the finance gap

- Options to reduce the cost of achieving WASH targets
- Options to increase financial flows to pay for WASH targets
- Recommended next steps

8. Options to reduce the cost of achieving WASH targets

There are a few options in the different sub-sectors that can raise additional finance (through savings) by increasing efficiencies in how existing resources are being spent. The responses in the interviews were almost identical and consistent with the literature. The options are presented in order of priority and summarised in Table 13.

Table 13 Summary of options to reduce costs per subsector with estimates

Measure	Sub-sectors	Estimated cost of the measure	Estimated resources saved/generated on average per year
Reducing non-revenue water	Urban water	Depending on the Water Board. LWB received a concessional loan of MK 4 billion (USD 5 million) for reduction of NRW (see Box 10)	A 10% reduction would raise MK 1-2 billion a year (WB, 2021).
Reducing the need for rehabilitation by increasing preventive maintenance	Urban and rural water	Setting up a simple excel based asset management system costs 1 FTE for about 3 months and TA support. Budget requirements for minor operation and maintenance depends on status of existing infrastructure. Support professionalisation of water mechanics in rural areas.	The largest impact is on maintaining serviceability and quality of services which ensures revenues (see above). This measure will also reduce costs in the medium term.
Reducing long-term operational costs by investing in on-site renewable power generation	Urban and rural water	For urban water see EIB finance facility for Water Boards to meet renewable energy needs. For rural water, investing in resilient solar power piped schemes. See proposal for GCF.	More than half the expenditure of Water Boards is on energy bills. Decreasing dependency on the electricity grids by half would release significantly operational expenditure. Cost of production per cubic meter will decrease by 35-50% and climate resilience will increase.

8.1 Reducing technical and non-technical losses to increase revenue

The first option to raise additional finance concerns urban water and is focused on the Water Boards. In 2020/21, non-revenue water from the five Water Boards ranged from 29 percent to

53 percent due to technical losses (leakages) and non-technical losses (non-billing, non-payment, and illegal usage). This is equivalent of losses between MK 1.5 billion and MK 19.3 billion per year (MFNR, 2021).

Savings of 10 percent would enable coping with the higher energy costs (or investing in alternative sources) and invest in maintenance of the existing piped schemes. The World Bank estimated that a 10 percent reduction in physical and commercial losses would raise additional MK 1-2 billion per year for the Water Boards (based on data from NRW, LWB and BWB) (WB, 2021).

Box 10 Performance based contract for NRW reduction

The Lilongwe Water Board has signed a performance-based contract with the World Bank for non revenue water (NRW) reduction. It’s a concessional loan of 5 million USD for engaging with the private sector to support specific service areas. The LWB is granting the funds to the private operators based on the NRW reduction. The plan is that the money recovered is then used to finance subsequent stages of NRW interventions.

Source: Interview

Improving efficiencies is also essential in view of affordability constraints. There is an interest in promoting cross-subsidising tariffs at regional and sub-sector level to ensure cost recovery and reduce the wide range of service costs between urban areas with high - low population density or, abundant - scarce water resources. See impact of increased efficiency on an average tariff in Table 14.

Table 14 Impact of improving efficiency on an average tariff of US 0.79 per cubic meter in Sub-Saharan Africa

Reduction of non-technical inefficiency by increasing bill collection to 75%	-0.73%
Reduction of non-technical inefficiencies by reducing non-revenue water to 75%	-0.54%
Reduction of overstaffing inefficiencies by 75%	-1,59%
Reduction of CAPEX inefficiencies by 75%	-8,42%

Source: Andrés et al. 2021

8.2 Reducing the need for rehabilitation investments through timely maintenance

Increasing capital expenditure without a matching increase in operational maintenance and capital maintenance means putting more water (and money) in a failing distribution and storage system and will result in additional losses. With smaller investments in asset management, many gains can be derived for future investments.

Routine maintenance prevents equipment breakdowns and failure thereby reducing time and maximising efficiency. Preventive maintenance is estimated to reduce capital maintenance costs significantly over time.

8.2.1 Urban water

The Water Boards do not have an asset management system in place which indicates when preventive maintenance needs to be done in which components of the water system. VEI is

providing technical assistance to some Water Boards (including to one EIB funded loan) which aims among others to improve asset management (Box 11).

Box 11 Water Boards cooperation with VEI for reduction of NRW, asset management and long-term investment plans

The Water Operator Partnerships and TA projects of VEI have a strong focus on improving maintenance and operation of water infrastructure. This ranges from very practical assistance in training staff in maintenance techniques or finding and repairing leakages, to more structured and digitised ways (e.g. GIS and hydraulic modelling) and monitoring and analysis of the performance of assets. Besides the more technical topics there is also a focus on long term strategic plans, investment planning and prioritisation mechanisms. This helps in finding donors to invest in the needed infrastructure.

In Malawi, VEI has partnered with BWB, LWB and NRWB and more recently with Southern Region Water Board (SRWB) and Central Region Water Board (CRWB). All these partnerships have a strong focus on NRW reduction. For instance, the Water Efficiency project at NRWB (TA package of VEI under an EIB financed project) reduced NRW from 450 to 170 liters per connection per day over the period of five years.

Lilonge Water Board has been successful in attracting financiers by working with the utility drafting and presenting a long-term investment planning until 2045. The "donor conference" organised in November 2019 resulted in USD 100 million in investments to start the implementation of the investment plan.

Source: Personal communication

8.2.2 Rural water

To improve the maintenance and sustainability of water points in rural areas, there needs to be more funding and attention to direct support – mostly post- construction and monitoring activities.

Area mechanics exist in many of Malawi's rural districts. According to national policy, area mechanics are part of the formal governance structure for water service delivery, helping to bridge the gap between Water Point Committees (community representatives) and Water Monitoring Assistants (extension workers) (Oates and Mwathunga, 2018). Supporting the professionalisation of water mechanics in rural areas has proven a good model in many countries.

8.3 Reducing long-term operational costs (e.g. energy) and investing in lower costs-higher return infrastructure

8.3.1 Urban water

The costs of electricity constitute the majority of operational expenditure for water service providers (up to 60% in Blantyre). Water is usually pumped to a higher elevation to create enough head⁴ to supply consumers. The cost of electricity has gone up by over 65 percent since 2018. A high rate of NRW is also closely related to poor energy efficiency, since water

⁴ Head is the height at which a pump can raise water up

transported in networks is “loaded” with energy through the distribution and treatment processes. Thus, energy is lost along with the water.

NRWB currently installing solar power system to reduce the costs. The EIB is setting up a (finance) facility with the Water Boards for meeting renewable energy needs.

Other strategies to reduce long term operational costs mentioned include:

- Investing in variable frequency pumps which adjust their frequency to the pressure they need to maintain when there is less demand rather than running all the time.
- Invest in good hydraulic design to avoid have to pump all the water to the highest point (which consumes a lot of energy).
- Better procurement procedures to reduce inflated unit cost prices.
- Careful consideration of multiple investment options. For instance, Water Boards keep requesting large funds for new water sources (usually dams which cost about 150 million USD) but if they would refurbish an existing damn or deepen a water reservoir, the resulting strategy will deliver quicker financial returns.

8.3.2 Rural water

Bringing in renewable energy is an important coping strategy and it is estimated to reduce the cost of production (see Table 15). A life-cycle cost analysis done by UNICEF (2020b) shows that although the initial capital costs for solar are more expensive when compared with a borehole fitter with hand pumps or a diesel generator powered water system, solar power is significantly more cost effective in the longer term.

Table 15 Costs of production per cubic meter of water for different water systems

Type of water system	Cost per cubic meter of water
Solar Powered Water System	\$0.20
Borehole fitted with hand pumps	\$0.27
Diesel Generator Powered Water System	\$0.56

Source: UNICEF 2020b

Other coping strategies to increase functionality and decrease long term maintenance costs include insurance schemes and/or long-term agreements with contractors to ensure regular maintenance. Water For People is piloting the insurance of two recently constructed systems. At a minimum premium, it covers the replacement costs of those parts that are most susceptible (at different risk rates – solar panels, submersible pumps, control units, elevated tanks structures), damage by extreme meteorological events (mainly rainstorms, winds, floods) and vandalism.

9. Options to mobilise additional funding to pay for WASH targets

Beyond reducing the costs, several measures for mobilising additional funding are proposed. The options are summarised in Table 16 and described in detail below.

Table 16 Summary of options to mobilise additional funding per subsector with estimates

Measure	Estimated cost of the measure	Estimated additional resources generated on average per year
Increasing government budget allocations to the sector	Convening coordination platforms with various stakeholders	2% min annual increase in overall budget allocation + increase in WASH budget allocations within other sectors
Create budget line for sanitation and hygiene at district and council level	Administrative measure	Specific cost center for sanitation and hygiene would allow national budget increases to be transferred to districts
Rural and peri-urban water		
Performance based mechanisms	Performance Based Grant (PBG) already in place	Roughly MK 815 million per year per district available for all sectors
Reform the borehole fund	Setting up processes for the management and allocation of the borehole and the trust fund	At present MK 12 million per year per district to increase with the trust fund
Increase climate funding	Costs of proposal development by GoM and UNICEF	A proposal of about MK 8 billion is being submitted to GCF
Rural and peri-urban sanitation		
Support market-based approaches	Grant to set up sanitation revolving fund MK 63.5 million (for an area of 50,000 users)	Improved services that would not be provided otherwise through loans for entrepreneurs
Urban water		
Annual revision of the tariffs	Water Boards projections	Tariffs to at least increase with inflation and to cover part of large maintenance
Improving billing and collection systems	Introduction of pre-paid meters	A 10% average increase in billing and collection would raise additional MWK 1-2 billion per year for the Water Boards
Urban sanitation		
Ring fence VAT from water bills	VAT already introduced	Data not available, but one of the largest sources of funds
Support city councils to develop business plans for faecal sludge management units	MK 252 million in the first 2 years and MK 697 million through years 3 to 5.	Generating jobs with licensed waste operators.
Regulate neighborhood areas and fees for waste operators	Unknown	For Lilongwe, potential annual market size is MK 3 billion

Source: authors

9.1 Increasing government budget allocations to the sector with better engagement, sector coordination and accountability mechanisms

The Ministry of Finance is making decisions on budget allocations based on what the line Ministries submit. Once the budget gets to Parliament, the committee on natural resources and climate change also has a role to play and their voice is important when it comes to budget revisions – however this can only be done within the ceilings already set by MoF.

As discussed in section 4.2 the engagement from the sector in the budget process can be much improved. In other African countries, increasing engagement in budgeting processes have led to annual increases of 2 percent of the net budget for the sector. This would mean in Malawi an annual increase of MK 4.2 million (USD 5,200).

The water sector does not have a coordination platform at the moment that enables the **sector to speak with one voice**, show the sector achievements and make the best of existing resources by funding and financing complementary activities in the sector.

“If there is a coordination platform in the water sector to harmonise investments, to select priorities with several stakeholders, where we access progress, then the Ministry of Finance would be part of it. There are similar arrangements with the Ministry of Education.” Interview, December 2021

Coordination platforms and finance working groups are important to be able to reach out to other sectors which take a considerable size of the national budget (health, education, agriculture) to also include relevant WASH budget lines in their own budgets.

The other element that improves engagement in the budgeting process is to have a system in place that monitors the effectiveness of the investments made. Setting up monitoring systems that track how finance is being spent is also the basis for improving accountability mechanisms in the sector: from donors to national government, and from local government and Water Boards to citizens.

The PEM Consult 2017 report has analysed different options for pooled funding from donor agencies. The strategy was to start with the development of a capacity window to ensure strengthening institutional skills before deployment of the investment window. Revising the steps and activities of the report could also be one of the first tasks of the platform.

9.1.1 Decentralise fully water and sanitation to district and city councils

For funds to flow from national level to district councils, the sectors need to have decentralised functions. Administratively that means that there needs to be a budget line for the districts and town councils to report on. This particularly negatively affects the flow of funds for sanitation in rural and urban areas.

A separate ‘sanitation and hygiene’ sector (or cost centre) at district level (as for water) is likely to empower environmental health staff with more funds and more attention to sanitation; and would also facilitate better tracking of overall WASH expenditures (GoM, 2020b).

The initiative for creating the budget line at local level comes from the Ministries. Education and health are fully decentralised.

9.2 Mobilise additional finance for the sector: rural and peri-urban water

Presently the main source of funds to the rural water sector are tariffs paid by consumers, national budget which is transferred to the districts councils but covers mostly salaries and some operational costs such as fuel. There are several programmes with ODA that are focusing on payment by results.

9.2.1 Performance based finance mechanisms

Rural water suffers from the “project” syndrome where most of the funds are allocated to capital expenditure, infrastructure is “handed over” to local communities or/and district councils, there is lack of maintenance, infrastructure fails, and services are again interrupted. This leads to a graveyard of investments and non-functionality. There is distrust from central government on how funds are spent at local level which further exacerbates limited transfer of funds.

Performance based finance mechanisms with technical assistance for setting up planning, monitoring and maintenance processes are one of the most promising ways to increase both the finance, the efficiency in its use and the quality of services in rural areas.

The Governance to Enable Service Delivery (GESD) is a performance delivery programme for the 28 rural District Councils which is embedded within the government system (Box 12). It aims to build the confidence in local government capability and country financing systems to improve service delivery through. The project has a dedicated component to supporting citizen engagement and civil society partnerships. Another component of the GESD is related with improvements in the plans, procurement, and the districts that are performing worst.

It only funds projects identified in District Development Plans and one of the requirements is 100 percent utilisation of the allocated funds. The access to and size of the grant allocation is determined by district score on the annual Local Authority Performance Assessment (See Box 13). The grant is disbursed through the National Local Government Finance Committee and done along with the other funds.

The majority of projects in year 1 were allocated to health and education. One of the reasons for lower projects submitted for the water and sanitation sector might be the existence of the borehole fund which means there are other financial gaps to be met by the performance-based grant.

Box 12 The Governance to Enable Service Delivery programme (GESD)

GESD is a five-year (FY21-FY24), USD 100 million (MK 81.5 billion) commitment by government. 70 percent of the project funds MK 57 billion (USD 70 million) are dedicated to the Performance Based Grant.

The lead implementing agencies are the MoF, MoLG and National Local Government Finance Committee (NLGFC). GESD is funded by an IDA grant from the World Bank. An IDA grant means that these funds do not need to be repaid and therefore do not contribute to Malawi’s external debt burden.

The investment menu of the PBG is closely aligned to that of the GoM District Development Fund and the District Councils choose the priority projects identified in their District Development Planning System DDPs. Example of Performance Based Grant PGB eligible investments in water supply and sanitation include:

- Rehabilitation and repairs to rural water sources including gravity fed
- Construction of public latrines
- Construction of shallow wells
- Borehole drilling and rehabilitation

- Construction of piped water system
- Public latrines, sewerage and waste dumps
- Construction of dams
- Water harvesting and storage and supply, e.g. rainwater harvesting and improved local water retention through ponds and improved irrigation practices.

Source: GESD FAQs, October 2021.

Box 13 The annual Local Authority Performance Assessments (LAPAs)

Under the LAPA, Districts are scored yearly against performance measures. The LAPAs are undertaken by an Independent Assessment Team contracted by the GoM. The association's LAPA report for the 2019/2020 financial has been published.

The indicators used for water and sanitation are limited to percentage of households with access to improved water source, percentage of households with access to improved sanitation and number of schools with access to clean water sources. The LAPA from 2018/19 was missing verifiable indicators for provision of water and sanitation which were recognised as very important for service delivery in the Districts (GoM, 2020).

9.2.2 Reform the borehole fund

The borehole fund uses resources generated within the Ministry of Environment and Natural Resources (MENR). It has no donor contributions. Each district is usually allocated MK 12 million for building new infrastructure independently of the district plans or performance. The fund does not support existing water systems or service providers. Instead, the water service providers (WUAs) depend on NGOs who are working in the districts to support them on major maintenance or expansion.

The MIP-1 (Annex 1) includes a measure to establish a maintenance trust fund to facilitate local governments technical and capacity building support to rural communities. Both the trust fund and the borehole fund could both become district performance-based mechanisms in the sector for the rural water sector.

9.2.3 Increase climate funding for rural water supply water security

The conventional approach to service delivery in rural areas is to provide rural communities with a hand pump on a borehole. Failure rates are high (30%), resilience gains are limited (water quality is not secure) and time loss is high (distance to singular source). The high levels of non-functionality of water facilities are in part related to damages by extreme weather conditions. For example, in Chikwawa, the water service level dropped from 86 percent in 2018 to 66 percent in 2019 because of Cyclone Idai.

One option is to upgrade planned conventional handpump schemes to more resilient solar power piped schemes. Such schemes can provide good quality water, closer to homes, health centres and schools, leading to increased community resilience and lower electricity costs for the users.

A proposal of about MK 8 billion - USD 10 million (is being submitted by the GoM to the Global Climate Fund (GCF) (Box 14). The request is for GCF to grant 88 percent of the proposal. The

government will co-finance the conventional part (drilling) amounting to 10 percent (USD 1,00,000) of the overall budget. In addition, UNICEF will contribute MK 244.5 million - USD 300,000 (3%) for project management.

Box 14 Proposal for Global Climate Fund: Climate resilient water supply for rural Malawi

The Environmental Affairs Department of the Ministry of Forestry and Natural Resources is submitting a concept note for project development to the GCF. Eight districts have been identified with the lowest access to safe water coverage (GoM 2020b), with a total population of four million (2018 Census) and represent both flood-prone areas and areas under threat of drought.

The main objective is to scale up 100 climate resilient solar water systems. UNICEF Malawi has in-country experience of installing such schemes since 2018. They are proving to be innovative, affordable, scalable, and environmentally sustainable. So far UNICEF have implemented 45 systems which provide services to up to 5,000 users per scheme (UNICEF, 2020b). It is estimated that each of the solar schemes saves about 21 tonnes of carbon dioxide (CO₂) per year when compared to diesel generators.

Community resilience improves because of better service both in terms of physical access (reduced distances reduces burden women and girls) and quality of water (a chlorination system can provide safe water all-year-round despite seasonal meteorological and climatic changes). Water source resilience increases due to comprehensive hydrogeological investigation and the infrastructure itself is more resilient with safe borehole capping (to avoid pollution during flooding) and strengthening of the raised tanks and solar panels against strong winds. To avoid damage during floods, pipes will be buried or galvanised iron will be used.

The proposal also includes real-time remote monitoring on 100 systems and professionalisation of local administrations to improve water schemes management.

Source: Final concept note for GCF

9.3 Mobilise additional finance for the sector: rural and peri-urban sanitation

9.3.1 Support market-based approaches

Supporting market-based approaches means involving business institutions – individuals or agencies – to include them in sanitation service provision where consumers pay for the services provided. This is opposed to services provided by governments or utilities.

Supporting market-based approaches has the potential to improve service delivery. It does not reduce the costs of service provision, but it does allow public finance to be redirected to the areas and populations that need subsidies. There is also an expectation that scaling up market-based approaches in rural and peri-urban areas might reduce capital expenditure over time and lead to the development of innovative technologies.

UNICEF is partnering with NGOs and microfinance organisations to standardise supporting market-based approaches through a sanitation revolving fund (see Box 15). Setting up a sanitation revolving fund for an area of 50,000 users costs approximately MK 63.5 million (USD 78,000) (excluding NGO management costs). The main costs include procurement of seed sanitation products, trainings, demand activation and review meetings (UNICEF, 2020b).

Box 15 Revolving funds for promoting market-based approaches in rural and peri-urban sanitation

UNICEF supported the establishment of localised community sanitation revolving funds in Blantyre, Chikwawa and Nkhatabay districts, covering approximately 40,000 households. The target groups of the sanitation revolving funds are:

- For rural areas: low-income households that are willing and able to borrow funds for construction or upgrade of latrines and benefit from desludging services.
- For peri-urban areas: hardware shop owners and sanitation entrepreneurs (masons) that sell various sanitation-related products and services.

UNICEF provided funds for the NGOs to set up the revolving scheme and to use as seed money for the loans. Funds are also used to initiate demand activation using drama, dialogue sessions, Community Let Total Sanitation CLTS and other strategies to create demand for sanitation services and products. The NGO partners mobilised the masons who were trained in installation and upgrade of sanitation products such as concrete slabs, SATO pans and ventilated improved pit latrines. In peri-urban areas some loans are also provided to selected entrepreneurs to stock relevant products and undertake pit-emptying services. The loans are approximately MK 2.4 million (USD 3,000) and are to be repaid over 12 months. With the money repaid from loans, the managers of the revolving funds have been able to restock their products and services.

Peri-Urban Financing Model: Machinjiri (Blantyre)

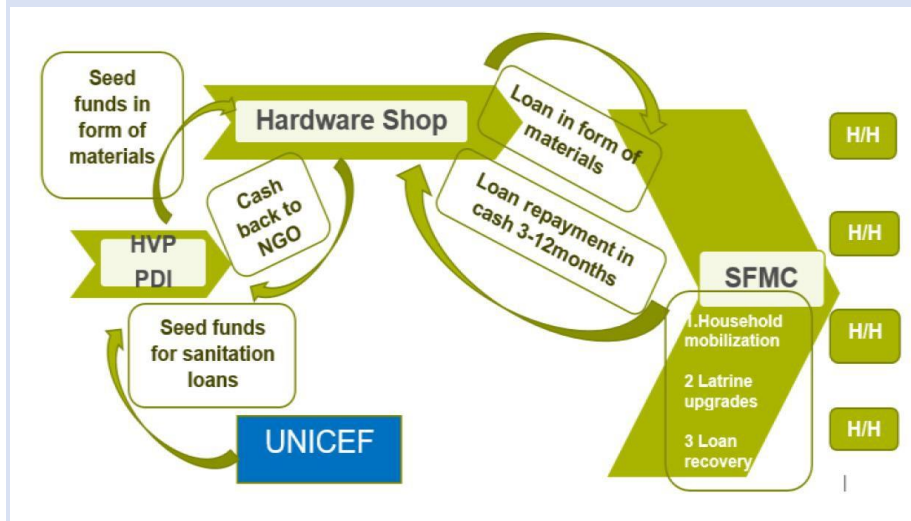
UNICEF works with the Mudi Savings and Credit Cooperation (SACCO) which is in charge of loan management and with sanitation entrepreneurs to target landlords in improving household sanitation through affordable latrine loans. Community members are encouraged to form Village Savings and Loan Associations (VSLAs), however, those not yet in VSLAs still have the opportunity to get loans.



Rural Financing Model: Nkhatabay and Chikwawa

In the rural areas of Nkhatabay and Chikwawa districts, a committee comprising a Village Development Committee (VDC), local leaders and other influential people are the revolving fund managers with oversight from Area Development Committees (ADCs) and VDCs. These structures are enabled to provide soft loans to community members willing to acquire improved sanitation products and services. Community members are encouraged to form into groups of four members where, for example, they

can share one bag of cement for floor plastering or screeding. In the rural financing model, the process of acquiring the sanitation loan is “cashless” to minimise risk in handling cash. Money is only exchanged at payback.



The loan period is 3-12 months (for both models) and the interest rate charged is 5 percent for peri-urban and 2 percent for rural.

Source: UNICEF, 2020b

9.4 Mobilise additional finance for the sector: urban water

9.4.1 Annual revision of the tariffs

The Water Boards are responsible for large maintenance and rehabilitation, but current tariffs do not cover either. Loans are taken to cover these costs. Recently there has been a tariff increase and at the same time the government announced free water connections. However, there is not an incentive to improve efficiency linked with the tariff increase.

The tariffs of the Water Boards remained unchanged in the past three years, not reflecting inflation or the increasing energy costs and thereby crippling their performance. Every four years, with changes of government the process to increase tariffs needs to be explained again. Many stakeholders have called for an independent regulator in the water sector to address these challenges. This is also one of the water related outcomes stated in the MIP-1 (see Annex 1).

9.4.2 Improving billing and collection systems

The World Bank estimated that a 10 percent average increase in billing and collection would raise additional MK 1-2 billion (USD 1.2 -2.5 million) per year for the Water Boards (based on data from NWB, LWB and BWB. (WB, 2021). The introduction of pre-paid meters in government institutions has increased revenue.

For low-income consumers, the E-Madzi is a pre-paid electronic system which has enabled a 65 percent reduction in water costs, because there is no longer need for an attendant, and no waste. The cashless system further improves the collection efficiency by the water service

provider. The supply and installation work for the system costs approximately MK 33.8 million (USD 41,500). (World Bank, 2020). (See Box 16).

Box 16 E-Madzi prepaid kiosks

Lilongwe Water Board began the installation of E-Madzi kiosks, fully-automated systems allowing users to draw water using an e-card. E-Madzi is a pre-paid electronic payment system. Customers use their E-Madzi smart cards on swiping machines that are installed on kiosks.

The E-Madzi initiative is designed to increase water access in all low-income areas within Lilongwe Water Board's catchment area. The innovation allows customers to buy water at any time of day while paying less than what they would pay in a normal kiosk with a fixed water price.

The E-Madzi system is comprised of three main elements - a smartcard, dispenser unit and water management system. The system is installed at a kiosk and is operated through an electronic water management device. The card uses Radio-Frequency Identification (RFID) technology to allow users to draw water by tapping on the dispenser unit.

Consumers with a prepaid smartcard only tap the water dispenser, and credit is deducted from the smartcard balance to the exact amount of water collected. The technology helps to reduce water wastage due to spillage and non-revenue water. The Water Management System Server captures all the reports from remote kiosks to enable Lilongwe Water Board's system administrators to remotely monitor the performance and water usage of the kiosk through an easy to use web-based dashboard.

Source: World Bank, 2020

9.5 Mobilise additional finance for the sector: urban sanitation

Urban sanitation includes both faecal sludge management and solid waste management. The major issue on onsite urban sanitation is that many city councils do not budget for liquid or solid waste removal. Instead, there are private and informal waste collectors who operate within the mandate area of the city councils.

The MIP-1 (Annex 1) prioritises incentivising private sector participation in the sanitation value chain in the urban and peri-urban areas, including several measures for improved environmental management.

9.5.1 Create a fund for sanitation using the VAT on water bills

In most countries, sanitation infrastructure is funded by cross subsidies: between regions, between utilities and between sub-sectors. At present in Malawi there is no government funding specific for sanitation (rural or urban).

From July 2021 the government began to collect VAT of 16 percent on water bills. This is a source of funds that can be ring fenced to invest in sanitation. Similarly in the energy sector there is a fuel levy which is used to provide energy to rural areas. This is now the country's largest public funding source. The expected annual VAT collected on water bills is estimated to be [not available the volume being collected per year by Revenue Authority].

In February 2022, it was announced that the VAT on the water bills would be removed (MRA, 2022).

9.5.2 Support the city councils to develop business plans for faecal sludge management (and make investment decisions based on these)

Faecal sludge management (FSM) does not have to be a drain on public resources. A business plan has been done for Lilongwe where a FSM unit is to be established with the local city council. This will require start-up funding and capital investment (Box 17).

With projections of a market share at 50 percent at Year 5 and a MK 1,630 (USD 2) discharge fee, the investment requirements are MK 252 million (USD 310 thousand) in the first two years and MK 697 million (USD 855 thousand) through Years 3 to 5. The operating shortfall for the FSM unit in the base case of MK 108 million (USD 133,000), over five years can be funded from Lilongwe city council operating surplus (WSUP advisory, 2021).

There was also FSM unit in Blantyre, which operated for two years and generated MK 24,4 million (USD 30,000) worth of compost. There have been a couple of tenders for the private sector to engage, but either they are good with managing the production line or they are good with managing the market – either way these require upfront investment (see Section 8 on mobilising repayable finance).

Solid business plans for FSM are essential to mobilise additional financial resources (see section 8 on mobilising repayable finance) but also require regulatory changes on the fee payment (see section 9.5.3).

9.5.3 Regulate neighbourhood areas and fees for waste operators

The data available is for Lilongwe, but the approach can be used by other city councils.

It is estimated that the city of Lilongwe generates a total of 900 tons of waste a day. The city council had two skip carriers (5 tons each) and three waste compactors (7 tons each) which means that most of the waste ends in illegal dumping sites. In 2020 there were also about 20 registered private waste operators, with many more applying for licenses to operate. The estimated percentage of solid waste collected in Lilongwe is 19 percent (Waste Advisors, 2021).

There are many opportunities for co-composting waste because 90 percent of the population lives on subsistence farming, and good compost is needed to restore overused soils and increasing yields production. City councils could also lead campaigns on waste separation to facilitate further the composting process and market development.

Box 17 Business plan for FSM unit at Lilongwe city council

The FSM unit will be: engaging, formalising and training private operators; operating new faecal sludge treatment plants; conducting information, education and communication campaigns; processing customer feedback; and monitoring the safely managed market. The FSM unit will actively support the development of a professional emptiers association that will include chapters for mechanised pit emptiers and manual pit emptiers. Emptiers will be managed in two broad groups:

- Formally contracted or **licensed operators** working according to agreed Standard Operating Procedures (SOPs). The SOP obligations for this group will be guaranteed through access licenses which enable licensees to discharge faecal sludge and septage at new and more conveniently located faecal sludge treatment plants ; and lease agreements for emptying and transport equipment provided at a discounted cost. The city council will lease small vacuum tankers, mechanised desludging units and flatbed trucks to selected service providers.
- **Operators without formal contracts** or access licences who will be trained and certified in SOPs. Service standards will improve through SOP training for service providers encouraged by the benefit of certification and recognition which is particularly important to latrine pit emptiers.

The enabling requirements for the business model to succeed include:

- Creation of an FSM unit housed within Lilongwe city council;
- Procurement and leasing of equipment;
- Implementation of an Access License regime;
- Development of SOPs and a certification regime; and
- Installation of a monitoring information system

Source: WSUP Advisory, 2021

In 2021, WASTE Advisers undertook a Waste Value Chain Assessment for Lilongwe city and calculated that the revenue potential, from households, for regulated collection services is a total of MK 3,6 billion (USD 4,5 million) (

Table 17). This means allocating neighbourhoods per registered waste operator to ensure they too have a secured market.

The cost and revenue collection from the markets could not be calculated. On an unpublished study for Blantyre, WASTE Advisers estimated that 100 percent collection for all the markets would cost the Blantyre city council MK 80 million (USD 100,000) per year to outsource.

Table 17 Potential revenue for private waste operators (from households only)

Demographics	Ratios	Monthly current collection rates	Adoption rates year 1	Potential annual market size
High income	10%	MK 20,000	30%	MK 1,786,393,027
Middle income	20%	MK 10,000	20%	MK 1,190,868,685
Low income	70%	MK 3,000	10%	MK 625,206,060
Total				MK 3,602,377,771

Source: Waste Advisors, 2021

However, at the moment, the property taxes collected by city councils include a waste removal service (which is not being ring fenced for re-investment in waste removal). This means the city councils would need to reduce the property taxes and ensure mandatory payment for waste

collection (creating jobs in the process). In exchange for organising the industry for private waste operators, which would have a considerable profit margin, the council can also introduce a disposal fee at the water treatment station to compensate for the loss of property tax revenue. Waste Advisors (2021) made the calculation that a five percent rebate on property taxes in lieu of private waste collection would mean an annual loss of MK 91 million (USD 111,656) which could be recovered by the fee at the final disposal site of 15 percent, which would generate MK 102 million (or USD 125,153).

10. Options to increase repayable finance

Despite the constraints on fiscal space there are options available for households, entrepreneurs and Water Boards, some of them already being implemented as described in the previous section.

10.1.1 Performance based loans for Water Boards

To access financing from domestic and IFIs it is critical to increase the creditworthiness of WASH service providers. See options in the previous section to reduce non-revenue water and to increase billing collection.

10.1.2 Loans from commercial banks to SMEs

NBS Bank is already financing SMEs in the sector - mostly companies that are drilling boreholes and small shops that sell hardware. The opportunity to develop SMEs in the area of wastewater management, waste collection, recycling and composting is enormous. For instance, plastic recovery is being mostly handled by large-scale companies that stated they started recycling plastics to limit the purchase of virgin plastic from abroad, which has significantly increased in price (Waste advisers, 2021).

Opening business opportunities for entrepreneurs by providing area concessions would allow more funding for SMEs and the business area under green growth options. See section 9.5 on mobilising additional finance for urban sanitation for more details.

10.1.3 Microfinance for household latrines

Vision Fund, FIN COOP, MUDI SACCO-Savings and Credit Company has been identified as providing microfinance to household for rural sanitation. UNICEF-WFP is piloting a household latrine finance model for rural communities in partnership with MUDI SACCO. Households get loans guaranteed by WFP (MK 2 million or USD 2,454) for construction and improvement of household latrines (See Box 18).

An area to explore would be the potential of microfinance institutions to take on guarantees to be expanded to other NGOs and community rural water services.

Box 18 Microfinance for improved latrines

Studies conducted in peri urban and rural communities indicate that households are more willing to invest in improved latrine. However access to affordable financing models are a challenge as commercial

bank charge high interest rates on their loans and are therefore not affordable to many low income communities. The microfinance sector in Malawi consists of commercial banks, NGOs and SACCOs.

Unfortunately, despite the efforts of the government and others to improve access to finance for more Malawians since the 1990s, the demand report estimates that over 55 percent of the population is excluded from the formal and informal finance sector.

Water for People is piloting a model of working with community-based microfinance institutions (SACCOs) which are providing guaranteed loans to households to access loans for improved sanitation at household level. The loan is in the form of a complete service (latrine) built by a network of trained sanitation entrepreneurs. The households service the loan within an agreed period of time.

The household needs to join SACCO, and open a savings account which enables them to access a loan through two vouchers: one for materials and another one for labour payment.

After the latrine construction has been completed, the household gives the certified latrines construction entrepreneur a voucher to get the money from Mudi SACCO. The household then starts the repayment of the loan at an interest rate of 3 percent. The repayment period is six months for a minimum loan amount of MK 9,500 (about USD 12). For a business loan (mostly for sanitation entrepreneurs) the minimum loan is about MK 1 million (about USD 1,200) and the repayment period is 12 months.

Source: Water for People interviews and reports

10.1.4 Microloans for maintenance of rural and peri-urban water infrastructure

To increase sustainability of infrastructure, Water for People has facilitated the setting up of water users' associations to perform like mini water utilities in rural and peri-urban settings. At district level they report to their Board of trustees who then report to district officials. Once a year, they hold an annual general assembly where they report to the water users on how they have performed. In the urban set up these water users' associations also hold interface meetings with the water utility companies. The model aims to ensure there are funds for maintenance and makes use of tariffs to provide microloans which then finance repairs (Box 19).

Box 19 Water point banking for covering maintenance costs

"At Water for People, we have tried to promote water tariffs that are based on full life cycle costing commonly understood as AT WHAT COST where we encourage communities to choose technologies that they know they will be able to sustain and replace after its full life span.

We have done these by helping the communities reuse wastewater from their wells for growing nutritious crops that they can sell and earn some money to help sustain their water point. We also promote borehole banking (water point banking) where we encourage water users to use the water tariff collected to lend to each other at an interest thereby growing their money and saving it for future use i.e. purchase of spare parts, or replacing the hand pump in time of need.

Although this has shown some success, it depends on the leadership of the village and the social capital of the village."

Source: Water for People

11. Recommended next steps

“We need to be cheap. Finance needs to come at the lowest cost possible and deliver maximum impact. What matters the most now is to get the basis of the operations in good shape.” Interview, December 2021

This finance strategy sets out 18 options covering all WASH sub-sectors to reduce expenditure and increase financing to reach Malawi’s WASH targets. The strategy is focused on practical actions that can be taken by different stakeholders over the coming five years to set a good foundation towards the goals of Vision 2063, while raising additional funds.

The recommended next steps include:

1. The Ministry of Water and Sanitation sets up a multistakeholder Steering Committee or/and a Coordination Platform to oversee the implementation of this finance strategy and prioritise and sequence the 18 options;
2. The Steering Committee proposes priorities and discusses an implementation plan for 2022/23 seeking alignment among sector stakeholders;
3. The Coordination Platform establishes dedicated activities to reach out to other sectors which make up a considerable proportion of the national budget (health, education, agriculture); ensure they also include relevant WASH budget lines in their own budgets;
4. Support District and City Councils in the development of district financial plans for the water and sanitation sector. This includes asset inventories and direct support estimates to inform the recurrent budget allocations;
5. Support District and City Councils to contextualise climate risk assessment and develop disaster mitigation and preparedness budgeting.

The Steering Committee or/and the Coordination Platform will be chaired by a high-level representative from the Ministry of Water and Sanitation and co-chaired by an equivalent representative from the Ministry of Finance. The Coordination Platform can develop terms of reference for the Steering Committee.



12. Literature

African Development Bank. 2019. Malawi: From boreholes to public taps: rural communities to access improved water supply thanks to the African Development Bank. Available at: <https://www.afdb.org/en/news-and-events/malawi-from-boreholes-to-public-taps-rural-communities-to-access-improved-water-supply-thanks-to-the-african-development-bank-19113>

Andrés, Luis A., Gustavo Saltiel, Smita Misra, George Joseph, Camilo Lombana Cordoba, Michael Thibert, and Crystal Fenwick. 2021. Troubled Tariffs: Revisiting Water Pricing for Affordable and Sustainable Water Services. World Bank, Washington, DC.

Godfrey, S. and Tunhuma, F.A.. 2020. Water Diagnostic Study for Eastern and Southern Africa: Country Screening, Assessment and Potential for Bankable and Blended Finance Projects in the WASH Sector. United Nations Children’s Fund Eastern and Southern Africa Regional Office, Nairobi, September 2020

Government of Malawi. 2018. Report on the evaluation of the public financial management system of Malawi. Public expenditure and financial accountability assessment. Final Report

Government of Malawi. 2020. Ministry of Forestry and Natural Resources. Contract 2020. Implementation period 2020 to 2026. Public Sector Reforms Secretariat

Government of Malawi. 2020a. Malawi Vision 2063: An Inclusively Wealthy and Self-reliant Nation. National Planning Commission Lilongwe, Malawi Available at: <https://malawi.un.org/en/108390-malawi-vision-2063-inclusively-wealthy-and-self-reliant-nation>

Government of Malawi. 2020b. Public expenditure review of the Water, Sanitation, and Hygiene Sector of Malawi https://www.unicef.org/esa/media/6491/file/UNICEF_Malawi-WASH_Public_Expenditure_Review_2020.pdf

Government of Malawi. 2020c. District Councils’ performance assessment (LAPA) for 2018-2019 fiscal year. Final Report

Government of Malawi. 2021. Malawi 2063 First 10-Year Implementation Plan (MIP-1). National Planning Commission, Lilongwe, Malawi Available at: <https://www.businessmalawi.com/files/MIP-10-year-implementation-plan.pdf>

Government of Malawi. 2021a. National Water Policy. Revised Draft.

Government of Malawi/UNICEF. 2021. Climate Resilient WASH Risk assessment Framework. Final Report.

Hettinger, Patrick S. et al. 2020. Doing More with Less: Improving Service Delivery in Energy and Water. Malawi Economic Monitor. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/697811607978316710/Malawi-Economic-Monitor-Doing-More-with-Less-Improving-Service-Delivery-in-Energy>

International Monetary Fund. 2021. IMF Executive Board Concludes 2021 Article IV Consultation with the Republic of Malawi. December 15, 2021. Press release no.21/377 <https://www.imf.org/en/News/Articles/2021/12/15/pr21377-imf-executive-board-concludes-2021-article-iv-consultation-with-the-republic-of-malawi?cid=em-COM-123-44046>

Malawi 24. 9th November 2021. Water boards in Malawi increase water tariffs. <https://malawi24.com/2021/11/09/water-boards-in-malawi-increase-water-tariffs/>

- Malawi Revenue Authority. 2022. Government exempts cooking oil, water from VAT. <https://www.mra.mw/news/government-exempts-cooking-oil-water-from-vat>.
- Ministry of Forestry and Natural Resources. 2021. Performance of Water Boards in Malawi. Powerpoint.
- MoAIWD. 2005. National Water Policy; MoAIWD: Lilongwe, Malawi, 2005.
- MoAIWD. 2010. Implementation Guidelines for Rural Water Supply and Sanitation; MoAIWD: Lilongwe, Malawi, 2010.
- MoAIWD. 2015. Rural Water Supply Operation and Maintenance Series 1: Community Based Management (O&M Refresher Course) Training Manual; Ministry of Agriculture, Irrigation and Water Development: Lilongwe, Malawi
- National Statistics Office Malawi. Population projections for Malawi. http://www.nsomalawi.mw/index.php?option=com_content&view=article&id=134%3Apopulation-projections-for-malawi&catid=8&Itemid=3
- Oates, Naomi and Mwachungu, Evance. 2018. A political economy analysis of Malawi's rural water supply sector. Report. ODI.
- Pories, L., Fonseca, C. and Delmon V, 2019. Mobilising Finance for WASH: getting the foundation right. Water.org, IRC and The World Bank.
- PEM Consult. 2017. Study to identify and evaluate options for a sound fiduciary management framework for the water sector SWAp. Malawi. Final fiduciary framework report.
- Sadoff, C.W., Hall, J.W., Grey, D., Aerts, J.C.J.H., Ait-Kadi, M., Brown, C., Cox, A., Dadson, S., Garrick, D., Kelman, J., McCornick, P., Ringler, C., Rosegrant, M., Whittington, D. and Wiberg, D. (2015) Securing Water, Sustaining Growth: Report of the GWP/OECD Task Force on Water Security and Sustainable Growth, University of Oxford, UK
- The Nation. 2021. Blantyre City, others sued for pollution. 16/08/2021 <https://www.mwnation.com/blantyre-city-others-sued-for-pollution/>
- Truslove, Jonathan P., Andrea B. Coulson, Muthi Nhlema, Emma Mbalame, and Robert M. Kalin. 2020. "Reflecting SDG 6.1 in Rural Water Supply Tariffs: Considering 'Affordability' Versus 'Operations and Maintenance Costs' in Malawi" Sustainability 12, no. 2: 744. <https://doi.org/10.3390/su12020744>
- UNICEF. 2019. WASH Budget Brief 2018/19. Investing in water and sanitation for all Malawians towards attainment of SDG6.
- UNICEF. 2020. Guidance note how UNICEF regional and country offices can shift to climate resilient wash programming <https://www.unicef.org/media/109006/file/UNICEF-guidance-note-climate-shift.pdf>
- UNICEF. 2020a. Sanitation revolving funds for rural and peri-urban communities in Malawi. WASH Field Note.
- UNICEF. 2020b. Scaling-Up Climate Resilient Sustainable Solar-Powered Systems for Institutions and Communities in Rural Malawi. WASH Field Note.
- UNICEF. 2020c. WASH Budget Brief 2019/20. Investing in water and sanitation for all Malawians towards attainment of SDG6.

UNICEF. 2021. WASH Budget Brief 2020/21. Investing in water and sanitation for all Malawians towards attainment of SDG6.

UNICEF. 2022a. WASH Malawi Budget Brief 2021/22.

UNICEF. 2022b. National Budget Brief 2021/22.

Waste Advisors. 2020. Sanitation Service Level agreements. Final report: 2014-2020.

Waster Advisors. 2021. Assessment on the solid waste management value chain in Lilongwe City. Draft Report.

WESNET. 2021. 2021 Malawi Performance Report for WASH Civil Society Organizations (CSOs)

World Bank. 2019. Malawi Public Expenditure Review 2019 : Putting Fiscal Policy on a Sustainable Path. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/33047> License: CC BY 3.0 IGO.”

World Bank. 2020. Automated Water Kiosks Provide Continuous Water for Malawians During COVID-19. <https://www.worldbank.org/en/news/feature/2020/09/09/automated-water-kiosks-provide-continuous-water-for-malawians-during-covid-19>

World Bank. 2021. Malawi : Mobilizing Long-Term Finance for Infrastructure. World Bank, Washington, DC. <https://openknowledge.worldbank.org/handle/10986/35138>

World Bank. 2012. Malawi - Assessment of fiduciary risks in the use of the country PFM system for investment lending projects (English). Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/455831468056395066/Malawi-Assessment-of-fiduciary-risks-in-the-use-of-the-country-PFM-system-for-investment-lending-projects>

WSUP Advisory. 2021. Final Business Plan. Consultancy for the development of the sanitation business plan for Lilongwe City.



Annex 1 MIP-1 Water and sanitation related outcomes

Outcome: Improved regulatory framework for water resources management

Strategy: Providing regulatory oversight on tariff setting and tracking performance of the water boards

Priority interventions: Fully capacitate the Water Resources Board for its full regulatory function operationalisation (2021-2025)

Responsible institution: Ministry responsible for public sector reforms

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MIP-1
2021-2030

Outcome	Strategies	Prioritized Interventions	5-Year Quick Wins	Implementation Period	Responsible Lead Institution
Water, Sanitation and Hygiene (WASH)					
Improved access to safe and sustainable drinking water supply in rural areas	Increasing access to safe and sustainable water supply facilities in rural areas	Develop and operationalize a digitized/cloud-based management information system for communal water supply assets to help inform allocation of new water investments	✓	2021-2024	Ministry responsible for water affairs
		Install and institutionalize a real-time groundwater level monitoring system using the latest telemetric technology to track fluctuation of groundwater		2021-2030	Ministry responsible for water affairs
		Establish a maintenance trust fund to facilitate local government's technical and capacity building support to rural communities	✓	2021-2025	Ministry responsible for water affairs
		Construct new piped water supply systems	✓	2021-2030	Ministry responsible for water affairs
		Rehabilitate all gravity water schemes	✓	2021-2030	Ministry responsible for water affairs
		Develop and operationalize urban water supply and waste water management master plan for all major cities and secondary cities	✓	2021-2025	Ministry responsible for urban planning
		Accelerate the integration of waste water management within the operational framework of the urban water boards, including exploring PPPs for the management of the waste management facilities	✓	2021-2030	Ministry responsible for urban planning
		Integrate and enforce catchment protection services within the water board operational framework, especially main river sources	✓	2021-2030	Ministries responsible for water affairs
		Develop sustainable WASH facilities and networks in rural and hard to reach areas to ensure that children, women and the youth have access to affordable and quality WASH services in all public schools and health facilities		2021-2030	Ministries responsible for clean water provision and health

Outcome	Strategies	Prioritized Interventions	5-Year Quick Wins	Implementation Period	Responsible Lead Institution	
Expanded access to improved sanitation and hygiene at household level and in public places	Extending the coverage of sanitation and hygiene facilities and services through incentives, promotions and enforcement for individuals, household and public places	Construct/install and/or upgrade well-serviced sanitation facilities (such as toilets, washrooms, dust bins) in all public places (such as markets, bus terminals)	✓	2021-2030	Ministries responsible for local government and health	
		Institute and enforce the mandatory installation and/or ownership of household latrines by home owners and landlords in urban, peri-urban and rural areas	✓	2021-2030	Ministry responsible for local government	
		Intensify promotion of good hygiene messages, e.g. washing hands with soap, via mass media platforms	✓	2021-2030	Ministry responsible for civic education	
		Incentivize private sector participation in the sanitation value chain in the urban and peri-urban areas	✓	2021-2025	Ministry responsible for local government	
	Enhance coordination between and application of WASH standard approaches by stakeholders within a vested interest in the water sector	Strengthen the water management human resource base, especially at the district level			2021-2030	Ministry responsible for water affairs
		Conduct research and development of local solutions/technologies to solve local WASH problems			2021-2030	Ministries responsible for clean water provision and health
		Ratify and operationalize transboundary water course agreements with neighboring countries to govern coordinated abstraction from shared water courses			2021-2030	Ministry responsible for water affairs

Outcome	Strategies	Prioritized Interventions	5-Year Quick Wins	Implementation Period	Responsible Lead Institution	
Waste Management and Green Economy						
Improved environmental management	Engaging private sector in environmental, natural resources and waste management initiatives	Establish modern dump sites and associated infrastructure to support recycling, especially in cities and towns	/	2021 -2023	Ministry responsible for local government	
		Promulgate legislation requiring companies to categorize and quantify the waste they generate and how to dispose of it	/	2022-2023	Ministry responsible for environment and natural resources	
	Incentivizing investors specializing in waste recycling technologies	Provide a business framework to support the investors in waste recycling through tax reductions and waivers			2021 -2030	Ministry responsible for finance
		Conduct green products youth exhibitions and networking conferences	/	2022-2030	Ministry responsible for environment and natural resources	
	Expanding youth-led green businesses	Scale up youth-led green businesses for promoting green economy in potential areas, especially cities	/	2021-2030	Ministry responsible for environment and natural resources	
		Promoting awareness in waste and environmental management	Develop management plans for national and district waste management and sanitation interventions	/	2021 -2023	Ministry responsible for environment and natural resources
	Appoint opinion leaders as champions for environmental sustainability and social wellbeing		/	2021 -2030	Ministry responsible for environment management	
	Update the guide to executive decision making with environmental management tenets		/	2022-2023	Ministry responsible for environmental management	

Outcome	Strategies	Prioritized Interventions	5-Year Quick Wins	Implementation Period	Responsible Lead Institution
Strengthening compliance on pollution control and waste management		Implement nuclear safety and security measures to protect people and environment		2021 -2030	Ministry responsible for environmental management
		Scale-up recycling of the industrial by-products and waste management interventions country wide	/	2021 -2030	Ministry responsible for Industry
		Develop standards for eco-friendly products	/	2021-2030	Ministry responsible for environmental management
		Intensify production of energy from waste especially in towns and cities	/	2021 -2030	Ministry responsible for energy

Annex 2 Cost data from SDG costing tool

Service Level	Setting	Technology	Pop Served	Capital Costs (MK)		Annual maintenance Costs (MK)	
				CapEx	Software	CapManEx	OpEx
Basic Water	Urban	Borehole with Handpump	250	4.800.000	500.000	200.000	60.000
		Piped water supply	150	640.000	50.000	150.000	270.000
	Rural	Borehole with Handpump	250	4.800.000	750.000	200.000	60.000
		Piped water supply (GFS)	250	5.342.000	148.000	22.500	18.000
		Piped water supply (solar)	250	4.440.000	185.000	15.000	18.000
		Piped water supply (Utility)	250	400.000	60.000	180.000	270.000
Safely Managed Water	Urban	Safely managed water	5	200.000	10.000	50.000	480.000
	Rural	Safely managed water	5	200.000	15.000	50.000	360.000
Basic Sanitation (onsite only)	Urban	Septic tank	5	650.000	7.500	50.000	37.000
		Pit latrine	5	276.000	7.500	10.000	8.500
	Rural	Wet pit latrine	5	50.000	30.000	5.000	5.000
		Dry pit latrine	5	40.000	30.000	5.000	5.000
Any fixed point defecation	Rural	Any latrine, including unimproved	5	10.000	30.000	3.000	3.000
Safely Managed Sanitation (faecal sludge management or sewerage only)	Urban	Sewerage with treatment	5	819.100	10.000	70.000	49.900
		Septic tank with treatment (FSM)	5	399.600	10.000	27.400	20.000
		Pit latrine with treatment (FSM)		86.000	7.500	25.800	17.000
	Rural	Pit latrine with treatment (FSM)	5	71.700	7.500	21.500	20.400
		Septic tank with treatment (FSM)	5	499.500	50.000	32.880	24.000
Handwashing with soap	Urban	Station with soap and water	5	30.000	3.000	10.000	20.000
	Rural	Station with soap and water	5	3.000	6.000	12.000	15.000

Annex 3 Estimated funding needed for WASH related mitigation measures

Reference	Measure	Mitigation benefits	Estimated funding needed
6.4.1.1	Nationwide community-based Early Warning System and flood monitoring, prioritized in problematic rivers	Protection of assets that promote low carbon development and mitigation	US\$ 250 million
6.4.2.1a	Water supply, storage, harvesting in drought-prone areas, including water point rehabilitation	Savings in energy used to alleviate water shortages	US\$ 108 million
6.4.2.3d	Monitoring of leakage and control in piped networks	Money savings in energy costs may be used to alleviate floods and droughts	US\$ 29 million
6.4.2.3e	Water use efficiency	Money savings in energy costs may be used to alleviate floods and droughts and water treatment	US\$ 29 million
6.4.2.3f	Improvement in the coverage of rural piped water supply	Savings in energy used to water needs	US\$ 144 million
6.4.2.3g	Development of nationwide water quality monitoring framework systems	Savings in energy used to water needs	US\$ 29 million
6.4.2.3c	Increase of sustainable utilization and monitoring of groundwater resources	Money savings in energy costs may be used to alleviate floods and droughts	US\$ 29 million
6.4.6.1a.1	Increase practices of boiling drinking water, filtration and chlorination of drinking water and improvement in personal hygiene	Use of renewable energy sources and promote energy efficiency	US\$ 30 million
6.4.6.1a.2	Enhance public awareness about water, sanitation and hygiene practices	Use of renewable energy sources and promote energy efficiency Carbon sequestration and other ecosystem services	US\$ 30 million

Annex 4 WASH and climate projects overview

Donor	Project	Years	Cost (millions)	Urban/rural	Water/Sanitation	Implementing partners	Climate
AfDB	Malawi shire valley irrigation project	Approved 2017	UAC 0.5	Unspecified	Both	Unknown	Not identified
AfDB	Nkhata bay town water supply and sanitation project	Approved late 2018	UAC 22.5	Unspecified – assumed Urban	Both	Water Board (Govt.)	Yes, combining with catchment management
AfDB	Sustainable rural water and sanitation infrastructure for improved and health and livelihoods	Approved 2013	UAC 25.6 +UAC 2.6	Rural	Both	MoAIWD	Yes- specific objective
AfDB	Mzimba integrated urban water and sanitation project	Approved 2015	UAC 16.4	Urban	Both	Water Board (Govt.)	Not specifically
DFAT	Supporting Malawi's National Water Development Program	2010-2012	USD 17m	Unspecified	Both	Funding was to extend AfDB programme	
DFID	Malawi Water and Sanitation Programme	2012-2016	GBP 19.5	Rural	Both	UNICEF	Sustainable focus, less climate lens
EU	Improving Water Supply, Sanitation and Hygiene Promotion in Peri-Urban Areas of Mzuzu and Karonga Town.	2014-2017	EUR 0.9	Urban	Both	Unknown	Not specifically mentioned
EU	Integrated WASH intervention in low income areas in Mzuzu and Karonga	2014-2017	EUR 1.7	Urban	Both	Dutch Cross (NGO)	Not specifically, working in NRW
EU	Peri-Urban Sanitation and Hygiene Project in Mzuzu City (PUSH)	2013-2017	EUR 1.66	Urban	San only	Plan (NGO)	Not specifically mentioned

Donor	Project	Years	Cost (millions)	Urban/rural	Water/ Sanitation	Implementing partners	Climate
EU	'Water Fund'*	2013-2018	EUR 23	Rural	Both	UNICEF	
FCDO	UMFULA -Future climate for Africa	2015-2021	USD 2 mln	Urban	Both	Grantham Research Institute	Aimed to improve climate information for medium-term (5-40 year) decision-making in the water-energy-food nexus in central and southern Africa
GSF	The Accelerated Sanitation and Hygiene Practices Programme (ASHPP)	2012-2017	USD ~7.5	Rural	San only	Plan (NGO) and local NGOs	
JICA	Lilongwe sustainable water supply and sanitation service delivery	Pipeline	UAC190	Urban	Both	Unknown	Focuses on NRW, but doesn't emphasise mitigation benefit
NGO's	Water for People's programme WaterAid, CPAR, WSUP, Baseflow	ongoing	?	Both	Both	Various	Various - most have it included
Scotland	Climate Challenge Programme Malawi	2015-2022	?				TBC
Scotland	Climate Justice Fund / Climate Justice Innovation Fund	2012-2020		Rural	Both	Strathclyde University	Map all the water and sanitation points; and capacity building, leading to good policy making
UNICEF	Climate Resilient Water Supply	2017-		Both	Both		Provision of sustainable and affordable water supply to rural and peri-urban communities and institutions (schools, HCFs, prisons, reformatory centres...) based on solar pumping technology. Professionalised management with mini-business plans are also included

Donor	Project	Years	Cost (millions)	Urban/rural	Water/ Sanitation	Implementing partners	Climate
World Bank	Lilongwe Water and Sanitation Project	2017-2023	USD 100	Urban	Both	Water Board (Govt.)	NRW
World Bank	Shire basin management project	2012-2018	USD 136	Unspecified	Both	MoAIWD lead (Govt.)	Not related to WASH, but more to catchment, anti-erosion etc
World Bank	Second National Development Project	2012-2015	USD 136	Unspecified	Both	MoAIWD lead (Govt.)	Not identified

Source: GoM/UNICEF. 2021

