



Government
of Malawi

PUBLIC EXPENDITURE REVIEW OF THE

Water, Sanitation, and Hygiene Sector of Malawi

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EXECUTIVE SUMMARY

Context

Over the Millennium Development Goals (MDGs) period (2000–2015) Malawi made good progress on increasing access to basic water, sanitation and hygiene (WASH) services. MDG 7c, ‘Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation’ was met in terms of access to water, while there was only ‘moderate progress’ on sanitation. Malawi’s level of access to improved water services is substantially higher than the sub-Saharan African average and that of regional and income-group peers. National averages do, however, mask sharp inequities in service provision. Access to water and sanitation services varies widely between districts and across wealth quintiles.

Malawi has extremely limited fiscal space. Malawi’s poverty incidence is among the worst in sub-Saharan Africa, with gross domestic product (GDP) per capita at just \$389 in 2018. GDP grew at 4.0% in 2018 and 5.1% in 2019, and is expected to reach 6% in the medium term. In 2018, inflation was brought down to single digits after many years of double-digit inflation.

WASH service delivery in Malawi

The legislation underpinning the sector establishes clear roles and responsibilities. Service delivery functions are performed by the district councils and the water boards, with the water boards focused on urban areas. Operation and maintenance functions for rural water systems are performed by water users associations (WUAs). At the national level there are three key

ministries: the Ministry of Agriculture, Irrigation and Water Development (MoAIWD) has overall responsibility for water service provision and water resource management; the Ministry of Health and Population (MoHP) leads on sanitation and hygiene promotion, including the management of frontline staff; and the Ministry of Local Government and Rural Development (MLGRD) is responsible for supporting sector ministries to reform in line with decentralisation, and to support district governments to adopt their devolved functions.

WASH sector financing

Despite limited fiscal space, the Government of Malawi (GoM) has increased budget allocations to WASH since 2017/18, mainly due to the introduction of the Borehole Fund. Over the period of this public expenditure review (PER), 2014/15 to 2018/19, GoM funding of the sector has averaged at 0.39% of total government expenditure, or just under 0.1% of GDP. The average in the three years before the Borehole Fund was 0.32%, and then 0.49% thereafter.

However, 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 Malawi Government’s allocation of resources to WASH is 0.081% of GDP, which is only 55%, 52%, 43%, and 27% of that allocated by Kenya, Zambia, Ghana and Mali, respectively; the per capita allocation is less than one-fifth of those countries.



Malawi remains reliant on external sources of financing to drive investments in the WASH sector. The ratio of Malawi's external funding to financing from domestic resources is 8.8, much higher than Kenya's 2.9 and Zambia's 2.0, and higher still than Mali's and Ghana's. This is despite Malawi's comparatively low funding from external sources measured in per capita terms. Malawi receives \$3.2 per capita external funding for WASH, compared to Kenya's \$6.2 and Zambia's \$4.2. External funding to the sector has fallen sharply in recent years, with many bilateral donors leaving the sector. Additionally, the composition of external finance has changed over the PER period as new external funding is almost exclusively directed to urban WASH, via the water boards, and as loans as opposed to grants. Since 2014 donors to Malawi are apparently giving less priority to WASH. While total official donor development assistance (ODA) to Malawi has risen since 2014, the proportion of ODA provided to the WASH sector has dropped by two-thirds.

Household expenditure is the single largest source of financing to the sector, accounting for nearly 60% of sector financing. In 2016 households were estimated to spend Malawian Kwacha (MKW) 35 billion (2016 prices) on water – 36% of which was directed to water boards. As such, 64% of household expenditure on water is spent on other providers. These are likely to include: fees paid to WUAs; expenditure on self-supply; and expenditure on purchasing water from informal and formal private sector actors.

The Water Sector Investment Plan (SIP) (2012) outlines that \$140 million is needed annually between 2015 and 2030 in order for the sector to achieve 98% access to improved water supply by 2025 and 90% access to improved sanitation by 2030. A comparison of the sector expenditure against the SIP

target highlights the sector is currently funded to just above 30% of the target level. A critical assumption behind the SIP projections is that donors would 'step up' grant financing to the sector. The withdrawal of many donors is a key reason for this financing gap emerging.

Water sector expenditure and progress

WASH sector expenditure is heavily weighted towards water, and less towards sanitation and hygiene. Over the PER period an average of 65% of GoM funding went to the water sub-sector and 35% went to hygiene and sanitation. The water sub-sector is dominated by capital expenditure. Over 80% of GoM expenditure over the five-year period was capital expenditure. There was little GoM capital expenditure at district level until the introduction of the District Development Fund (DDF) in 2015-16, with the Borehole Fund later leading to a sharper increase.

Water board revenue has increased dramatically over the PER period, both in absolute and real terms. The growth in revenue has primarily been driven by increased revenues from institutional and commercial sources, and due to price increases, rather than an expansion in services. Across all sources revenue per m³ increased, in real terms: 32% between 2014/15 and 2018/19 – equivalent to a 123% rise in prices in nominal terms.

There is no regulator in Malawi; as per the Waterworks Act 1995 it is MoAIWD that regulates tariffs in the sector. The current tariff policy is implicitly pro-poor in that there is a substantial cross-subsidy between commercial and institutional rates and kiosk users. However, the loose regulatory environment and cross-ministerial responsibilities for water board oversight, combined with the recent substantial price rises, point towards the need to review tariff rates and policy, as well as the need for greater oversight of utility performance. While the water boards report year-on-year increases in the number of connections, the volume of water supplied has not increased greatly and non-revenue water remains stubbornly high.

A large proportion of the household expenditure is spent on providers other than the water boards. This expenditure is potentially a 'blind spot' in policymaking as these expenditures are not regularly tracked. This non-water board household expenditure is substantial and represents 16.8% of funding to the sector, as much as two-thirds of GoM and donor (ODA) expenditure combined. Much of this expenditure is likely associated with WUAs, and more effectively leveraging this expenditure towards sector outcomes requires a focus on professionalising the community-based management models used in Malawi.

Access to basic water service is high in Malawi – 85% as per the latest census. However, there has been little progress in last four years, and improvements have not been pro-poor. While the Borehole Fund has increased funding to the sector, there are

concerns surrounding how efficiently this is being spent. Funds are often spent by constituency members of parliament (MPs) on private contractors, without the District Water Development Officer having a role in technical oversight.

In recent years there has been moderate progress on improving water point functionality in some districts, but a marked drop in others. Nationally, water point functionality fell from 77% to 71% between 2016/17 and 2017/18. Efforts to improve functionality in rural areas have centred on training area mechanics and linking these to shop partners who stock parts. This PER also highlights challenges associated with low other recurrent transactions (ORT) funding and inadequate staffing. The number of water monitoring assistants (WMA) per person in the district averages 1:230,966. The sector vacancy rate for established positions was 68% in 2017/18.

Sanitation and hygiene expenditure and progress

GoM expenditure in the sanitation and hygiene sub-sector is dominated by salaries. This reflects implementation activities, which are predominantly based around district-level health promotion activities. District-level salaries are nearly 70% of GoM sub-sector expenditure. There is no identified GoM-funded development expenditure on hygiene and sanitation, and over the PER period there was no substantial change in GoM funding to the sector (in real terms).

Nationally, open defecation rates fell from 13% in 2008 to under 6% in 2015, but have since risen to over 7% in 2018¹. The progress in the period 2008–2013 was related to a crowding

¹ 2008 and 2018 data are census data; 2015 data are DHS data.

in of external investment in the sector in the run-up to the MDG deadline, and progress in rural sanitation is heavily dependent on external funding. The number of 'open defecation free' (ODF) traditional authorities is a key measure of progress in sanitation. As at December 2018, 112 of Malawi's 263 traditional authorities (TAs) had been declared ODF. Implementation in 86 of these 112 TAs had been funded by external partners. The rising rates of open defecation are seen to be associated with a lower level of donor engagement in the sector, and with the physical collapse of household latrines.

Progress in rural sanitation is heavily dependent on frontline staff being able to travel to communities to conduct health promotion. There is a target ratio of one Health Surveillance Assistant (HSA) per 1,000 of population. The current average ratio of HSAs to population is 1:1,921, well below the target rate. This suggests that frontline preventative healthcare is understaffed.

Analysis of access by wealth quintile and region highlights that the progress on open defecation has largely been pro-poor, although inequalities still exist. In all regions and nationally the rate of reduction was largest among the poorest wealth quintile. While this is partially a reflection of the fact that rates were higher to begin with it does highlight that spending and efforts in reducing open defecation benefit the least wealthy in society. Eliminating open defecation will by definition entail reaching all households in Malawi and this unambiguously requires targeting the very poorest.



Alignment with policy objectives

Overall, all spending is aligned with elements of national policies. The critical challenge is that the sector is substantially underfunded against the investment plan, meaning some aspects of policy receive little attention. The different sub-sectors rely on different funding streams. The sanitation sub-sector is comparatively exposed to changes in donor financing. In water, the Borehole Fund has been successful in mobilising funds for the rural water sub-sector, though there are concerns surrounding how efficiently this is being spent and functionality remains a critical issue in rural areas. In sanitation and hygiene, the lack of a dedicated sector fund may be a contributing factor to the extremely low GoM allocations to the sector.

Progress in any of the individual sub-sectors is dependent on the degree to which different financing sources align. This PER has highlighted the importance of household, donor, and water board expenditure in achieving sector outcomes. MoAIWD and MoHP have a central role in effectively coordinating these funding streams through policy, regulation, and sector leadership. Where donors and non-governmental organisations (NGO) focus their programmes has a strong influence on who is reached with services. The recent trend in donor funding to be primarily channelled to urban areas and through the water boards means that the funding for rural areas, where the majority of those without services are located, is disproportionately low in relation to need.

A sector-wide approach (SWAp) in WASH has long been considered and is a stated policy aim of GoM, and is also an international policy commitment. There are some institutional apparatuses associated with a SWAp (joint sector reviews, technical working groups, etc), and these are seen as beneficial to sector functioning. However, many donors remain unwilling to pool funds due to fiduciary risks. Even without budget support, other SWAp financing models are available. Both the health and education sectors now have new SWAp funding models – such as Health Services Joint Fund (HSJF) and the Education Sector Joint Fund, which avoid the risks associated with budget support – that offer a blueprint for the WASH sector.

The latest sector report highlights the need to agree an approach to achieving the Sustainable Development Goals (SDGs), as well as deciding the degree to which global progress indicators can be integrated with national progress indicators (especially in rural sanitation). As Malawi approaches universal access to basic services much of the effort to meet the SDGs needs to be focused on raising service levels and ensuring the quality and sustainability of supplies. The level of ambition in the SDGs as regards ‘safely managed’ services is substantially above that of the MDGs’ references to access to ‘basic’ or ‘improved’ services.





Recommendations

Recommendation area 1: increased government financing of WASH, especially ORT. Despite limited fiscal space for overall financing of WASH, funding for operation and maintenance is such a small proportion of the total that a large increase in funding may be possible. Related to this, it is appropriate for the sector to lobby for enhanced budgetary decentralisation, so that allocations between sectors of expenditures, such as ORT, can be decided at the local authority level.

Recommendation area 2: the use of conditional grants and funds for financing WASH services at district level. The development of a targeted preventative health fund to support sanitation and hygiene promotion may contribute to increasing sector financing, following the example of the Borehole Fund. However, there is a need for strong oversight of these funds by district councils or ministries, departments and agencies (MDA); and there is currently a need to strengthen the oversight of the implementation of the Borehole Fund.

Recommendation area 3: enhanced identification of GoM WASH expenditures. 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.

Recommendation area 4: professionalising the community-based management model. Dedicated capacity-building packages should be developed to support WUAs in service delivery. MoAIWD should lead in providing clearer policy guidance on their governance structures and links to the formal sector (water boards or district councils). Where appropriate, WUA service delivery functions should be more clearly linked to

the service delivery functions of the water boards or district councils. Investing in WUA capacity is likely to contribute to improved sector outcomes on functionality if it means non-water board household expenditure is spent more effectively in the sector.

Recommendation area 5: sufficiency of frontline staff. There is a shortage of frontline staff in both the water and sanitation sectors. New recruitment of frontline staff should be prioritised in those districts with the greatest staff deficit per population and in relation to service levels.

Recommendation area 6: adjusting to reductions in external funding. In the more constrained external funding environment there is a need for increased donor and GoM coordinating in prioritising remaining resources around 'core' sector functions that need to be in place (including monitoring and oversight). The new large injections of external resources to the sector that are channelled to water boards underscores the importance of effective sector coordination between the water boards, MDAs, and donors.

Recommendation area 7: adoption of stronger SWAp processes in the WASH sector. It is recommended that stronger SWAp processes be adopted both centrally and at district level, including an added emphasis on aid coordination. This approach could include SWAp funding, preferably at district level, with special fiscal controls. The health and education sectors are already adopting innovative approaches that can be mirrored for the WASH sector. The use of stronger SWAp processes can facilitate higher efficiency and effectiveness in the use of donor and NGO resources.

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LIST OF ABBREVIATIONS

AfDB	African Development Bank
CDF	Constituency Development Fund
CRS	Creditor Reporting System
DAC	Development Assistance Committee (OECD)
DCT	District Coordinating Team
DDF	District Development Fund
DEHO	District Environmental Health Officer
DFAT	Department of Foreign Affairs and Trade (Australia)
DFID	Department for International Development (UK)
DHRMD	Department of Human Resources and Management Development
DHS	Demographic and Health Survey
DODMA	Department of Disaster Management Affairs
DWDO	District Water Development Officer
EP&D	Economic Planning and Development
FY	Financial Year
GDP	Gross Domestic Product
GLAAS	Global Analysis and Assessment of Sanitation and Drinking-Water
GoM	Government of Malawi
HSA	Health Surveillance Assistant
HSJF	Health Services Joint Fund
IBNET	International Benchmarking Network for Water and Sanitation Utilities
IFMIS	Integrated Financial Management System
IHS	Integrated Household Survey
IMF	International Monetary Fund
MDAs	Ministries, Departments, and Agencies
MDGs	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MICS	Multiple Indicator Cluster Survey
MP	Member of Parliament
MWK	Malawian Kwacha
MLGRD	Ministry of Local Government and Rural Development

MoAIWD	Ministry of Agriculture, Irrigation and Water Development
MoHP	Ministry of Health and Population
MTEF	Medium-term Expenditure Framework
NGO	Non-Governmental Organisation
NLGFC	National Local Government Financing Committee
NRW	Non-Revenue Water
NRWB	Northern Region Water Board
O&M	Operation and Maintenance
ODA	Official Development Assistance
ODF	Open Defecation Free
OECD	Organisation for Economic Co-operation and Development
OPM	Oxford Policy Management
ORT	Other Recurrent Transactions
PBB	Programme-Based Budgeting
PE	Personal Emoluments
PEFA	Public Expenditure and Financial Accountability
PER	Public Expenditure Review
PFM	Public Financial Management
PPP	Public–Private Partnership
SDGs	Sustainable Development Goals
SRWB	Southern Region Water Board
TA	Traditional Authority
TGE	Total Government Expenditure
UNICEF	United Nations Children’s Fund
USD	US Dollar
VLOM	Village-Level Operation and Maintenance
WASH	Water, Sanitation, and Hygiene
WESNET	Water and Environmental Sanitation Network
WHO	World Health Organization
WMA	Water Monitoring Assistant
WUA	Water Users Association



1. INTRODUCTION

This WASH public expenditure review (PER) is a concise and focused study, aimed at understanding the spending patterns and financing of WASH services in Malawi. The PER complements a range of researches and policy analysis work aimed at mapping and analyzing decision-making, financial flows, allocation criteria and spending levels relevant to WASH services to inform advocacy and to promote equitable and sustainable WASH services for children. The results from this PER feed into ongoing discussions on development and implementation of the third National Water Development Programme and the new National Open Defecation Free (ODF) and Hygiene Strategy. Additionally, the PER provides baseline information on WASH expenditure performance in Malawi.

This PER was produced under the guidance of a technical working group with cross-departmental representation from the M&E Division of the Department of Economic Planning and Development (EP&D), the Water Supplies Department under the Ministry of Agriculture, Irrigation and Water Development (MoAIWD), the Environmental Health and Sanitation Department under the Ministry of Health and Population (MoHP), the National Statistics Office (NSO), Civil Society representation through WESNET. The United Nations Children Fund (UNICEF) provided the financial, technical and logistical support that enabled the production of this PER. The Oxford Policy Management (OPM) provided the technical backstopping in the entire PER process.

1.1 Objectives and scope of the PER

The overarching goals of the PER are to assist the Government of Malawi to analyse public expenditure and performance in the

WASH sector and improve expenditure management. More specifically, the PER generates evidence and analysis on the efficiency, effectiveness, equity and sustainability of WASH expenditures, as guided by relevant WASH strategies and sector plans. Findings from the PER are useful to inform development, financing and implementation of WASH interventions in Malawi. The PER is anchored around three primary objectives:

- To assess sources of revenue and financing structure of WASH programs and interventions in Malawi.
- To analyze the size, composition, equity and effectiveness of WASH spending.
- To set out a range of options and recommendations to improve the quality of WASH spending in order to benefit all children in Malawi.

Through a collaborative UNICEF-GoM approach, a secondary objective of the PER was to build the capacity of the Government of Malawi in public expenditure analysis.

The PER covers a period of five fiscal years from 2013/14 to 2018/19. The review included a wide range of components, focused on six key areas: (i) a review of the Malawi WASH context; (ii) a sector review of financing, budget allocation, and national expenditures on WASH in Malawi, and an analysis of sector performance; (iii) an assessment of the critical budget and expenditure challenges and how they influence service delivery; (iv) district-level insights into the factors affecting budget decisions, and those factors affecting budget execution, efficiency, and equity; (v) stakeholder workshops; and (vi) developing policy options and recommendations.

1.2 Structure of the PER

The remainder of the report is structured as follows: Section 1.3 provides details of the approach and methodology. Sections 2 and 3 provide a summary of the sector context, covering: an overview of the macro-fiscal context in Malawi, a description of key public financial management (PFM) processes and their performance, and an overview of the structure of the WASH sector in Malawi. Section 4 provides an analysis of sector financing, comparing Malawi to regional peers for which there are data. Section 5 presents the findings related to sector expenditure – this includes an analysis of government, water board, donor, household, and emergency expenditures in the sector. Section 6 presents the analysis related to sector performance and efficiency and equity considerations. Section 7 discusses the key findings by thematic area. Section 8 presents recommendations.

1.3 Approach and methodology

1.3.1 Data sources and data collection

Data collection was both quantitative and qualitative. Data on GoM expenditures were collected from various sources, including the integrated financial management system (IFMIS) and treasury reports. Data on water board expenditures were drawn from corporate and management accounts shared with the PER team. Data on household expenditure were estimated from expenditure surveys. Data on donor expenditure drew on various sources, including: Organisation for Economic Co-operation and Development (OECD) development assistance committee (DAC) data; WESNET data on NGO expenditure; and a survey questionnaire sent by the PER team to donors and NGOs.



The sector performance analysis drew on data from nationally representative surveys and MoAIWD sector performance reports. Table 1 provides an overview of the data collected for different funding sources.

TABLE 1 Key financing flows and data sources

Source/flow	Description	Key data sources
Domestic public transfers	<ul style="list-style-type: none"> Budget and expenditure of MDAs (Ministries, Departments and Agencies). Budget and expenditure by districts. 	<ul style="list-style-type: none"> Budget reports, funding reports, and IFMIS reports (secondary) – see discussion below for details of the documents used.
International public transfers	<ul style="list-style-type: none"> Transfers by international donors to government institutions classified as ODA. This includes on-budget and off-budget expenditure. 	<ul style="list-style-type: none"> OECD-DAC creditor reporting system (CRS) (secondary). WESNET data (secondary). NGO/development partner questionnaire (primary).
Voluntary transfers	<ul style="list-style-type: none"> NGO expenditure funded from private sources (i.e. non-OECD Development Assistance Committee (DAC) sources). 	<ul style="list-style-type: none"> WESNET data (secondary). NGO/development partner questionnaire (primary).
Tariffs	<ul style="list-style-type: none"> Tariff collection by the water boards and water board expenditures. 	<ul style="list-style-type: none"> Data from water boards on revenues and expenditures (secondary).
Expenditure on self-supply	<ul style="list-style-type: none"> Revenues and expenditure by WUAs, and by households on onsite latrines and latrine maintenance. 	<ul style="list-style-type: none"> Living standards surveys – Integrated Household Survey (HIS) 3 and 4 (secondary).

Source: Authors

Data on GoM budgets and expenditures at different levels are reported in different sources and documents and, as such, the PER drew on multiple sources. The secondary sources used for GoM data include the following:

- **National-level documents for each year (available online):** draft financial statements (Budget Document 3), annual economic report (Budget Document 2); programme-based budget (Budget Document 5).
- **MDA-level and sub-MDA documents for each year (from Accountant General Department):** IFMIS reports for the whole of MoAIWD and the whole of MoHP for each year – called ‘Itemized Comm and Expen Report by Cost Center’, which includes line-by-line details (with up to 8,200 lines each) of budgets, funding, and expenditures; and budget reports for MoAIWD’s Water Services Department and MoHP’s Environmental Health Unit.

- **District-level documents for each year (from National Local Government Financing Committee (NLGFC)):** programme-based budgets (itemised per district); treasury funding reports, per district and per sector; IFMIS budget and expenditure reports; and 'End of Year Councils Consolidated Cost Centre Report', itemised per district, per cost centre, and per item.

The quantitative data collection at district level was supplemented by qualitative data collection in 10 districts and by questionnaires completed by WASH staff in all 28 districts. The focus of the qualitative data collection was on understanding the involvement of various actors in the budget process, the policy priorities of districts, and service delivery challenges, and how these relate to sector financing. Additionally, a further key aspect of this primary data collection was to gather information that would allow for reliable estimates to be made where budget lines needed to be assigned to specific sub-sectors. The scope and focus of the primary data collection is summarised in Table 2.

TABLE 2 Primary data collection tools

Source/ tool	Details
DEHO/DWDO questionnaires	Questionnaires were sent to key staff (District Environmental Health Officers (DEHOs) and District Water Development Officers (DWDOs)) in all 28 districts. These questionnaires focused on gathering information related to: staffing within the districts; funding and activities in WASH over the PER period; donors/NGOs working in the district; and their priorities and challenges in WASH.
NGO/Donor questionnaires	Questionnaires were sent to all prominent donors and NGOs working in WASH. These focused on gathering information related to: their sources of financing; which districts and sub-sectors their expenditure is in; and if they distribute funding to other NGOs.
Interviews in ten District Councils	Case studies were undertaken in 10 districts (Rumphi, Lilongwe, Kasungu, Chikwawa, Machinga, Mzuzu, Ntcheu, Nkhotakota, Phalombe, and Mangochi). In these case studies the teams interviewed all key district council staff, frontline staff, and WUAs.

With the support of officers at MoHP and MoAIWD, respectively, completed DEHO/DWDO questionnaires were received from all 28 districts – from 29² DEHOs and from 28 DWDOs – a 100% response rate. NGO/donor questionnaires were sent to 19 NGOs

² Mzimba has two District Health Offices – North and South.

and to six key donors; returns were received from six NGOs and three donors.

1.3.2 Analysis of financial data

The analysis of the WASH financial data included the following core analyses:

- Sector financing** – Analysis of financing from each main financing source, in comparison with the sector financing of other countries.
- Level and composition of government spending based on economic classification** – Analysis of WASH GoM expenditures in relation to total government expenditure (TGE) and GDP in nominal and real terms.
- Budget utilisation and execution** – Analysis of budget credibility and execution: actual government expenditures against approved and revised budgets.
- External expenditures** – Analysis of commitments and expenditures of ODA (government to government) and from private sources.
- Water boards** – Analysis of expenditure of the five boards.
- Household expenditure** – Estimates of expenditures by members of the public.
- Total sector expenditure** – Analysis of the result of bringing together government, external, water board, and household expenditures.
- Functional classification** – Estimation of each element of total sector spending across four sub-sectors.

Where data were available with sufficient granularity, they were sorted and analysed using tailor-made spreadsheet tools. In some cases there were gaps in required granularity, so estimates and extrapolations were made from available data. Annex J provides details of sources, assumptions, and calculations for GoM expenditure elements, and for the functional analysis. The expenditure analyses include a focus on a comparison of spending over the five years of the PER period, from 2014/15 through 2018/19. Much of this analysis is presented with inflation-adjusted data ('real'), in order that the trend over years may be better understood. This is done by presenting data in 2014–15 prices. The indices³ used to prepare such inflation-adjusted data are presented in Table 3.

³ The indices are calculated from consumer prices indices as at 30 June of each year. For example, 2018/19 data are multiplied by 1.090 to convert to 2019/20 prices, because the consumer price inflation between 30 June 2018 and 30 June 2019 was 9.0%.

TABLE 3 Inflation indices used to adjust to 2014/15 prices

	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
Annual inflation	22.7%	32.5%	25.7%	18.8%	18.2%	11.3%	8.6%	9.0%
Adjustment factor	2.044	1.666	1.257	1.000	0.842	0.712	0.640	0.589

Source: Consumer price data from the Reserve Bank of Malawi⁴.

⁴ The indices are calculated from consumer price indices as at 30 June of each year.

1.3.3 Analysis of sector performance and equity

Progress in the WASH sector is assessed through the level of access to WASH services, and the quality and functionality of those services. Utility performance is a distinct component, which is measured by indicators reported to MoAIWD and reported in sector performance reports. Separately, equity analyses focus on the degree to which progress in WASH has been pro-poor, and the allocation of budget in relation to need and location. Table 4 summarizes the data sources used in the analysis of sector performance.

TABLE 4 Assessing sector performance

Performance area	Details of analysis	Data sources
Access to basic services	<ul style="list-style-type: none"> Analysis of access to basic services by district and nationally, over time. 	<ul style="list-style-type: none"> Secondary nationally representative surveys (Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), and the census.
Service functionality and quality	<ul style="list-style-type: none"> Analysis of functionality rates across districts and in relation to operation and maintenance (O&M) expenditure. Analysis of service levels. 	<ul style="list-style-type: none"> Secondary data on sector performance from MoAIWD. Sector performance reports (especially the 2016 report). Data currently being collected on water point mapping.
Utility performance	<ul style="list-style-type: none"> Analysis of performance in reference to key International Benchmarking Network for Water and Sanitation Utilities (IBNET) areas. 	<ul style="list-style-type: none"> Data obtained from the water boards. Data from MoAIWD.



2. NATIONAL CONTEXT

2.1 Macro-economic situation

Malawi's GDP per capita remains low, at \$389 in 2018, and its poverty incidence, as well as some of its human development indices are among the worst in sub-Saharan Africa. The proportion of the population living below the poverty line (\$1.90 per day) was 69.4% in 2018 (World Bank, 2018), and Malawi ranks 172 of 187 countries on the Human Development Index⁵. Malawi ranks also 172 in gender equality⁶ reflecting high gender-based violence, frequent early marriages, and poor maternal health. The 2018 census reported a population of 17.5 million. Population growth between 2008 and 2018 averaged 2.9%. The majority of the population (84%) lives in rural areas. Malawi's population is youthful: 51% of the population is under 18, and the median age is 17. However, the latest census shows early signs of a slowing birth rate and a demographic transition, with a narrowing base in the 0–4 years' cohort.

Malawi's GDP growth rate averaged 4.7% between 2017 and 2019 – 5.2% (2017), 4.0% (2018) and 5.0% (2019)⁷. GDP growth is expected to increase gradually to 6% in the medium term⁸. Changes in GDP growth are largely associated with shifts in the agricultural sector, which accounts for over 72% of employment⁹.

Low GDP growth in 2015–2016 was attributed, in part, to a persistent two-year drought¹⁰. The 2016 drought is estimated to have left over 40% of the population (~6.5 million people) facing food insecurity¹¹. In addition to drought, Malawi has also experienced shocks related to flooding, notably heavy flooding in 2015 and Cyclone Idai in 2019. For example, the 2015 floods affected over a million people, displaced 230,000, and caused damage and loss totalling over \$335 million, with the cost of disaster recovery estimated at \$494 million (GoM, 2015).

In 2018 inflation eased to single-digits, after years of double-digits with a peak of around 30% in 2013. The decline in inflation is attributed to the stabilisation in food prices, a prudent macro-economic policy (IMF, 2018), and the continued stability of the Malawi Kwacha (World Bank, 2018). Key inflationary pressures include food prices, and rising water and electricity tariffs¹².

5 <http://hdr.undp.org/en/countries/profiles/MWI>

6 <http://hdr.undp.org/en/data>

7 2019 Annual Economic Report

8 'IMF DataMapper' <https://www.imf.org/external/datamapper> [accessed September 2019], differing slightly from Malawi government data

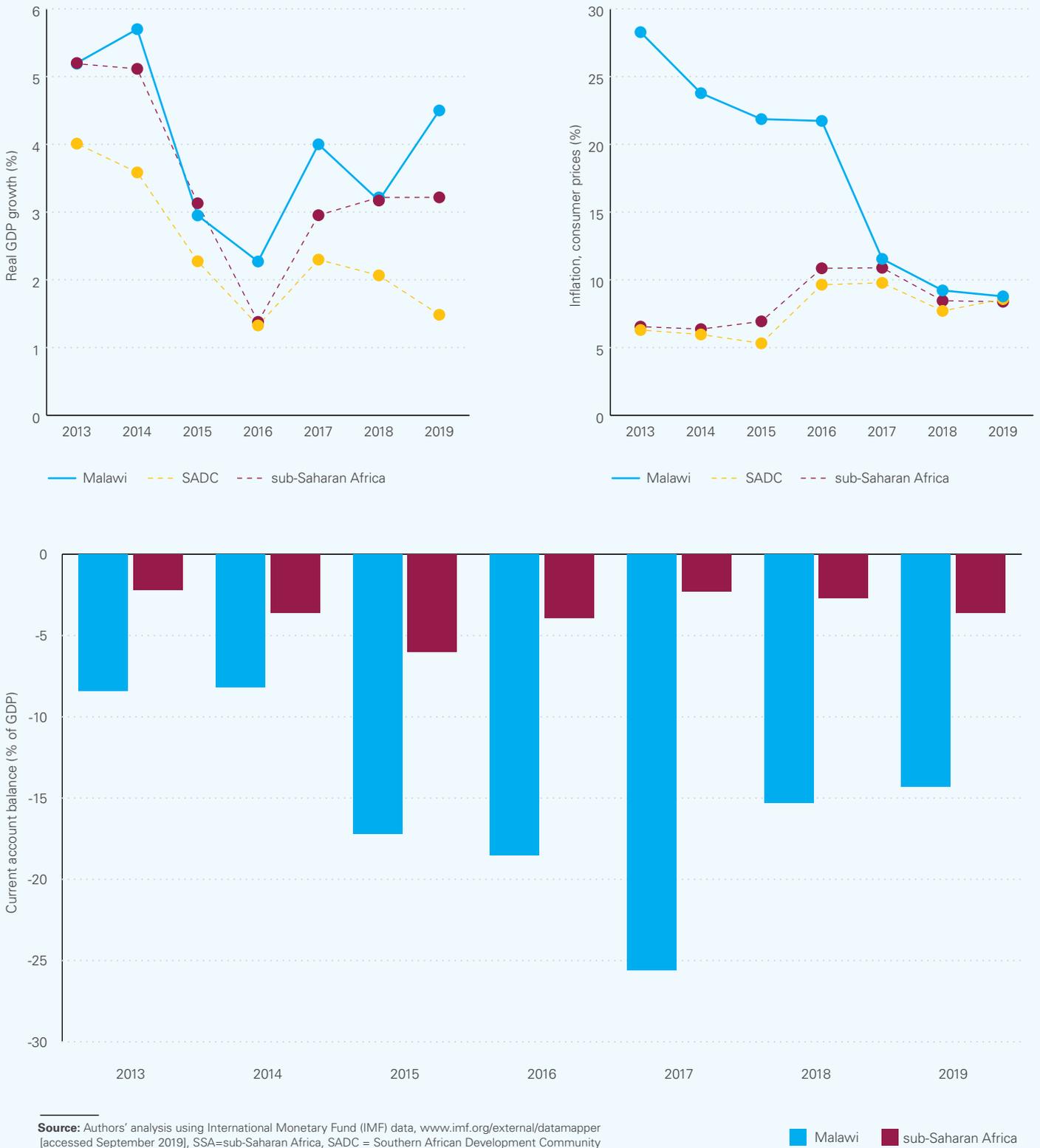
9 As at 2018. Source: World Bank DataBank <https://databank.worldbank.org> [accessed October 2019]

10 These droughts were associated with El Niño and were also accompanied by flooding. The droughts were the worst in 35 years and resulted in a food crisis following two failed harvests due to lack of rains.

11 Estimates by Oxfam, www.oxfam.org.uk/what-we-do/emergency-response/malawi-food-crisis [accessed October 2019]

12 Ibid.

FIGURE 1 Performance of key macro-economic indicators



The current account deficit has reduced in recent years, albeit higher relative to regional peers. While exports have grown steadily in absolute terms the export base is narrow and dependant on a few key crops: tobacco, sugar, coffee, and tea alone account for almost 90% of export revenues¹³. This narrow agricultural export base means that export revenues are prone to shocks either related to production or external demand.

Despite the economy's reliance on agriculture, the proportion of total GDP represented by agriculture has been continuously declining. The service sector has increasingly come to account for a larger share of GDP. Growth in services is largely related to the tourism, transport, telecommunications, retail, and banking sectors (NSO, 2018). Looking forward, GDP growth remains heavily tied to performance in the agricultural sector. Key risks to growth include shocks associated with extreme weather and pests (notably the Fall Armyworm infestation). Beyond the agricultural sector and the government's fiscal position, the sharp decline in capital inflow (largely from external aid) is another contributing risk area.

Historically, GDP growth has not been pro-poor: during the period from 2004 through 2011, GDP annual growth averaged over 6%. This growth was accompanied by a worsening of the Gini coefficient, which increased from 0.399 to 0.455. This recently declined slightly to 0.447, in 2016¹⁴. Over the same period to 2011, the richest 10% of the population's share of

¹³ UNICEF (2018), based on IMF and OECD data.

¹⁴ These are the most recent estimates by the World Bank.

consumption increased substantially as compared to the bottom 10%. Income inequality (Figure 3) has also continued to worsen, with the top 10% of earners accounting for over a 58% share of income in 2017, and the bottom 50% of earners accounting for only a 12% share of all income. The structure of inequality is heavily rooted in an urban/rural divide.

GDP growth, unaccompanied by reductions in inequality, is unlikely to contribute significantly to poverty reduction¹⁵.

Furthermore, growth focused on increasing employment in low-productivity sectors (such as agriculture or informal sectors) is in fact likely to compound inequalities¹⁶.

2.2 Government revenues and expenditure

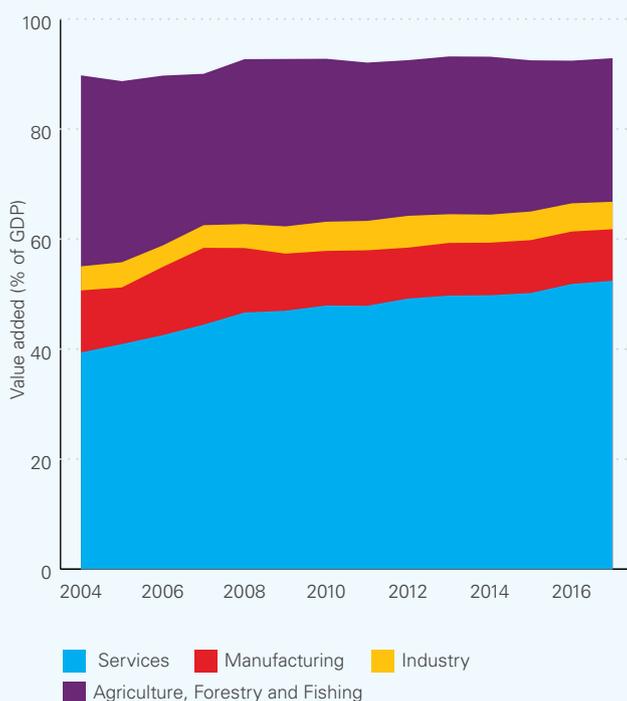
Malawi's fiscal position worsened in FY2017/18 due to revenue shortfalls and expenditure overruns.

The deterioration of the position was, in part, associated with paying arrears, which dated back to FY2012/13 and the bailout of the Agricultural Development and Marketing Corporation. This fiscal expansion was largely financed by domestic borrowing. Nevertheless, the IMF projects that the fiscal position will improve substantially in the coming years. Malawi's central government debt stands at 62% of GDP, which indicates that Malawi is at 'moderate risk' of external debt distress (IMF, 2017), though the overall risk of debt distress is seen to be higher as much of the recent expansion has been funded by domestic debt (World Bank, 2018). Over the

¹⁵ Mussa, 2017; Oxfam, 2015

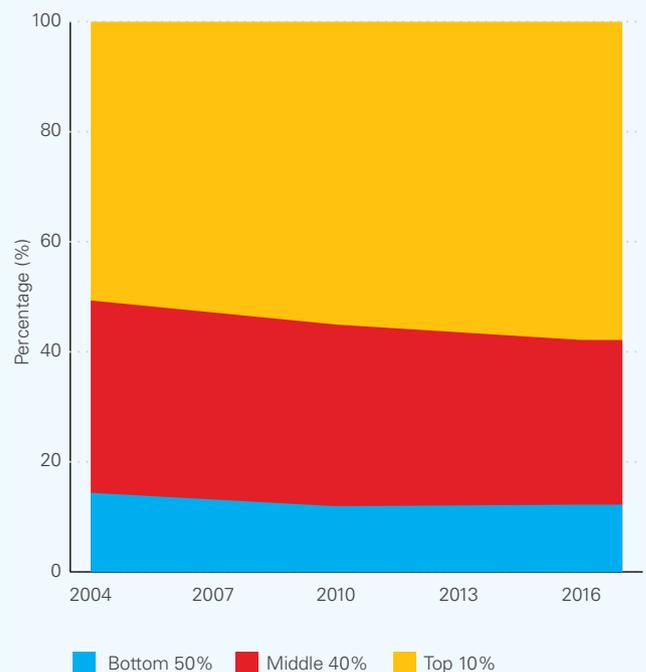
¹⁶ African Development Bank (AfDB) (2019) – see page 73 and technical note 4 on page 99.

FIGURE 2 Composition of GDP by sector



Source: Authors' analysis based on World Bank data

FIGURE 3 Evolution of Income inequality*



Source: World Inequality Database.

*Share of pre-tax income by group

last five years interest payments as a proportion of government expenditure have remained relatively constant, at just under 20%¹⁷.

From 2011/12 up to 2018/19 the real annual growth of domestic revenues averaged 4.4%. The trend is shown in Figure 4. Expressed as a proportion of GDP, domestic revenues (which exclude external grants) increased from 14.8% in 2011/12, through a peak of 21.6% in 2016/17, to about 20% in the last two years. The average over the whole 8-year period was 19.9%¹⁸ of GDP – a figure that is above the sub-Saharan average of 17.1%¹⁹. The growth in revenues as a % of GDP has been attributed to improved collection performance by the Malawi Revenue Authority (UNICEF, 2018).

Real growth in revenues between 2013/14 and 2018/19 has averaged only 1.3% per annum, due to a set of factors that constrained fiscal space over the period, and which will continue to do so in the coming years. Specifically, the factors include the suspension of budget support from 2014; a growing population, which places pressure on services; the need to address the fiscal deficit in coming years; and the need to service the domestic debt that, in part, financed the recent expansion.

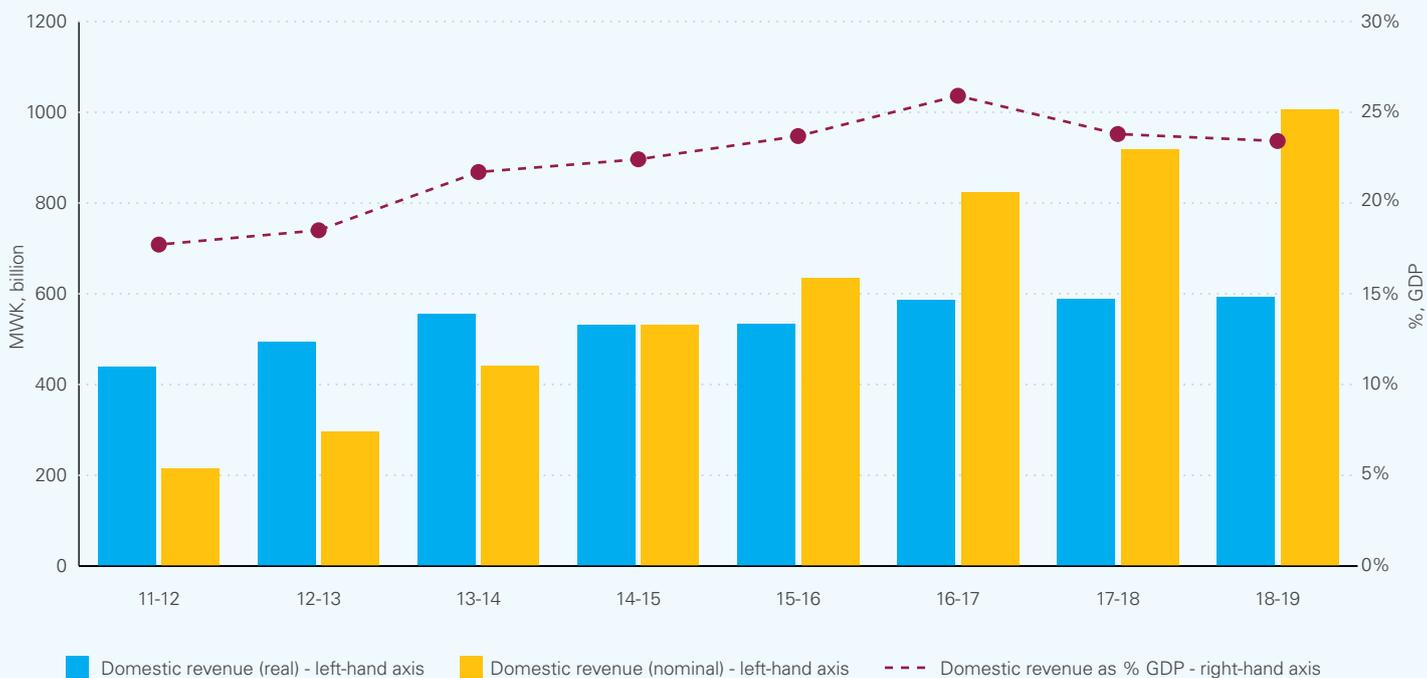
17 GoM Financial Statement (Budget Document 3) for each year.

18 19.9% is the average of the dotted line in Figure 4

19 Data are from the IMF's Africa Regional Economic Outlook database, www.imf.org/external/datamapper/datasets/AFRREO [accessed October 2019].

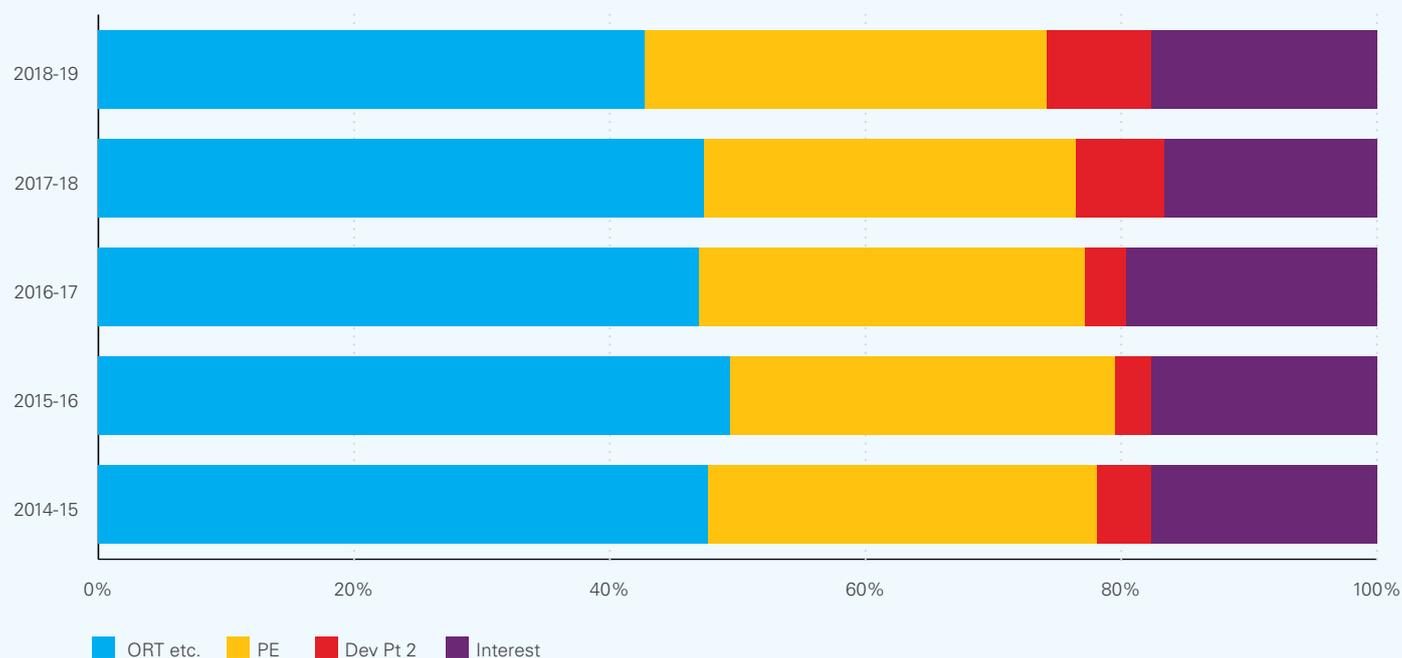


FIGURE 4 Government revenue (MWK billion – June 2014/15²⁰ prices/real and actual/nominal)



Source: Authors' analysis – Actual/provisional revenue figures from GoM Financial Statement (Budget Document 3) for each year; GDP figures from GoM Annual Economic Report

20 2014/15 is used in this report as the base year for the presentation of real prices in MWK.

FIGURE 5 Key elements of GoM-financed expenditure

Source: Actual/provisional expenditure figures from GoM Financial Statement (Budget Document 3) for each year.

Recurrent expenditures and interest payments constitute a large proportion of Government expenditures.

Development expenditures funded by GoM are only a small proportion of the total expenditures²¹. Figure 5 shows key elements of the GoM budget and Table 5 describes each element. Since 2014/15, ORT expenditures (including subventions and pensions) have dropped as a proportion of total GoM-funded expenditures²² and personal emoluments (PE) have shown only a small increase. Without adjustment for inflation, PE has an average annual increase of 19.3%, whereas ORT has grown by an average of only 15.1% per annum²³. There is a sharp increase in Development Part 2 expenditure (GoM-financed capital expenditure), which shows annual average growth of 39.3%. However, this proportion of the total (reaching 8.2% of total GoM-financed expenditures in 2018/19) is still very low compared to need.

21 Most development expenditure in Malawi is funded from external (donor) sources (not included in Figure 5).

22 Excluding donor-funded Development Part 1 expenditures.

23 Authors' analysis of GoM Financial Statement (Budget Document 3) for each year

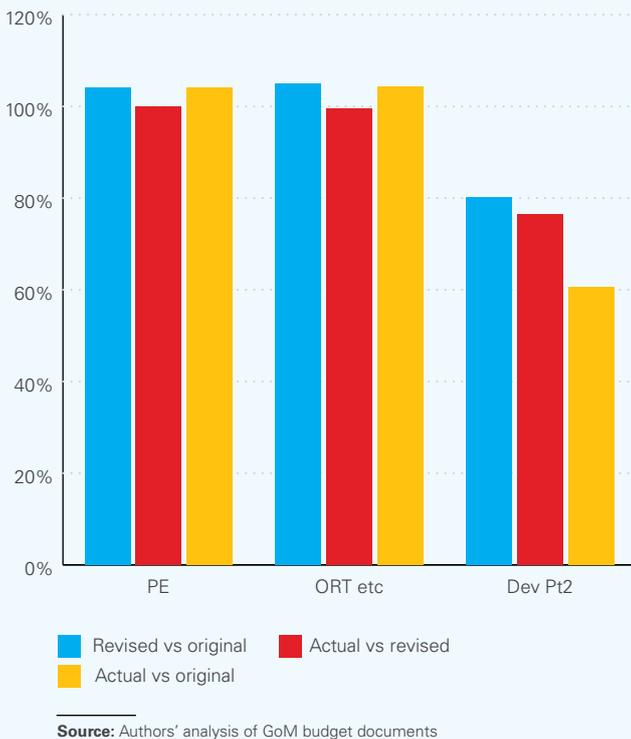
TABLE 5 Description of GoM budget elements

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.

2.3 Government budget credibility experience

There is high credibility of the overall recurrent budget but consistently low credibility of the GoM-financed development budget. Figure 6 below shows three points for each element of GoM expenditure (excluding interest): the first is the revised budget as a proportion of the original budget; the second is the actual execution as a proportion of the revised budget; and the third is actual execution as a proportion of the original budget, which is a combination of the first two. Figure 6 shows that the average execution of PE and ORT (the two elements of recurrent expenditure) has been close to 100% of the GoM budget. However, the picture is different for GoM-financed development expenditure, for which execution has averaged 60.7% of the original budget²⁴.

FIGURE 6 GoM-wide budget execution experience based on averages of the five years 2014/15 through to 2018/19



The experience of PE budget execution at individual MDAs is similar to that of GoM-wide figures shown above. In general, GoM funds salaries in line with approved budgets, for example actual vs original averaged 99.8% in the four years to 2018/19, ranging from 98.9% up to 104.5%.

The experience of budget execution of the ORT budget at individual MDAs is less straightforward than that of PE. To illustrate this, the overall budget and funding of the sub-national local authorities was examined for the year 2018-19. Whereas

the GoM-wide ORT revised budget was 100.7% of the original budget and the amount funded by Treasury and spent by MDAs was 100.1% of the revised budget, a different picture emerges for local authorities. The overall revised ORT budget of local authorities was 93.8% of the original budget and funding by Treasury was 96.3% of the revised budget²⁵. Within this overall result, some sectors like health and education received 100% of the original budget, while others (including water) had large cuts.

2.4 External support

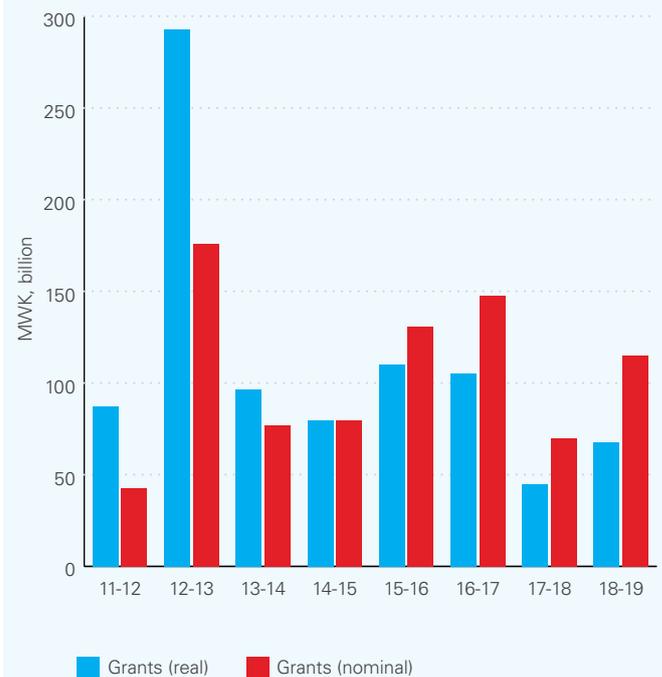
The contribution of external resources (aid) to total expenditure is substantial. Malawi remains highly dependent on donor contributions which fund much of the development expenditure in the country. Between FY2014/15 and FY2018/19 external resources were consistently between 80% and 90% of all development expenditures (UNICEF, 2018).

The composition of external aid to Malawi changed after the suspension of most budget support from 2014. This is evident from the trend of 'on-budget' external support (called grants within budget documents) shown in Figure 7. In inflation-adjusted prices, grants in the two years before the 2014 suspension of budget support averaged MWK190 billion, but they averaged only MWK84 billion in the five years thereafter – a drop of 56%²⁶. The cut in budget support has had a severe effect on fiscal space.

²⁵ Funding by Treasury is used as a proxy for actual spending as typically 99.9% of district ORT funding is spent.

²⁶ In Figure 7, 12-13 is much higher than 11-12 because of the inclusion in 12-13 of delayed disbursements from 11-12.

FIGURE 7 Grants revenue (MWK billion – June 2014/15 prices/real and actual/nominal)



²⁴ The Development Part 2 execution rate for individual years during 2014/15 through to 2018/19 ranges from 41.9% up to 74.5%.

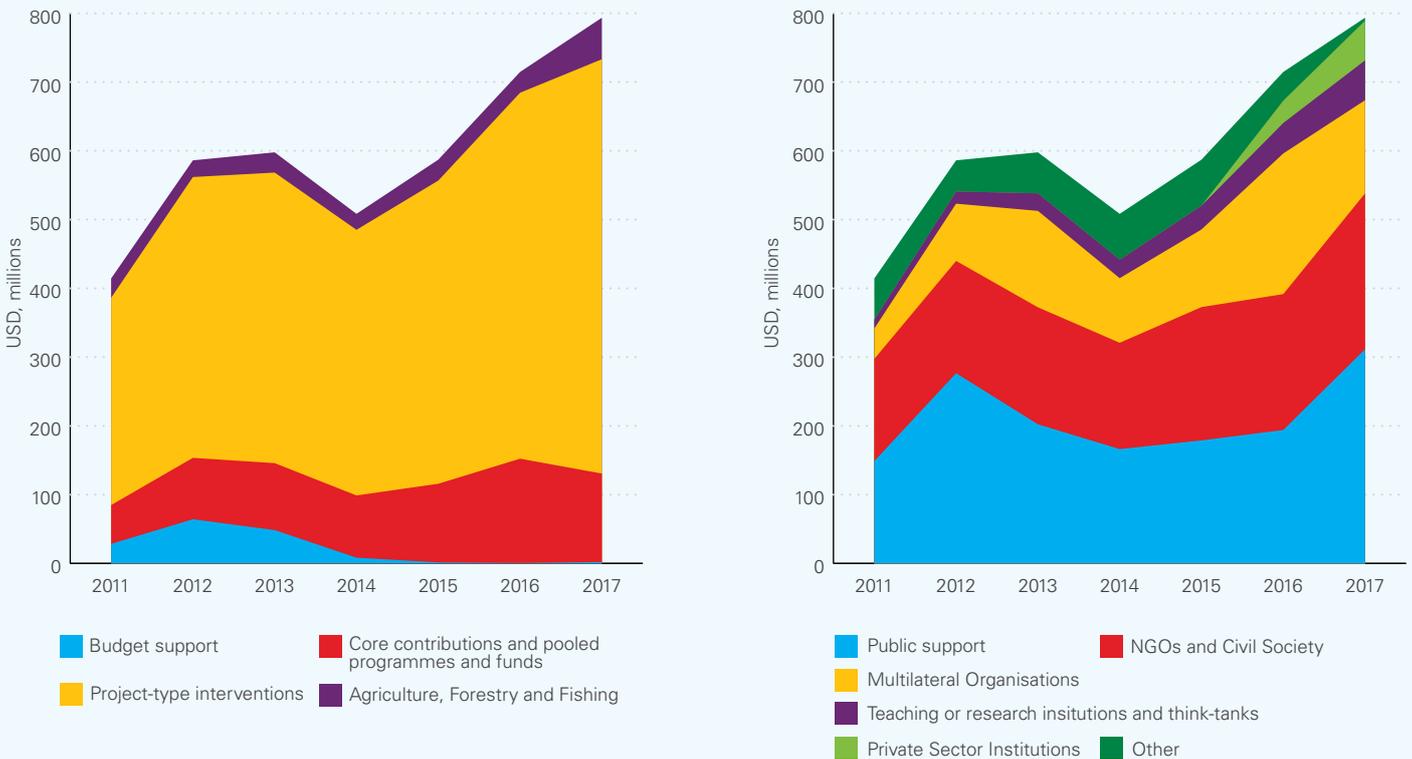
Figure 8 highlights that overall donor funding increased following the reduction in 2013/14. Funds that had been provided as budget support were diverted to other delivery channels, such as project-type interventions.

Since 2014 the composition of aid has changed, with an increasing proportion of aid channelled to multilateral institutions or NGOs, and for projects and pooled funds rather than budget support. Since 2014 the volume of aid delivered through the public sector has gradually been increasing, though as a proportion of all aid it has not reached the levels before 2014. The public sector received 47% of all aid in 2012; this decreased to 27% in 2016, then increased to 39% in 2017²⁷.

²⁷ In parallel with these changes, there has also been an increase in the proportion of total external finance in the forms of loans as opposed to grants. This is illustrated later in the report, in Figure 24.



FIGURE 8 ODA to Malawi by type of aid and delivery channel (constant 2017 USD millions, disbursements)



Source: Authors' analysis based on OECD-DAC CRS data <https://stats.oecd.org/Index.aspx?DataSetCode=CRS1> [accessed October 2019]
*Other includes expenditure related to: scholarships, debt relief, admin costs, and other donor expense expenditures.

2.5 Public Finance Management (PFM) in Malawi

2.5.1 Overview of budget process

The national budget runs from 1 July to 30 June each year. Budget preparation starts in January/February with the circulation of the budget guidelines and indicative medium-term expenditure framework (MTEF) ceilings. MDAs are then expected to submit their line-by-line budgets in April and budget hearings are held, after which the final MTEF ceilings are circulated. Final budget submissions from MDAs and the

budget consolidation take place in early May. Parliamentary approval is usually given in June. A mid-year revised budget revision is presented to Parliament for approval around January.

District-level budgeting follows a similar process. The budget cycle at districts (local authorities) follows a similar process, with district-wide ceilings set at a national level for each sector, while the NLGFC has a role in developing and applying the formulae used to calculate the budget allocation of sectoral totals between each authority.

2.5.2 Expenditure controls

Accounting is carried out by the 'accounting common service', under the oversight of the Accountant General, who allocates staff to each MDA. These officers are expected to apply formal accounting and control procedures, as set out in the 'desk instructions'.

The IFMIS is the accounting software that facilitates budgetary control of ORT and development budgets. The Accountant General oversees its operation at the national level, with terminals for IFMIS access and transaction entry distributed around MDAs. IFMIS serves as a control mechanism to ensure that ORT and development payments do not exceed the respective budget lines.

A different version of the IFMIS operates at local authorities, though coding is largely consistent. The NLGFC has oversight over PFM at local authorities and accounting officers at that level recently ceased to be part of the common service due to progress in decentralisation. There are also separate local authority accounting guidelines which cover IFMIS operation, and also local revenue collection (e.g. property rates and market fees), as well as controls over the use of this revenue.

2.5.3 Performance of the PFM system

The 2018 Public Expenditure and Financial Accountability (PEFA) assessment provides an up-to-date picture of PFM performance, as well as changes since the previous PEFA in 2011. Relevant conclusions of the 2018 assessment include the following:

- Substantial off-budget donor operations impair GoM's ability to have an overview of total expenditures, although GoM oversight of this has improved since 2011.
- In aggregate, approved budgets tend to be a good indicator of expenditure performance; however, development expenditure regularly underperforms.
- Programme-based budgeting (PBB), introduced in 2011, is not yet fully functioning, since actual spending is not yet being compared with actual programme outputs.
- The MTEF process does not add much value at sector levels and below, even though it has improved a little since 2011.
- Expenditure reporting and overall control of balances is impaired by the large value of expenditures for goods and services received but not formally recorded until payment is actually made (referred to as arrears), which results in fiduciary as well as balance control risks. The PEFA score shows some decline since 2011.
- Procurement is still a high-risk area as regards value for money in public expenditure, and the overall effectiveness of internal controls has declined since 2011.

The effectiveness of budget setting is constrained by late adjustments before the final version is presented to Parliament. Treasury starts the annual budget process with estimated budget ceilings for each MDA, but the final ceilings received from the centre in about April are almost always lower. Late adjustments are required but are often made without the same depth of participation as the original budget, so the final budget may not be 'owned' by stakeholders.

Monthly funding of the budget by Treasury to MDAs often differs from the month-by-month forecast agreed at the time of the original budget. Funding is usually skewed towards the year end, creating pressure to spend at that time and associated line-by-line miscoding risks.

There is evidence that the intended line-by-line budgetary control of IFMIS over ORT and development does not work.

This is because, for example, where an annual budget allocation is exhausted so that a payment cannot be made against that budget code (because of IFMIS controls), the payment is coded to a budget line that is not yet exhausted. MDAs are often able to spend between 95 and 100% of their total funding for the year even though there has been no formal reallocation of funds between budget lines within a MDA. As a result, actual expenditure often precisely matches the budget for most budget lines. This also means that, at MDA level, many decisions on allocation of funding to priorities are taken on a month-by-month basis, once monthly funding is received, but without reference to the annual budget. At local authorities, the same line-by-line budgetary control challenges are evident. Although local authorities do not have authority to move ORT bank account funds between sectors (or to district HQ budget lines), this occasionally happens in practice.

Inadequate coding within the IFMIS limits control over development expenditure.

Coding within the IFMIS of Development Part 2 (GoM-funded) expenditure is not done in such a way that it is easy to track expenditure against budget per project. In addition, while the budgets of Development Part 1 (donor-funded and 'on-budget') projects are recorded in the IFMIS, the expenditures of almost all projects are not recorded within the IFMIS during implementation.

Budget information on donor-funded projects is incomplete.

In GoM's 2019/20 budget documents, Development Part 1 (donor) project budgets for the year total MWK306 billion. Part 1 projects comprise those that are 'directly managed' by GoM, such as when expenditure is incurred through a GoM-signed bank account that is funded by the donor. The budget document also lists 'off-budget' donor-funded projects totalling MWK153 billion in 2019/20. These projects are not fully managed by GoM but are reported by donors to GoM during the budget process. In addition, an unquantified number of donor-funded projects are not recorded within the budget document at all.

The effectiveness of PFM control over salaries at local authorities is constrained. The control of sector salaries at local authorities is constrained because of decentralisation, and the related controls are incomplete. While sector salary budgets and administration were decentralised from 2017/18, the coding of such salaries within local authority Votes had not been recorded within the IFMIS by sector (nor by PBB), which constrains the capacity of local authorities to manage salaries. In addition, the management of staff, especially 'hire and fire' decisions, is not yet fully in the control of local authorities.





3. WASH SERVICE DELIVERY IN MALAWI

This section discusses the WASH service delivery in Malawi.

The overall national policy orientation is articulated through the second and third Malawi Growth and Development Strategies (MGDS) II and III. While water and sanitation feature as priority areas in each of the MGDSs, however the MGDSs do not set clear, measurable targets for WASH (or any other social sector), and as such are not well suited to assessing progress against policy objectives.

The legislation underpinning the sector establishes clear roles and responsibilities. The Waterworks Act (1995) created the water boards and defines their responsibilities with regards to urban service delivery. The Local Government Act (1998) decentralised some WASH sector functions to the district councils. Other key pieces of legislation include the Environmental Management Act 1998 and the Water Resources Act 1969 and 2013. The Public Health Act 1948 [last amended 1975] regulates sanitation and hygiene, including water quality. Table 25 (in Annex B) outlines the key legislation in the WASH sector. Together with the policy documents this provides the framework for understanding the de jure institutional arrangements.

TABLE 6 MDA responsibilities for water and sanitation

Policy	Details
National Decentralisation Policy 1998	<ul style="list-style-type: none"> • MoAIWD to supply safe water • MoHP to coordinate and manage environmental sanitation • MoLGRD to provide oversight of WASH services through Health and Services Committee
MGDS III (2017–2022)	<p>Under Priority 6, clarifies roles of MoAIWD and MoHP:</p> <ul style="list-style-type: none"> • MoAIWD is to supply safe water and manage water sources • MoHP promotion of sanitation and hygiene, enforcement of sanitation laws
National Environmental Health Policy 2018	<p>Gives roles and responsibility of MoAIWD and MoHP as:</p> <ul style="list-style-type: none"> • MoAIWD – supply of safe water • MoHP – promotion of sanitation and hygiene, conducting water quality surveillance, and enforcement of sanitation and hygiene laws (Public Health Act CAP 34:01 section 59-114)
National Sanitation and Hygiene Strategy (2018–2024)	<ul style="list-style-type: none"> • Gives leadership of sanitation and hygiene to MoHP, in line with Public Health Act CAP 34:01, National Decentralisation Policy 1995, and MGDS III Priority Area 6

Service delivery functions are performed by the District Councils and the Water Boards. Both of these have the responsibility for the O&M of water systems within their jurisdiction, with water boards focused on urban areas. The WUAs and Water Point Committees also perform delegated O&M functions for water systems on behalf of either the District Council or Water Boards. MoAIWD adopted the concept of the WUA to 'empower the communities to own and manage the piped water supply systems in the market centres and rural areas on their own with minimum support from outside'. These community-based WUAs are intended to act as 'mini water boards' – though they do not receive any financial support from GoM sources and are expected to collect the funds for running the systems from the community they serve. Table 28 (in Annex B) provides a more thorough mapping of the institutional framework as described above.

The National Water Policy 2005 and the National Sanitation Policy 2006 provide a broad orientation on policy. Together with the legislation they clarify institutional responsibilities and service delivery functions. However, these two sector policies are out of date with respect to subsequent legislation (Water Resources Act 2013); the specific objectives/ activities outlined in the policies end at 2010/11; and the WASH progress since 2011 is not acknowledged. The sector strategies published since the National Water Policy 2005 and the National Sanitation Policy 2006 provide a further basis on which to assess the degree to which public expenditure is aligned with policy. The relevant strategies are numerous, partly as the PER timeframe crosses two strategic planning periods (2011–16 and 2017–22). Table 27 (in Annex B) provides an overview of the relevant strategies. Table 26 (in Annex B) provides an overview of the key policy documents in the WASH sector.

Box 1 outlines the key sector policy issues identified at the start of the PER period. In the water sub-sector functionality is raised as a critical sector challenge, with capacity constraints and the proliferation of non-village-level O&M (VLOM) technologies

raised as two key issues underlying this. In the sanitation sub-sector, the quality of latrines is one of the most prominent policy concerns. Across the whole sector the lack of regulatory powers and a weak evidence base for reviewing policy are raised as sector-wide challenges.

BOX 1 Key Sector policy and service delivery issues

In 2015, at the Share Symposium meeting, MoAIWD outlined several WASH sector challenges and constraints including:

- i. 'Very minimal progress in moving up the sanitation ladder.
- ii. Capacity and human resource issues.
- iii. Inadequate evidence based formative research to support policy formulation.
- iv. Low functionality rate of water systems especially in rural piped water supply systems and boreholes, which is depriving rural communities' access to safe water supply.
- v. The proliferation of non-Village-Level Operation and Maintenance (VLOM) hand pump technologies especially on shallow wells being implemented by some partners.
- vi. Inadequate and outdated legal instrument for regulation of the WASH [water] sub-sector'

The 2017/18 sector performance report provides insight into the current key policy issues in the sector. In the rural water sub-sector functionality remains a critical issue. Constraints include: inadequate funding and staffing at the district level; infrastructure being developed without the involvement of the District Water Office or Water Point Committees; and a shortage of spare parts and area mechanics. In the urban water sub-sector, a focus is placed on reducing non-revenue water (NRW), and identifying sources of financing for large-scale investments in infrastructure. In the sanitation sub-sector, a critical policy issue is the move from the MDGs to the SDGs, and the need to agree an approach to achieving the SDGs – specifically, agreeing the indicators to be used to measure progress, as well as identifying strategies that can effectively raise service levels and improve the quality of latrines and services.



4. WASH FINANCING FINDINGS

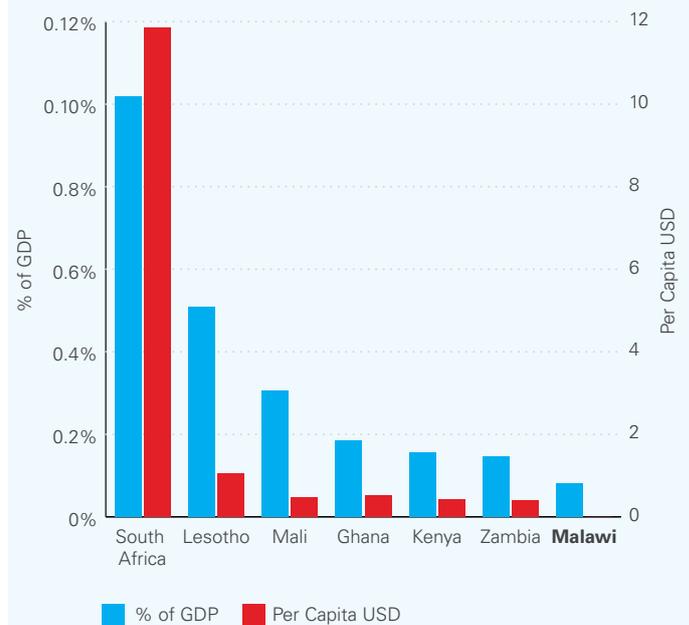
There are three main sources of WASH financing in Malawi:

(i) domestic revenue (from tax and non-tax sources); (ii) external financing (ODA and private sources); and (iii) expenditures by households on water and soap. Funding from each source is considered in turn below, with financing sources in Malawi compared to other sub-Saharan African countries. To allow for a standard comparison, the PER used data from the 2017 UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS).

4.1 Government financing of WASH

Government financing of WASH services in Malawi is lower compared to other SSA countries. Recent data on government WASH financing in SSA (UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS), 2017) enable a comparison of government WASH financing relative to GDP and in per capita terms. In relation to GDP, Government WASH financing in Malawi (0.08%) is significantly less than in Zambia (0.15%), Kenya (0.16%), Ghana (0.19%), and Mali (0.31%). In per capita terms, Government WASH financing in Malawi (US\$0.33) is also very low compared to Zambia (US\$2.0), Kenya (US\$2.2), Ghana (US\$2.6), (US\$2.4), Mali (US\$2.4), Lesotho (US\$5.3) and South Africa (US\$59).

FIGURE 9 Comparison of Government WASH financing from domestic revenues amongst seven SSA countries (% of GDP and USD per capita)

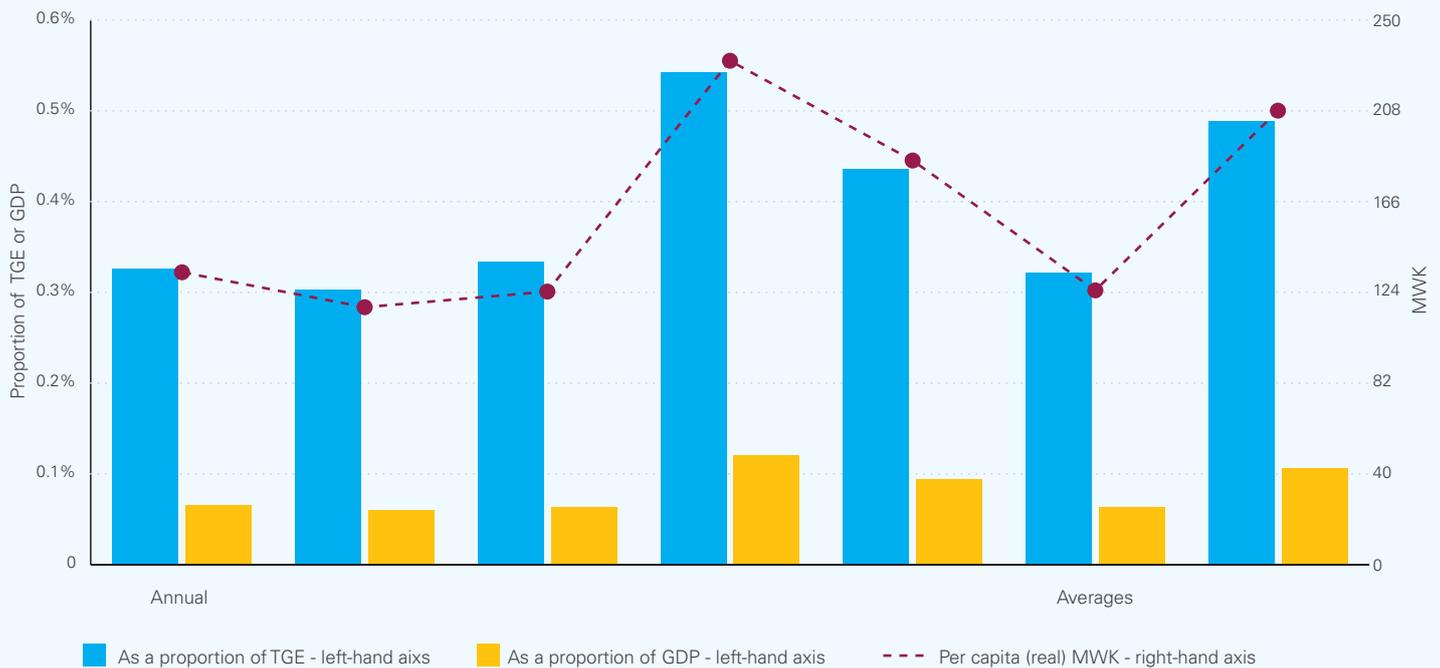


Source: Authors' analysis of GoM budget documents

Despite limited fiscal space, the GoM has increased its funding to the WASH sector since 2017/18, largely linked to the introduction of the Borehole Fund. Over the five years of the PER period, GoM funding of the sector has averaged 0.39% of total government expenditure (TGE). There was a notable increase from 2017/18, when the Borehole Fund was introduced. The average in the three years before the introduction was 0.32% and was then 0.49% in the two years thereafter.

The low financing of WASH by the GoM was confirmed by district WASH officers. All DWDOs and DEHOs reported inadequate GoM funding in their responses to the PER survey (to which responses were received from all districts). Limited Government funding was highlighted as a major source of WASH performance challenges.

FIGURE 10 GoM financing of WASH over five years, as a proportion of TGE and GDP, and in per capita terms (MWK 2014/15 prices)



Source: Authors' analysis of TGE and GDP from GoM budget documents and GoM WASH data



4.2 External financing for WASH

External financing for the WASH sector in Malawi compares well to other SSA countries (Figure 11). Malawi’s external financing, expressed as a percentage of GDP, is the second highest amongst six countries with available data on the 2017 GLAAS database. However, per capita external funding remains the lowest²⁸.

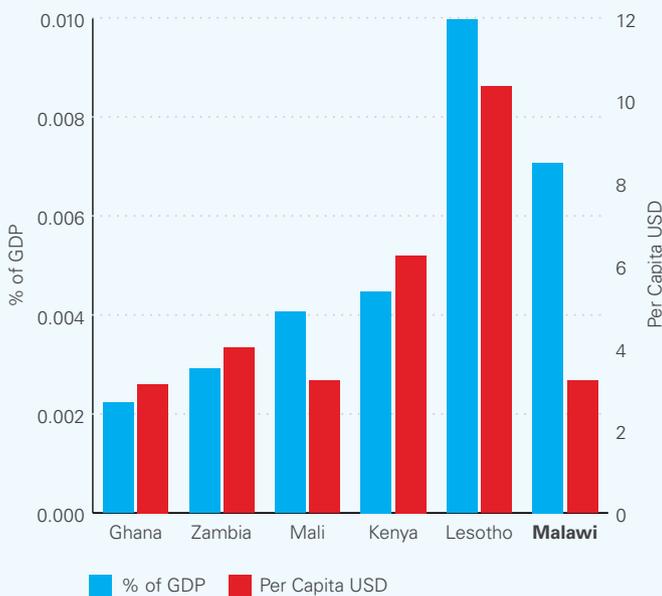
The ratio of Malawi’s external to government financing is much higher than for each of the same five comparison countries. This is despite Malawi having lower per capita funding from external sources. The significance of external funding in Malawi is evident in Figure 12, which shows that the ratio of external to government financing is 8.8 – much higher than that of Kenya (2.9) and Zambia (2.0), Lesotho (1.9), Mali (1.3), and Ghana (1.2). Malawi’s reliance on external funding presents a key risk to WASH sector progress as such funding may fluctuate from year to year.

4.3 WASH financing by households

Households in Malawi are contributing more to WASH financing when compared to other SSA countries, based on the 2017 GLAAS data. Figure 13 shows that households in Malawi spend more as a percentage of GDP than five of the six comparator countries. In per capita terms, households in Malawi also spend more than in Zambia, Mali, Kenya, and Lesotho as shown in Figure 13.

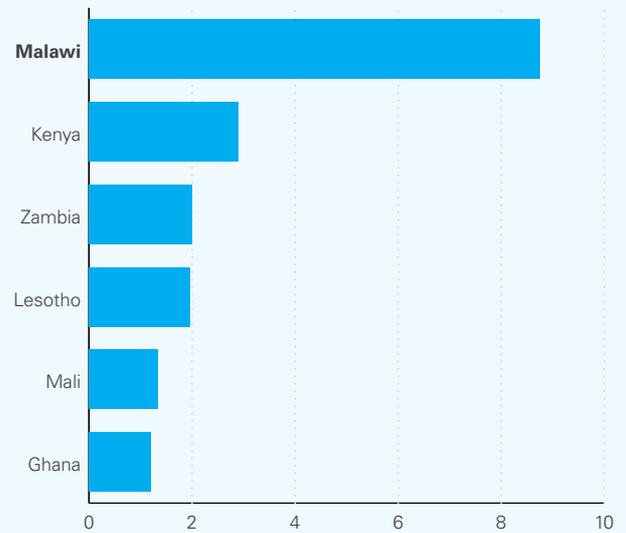
²⁸ South Africa is not included as (according to the GLAAS report) it receives no external financing for the WASH sector. However, it does have substantial repayable finance that is non-ODA.

FIGURE 11 Comparison of external financing of WASH between six sub-Saharan African countries (% of GDP and USD per capita)



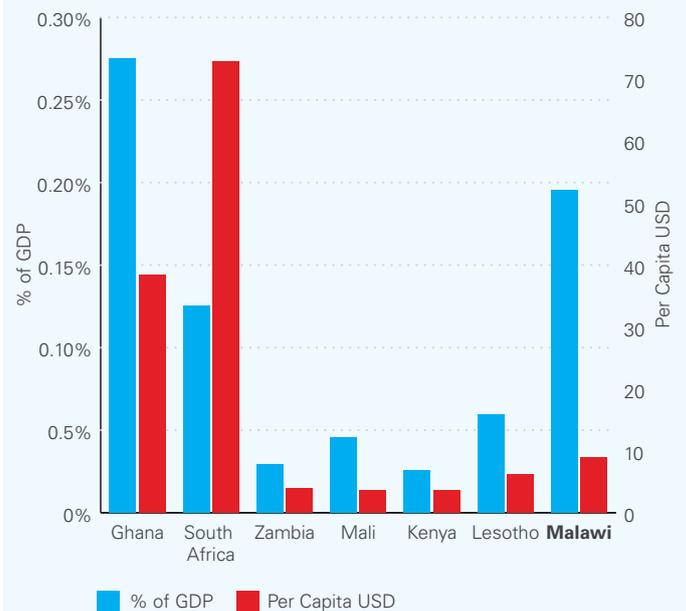
Source: Authors’ analysis of data from GLAAS 2017 report, specifically Figures 8 and 9 in that report, plus authors’ analysis of OECD-DAC CRS data.

FIGURE 12 Ratio of external to government financing for WASH sector in six SSA countries



Source: Authors’ analysis of data from GLAAS 2017 report, specifically Figures 8 and 9 in that report, plus authors’ analysis of OECD-DAC CRS data.

FIGURE 13 Comparison of expenditures on WASH by households between seven sub-Saharan African countries (% of GDP and USD per capita)

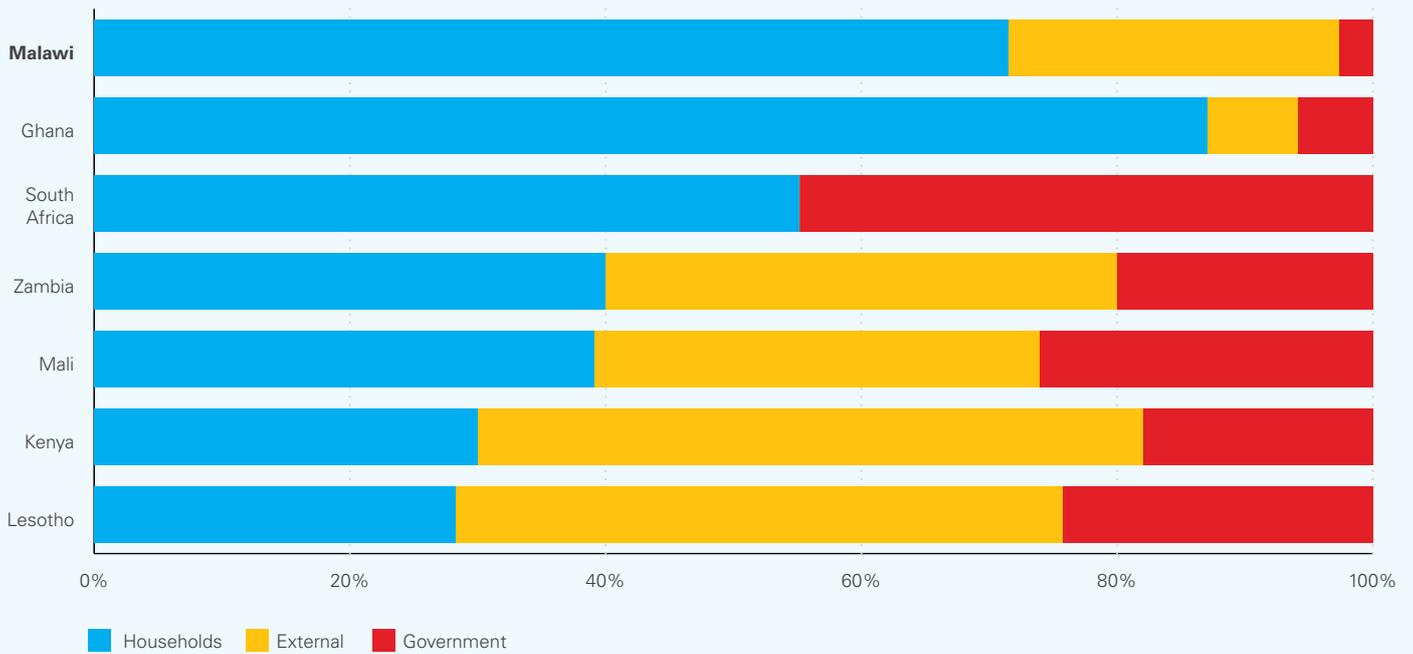


Source: Authors’ analysis of data from GLAAS 2017 report, specifically Figures 8 and 9 in that report³⁰, plus authors’ analysis of the Malawi IHSs III and IV.

Compared to other funding sources, the financial contribution by households in Malawi (71%) is higher than five of the six selected SSA comparators, except Ghana as shown in Figure 14. However, there may be inconsistencies with regards to the comparison of household expenditures in

different countries linked to measurement issues. For example, the calculation of households' contribution in Malawi includes expenditure on items such as soap but not on construction of toilets.

FIGURE 14 Comparison of relative proportions of WASH funding by households, external sources, and government



Source: Authors' analysis of data from GLAAS 2017 report, specifically Figures 8 and 9 in that report, plus Malawi data from Section 5 below.



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5. EXPENDITURE FINDINGS

This section discusses spending patterns in the WASH sector in Malawi over a five-year period from 2014/15 to 2018/19. Among others, the section covers: government WASH expenditure; donor expenditures (through ODA and NGOs); expenditures by commercial organisations, institutions and households which is incurred through water boards, household expenditures; expenditures in emergencies and expenditures by sub-sector (water and sanitation, urban and rural).

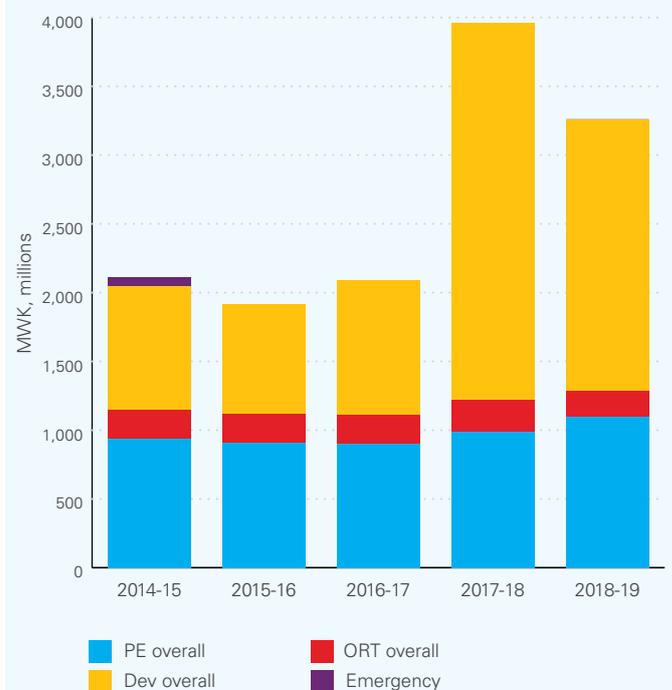
5.1 Government WASH Expenditures

5.1.1 Overall Government WASH Expenditures

Aggregate government expenditure on WASH notably increased from 2017/18, largely linked to the introduction of the Borehole Fund. With regards to recurrent spending, expenditures on wages and salaries, commonly referred to as personnel emoluments (PE), and other recurrent transactions (ORT), were fairly steady over the five-year period as shown in Figure 15.

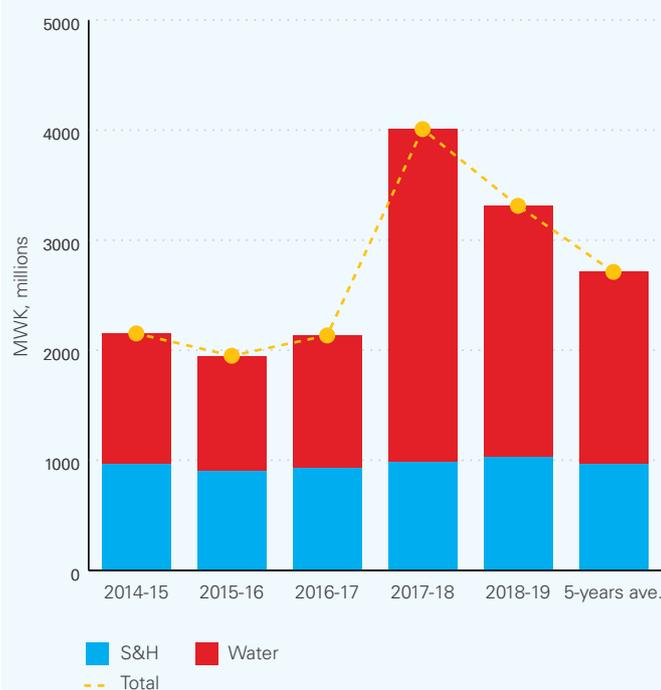
Government expenditure on water is nearly twice that on sanitation as shown in Figure 16. Over the five-year period, the proportion of Government expenditure on water averaged 65% compared to 35% on sanitation and hygiene. Detailed analysis of expenditure in each sub-sector are provided in sections 5.1.2 and 5.1.3.

FIGURE 15 GoM WASH expenditures – economic classification summary (MWK millions, real – 2014/15 prices)



Source: Authors' analysis of GoM budget documents

FIGURE 16 GoM WASH expenditures by sub-sector (MWK million, both real 2014/15 prices and actual/nominal prices)



Source: Authors' analysis of GoM data – details are in Box 3 and Box 4 in Annex J

5.1.2 Government expenditure in the water sub-sector

Government spending on water comprises of expenditure at the central (via the MoAIWD) and local levels (via District Councils). Within the MoAIWD, water expenditures are incurred under the Water Supply Services, comprised of PE, ORT and Development Part II. At local level, water expenditure consists of recurrent spending on PE and ORT as well as development expenditure under the Borehole Fund, DDF and CDF. In cities, some Government-funded water development expenditures were identified but they have no staff allocated to water (no PE) nor any ORT allocated to water. There are erratic funds for expenditures on emergencies from the Government, through the Department of Disaster Management Affairs (DODMA). Figure 17 provides a detailed analysis of Government water expenditure by national and sub-national levels and economic classification.

Government expenditures on water are largely for the creation of new infrastructure. Over the five-year period, development expenditure accounted for 81% of total water. A larger portion of this was spend at local level (48%), compared to 33% at the central (MoAIWD) level. The spending pattern shifted substantially towards districts since the introduction of the Borehole Fund in 2017/18. Figure 17 highlights very low water development expenditure at district level until the introduction of the DDF in 2015/16 and later on the Borehole Fund in 2017/18. At central level, water development expenditure exhibits a significant yet fluctuating trend (see Figure 17 and Table 7).

TABLE 7 Water sector expenditure – economic classification (MWK million – 2014/15 prices)

	14/15	15/16	16/17	17/18	18/19	5-year proportions
DISTRICTS						
PE	153	148	147	157	177	9.0%
ORT	81	96	96	108	69	5.1%
Dev	83	305	486	1,778	1,551	48.1%
CITIES						
Dev	-	-	-	-	13	0.1%
MoAIWD						
PE	38	42	41	59	62	2.8%
ORT	16	17	19	30	31	1.3%
Dev (part II)	798	440	413	893	365	33.3%
Emergency	22	-	-	-	-	0.3%
TOTAL GoM						
Total water	1,191	1,048	1,202	3,026	2,269	100.0%

Sources: Authors' analysis of: IFMIS data, Treasury reports, and district reports to PER team on staffing levels – details are in Box 3 and Box 4 in Annex J.

5.1.3 Sanitation and hygiene sub-sector expenditure

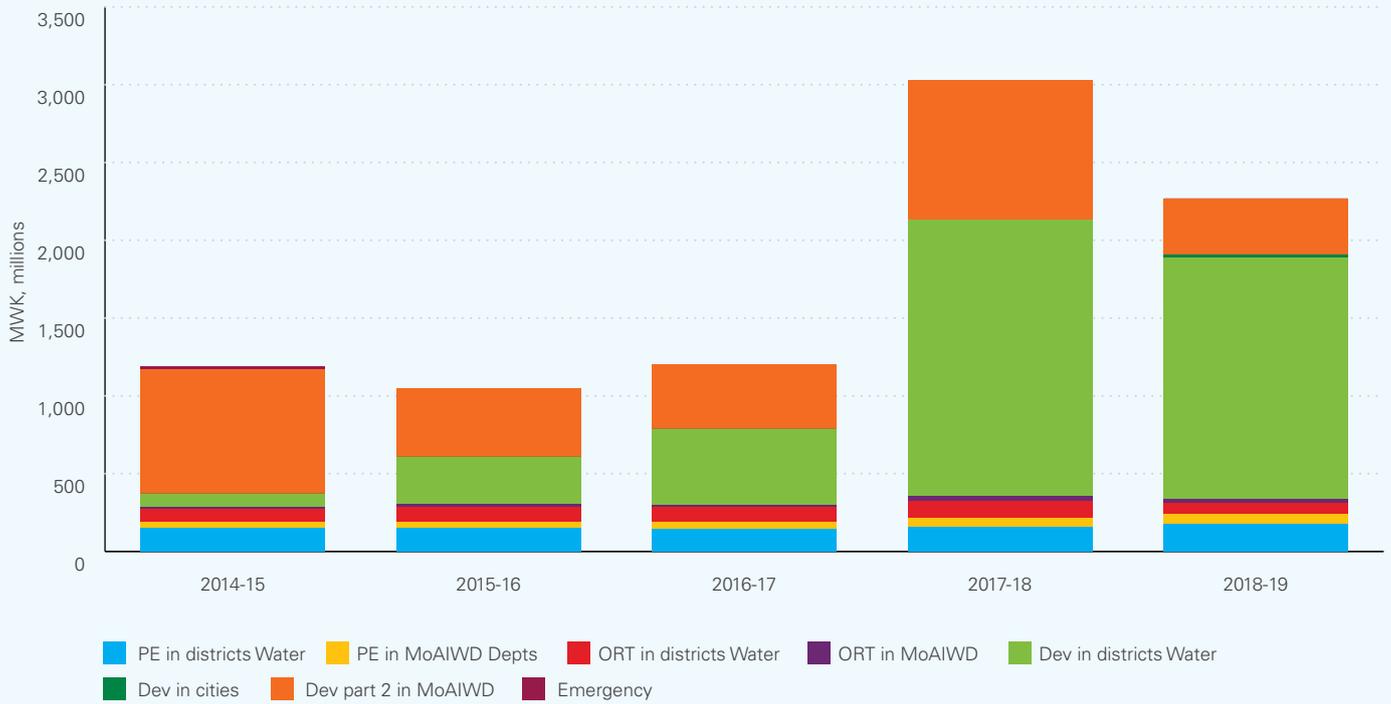
Similar to water, Government spending on sanitation and hygiene is comprised of central and local level expenditure.

At central level, Government spending on S&H expenditures is channelled via the Environment Health Unit under the MoHP (for PE and ORT). At local level, expenditures on S&H (for PE and ORT) are channelled via the District Health Office (DHO). It should be noted that the Government does not have a separate allocation to support S&H services at local level. Hence, S&H expenditure included in this report are estimates from the DHO's budgets. There are other expenditure elements in City Councils, mainly for PE. There is no separate GoM-funded development expenditure on hygiene and sanitation. Similar with the water sub-sector, emergency expenditures, through the DODMA, are often erratic. Detailed S&H expenditure analysis (by national and sub-national levels and economic classification) is provided in Figure 18 and Table 8.

Over 80% of Government expenditure on S&H is for salaries, especially at local level. District-level S&H expenditure constitute 68% of total S&H expenditure while spending on salaries for the MoHP level is around 11.7% of total S&H expenditure. The District S&H budget is spent on salaries for HSAs (currently totalling 8,479) and AEHOs/EHOs (currently at 438).

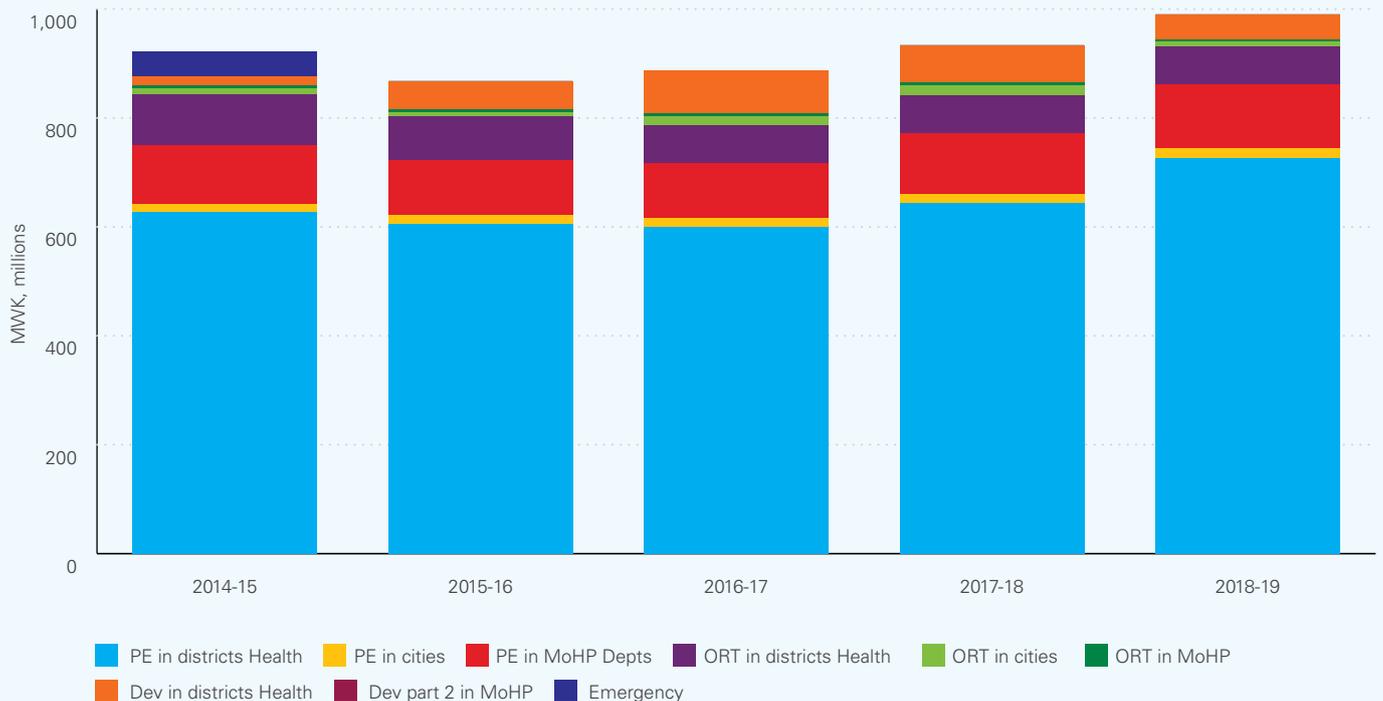
Total Government expenditure on sanitation and hygiene has barely changed in real terms. This reflects the fact that most of the expenditure is for the salaries paid to frontline staff, which has not changed much in real terms since 2014/15 as shown in Figure 18 and Table 8.

FIGURE 17 Water sector expenditure – economic classification (MWK millions – 2014/15 prices)



Source: Authors' analysis of: IFMIS data, Treasury reports, and district reports to PER team – details are in Box 3 and Box 4 in Annex J

FIGURE 18 Sanitation and hygiene sub-sector expenditure – economic classification (MWK millions – 2014/15 prices)



Source: Authors' analysis of: IFMIS data, Treasury reports, and district reports to PER team – details are in Box 3 and Box 4 in Annex J.

TABLE 8 Sanitation and hygiene sub-sector expenditure – economic classification (MWK million – 2014/15 prices)

	14/15	15/16	16/17	17/18	18/19	5-year proportions
DISTRICTS						
PE	627	606	601	644	726	69.7%
ORT	94	80	69	69	70	8.3%
Dev	17	50	79	68	45	5.6%
CITIES						
PE	16	15	15	16	18	1.7%
ORT	10	8	15	17	8	1.3%
MoAIWD						
PE	107	102	102	113	116	11.7%
ORT	7	6	6	6	5	0.6%
Dev (part II)	-	-	-	-	-	0.0%
Emergency	46	-	-	-	-	1.0%
TOTAL GoM						
Total	922	867	886	933	989	100.0%

Sources: Authors' analysis of: IFMIS data, Treasury reports, and district reports to PER team – details are in Box 3 and Box 4 in Annex J.

5.1.4 WASH budget credibility

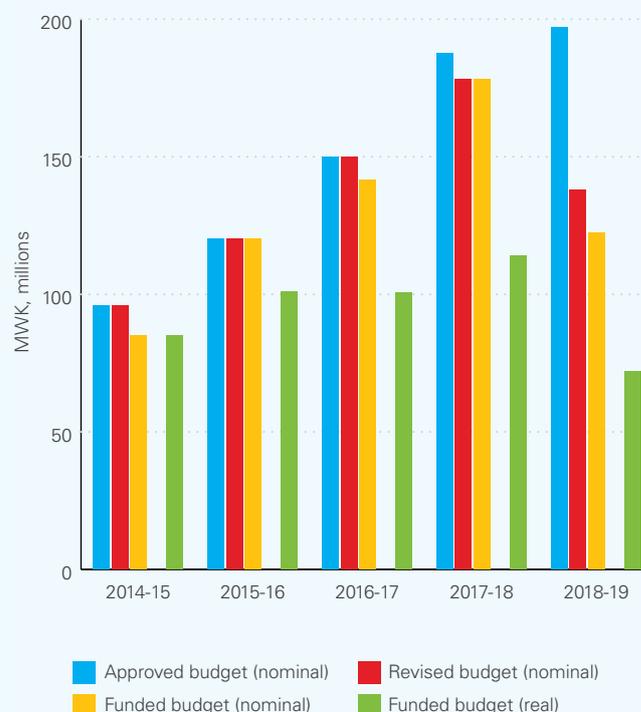
Government has over the years, until 2018/19, generally honoured its recurrent budgetary commitments to the WASH sector. However, district water ORT funds²⁹ were severely constrained in 2018/19. In 2018/19 only 62% of the approved budget was actually funded as shown in Table 9. Compared to 2017/18, the real value of funding for 2018/19 was about 37% lower as shown in Figure 19 below and in Table 9. In addition, over the 4-year period (2014/15 to 2017/18), the Treasury funded over 80% of the approved district water ORT budget. It is worth mentioning that there are no utilisation issues at local level as all funded budgets are fully utilized, as discussed in Section 2.3. Due to data limitations, similar analysis was not possible for other expenditure elements of the WASH sector.

TABLE 9 ORT budget execution data for the water sector at districts (MWK million, nominal)

	14/15	15/16	16/17	17/18	18/19
Water ORT bud. approved	96.0	120.2	150.0	187.5	196.9
Water ORT bud. received	96.0	120.2	150.0	178.1	137.8
Water ORT funding	85.0	120.2	141.5	178.1	122.4
Water funding in 2014/15 prices	85.0	101.1	100.7	114.0	72.1
Revised vs original	100.0%	100.0%	100.0%	95.0%	70.0%
Funding vs revised	88.6%	100.0%	94.3%	100.0%	88.8%
Funding vs original	88.6%	100.0%	94.3%	95.0%	62.2%
Year-on-year increase change in real funding		18.9%	-0.4%	13.1%	-36.7%

Sources: Authors' analysis of Treasury funding reports

²⁹ Note that Treasury funding is a proxy for actual expenditure, since typically between 95% and 100% of a MDA's funding is actually spent once funded.

FIGURE 19 District water sector ORT funded (MWK millions – actual/nominal and 2014/15 prices)

Source: Authors' analysis of Treasury funding reports.

The CDF and Borehole Fund are 100% funded: Development expenditure in the WASH sector at district level is incurred through the CDF, Borehole Fund, and DDF (see DDF analysis in Table 10). Overall, the Government development budgets have consistently shown low credibility. The CDF and Borehole Fund are allocated to districts at a flat rate per constituency. The 100% funding of the CDF and Borehole Fund budgets is largely linked to political pressures exerted by the Members of Parliament. The utilisation of DDF funds (as shown in Table 10) varies from year to year, in line with the pattern in Government-wide utilization of the development budget.

TABLE 10 DDF budget allocation and execution (MWK million – 2014/15 prices)

	15/16	16/17	17/18	18/19
DDF approved	7,786	4,348	5,463	3,471
DDF revised	7,786	4,348	3,205	1,388
Revised % of approved	100.0%	100.0%	58.7%	40.0%
DDF funded	2,461	4,266	3,191	1,388
Funded % of revised	31.6%	98.1%	99.6%	100.0%
Funded % of approved	31.6%	98.1%	58.4%	40.0%

Sources: Authors' analysis of Treasury funding reports

5.2 Donor and NGO expenditures on WASH³⁰

5.2.1 ODA expenditures

An analysis of OECD-DAC CRS data was conducted to assess the donor-financing landscape. Such an analysis provides a full picture of ODA flows to the WASH sector, beyond the on-budget funding. The period under review (2011–17) was selected as commitments made earlier in this period will have influenced results between 2014/15 and 2018/19³¹. A total of US\$360 million (2016 constant prices) was coded in the CRS as WASH commitments over the period 2011-17. This is equivalent to 5.4% of all ODA commitments to Malawi. Figure 20 presents summary data on the key donors to the sector, while Annex C contains a list of the key externally funded projects in WASH.

Several important trends emerge in external funding to the WASH sector. First, most (78%) of WASH ODA comes from multilateral institutions. The World Bank (accounting for 54% of all ODA commitments to WASH) is the largest donor funding the WASH sector in Malawi. Second, four countries (the United States, Australia, Japan, and the United Kingdom) account for most of the bilateral ODA to the WASH sector.

The resources from official sources (ODA) only includes funding that meets the strict ODA criteria³². It includes development assistance from bilateral donor countries as well

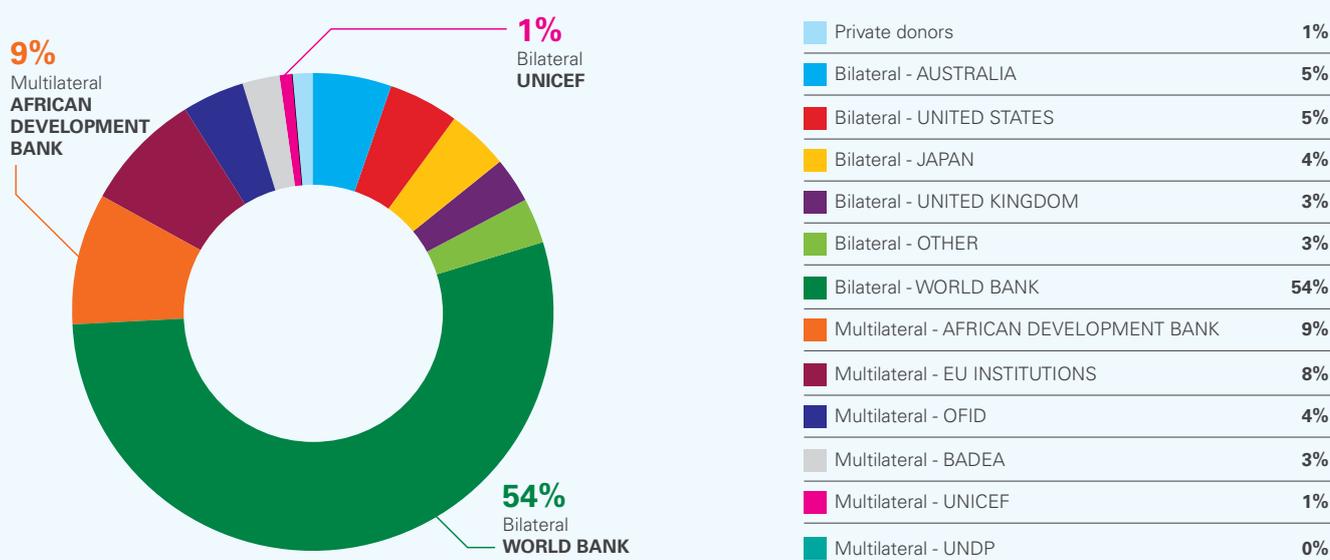
³⁰ For the purposes of this PER, government sources of externally-funded expenditures (donor and NGO) are not complete, not sufficiently granular, and/or not reliable. The limitations of the government's budget are described in Section 2.4.3, and the government's Aid Management Platform has other limitations.

³¹ 2017 was the latest year of OECD-DAC CRS data available.

³² www.oecd.org/dac/stats/What-is-ODA.pdf [accessed December 2019].



FIGURE 20 Donor WASH ODA commitments 2011–17 (2016 prices USD millions)



Source: Authors' analysis of OECD-DAC CRS (rounded to the nearest million), <https://stats.oecd.org/index.aspx?DataSetCode=CRS1> [accessed February 2019]

*Other bilateral includes Iceland, Ireland, Canada, Belgium, France, Norway, Germany, Italy, Switzerland, and Spain.

Notes: AfDB=African Development Bank, BADEA=Arab Bank for Economic Development in Africa, GEF=Global Environment Facility, OFID=OPEC Fund for International Development.

as from multilateral institutions (e.g. the development banks and UN agencies). The ODA figures exclude funding which NGOs raise from non-ODA sources (e.g. funds raised from the public by NGOs), which are discussed in Section 5.2.2.

The proportion of ODA provided to the WASH sector has dropped since 2014 (Figure 21). After registering an impressive increase from 2011 until 2014, the proportion of disbursements to the WASH sector declined from 2015, reaching below 2011 levels by 2017. Between 2013 and 2014, funding to the WASH sector constituted over 12% of all aid (ODA) disbursements to Malawi. This proportion however fell down to around 4% between 2016 and 2017 – clearly highlighting a shift in donor funding to the WASH sector. This funding shift is largely linked to the withdrawal of funding by many bilateral donors as well as the end of grant-funded programmes focused on achieving the MDGs.

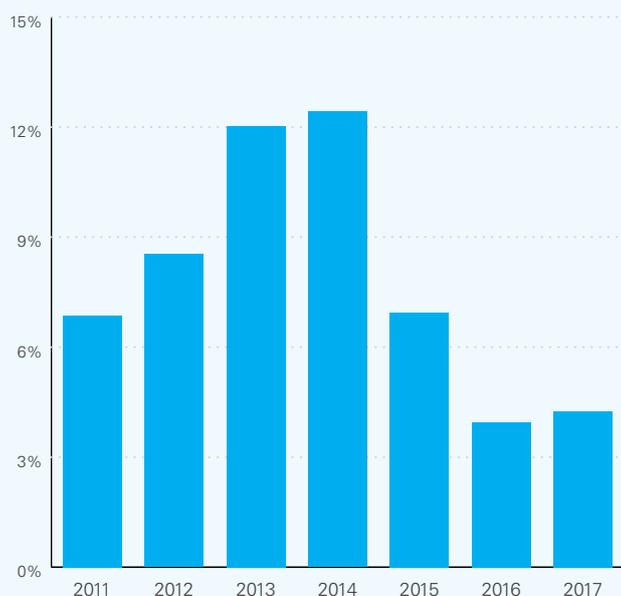
After registering impressive growth between 2009 and 2012, donor commitments (and disbursements) to WASH financing exhibits a clearly sharp downward trend from 2012 to 2016 (Figure 22). As is usual, disbursements lag behind commitments and are less ‘lumpy’. The sudden jump in commitments in 2017 (not yet reflected in disbursements) is largely linked to a World Bank loan for the Lilongwe Water and Sanitation Project.

There is a shifting trend in the delivery of donor resources away from the public sector (Figure 23). At the start of 2013/14, there was a relatively even balance of bilateral funding between the public sector and NGOs. This fell sharply between 2013 and 2017, largely corresponding with the suspension of budget support to Malawi. Similar trends in multilateral funding show movement away from the public sector since 2015.

Funding to the WASH sector is increasingly shifting to loan financing vis-à-vis grants. This is demonstrated in Figure 24 which compares the commitments in the 4-year period to 2013 with those in the subsequent 4-year period.

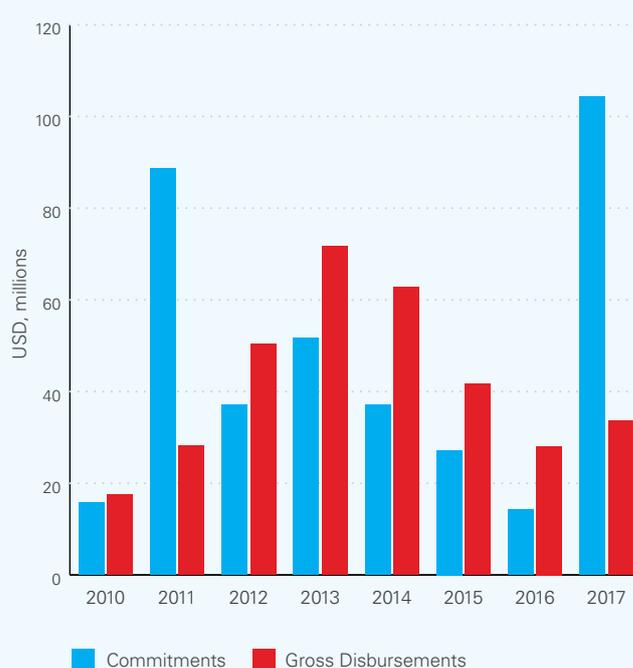
As part of the analysis of donor expenditure the descriptions of large donor-funded projects were reviewed. This mapping is contained in Annex C and underscores the trends seen in the DAC data: namely, the shift towards donors funding public sector institutions over NGOs and multilateral institutions, and the end of large programmes funded by bilateral donors.

FIGURE 21 WASH sector disbursements as a proportion of total ODA disbursements



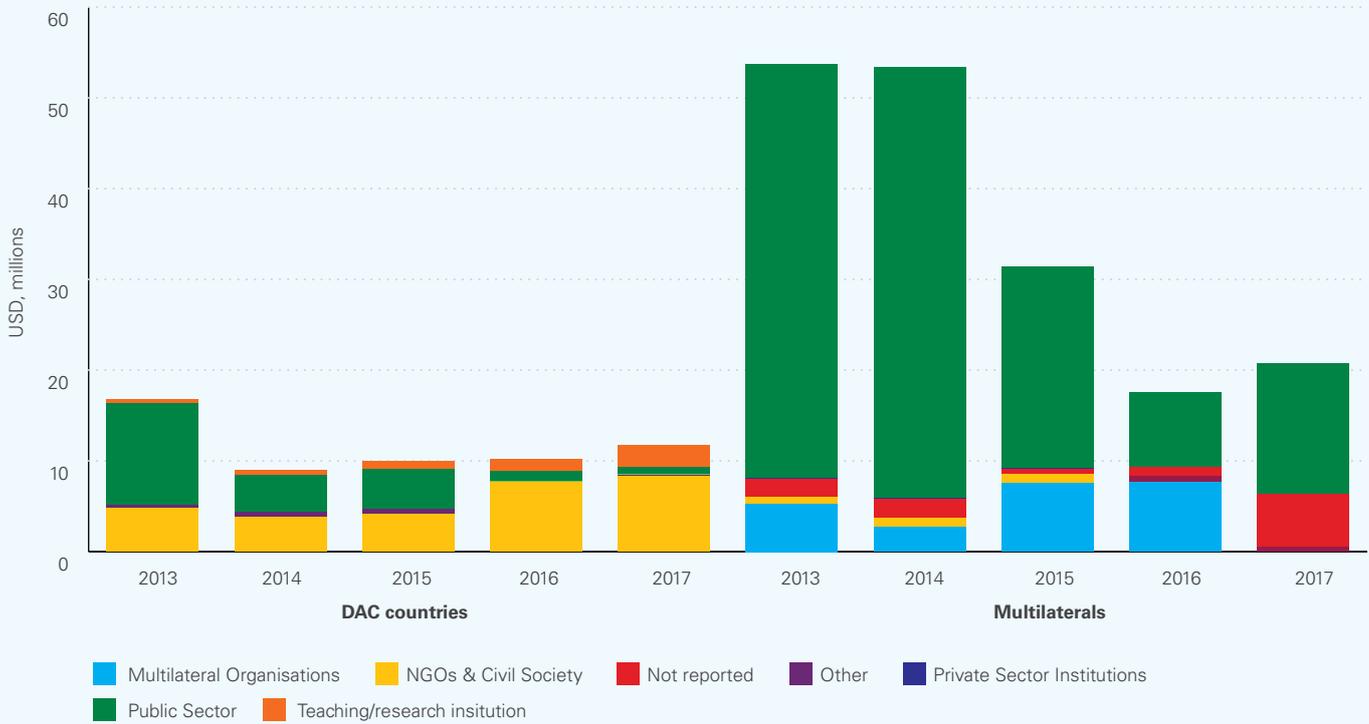
Source: OECD-DAC CRS data, <https://stats.oecd.org/index.aspx?DataSetCode=CRS1> [accessed August 2019].

FIGURE 22 Commitments vs disbursements to WASH (2016 prices USD millions)



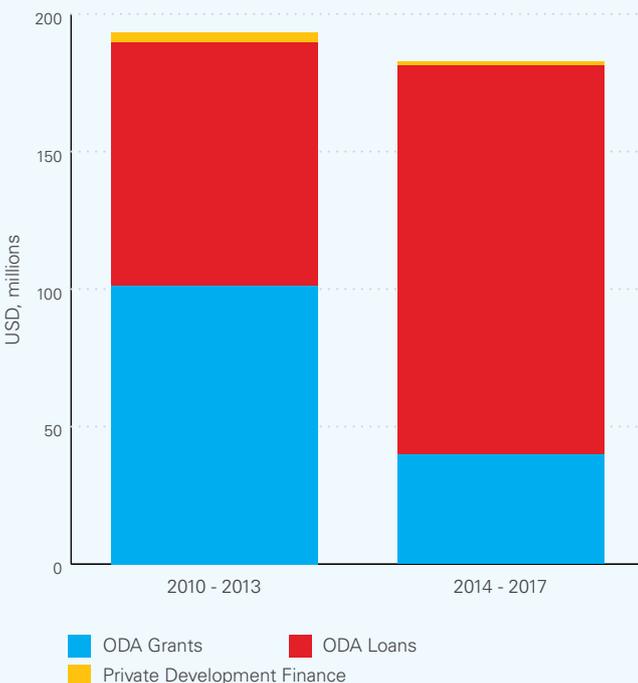
Source: OECD-DAC CRS data, <https://stats.oecd.org/index.aspx?DataSetCode=CRS1> [accessed May 2019].

FIGURE 23 Disbursements by delivery channel (govt. vs NGO) by funder (multilateral vs. bilateral) (2016 prices USD millions)



Source: OECD-DAC CRS data, <https://stats.oecd.org/index.aspx?DataSetCode=CRS1> [accessed May 2019].

FIGURE 24 Commitments by grant and loan 2010-2017 (2016 USD millions)



Source: OECD-DAC CRS data, <https://stats.oecd.org/index.aspx?DataSetCode=CRS1> [accessed May 2019].

5.2.2 Non-ODA expenditures by NGOs

There are other sources of NGO funding for the WASH sector, raised from private sources in donor countries, and is not captured in official sources (ODA) in section 5.2.1. A 2018 NGO Expenditure Survey by the Water and Environmental Sanitation Network (WESNET) revealed that NGO expenditure (both ODA-financed and private sources of finance) to the tune of MK14 billion in 2018. The report further highlighted that an anticipated 13% (MK1.83 billion) reduction in NGO expenditure NGOs between 2018 and 2019.

A total of five NGOs affiliated to WESNET account for over 60% of the 2018 NGO expenditure reported by WESNET. These are World Vision (21%), Water Aid (13%), ONSA (11%), Water for People (11%), and United Purpose (7%). Most of the reported expenditure is for water supply (42% of expenditure) and S&H (21% of expenditure). In addition, about 78% of the reported NGO expenditure was targeted to rural areas.

This PER was able to estimate yearly non-ODA expenditure by NGOs, based on the 2018 WESNET data. Data from the WESNET (2018) report was complemented by data obtained from structured questionnaires sent to donors and NGOs. Despite being incomplete, the responses provided sufficient information to prepare reasonable estimates of total non-ODA expenditure. This was possible through interpolation and extrapolation using

three data sources – ODA data, the WESNET survey and the questionnaires. As shown in Table 11 below, these non-ODA external expenditures are substantial. For example, in 2018/19 non-ODA expenditure was estimated at MWK4.9 billion, which is almost the size of the Government’s total WASH expenditures in 2018/19.

5.2.3 Overall external expenditure for WASH

Aggregate external WASH expenditure was calculated by combining official ODA figures (disbursed)³³ and non-ODA data. Noteworthy is that ODA data are reported based on

33 ODA disbursement data is divided into public sector and non-public sector as in Figure 23

calendar years and are usually available with a 2-year lag (up to 2017 in this case). To align the calendar years to fiscal years, ODA disbursement data was extrapolated from 2017 (incorporating commitments in 2017) to the first half of 2019. In this way, aggregate external WASH expenditure was estimated for each year of the fiscal years between 2014/15 and 2019/20 as shown in Figure 25.

New funding to the WASH sector is overwhelmingly directed towards the public sector, with aid in the form of loans.

Furthermore, the large new donor commitments to the sector (from the AfDB and World Bank) are predominantly channelled

FIGURE 25 Externally funded WASH expenditure (MWK, billion)

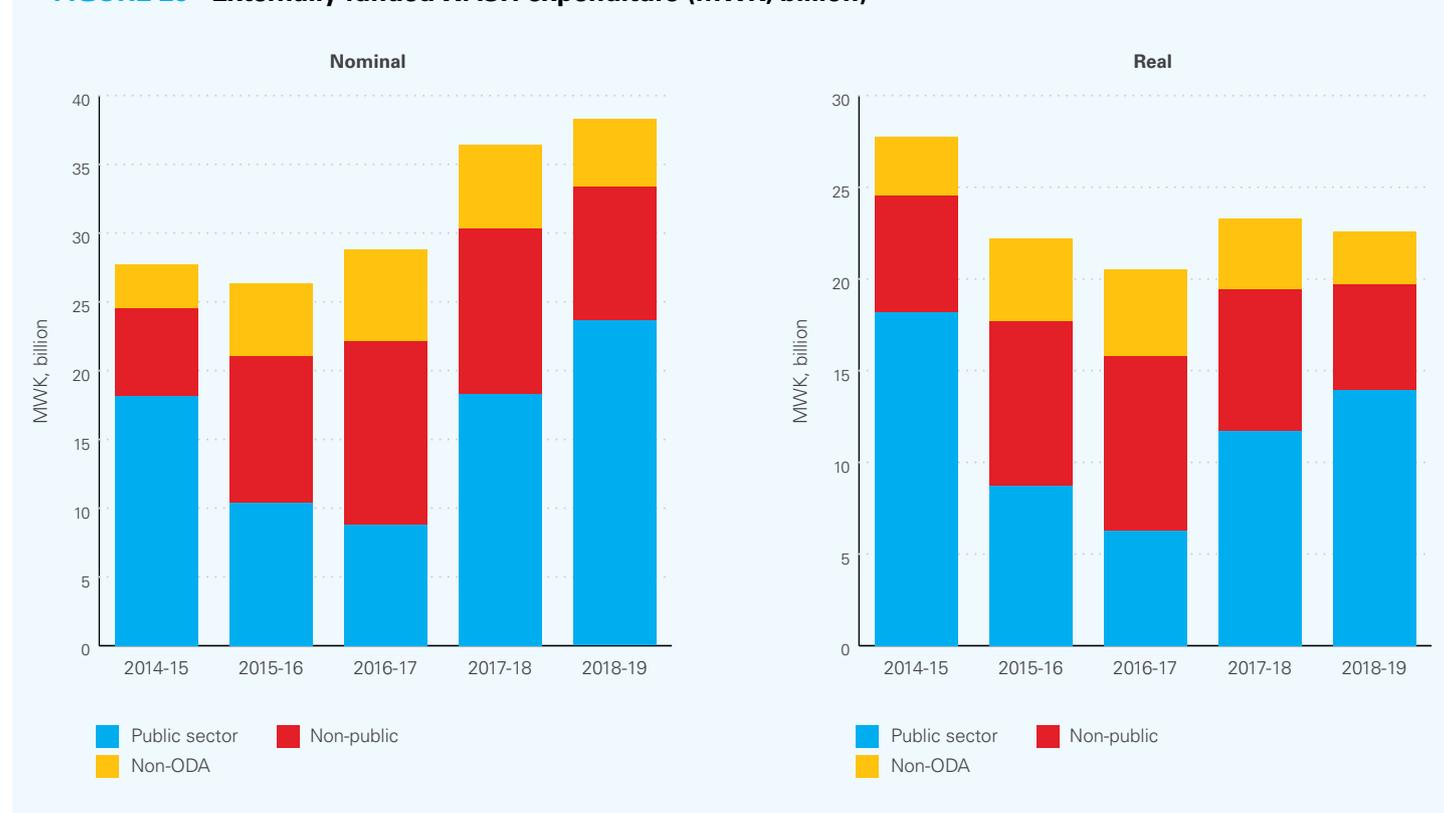


TABLE 11 Externally funded WASH expenditure (MWK billion)

Donors and NGOs		14/15	15/16	16/17	17/18	18/19
Nominal MWK bn						
ODA	Public sector	18.2	10.4	8.8	18.3	23.6
	Non-public sector	9.5	16.0	20.0	18.1	14.7
Non-ODA	NGO	3.2	5.3	6.7	6.0	4.9
Total		27.7	26.3	28.8	36.4	38.3
Real MWK billion 2014/15 prices						
ODA	Public sector	18.2	8.7	6.3	11.7	13.9
	Non-public sector	6.4	9.0	9.5	7.7	5.8
Non-ODA	NGO	3.2	4.5	4.7	3.9	2.9
Total		27.7	22.2	20.5	23.3	22.6

Sources: OECD-DAC CRS data; WESNET survey information; donor/NGO questionnaire results

to the water boards and focused in urban areas. The result is that while there will be new donor funds entering the sector, most will be focused in the urban sub-sector. Several traditional bilateral donors³⁴ have unambiguously signalled that they are phasing out investments in WASH infrastructure delivery. This means there will be fewer grant sources for NGO-/multilateral-implemented programmes.

Donors do not consistently and reliably report data on budget execution. Some ODA data is recorded in the IFMIS under the Development Part I. However, expenditure by donors against these budget lines is not reliably recorded in the IFMIS, limiting the measurement of expenditure performance. The OECD-DAC CRS data separately identify commitments from disbursements. However, the data do not allow examination of annual budget execution because spending against commitments spans multiple years, and as several projects may be included in the figures, so any one project commitment cannot be distinguished from the start of another. In the questionnaires completed by DWDOs and DEHOs, there was an open question about challenges. Poor budget execution by donors and NGOs was not reported as a significant challenge by donors. In particular, only 3 of the 57 completed questionnaires highlighted delays in donor funding as a major constraint.

5.2.4 External aid partners and coordination

Effective aid coordination at the district level is supported by District Coordinating Teams (DCTs). The significance of effective aid coordination was highlighted by most districts given the huge size of donor funding to WASH. A total of eight districts visited during the WASH PER had functional DCTs.

About 44% of district WASH staff reported coordination challenges with partners. Among the coordination challenges are issues such as limited consultations by some partners during the development of their proposals. This results in limited alignment of partner projects with district priorities. For example, some partners support S&H activities falling under their project impact areas, and not district S&H priority areas. About two-thirds of the challenges reported were in the areas of coordination of WASH activities.

There are at least 87 different partner organisations funding the WASH sector at the local level. About 71 of these partners are working on water projects, with 10 of them featuring in six or more districts. These partners include (number of districts in parenthesis): World Vision (18), UNICEF (14), Southern Region Water Board (10), CADECOM (9), Central Region Water Board (9), United Purpose (8), Water Aid (7), Red Cross (6), ONSE (6), and the Northern Region Water Board (6).

For S&H, about 61 different partners were identified, 45 of which are also funding water projects. A total of seven of the

61 partners are funding projects in at least six districts. These are (number of districts in parenthesis): UNICEF (16); World Vision (16), Red Cross (10), Feed the Children (9), CADECOM (8), United Purpose (8), and ONSE (7).

Malawi has long been considering introducing a Sector Wide Approach (SWAp)³⁵, in line with its commitment during the Sanitation and Water for All (SWA) Global Partnership in 2014³⁶. The Water Sector Investment Plan (2012)³⁷ also recommended the introduction of a SWAp in the WASH sector. Some of the institutional apparatuses associated with a SWAp (joint sector reviews, technical working groups, etc) operational in Malawi are seen as beneficial to sector functioning. However, the key feature of SWAps in Malawi has been the financing model, especially sector budget support, which was suspended in 2014.

Even without budget support, other external financing models are available. Malawi's health and education sectors have new post-2014 donor funding models – the HSJF and the Education Sector Joint Fund. These funds are for donor funds only (the sector budget support had included pooling with GoM funds) but are partially aligned with GoM PFM systems, in that they use GoM bank accounts. However, the bank accounts are jointly signed by the GoM and a 'fiscal agent' that is an independent donor-controlled entity that maintains oversight over all use of the funds³⁸. Another important feature of the HSJF and Education Sector Joint Fund is that funds can be earmarked to one donor, rather than being pooled between donors³⁹. Therefore, it is possible for the HSJF to be used on an earmarked basis by WASH sector donors that wish to support exclusive aspects of sanitation and hygiene. The HSJF is a vehicle for bringing more donor funds to the health sector (of which sanitation and hygiene is a part), which gives the GoM a leadership role in coordination, while donors can maintain adequate fiscal oversight.

The HSJF arrangement was signed in December 2015 and is overseen at the central level by MoHP, with a central-level fiscal agent. However, a recent innovation is district-level funding within the health sector, involving a district-level bank account with a district-level fiscal agent⁴⁰. This structure enables district-level donors and NGOs to contribute funds to specific districts for earmarked purposes. At the same time, these funds are under the leadership of the district office and under the coordination of DCTs.

35 Under a SWAp, the Government and donors would agree to common operating principles, for example including a coordinated investment program and shared monitoring arrangements.

36 Malawi is part of the Sanitation and Water for All (SWA) partnership, under which 7 standing commitments have been made formalising a Sector Wide Approach (SWAp) in the WASH sector.

37 See the Water Sector Investment Plan (2012), page 70.

38 The health sector uses as a fiscal agent a German fund management specialist, with three officers based in MoHP. The education sector is using a local accounting firm.

39 The three development partners in the HSJF are DFID, Norway, and KfW. Though DFID and Norway often choose to pool their funding, KfW funds specific outputs that are different from those funded by DFID and Norway.

40 This programme is expected to start with the district-level fiscal agent services being provided by a USAID-funded programme called Local Governance Accountability and Performance (LGAP), which builds district-level capacities, including PFM. LGAP is expanding to all districts.

34 Notably the UK (Department for International Development (DFID)) and Australia (Department of Foreign Affairs and Trade (DFAT)). Additionally, the EU's large WASH programme comes to an end in 2019, without a clear replacement/replenishment.

Community-controlled financing. Since 2010, Malawi’s education sector has implemented a model of community-controlled grants to each primary school. These grants are planned and overseen by School Management Committees, with a bank account that is jointly signed by the Chair of the Committee and the GoM-employed head teacher. Transparency is excellent: for example, head teachers post school grant budgets on their office walls. Since 2011, school grants have been funded by the GoM and are seen to be a highly effective way to spend resources for local impact with sustained results.

As a result of the success in the education sector, a similar arrangement is now underway in the health sector, with grants to Health Centre Management Committees and a bank account that is jointly signed by the committee chair and the health centre GoM ‘in-charge’. This community oversight of spending is leading to strong outcomes like in the education sector, with the same transparency advantages. For example, one District Council Chair has remarked, while looking at the grant budget information posted on a health centre wall, that he wished that the district office demonstrated the same degree of spending transparency with regard to GoM funds.

Whether or not a formal SWAp is adopted, it is important that MoAIWD and MoHP are able to provide suitable secretariat services for aid coordination. For this reason, the Water Supply Services Department in MoAIWD and the Environmental Health Department (Water, Sanitation and Hygiene Unit) within MoHP may need occasional financial and technical support – for example, to enable active coordination with and within districts (i.e. through DWDOs and DEHOs). Similarly, the WESNET has an important role to play in coordinating regular reporting of expenditure information from donors and NGOs in the sector.

5.3 Water board revenue

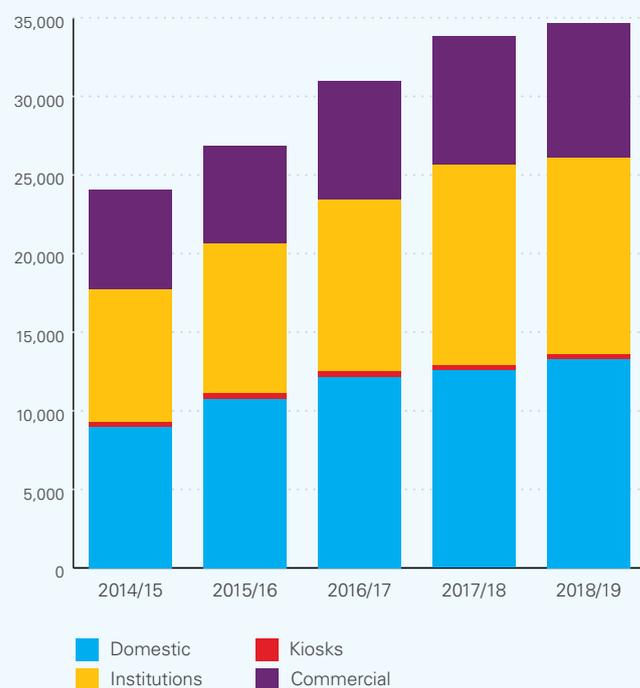
Water board revenue has substantially increased between 2014/15 and 2018/19. The growth in revenue has primarily been driven by increased expenditures by institutional and commercial organizations. Revenue from domestic sources increased slightly in real terms from 2014/15 to 2016/17 but has barely changed thereafter. Water board income is a proxy for water sector expenditures by their customers, i.e. water board fees paid by households, the private sector, and the government.

TABLE 12 Invoiced sales of the five water boards (MKW million – 2014/15 prices)

	14/15	15/16	16/17	17/18	18/19
Domestic	8,967	10,732	12,147	12,557	13,264
Kiosks	286	369	368	358	347
Institutions	8,478	9,549	10,889	12,719	12,473
Commercial	6,298	6,201	7,603	8,233	8,589
Total	24,030	26,851	31,008	33,866	34,672

Sources: Authors’ analysis of financial reports received from each water board

FIGURE 26 Invoiced sales of the five water boards (MKW million – 2014/15 prices)



Source: Authors’ analysis of financial reports received from each water board.

The volume of water sold by the water boards has not increased much over the five-year period, at a time when income/m³ has sharply increased. Across all sources, income/m³ increased by 32% in real terms between 2014/15 and 2018/19. This increase was most significant for institutional (39%) and commercial (35%) customers.

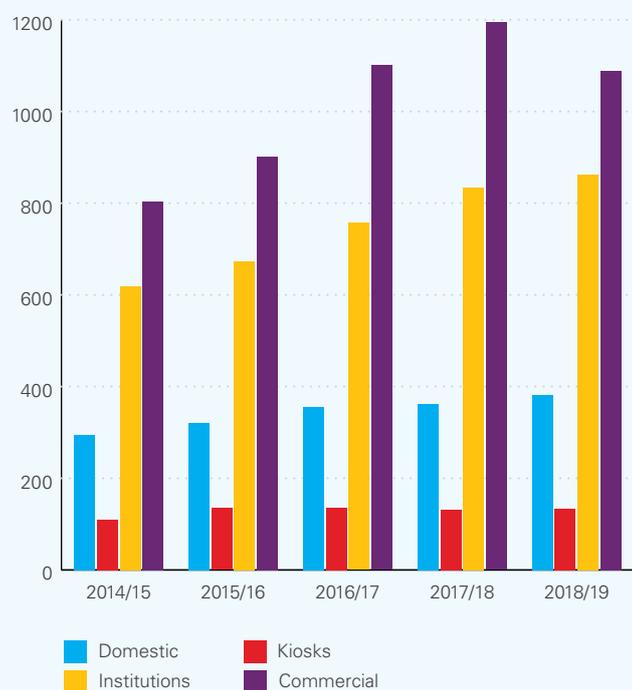
The increase in income/m³ reflects higher prices as shown in Figure 27 and Figure 28. This is a cause for concern as increases in utility costs is cited by the World Bank (2018) as one of the key inflationary pressures in Malawi, especially in urban areas.

Water boards generally report good profit, at 14% (MKW 4.5 billion) in 2017 as shown in Table 13. Notwithstanding working capital requirements for service expansion, the high turnover raises some questions with respect to the necessity of these price increases for the financial health of utilities.

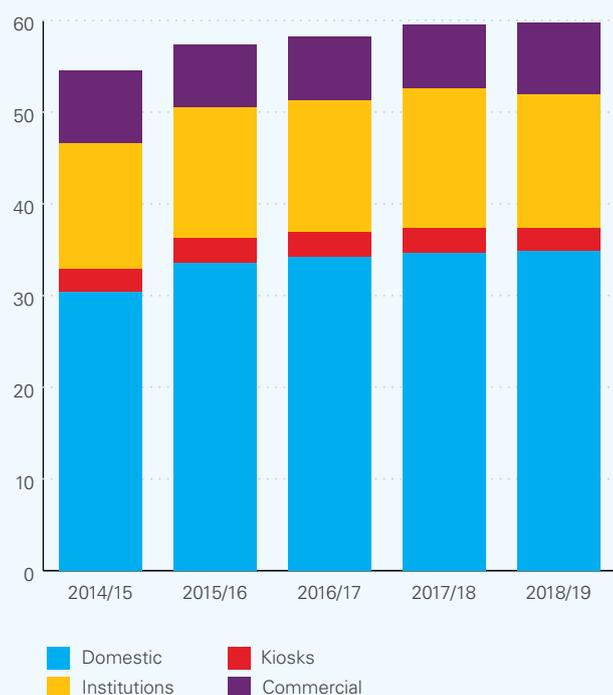
TABLE 13 Post-tax profit of four of the five water boards in 2017 (MKW million – nominal)

	Revenue	Profit	Profit (%)
Lilongwe Water Board	15,772	3,718	24%
Central Region Water Board	3,104	191	6%
Northern Region Water Board	6,121	66	1%
Southern Region Water Board	7,006	597	9%
Total	32,002	4,573	14%

Sources: Authors’ analysis of financial reports received from each water board.

FIGURE 27 Income per m³ invoiced
(MWK 2014/15 prices)

Source: Authors' analysis of financial reports received from each water board.

FIGURE 28 Water board water volume
invoiced mil-m³

Source: Authors' analysis of financial reports received from each water board.

Water boards are vulnerable to political pressures. From a formal perspective, the prices set by water boards are affected by restrictions on domestic tariffs raised by the government. There are usually delays in effecting new tariff structures due to government bureaucracy. From an informal perspective, politics may play a significant role in determining what happens with water boards' revenue, if they are viewed as 'rich'.

5.4 Household expenditure

Household expenditure is the largest source of financing to the WASH sector, accounting for nearly 60% of funding.

Household expenditure on water and soap was estimated using data from the fourth Integrated Household Surveys (IHS4) data⁴¹. The IHS report households' average monthly expenditure on a range of items, including water and soap. However, household expenditure on constructing sanitation facilities is not included. Expenditure on constructing of sanitation facilities is likely to be substantial, given the progress realized on reducing open defecation from 2008 to 2016. The contribution of households to WASH financing in Malawi may thus be underestimated.

TABLE 14 Estimated household expenditure on WASH items
(2016)

Item	Number of households	Average household expenditure (MWK)		Estimated total household expenditure (MWK billion)
		Monthly	Annual	
Water	3,766,571	777	9,329	35.1
Soap	3,766,571	875	10,495	39.5

Source: Malawi IHS 4 (2016/17)

Household expenditure was calculated by adjusting the 2015/16 figures for inflation and population growth. To enable the estimation, per capita household expenditure for 2015/16 was assumed constant through the five-year period. However, given the increases in water board prices (see Section 5.3), it is likely that household expenditure between 2016/17 and 2018/19 are higher than the estimates in this PER.

TABLE 15 Estimations of household expenditure

	14/15	15/16	16/17	17/18	18/19
Water (MWK billion) ¹	28.8	35.1	42.7	48.8	54.4
Soap (MWK billion) ¹	32.3	39.5	48.0	54.9	61.2
Inflation factor ²	0.842	1.000	1.182	1.316	1.429
Population factor ³	0.972	1.000	1.028	1.056	1.084

Source: 1. Malawi IHS 4; 2. Ministry of Finance Annual Economic Reports; 3. census.

Household expenditure on soap is substantial and of interest with regards to hygiene practices in Malawi. However, given its predominantly consumer-based nature, such expenditure has little relation to the broader government or donor expenditure.

41 Analysis was done by the authors from the raw data downloaded from <https://microdata.worldbank.org/index.php/catalog/1003> and <https://microdata.worldbank.org/index.php/catalog/2936>.

There was a substantial increase in household expenditure between 2010 and 2016⁴², from MKW 24.6 billion to MKW39.5 billion (using 2016 as base year). Households in urban areas spend substantially more per month on soap products (~MKW1,300) than those in rural areas (~MKW750).

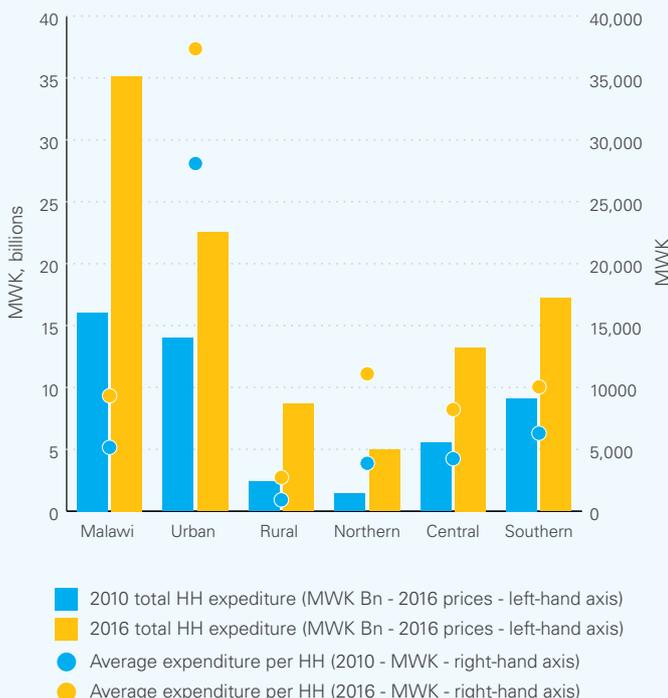
Household expenditure on water has policy significance as it is largely linked to expenditures by water boards. In 2016 households were estimated to spend MKW 35 billion (2016 prices) on water – 36% of which (MKW ~13 billion) was directed to water boards⁴³. As such, 64% of household expenditure on water is spent on other providers. This is likely to include: fees paid to WUAs; expenditure on self-supply; purchasing water from informal providers (non-water board); and bottled water. This 'non-water board household expenditure' represents a large portion of funding to the sector, though it is potentially a 'blind spot' in policymaking as these expenditures are not regularly tracked. Though this expenditure is outside of GoM control and budget processes it is significant for policy as GoM policy and expenditures have the potential to influence how effectively this household expenditure is used.

The analysis of changes between the previous two expenditure surveys (in 2010 and 2016) highlights a large increase in real expenditure per household and in absolute terms. Household expenditure doubled in real terms between

42 The two previous IHS surveys.

43 This is estimated by the PER team based on an analysis of the water boards' revenues. Household expenditure on water boards is taken to be the revenue from kiosks and domestic customers.

FIGURE 29 Household expenditure 2010–2016 (MKW 2016 prices)



Source: Authors' analysis of IHS 3 and IHS 4 data.

2010 and 2016, and as such this likely⁴⁴ represents a dramatic recent change in the composition of sector funding. Expenditure in urban areas accounts for over 60% of all household expenditure on WASH, despite urban households accounting for less than 15% of the population. The expenditure per household per year on water in urban areas was over MKW 35,000; this figure drops to below MKW 10,000 in rural areas. In both rural and urban areas, and in all regions, there was a substantial increase in real annual household expenditure on water. This increase was most marked in urban areas and in the Northern Region.

5.5 Expenditure in emergencies

DODMA provides oversight and coordination of nine clusters which respond to disasters in Malawi. Two of these clusters include WASH and health⁴⁵. The latter has sanitation and hygiene components, e.g. the provision of chlorine-based water projects. However, most WASH interventions fall under the WASH cluster. This cluster is chaired by MoAIWD. The ministry has a specific desk officer (within the water and sanitation directorate) who is responsible for coordinating activities (in collaboration with DODMA) within the cluster. During disasters, the cluster's main activities involve: (a) the provision of safe water to flood-affected people; (b) the provision of adequate sanitation and hygiene facilities; (c) the provision of hygiene education and information; and (d) the provision of WASH facilities in health facilities and schools.

Each year, the GoM sets aside money under the 'Unforeseen Circumstances' vote in the annual budget. The budget allocated to DODMA varies each year and is usually only for DODMA's operational costs, i.e. not for emergency response⁴⁶. During years which require a disaster response, the Treasury may release additional funds to finance activities of the nine clusters. Government funding for emergencies is erratic and very low. In the five years of the PER period, this has only happened once – in 2015, when MKW 500 million was released. The WASH cluster response team had budgeted their activities for the 2015 response at about MKW 200 million. However, of the MKW 500 million they report receiving only MKW 22 million for water and MKW 46 million for sanitation and hygiene.

Most activities prepared/coordinated by the DODMA WASH cluster are financed by development partners, either through UNICEF or other partners. Apart from UNICEF, DODMA listed 13 partners working in emergencies: 1. United Purpose, 2. World Vision, 3. Plan International, 4. Goal, 5. Interaide, 6. Water for People, 7. Red Cross, 8. Assemblies of God Care, 9. PRDO, 10. Water Missions, 11. WaterAid, 12. Médecins sans frontières, and 13. Catholic Relief Service. DODMA does not have budget information on these activities.

44 The PER team did not review WASH expenditure dating back to 2010 as this was outside the review period and as such this is conjecture.

45 The full list of clusters is as follows: food security; agriculture; health; nutrition; education; protection; water and sanitation and hygiene; transport and logistics; shelter and camp management; and coordination and assessments.

46 For example, in 2015, DODMA received MK 150 million from this vote for internal use.

A few districts reported partners that support WASH emergencies. Amongst the 26 questionnaires completed by DWDOs, only two mentioned the role of partners in emergencies and only three mentioned the role of the 28 responding DEHOs. Apart from UNICEF, no information is available on emergency expenditures by partners. The PER questionnaire response from UNICEF identified three programmes involving expenditures on emergencies in 2018. These emergency expenditures totalled \$1,776,000, equivalent to about MWK 1.3 billion. One of three programmes was a multi-year emergency programme on which spending was \$587,000, \$654,000, and \$885,000 in 2015, 2016, and 2017, respectively. The UNICEF response did not identify implementing partners (e.g. United Purpose in Phalombe according to the DEHO). No other partner that responded to the PER questionnaire provided information on disaster/emergency expenditure; nor was there such detail in the WESNET survey.

5.6 Total sector expenditure

Figure 30 shows the total of all Malawi WASH sector expenditures, in both nominal and inflation-adjusted terms, in the five years of the PER period from 2014/15 through to 2018/19, with Table 16 and Table 17 showing the underlying real and nominal data, respectively. The tables are based on the key sources considered under the PER, which includes: GoM expenditures, externally funded expenditures, expenditure by the water boards, and household expenditure. Each of these sources has been discussed individually in detail in Sections 5.1 to 5.4 above.

Total expenditure reached MWK 196 billion (nominal) in 2018/19. In per capita real terms there has been no significant change in sector expenditure over the last five years. Expenditure has increased substantially in nominal terms, but these

increases have largely just kept pace with inflation. In real terms there was a dip in sector expenditure from 2014/15 to 2016/17. Expenditure in real terms per capita follows a similar trajectory to real expenditures, though with an overall reduction seen due to population growth.

FIGURE 30 Trends in total expenditure

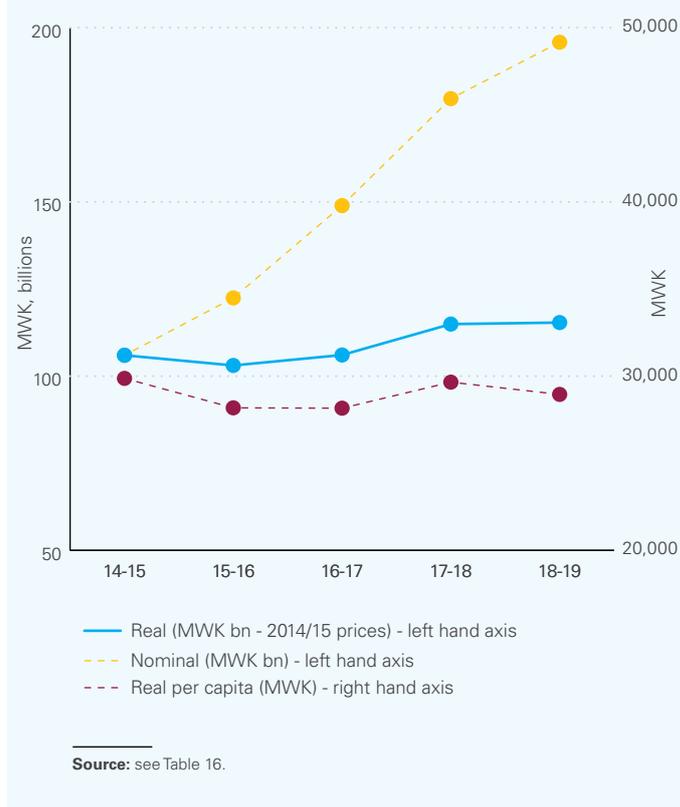


TABLE 16 Total sector expenditure by source (MWK billion – real 2014-15 prices)

	14/15	15/16	16/17	17/18	18/19	Five-year proportions	
GoM expenditure¹	2.1	1.9	2.1	4.0	3.3	2.4%	
Donors (ODA)²	Public sector	18.2	8.7	6.3	11.7	13.9	10.8%
	Non-public sector	9.5	13.4	14.2	11.6	8.6	10.5%
Water boards (excl. from households)³	15.1	16.1	18.9	21.3	21.4	17.0%	
Household⁴	Water (paid to water boards)	9.0	10.7	12.1	12.6	13.3	10.6%
	Water (other than water boards)	19.8	18.8	18.3	18.7	18.8	17.3%
	Soap	32.3	33.3	34.2	35.1	36.1	31.4%
Overall WASH expenditures	106.0	103.1	106.1	114.9	115.4	100%	
GDP⁵ (Annual Economic Report)	5,944	5,938	6,099	6,100	6,443		
% of GDP	3.30%	3.21%	3.22%	3.49%	3.31%	3.31%	

Source: Data from Sections 5.1 to 5.4.

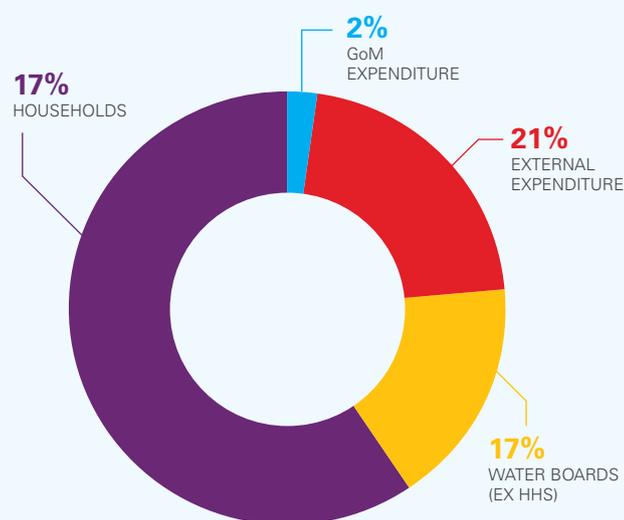
TABLE 17 Total sector expenditure by source (MWK billion – nominal)

		14/15	15/16	16/17	17/18	18/19
GoM expenditure¹		2.1	2.3	2.9	6.2	5.5
Donors (ODA)²	Public sector	18.2	10.4	8.8	18.3	23.6
	Non- public sector	9.5	16.0	20.0	18.1	14.7
Water boards (excl. from households)³		15.1	19.1	26.5	33.3	36.3
Household⁴	Water (paid to water boards)	9.0	12.7	17.1	19.6	22.5
	Water (other than water boards)	19.8	22.4	25.6	29.2	31.9
	Soap	32.3	39.5	48.0	54.9	61.2
Overall WASH expenditures		106.0	122.4	148.9	179.6	195.8

Source: As for Table 16.

Figure 31 shows the five-year average of the proportions of each of the four expenditure sources. GoM expenditures (described in Section 5.1) account for only 2.4% of total sector expenditure. However, GoM expenditures, while relatively small, represent the most significant part of overall WASH activities. Externally-funded expenditures (described in Section 5.2) account for 21.3% of sector expenditure. Water board expenditures (detailed at Section 5.3) account for 17.0% of sector expenditure. Household expenditure (considered in Section 5.4) is the dominant element of total sector expenditure, accounting for 59.3% of total expenditures.

FIGURE 31 Proportions of total expenditures over four sources



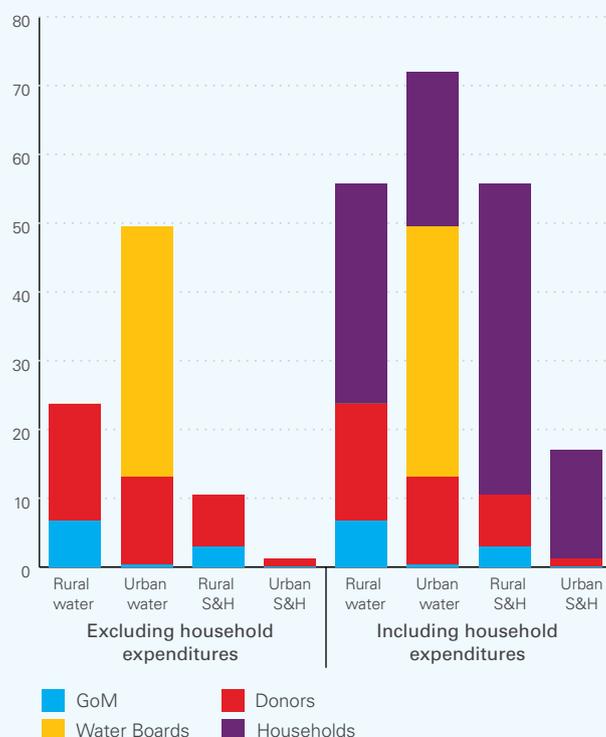
Source: Table 16 data.

5.7 Analysis of all WASH expenditures by sub-sector

Figure 32 and Table 18 present expenditure from all sources by sub-sector and highlight that water accounts for 60.7% of total sector expenditures, of which nearly 60% is spent in urban areas. This is driven by large expenditures through water

boards. Another factor is donor expenditures, of which one-third goes to the urban sub-sector. Overall, this result is inequitable as only about 16% of households are urban. Spending on sanitation and hygiene shows a better mix between rural and urban, though it is still inequitable. The result for sanitation and hygiene is dominated by expenditures on soap, which totals nearly 80% of sanitation and hygiene expenditures. Soap expenditures are disproportionately higher in urban households.

FIGURE 32 Sub-sector expenditure 2018/19 (MWK billion, nominal)



Source: Table 16 data analysed based on assumptions in Annex J.

Each of the four sub-sectors relies on a different financing mix. The rural sub-sector is comparatively more reliant on donor funds and progress in the sector is more likely to be dependent on variations in this funding. Furthermore, sanitation and hygiene in both rural and urban areas is heavily dependent on donor

financing and will also be heavily affected by changes in donor financing trends. Household expenditure is significant in all sub-sectors. Notably, over 57% of expenditure in the rural water sub-sector is by households.

TABLE 18 Expenditure by sub-sector by funding source (MWK billion, 2014/15 prices)

	14/15	15/16	16/17	17/18	18/19	5 year
Rural water	25.8	26.6	24.5	28.9	31.0	25.1%
GoM	0.4	0.7	0.8	2.2	2.2	1.2%
Donors	5.6	7.1	5.4	8.0	10.0	6.6%
Households	19.8	18.8	18.3	18.7	18.8	17.3%
Urban water	39.4	33.9	36.9	42.9	42.3	35.8%
GoM	0.8	0.4	0.4	0.8	0.1	0.5%
Donors	14.6	6.6	5.6	8.2	7.6	7.8%
Water boards	15.1	16.1	18.9	21.3	21.4	17.0%
Households	9.0	10.7	12.1	12.6	13.3	10.6%
Rural sanitation and hygiene	29.4	32.2	32.5	31.6	32.0	28.9%
GoM	0.9	0.8	0.9	0.9	1.0	0.8%
Donors	4.4	6.6	6.2	4.7	4.4	4.8%
Households (soap)	24.1	24.8	25.4	26.0	26.7	23.3%
Urban sanitation and hygiene	11.4	10.5	12.2	11.5	10.0	10.2%
GoM	0.0	0.0	0.0	0.0	0.0	0.0%
Donors	3.2	1.9	3.3	2.4	0.6	2.1%
Soap	8.2	8.5	8.8	9.1	9.4	8.1%
Total expenditure	106.0	103.1	106.1	114.9	115.4	100.0%

TABLE 19 Expenditure by sub-sector by funding source (MWK billion, nominal)

	14/15	15/16	16/17	17/18	18/19
Rural water	25.8	31.6	34.4	45.1	52.5
GoM	0.4	0.8	1.2	3.4	3.7
Donors	5.6	8.4	7.6	12.5	17.0
Households	19.8	22.4	25.6	29.2	31.9
Urban water	39.4	40.2	51.9	67.0	71.9
GoM	0.8	0.5	0.5	1.3	0.2
Donors	14.6	7.9	7.8	12.8	12.8
Water boards	15.1	19.1	26.5	33.3	36.3
Households	9.0	12.7	17.1	19.6	22.5
Rural sanitation and hygiene	29.4	38.2	45.6	49.4	54.4
GoM	0.9	1.0	1.2	1.4	1.6
Donors	4.4	7.8	8.7	7.4	7.5
Households (soap)	24.1	29.4	35.7	40.7	45.3
Urban sanitation and hygiene	11.4	12.4	17.1	18.0	17.0
GoM	0.0	0.0	0.0	0.1	0.1
Donors	3.2	2.3	4.7	3.7	1.0
Households (soap)	8.2	10.1	12.4	14.2	15.9
Total expenditure	106.0	122.4	148.9	179.6	195.8

Sources: Table 16 data analysed based on assumptions in Annex J.



6. SECTOR PERFORMANCE

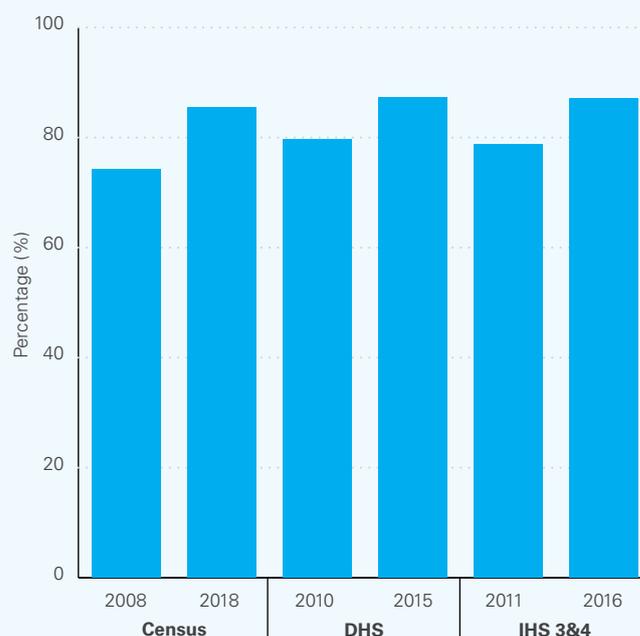
The discussion and analysis in this section is presented across water and sanitation and hygiene separately. In each section an overview of sector performance is given, followed by a discussion of the efficiency and equity considerations in each sector.

6.1 Access to improved drinking water

Access to improved water sources increased over the census, IHS, and DHS time periods. Figure 33 shows that access to improved water source increased from 74.2% to 85.4% over the census period (2008-2018) and from 79.7% to 87.2% over the DHS period (2010/11 to 2015/16). Estimates using the IHS data revealed similar trends, with access to improved water source increasing from 78.7% to 87.1% between 2011 and 2016.

The progress in the period 2010–2015 was associated with more external resources in the run-up to the MDG deadline. Huge donor commitments to the WASH sector were made in 2011, 2012, and 2013 (see Figure 22 in Section 5.2.1). Research jointly undertaken between the GoM and the Climate Justice Fund (Truslove et al., 2019) highlights that there was a ‘spike’ in new hand pump installations in 2012 and 2013. New installations of Afridev hand pumps increased from under 600 in 2011 to nearly 1,400 in 2012 and 2013, with an additional 800 hand pumps installed in 2014.

FIGURE 33 Access to improved drinking water source (2008-2018)

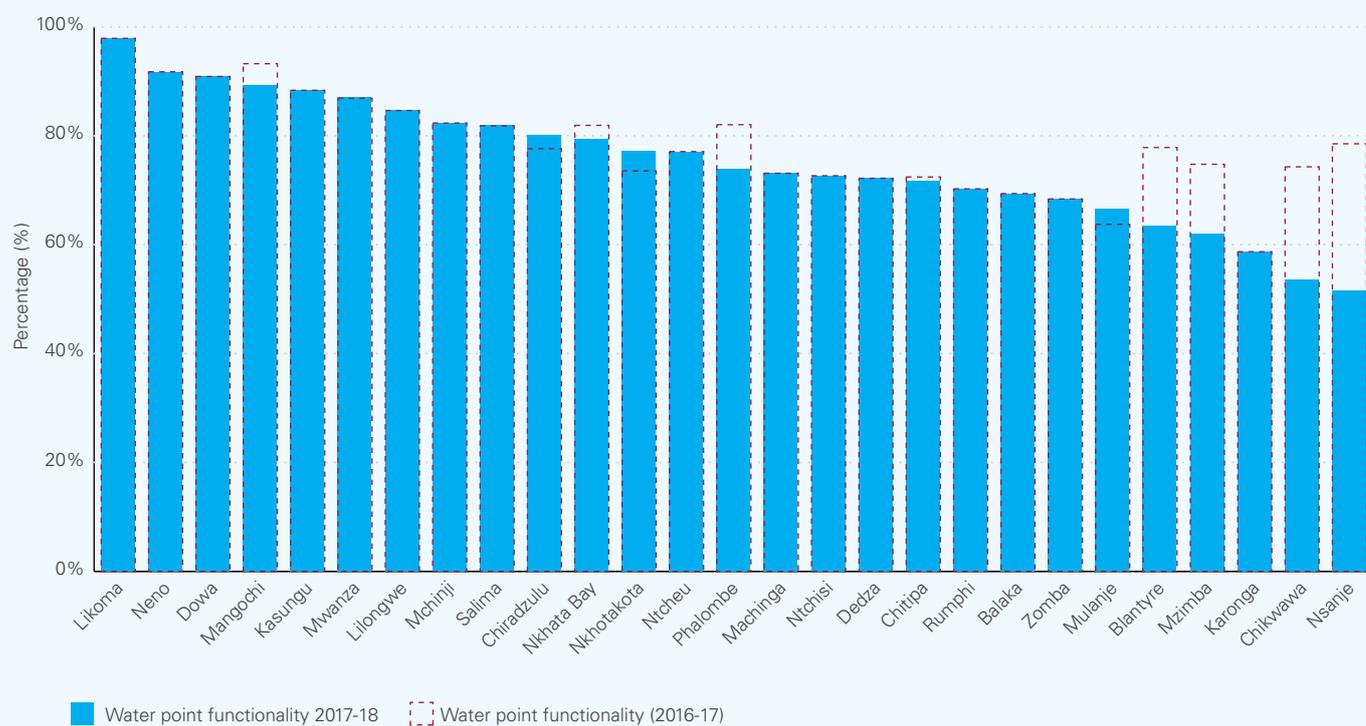


Source: Census 2008 and 2018, DHS 2010 and 2016, IHSs 3 and 4.

As previously highlighted (Table 16 in Section 5.6) donor expenditure constitute a large proportion of WASH sector development expenditure and is also the most variable expenditure element. Although combined household, water board, and GoM expenditures are larger than donor expenditure, much of the expenditures from these sources finance recurrent items such as operations and maintenance (O&M). This means that progress on new WASH infrastructure is largely linked to external funding.

In recent years, there has been moderate progress in water point functionality in some districts, but a significant drop in others. Nationally, water point functionality fell from 77% to 71% between 2016/17 and 2017/18. Water point functionality in 2017/18 varied widely by district – from 51% in Nsanje to 98% in Likoma. Compared to 2016/17, water point functionality declined significantly for districts in the South such as Nsanje, Chikwawa and Phalombe, among others. This is probably linked to recurring floods which disproportionately affect the southern parts of the country.

FIGURE 34 Water point functionality and access by district



Source: Functionality data reported by districts in 2017/18 and 2016/17 sector performance reports – MoAIWD (2019) and MoAIWD (2018).

6.1.1 Water board performance

In recent years the water boards have successfully extended services to more users, with the most significant expansion in Lilongwe. Overall, between 2016/17 and 2017/18 the water boards installed over 28,000 connections, representing a 13% year-on-year increase in active users. However, the expansion in the number of household connections has not directly translated into consistent access to improved drinking water as households often face prolonged water cuts.

TABLE 20 Number of active connections

Organisation	# of active connections		Increase	% Increase
	16/17	17/18		
Blantyre Water Board	45,510	49,972	632	1.3%
Central Region Water Board	24,569	25,567	998	4.0%
Lilongwe Water Board	60,550	79,400	14,350	23.7%
Northern Region Water Board	42,053	44,715	2,662	6.0%
Southern Region Water Board	39,897	41,031	1,134	2.8%
Total	212,579	240,685	28,106	13.2%

Source: MoAIWD (2019).

One area of concern relates to non-revenue water (NRW), which has not significantly improved in recent years. Non-revenue water refers to the water produced by water boards that is 'lost' in between production and the point at which it reaches the consumer. Key reasons for NRW include leakages ('physical losses') and illegal connections, theft, or inaccuracies in billing ('apparent losses'). Overall, non-revenue water increased between 2016/17 and 2017/18; largely driven by increases for the central region water board (CRWB) and southern region water board (SRWB). There was a substantial reduction in non-revenue water for the Blantyre Water Board.

TABLE 21 Non-revenue Water (NRW) for the period 2016/17-2017/18

Water board	16/17 (%)	17/18 (%)	NRW change
Lilongwe Water Board	36.5%	36.1%	-0.4%
Blantyre Water Board	43.0%	39.0%	-4.0%
Central Region Water Board	27.0%	30.0%	3.0%
Northern Region Water Board	33.0%	34.0%	1.0%
Southern Region Water Board	24.7%	28.9%	4.2%
Overall	32.8%	33.6%	0.8%

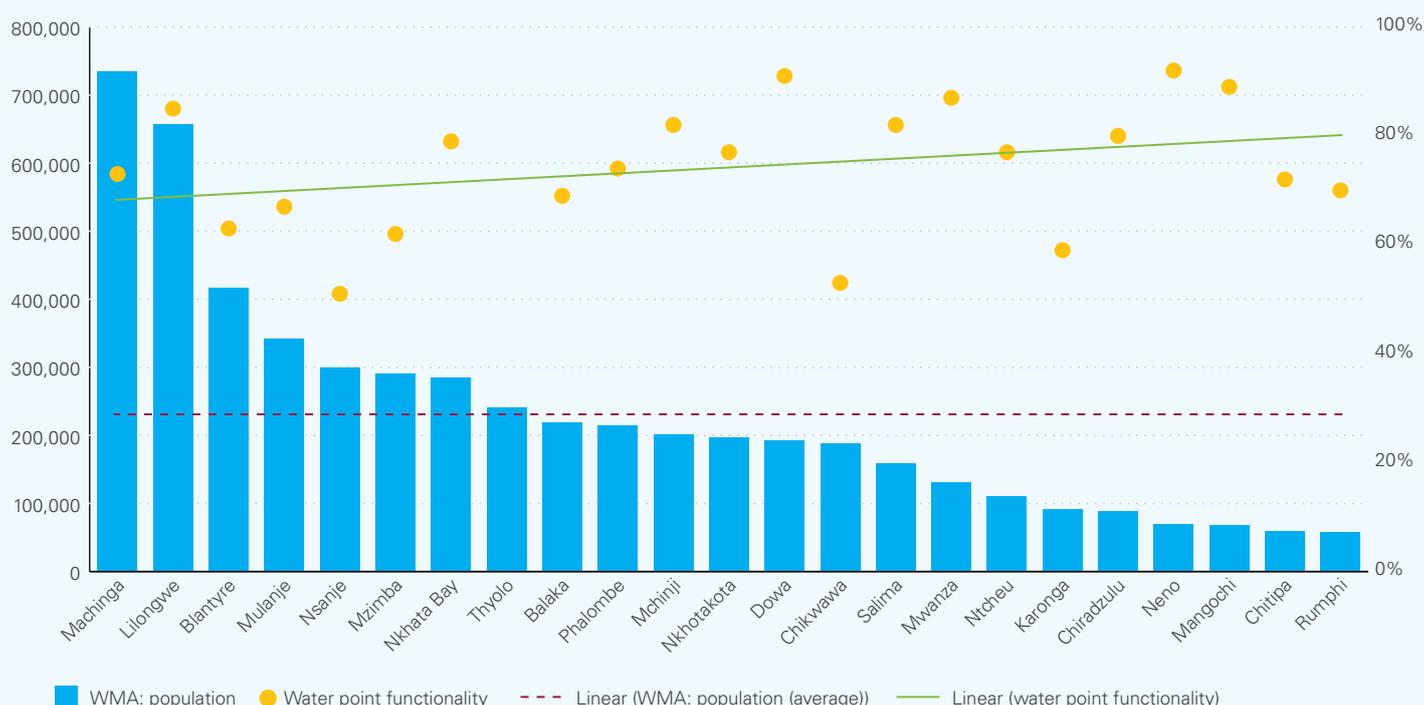
Source: MoAIWD (2019).

6.1.2 Efficiency considerations in the water sub-sector

A key water sector efficiency consideration relates to water point functionality. Figure 35 and Figure 36 show the relationship between the number of frontline staff and water point functionality and the ORT allocation per capita and water point functionality. These are seen to be the two areas of district council expenditure linked to maintaining water point functionality.

Adequate staffing is an essential component of effective service delivery, and a recognised challenge in the rural water sub-sector. The number of WMAs per person in the district averages 1:230,966, suggesting that each WMA on average is responsible for monitoring the services of a quarter of a million people. This level of staffing varies widely between districts and is correlated with the functionality rates in the district. On average, functionality rates are higher in districts where there are more WMAs per population served (see Figure 35), though there is considerable variation. The 2017/18 Sector Performance Report highlighted that there is a '68% vacancy rate of professional establishment positions indicating a decrease by 1% as compared to the 69% reported in the previous year'.

FIGURE 35 Ratio of WMAs to population in districts



Source: District reports to PER team (staffing), and Sector Performance Reports (functionality)

There is no significant correlation at budgetary level between ORT funds and water point functionality at the local level. Districts use part of ORT funds to support operations and maintenance of water points. However, a correlation analysis of per capita ORT funds and water point functionality show no clear relationship between the two variables. This could mean that the current size of ORT allocations is too low to affect the outcome, or are ineffectively spent. The annual average district ORT budget for water over the PER period was just over MKW 5 million (~US\$7,000). During the district case studies, WMA frequently reported that ORT did not reach frontline staff for maintenance activities. The average annual ORT allocation per capita 2015/16 to 2018/19 was just MKW 20 per person per year.

As highlighted in Section 5.4 non-water board household expenditure is a substantial proportion of sector expenditure, and a proportion of this is anticipated to be spent on WUA fees. As indicated earlier, the WUAs have delegated responsibilities for the operations and maintenance of small water systems. Currently, the WUAs do not receive dedicated support from either the Government or development partners. Capacity challenges were also noted in some of the WUAs.

The challenges in Malawi associated with a community-based management and WUA model are well documented and evidenced (Truslove et al., 2019; Wahba et al., 2017). Key constraints facing the WUAs include lack of external support

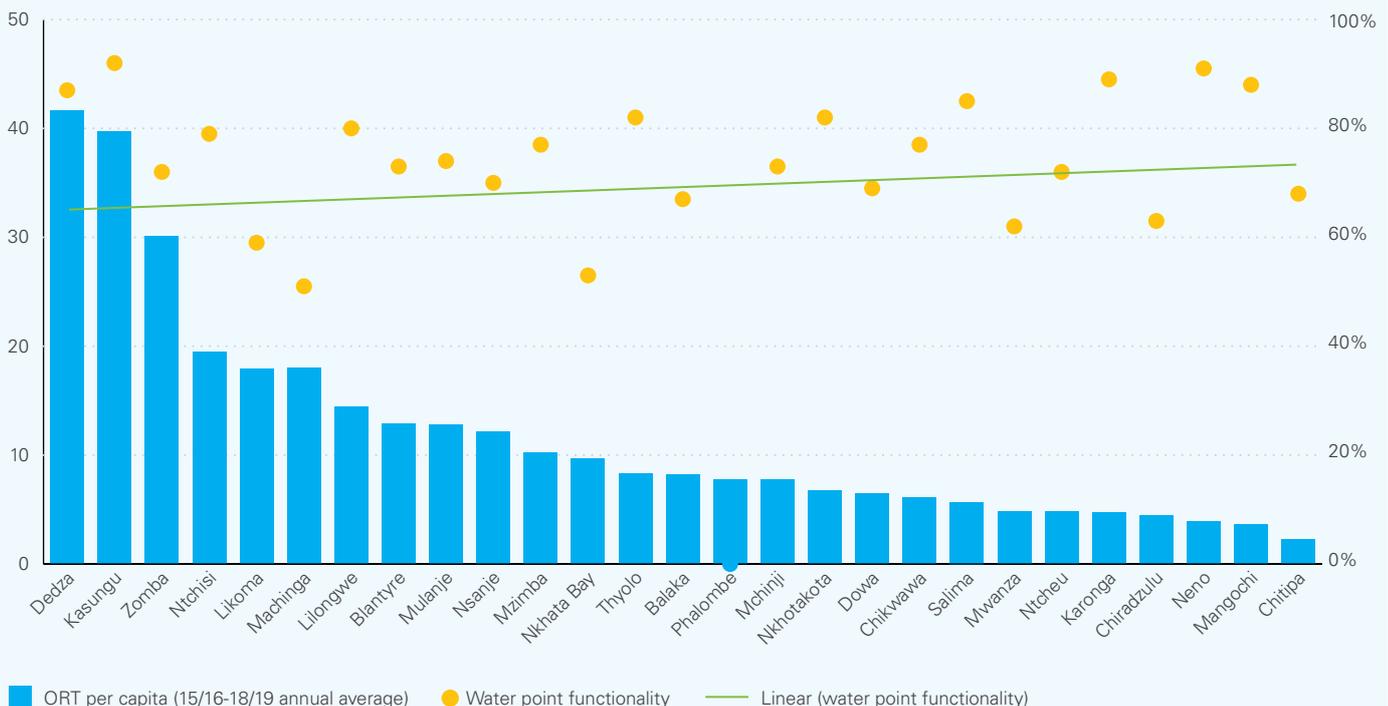
for major repairs and poor management/ governance⁴⁷. The importance of capacity building for WUAs is strongly recognised in the 2012 Malawi Sector Investment Plan. Yet, besides ad hoc initiatives by donors and NGOs, this recognition has not been widely operationalised over the period 2014/15 to 2018/19.

Efforts to improve functionality in rural areas have centred on training area mechanics and linking them to shop partners who stock parts. The 2017/18 Sector Performance Report reports that 519 such area mechanics have been trained in the past few years. Such initiatives are unquestionably essential to sector functioning. However, they do not address the issue of how repairs are funded. In considering improving water point functionality there is a need also to focus on the role of the WUAs in financing and managing O&M; this is discussed further in Section 7.4.

The introduction of the Borehole Fund has significantly increased development expenditure at the district level, but interventions may not always be effective. There is evidence that Borehole Fund spending is highly politicised. District-level staff interviewed highlighted that spending decisions under the Borehole Fund and the CDF are made by the constituency’s MP. Some DWDOs report that this can cause issues when it comes to siting and installing boreholes, as the sites chosen by the MP may not be suitable. It is also common for borehole installations

⁴⁷ Further challenges to functionality of note include: poor initial installation (Mannix et al., 2018) and the use of complex technologies (i.e. non-VLOM technologies).

FIGURE 36 ORT per capita* and water point functionality



Source: District reports to PER team (staffing), Sector Performance Reports (functionality), and budget documents (ORT allocations).
* Average annual amount funded 2015/16–2018/19.

to be done by private contractors at the direction of the MP, as opposed to through the DWDO. The limited involvement of the DWDO in installing water points is a source of concern as it raises questions surrounding value for money and quality assurance, and issues related to the future O&M. The quality of the initial installation of water points has been shown to be a key determinant of the future functionality. Arguably, not involving the DWDO in supervising the construction and siting of boreholes constructed under the Borehole Fund increases the likelihood of poor targeting limiting the effectiveness of Government expenditure.

6.1.3 Equity considerations in the water sub-sector

A detailed analysis of the DHS 2010 and 2016 was conducted to assess the degree to which progress in water access was pro-poor⁴⁸. There are sharp inequalities in terms of access to basic services, that are deeply rooted in an urban/rural divide. With over 80% of the population living in rural areas, there is a marked difference between the wealthiest quintile and the other four quintiles. Progress in improving access to drinking water has not been pro-poor, and significant disparities in access based on wealth remain. Nationally, the rate of improvement between the poorest and middle quintiles was similar. Consequently,

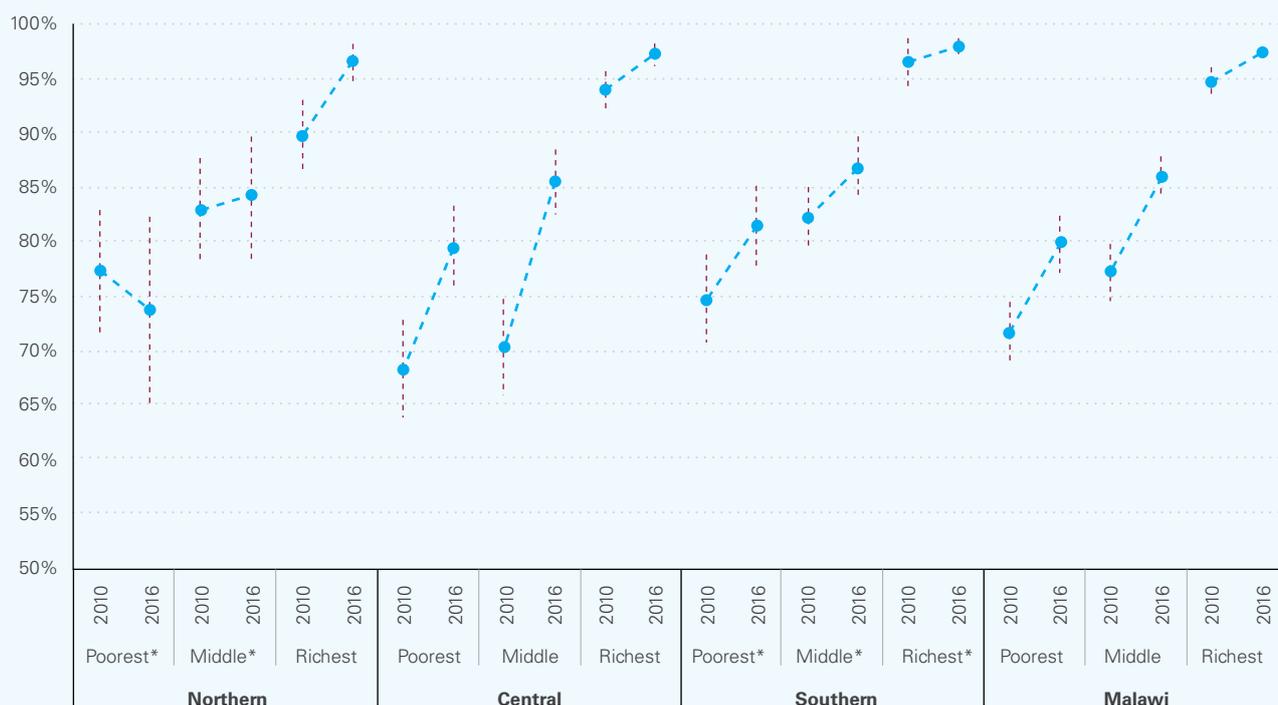
there was no reduction in inequities between these two groups, although the gap between them and the richest quintile closed a little.

Although the Borehole Fund is a major area of WASH expenditure at district level, its targeting is not according to district water needs. This is clearly highlighted in Figure 38. A targeted allocation criterion for the Borehole Fund would favour districts with low levels of access to water. However, the current distribution shows substantial variations with some districts with the lowest levels of access receiving lower per capita Borehole Funds than other better performing districts.

Where donors and NGOs focus their programmes has a strong influence on who is reached with services. Once a donor or NGO has selected a district to work in, the decision regarding where to work is determined with the DCT. District staff report that the allocation of NGOs to TAs is designed to minimise overlaps and duplication of efforts. A broader equity consideration relates to the process by which donors decide which sectors to fund, and through which channels. The analysis of donor expenditure and projects has shown a tendency for recent donor funding to be primarily channelled to urban areas and through the water boards. The new large WASH projects of the AfDB and World Bank have tended to focus on urban areas. While the PER does not seek to question the validity or necessity

⁴⁸ The datasets for these surveys are publicly available, enabling the PER team to re-analyse the raw data to produce estimates for access by wealth quintile and region. This analysis was not possible using the 2018 census data as these have not been publicly released.

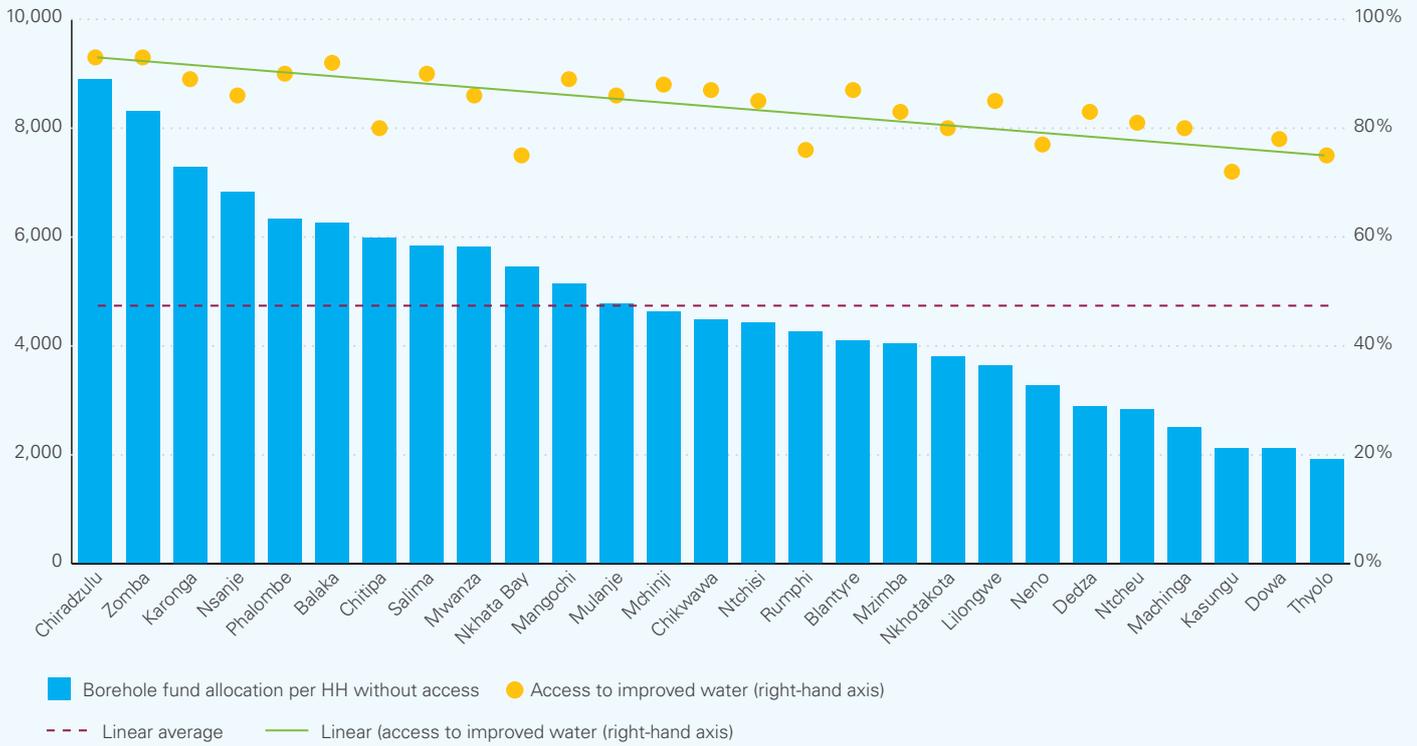
FIGURE 37 Proportion of the population with access to an improved water source by region and wealth quintile 2010–2016



Source: Malawi DHS 2010 and 2016.

* Point estimates are from survey data. The error bars are included for the 95% confidence interval. A '*' indicates where the change within a group was within the margin of error.

FIGURE 38 Per capita Borehole fund allocations vis-a-vis access to improved water sources by district.



Source: Census 2018 (access data), budget documents (Borehole Fund allocations).
Note: Likoma is excluded as it significantly distorts the picture. Per capita ORT funding in Likoma is MWK 853.

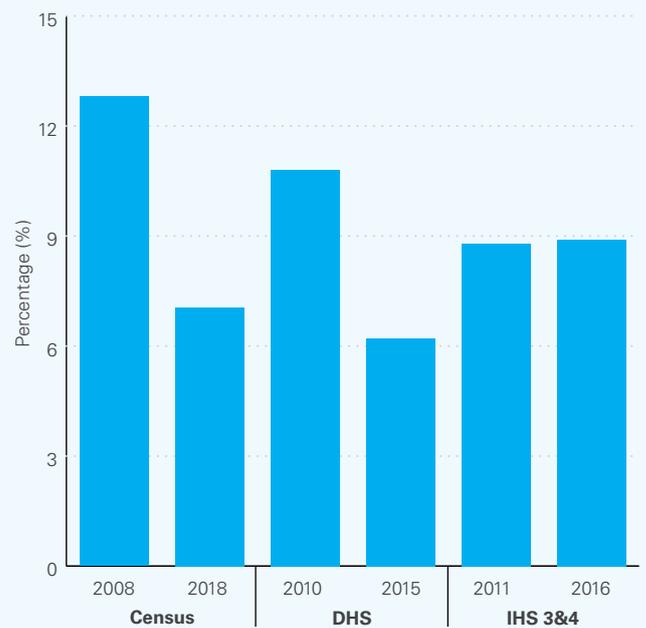
of these investments it remains the case that the limited donor funding is concentrated in urban areas: there is comparatively little funding for developing services in the WASH-disadvantaged rural areas.

6.2 Sanitation and hygiene

Similar to progress on water access, sanitation outcomes⁴⁹ improved over the Census and DHS periods. Open defecation rates declined from 12.8% to 7% over the census period (2008-2018) and from 10.8% to 6.2% over the DHS period (2010/11 to 2015/16). However, estimates using the IHS data revealed a slight increase in absolute and relative OD figures, with the OD rate increasing from 8.8% to 8.9% between 2011 and 2016. This points to some serious concerns surrounding sustainability in the sector. The vast majority of latrines in Malawi are simple pit latrines and are vulnerable to collapse; this is a widely noted issue in the sector. In using secondary survey data there are issues related to the reliability and treatment of data relating to improved latrines; as such, open defecation and ODF status is the preferred indicator used in the PER to assess sector progress.

⁴⁹ This PER uses open defecation rates, for which data was readily available across all sources, to measure sanitation outcomes in Malawi.

FIGURE 39 Proportion of the population defecating in the open



Source: Census 2008 and 2018, MICS 2013, DHS 2010 and 2016.

As with water, the progress in sanitation during the period 2008–2015 was largely linked to the level of external funding in the sector. In particular, progress in rural sanitation is heavily dependent on external resources. The number of (ODF) traditional authorities is a key measure of progress in sanitation. As at December 2018, 112 of Malawi’s 263 TAs had been declared ODF. Implementation in 86 of these 112 TAs had been funded by external partners. The rising rates of open defecation under the IHS period could be linked to factors such as ODF slippage, lower levels of donor funding in the sector, and with the physical collapse of household latrines due to environmental factors such as heavy rains and floods⁵⁰.

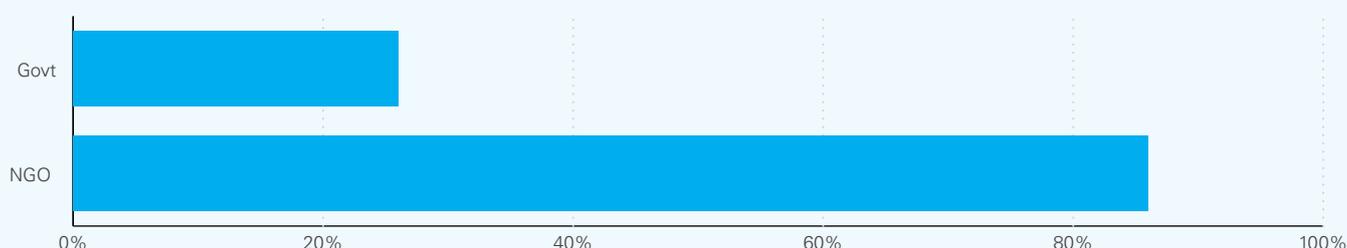
50 This is an issue that is widely documented in the sector: see UNICEF (2019).

TABLE 22 Progress on ODF declaration

Indicator	Number	Total	%
Villages declared ODF	16,794	38,682	43%
TAs declared ODF	112	263	43%
Districts declared ODF	4	28	14%

Source: MoHP monitoring data (December 2018).

FIGURE 40 Proportion of the population defecating in the open



Source: MoHP monitoring data (December 2018)

The expenditures that contribute to outcomes in sanitation and hygiene are predominantly related to recurrent expenditures on staff salaries and travel to conduct promotion efforts. One further area of significant expenditure is household expenditure on latrine construction. However, there was no expenditure information on this variable.

6.2.1 Efficiency considerations in the sanitation and hygiene sub-sector

83% of GoM funding for sanitation is for salaries. Progress in rural sanitation is heavily dependent on frontline staff (HSAs) being able to travel to communities to conduct health promotion. The current average ratio of HSAs to population is 1:1,921, well below the target rate of 1:1000, suggesting frontline preventative healthcare is understaffed.

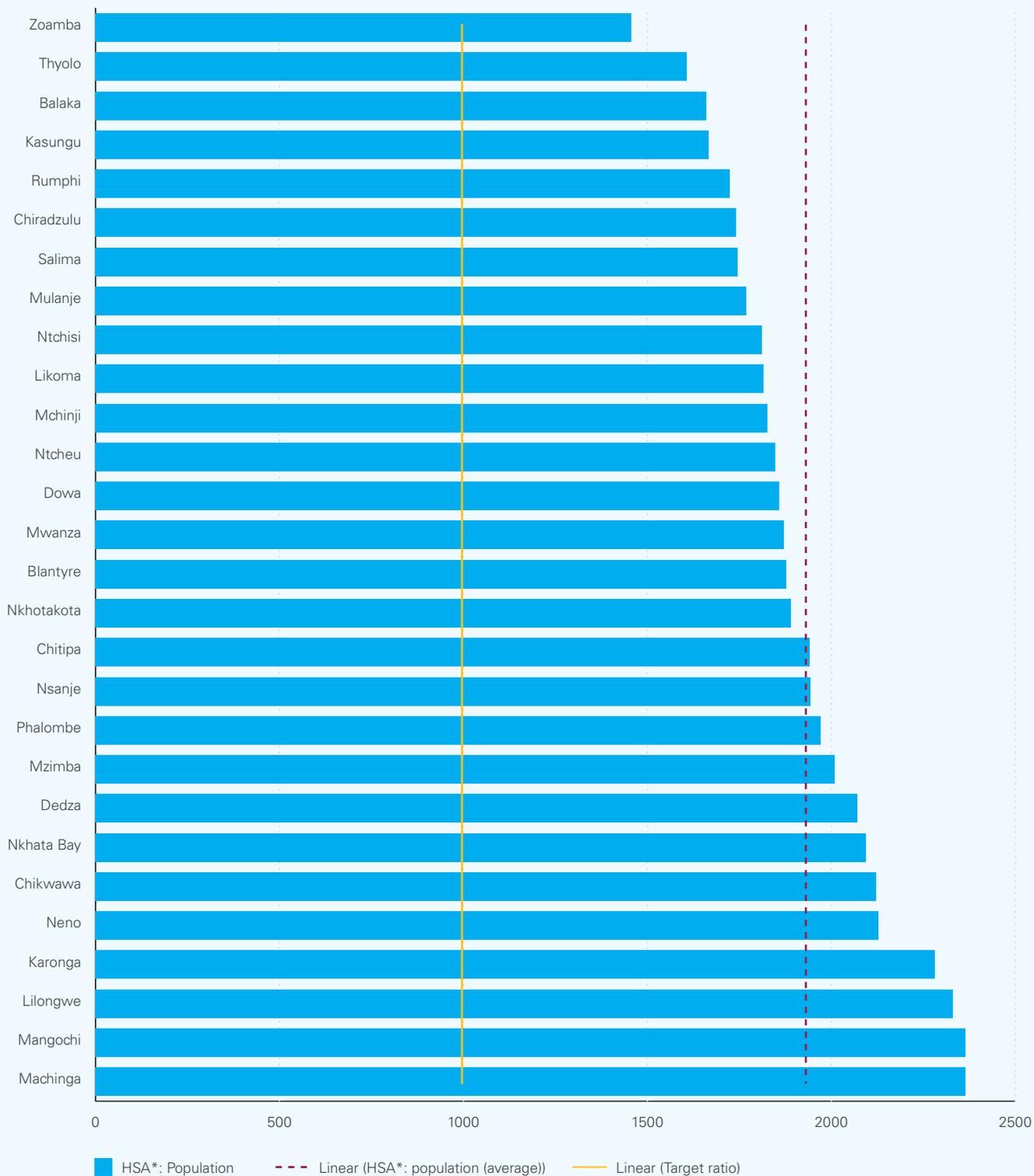
Overall, with population growth, the number of HSAs per person has declined. The number of HSAs and senior HSAs reported by the districts was 8,479; which is lower than figures previously reported in other accounts⁵¹. This can have a consequence for the quality of the health promotion work of HSAs as they have a larger population to cover and may have to travel further. Maintaining the motivation of frontline staff is a key determinant of the effectiveness of health promotion

efforts (UNICEF, 2019). Staffing levels have been identified as a key determinant of motivation, with many HSAs reporting feeling overworked.

The main approach to improving rural sanitation in Malawi ('community-led total sanitation') relies on households constructing their own latrine facilities. Recently, other approaches have been developed such as the participatory hygiene and sanitation transformation (PHAST) and school-led total sanitation (SLTS) as well as sanitation marketing. A recent evaluation (UNICEF, 2019) of a large-scale sanitation programme in Malawi raised serious concerns surrounding the quality and durability of latrines. A survey under the evaluation found that nearly a third of households living in ODF communities have experienced their latrine collapsing, with many subsequently reconstructing it. This issue is recognised in the GoM’s Annual Sector Performance Reports and the new National Sanitation and Hygiene Strategy 2018–2024. In addressing the issues of sustainability, the strategy places a strong emphasis on continued monitoring of ODF status, continued follow-up of community-level health promotion, and the introduction of market-based interventions ('sanitation marketing') aimed at improving the quality of sanitation facilities. Sanitation marketing is nascent in Malawi and there are few examples of effective programmes at scale. In the short-run there is a need to test and refine approaches that could work at scale.

51 Chikaphupha et al. (2016) reported there were 9,173 in 2016 and the GoM (2010) reported there were 10,507 in 2009.

FIGURE 41 Ratio of HSAs* to population in districts



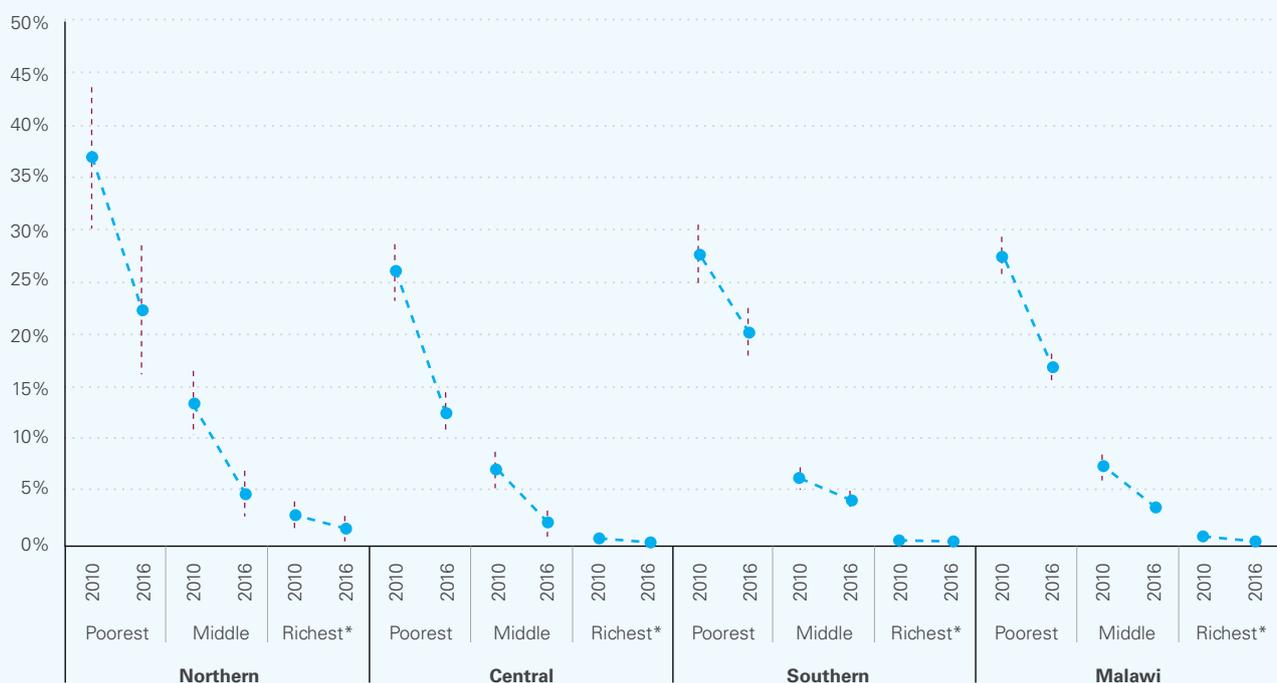
Source: District reports to PER (2019) team
 *Figures include HSAs and senior HSAs.

6.2.2 Equity considerations in the sanitation and hygiene sub-sector

Progress on open defecation has largely been pro-poor, although inequalities still exist. In Figure 44 the steepness of the line indicates the rate of progress: in all regions and nationally the rate of reduction was largest among the poorest wealth quintile. While this is partially a reflection of the fact that rates were higher to begin with it does highlight that spending and efforts in reducing open defecation benefit the least wealthy in society.

Eliminating open defecation in Malawi will unambiguously require targeting the very poorest. However, due to the nature of the budget allocations apportioned to sanitation (staff time/salary) it is not possible to determine the extent to which current resources are specifically targeted to the poor.

FIGURE 42 Proportion of the population defecating in the open by region and wealth quintile 2010–2016



Source: Malawi DHS 2010 and 2016.

* Point estimates are from survey data. The error bars are included for the 95% confidence interval. A * indicates where the change within a group was within the margin of error.

6.3 Progress on WASH by district

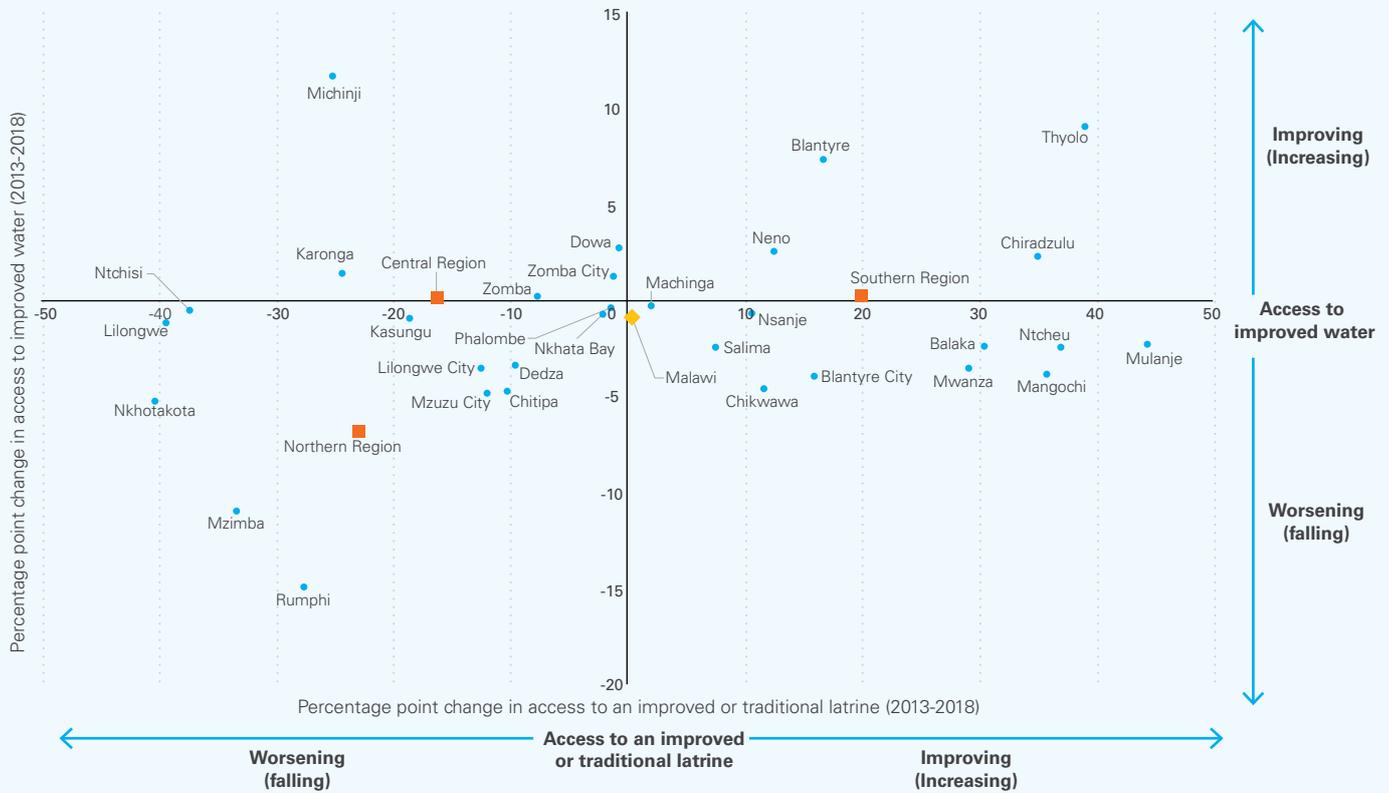
Figure 43 (overleaf) presents the progress on water and sanitation by local authority (district and city⁵²). The district-level progress is presented as a percentage point change between 2013 and 2018⁵³. It can be read as showing progress in four quadrants: the top-right quarter shows districts where access is improving for both water and sanitation; the bottom-right quarter shows where it is falling for both water and sanitation; and the top-left and bottom-right quarters show where there was progress in one area but not the other.

As noted in the overall analysis, the period 2013–2018 was one where the proportion of people with access to water fell and levels of open defecation increased. This is reflected in the district-level progress. Access to an improved or traditional latrine is uneven across districts – increasing in 14 and falling in 17 Local Authorities. Access to water is improving in nine districts and cities and falling in 22 districts and cities. Overall, there are four districts where access to both water and sanitation facilities is improving, and 12 where access rates are declining for both water and sanitation.

52 These data are based on the census and MICS 2013, which capture data for 27 of 28 districts (the MICS 2013 does not have data for Likoma), and four city areas (Blantyre city, Lilongwe city, Mzuzu city, and Zomba city).

53 For example, if open defecation rates fell from 8% in 2013 to 6% in 2018 the number on the graph is -2.

FIGURE 43 District-level progress on access to improved water sources and an improved or traditional latrine (2013–2018)



Source: MICS 2013 and Census 2018.

6.4 Alignment between sector spending and sector policy

6.4.1 Sector investment requirements

The Water SIP (2012) outlines that \$140 million is needed annually from 2015 to 2030 for the sector to achieve 98% access to improved water supply by 2025 and 90% access to improved sanitation by 2030. The majority of the resources needed under the investment plan modelling were for mega-projects associated with urban bulk water. The SIP proposes that these would be primarily implemented by the water boards and with funding from development finance institutions (loaning to the water boards and to GoM). In this respect the funding patterns over the PER period are fully aligned with this plan. Specifically, that new external finance to the sector has been directed as loans to the water boards for major urban bulk-water

supply projects. The SIP also relied on the water boards becoming profitable (a condition that has been met), and reducing NRW to 20% (a target that has not been met).

A critical assumption in the SIP is that donors (excluding development finance institutions) would ‘step up’ their grant investments in the sector during 2016–2030. The analysis in this PER highlights the opposite trend: namely, that while development finance institutions are increasing their investment in the sector, bilateral donors are withdrawing from the sector and country. If not reversed, this trend will create a large financing gap that will have to be filled from other sources for Malawi to reach universal access by 2030. A comparison of the sector expenditure identified under this PER against the SIP target highlights that the sector is currently funded to just above 30% of the target level.

TABLE 23 Expenditure against investment plan and financing gap

		14/15	15/16	16/17	17/18	18/19
Total sector expenditure (MWK billion 2014/15 prices)		196.1	190.7	196.2	212.6	213.4
Sector expenditure in investment plan* (2014/15 prices)	MWK billion	99.6	94.3	99.1	113	111.9
	USD million**	39.3	37.2	39.1	44.6	44.2
% SIP requirement (\$140 million)		28%	27%	28%	32%	32%

Sources: See Table 16 for sector expenditure figures. Target from MoAIWD (2012).

* Excludes non-water board household expenditure and household expenditure on soap. ** USD exchange rate used USD: MWK 1:394.97 (rate as at 30 June 2014).

6.4.2 Alignment with the National Water Policy

The overall policy goal of the National Water Policy is the:

‘sustainable management and utilization of water resources, in order to provide water of acceptable quality and of sufficient quantities, and ensure availability of efficient and effective water and sanitation services that satisfy the basic requirements of every Malawian and for the enhancement of the country’s natural ecosystems.’

In the urban water sector, the policy’s emphasis is placed on:

developing bulk-water supply, strengthening management arrangements, and encouraging public–private partnerships (PPPs) in urban service delivery. The 2017/18 sector performance report outlines that there has been progress in some areas (urban water supply coverage, the number of active users, water production, and operating ratios), but that utility performance has not improved in some areas (NRW and debtor days).

The sector performance report highlighted the key challenges facing the urban water sector as including:

high NRW; a high number of long disconnected accounts; frequent power interruptions and intermittent power supply from ESCOM affecting water production; high debtors (both government institutions and the private sector); degradation of catchment areas resulting in the drying of water sources (e.g. Mpira Dam); a high number of disconnected accounts due to a proliferation of boreholes within the supply areas; and a lack of finances to finance large-scale investments in infrastructure.

The expenditure findings highlight that the recent trend of development banks funding the water boards directly is well aligned with the stated policy objectives and addresses the challenge of mobilising finance for large projects.

The sector performance report puts forward the idea that tariffs could be raised to mobilise additional finance for large-scale infrastructure projects. However, the PER findings highlight rapid increases in tariffs in recent years, and that Malawi’s tariffs are already among the highest in the region per m³ – and higher still when compared to GDP per capita⁵⁴. One area of National Water Policy that has not received great attention is the introduction of PPPs into urban water service delivery. The PPP Act of 2011

provides the legal grounding for government entities to act as the contracting authority. However, to date there are few examples of large-scale PPPs being used in the sector. In 2018, the World Bank International Finance Corporation committed \$1.1 million to the preparation of a PPP in Lilongwe, ahead of an anticipated private sector mobilisation of \$15 million.

In regard to the rural water supply, the emphasis in the national water policy is on:

promoting demand-driven approaches, enhancing user participation in catchment management and preventing pollution, promoting community-based management, and ensuring the smooth transfer of devolved functions. The analysis in this PER has highlighted that expenditure on community-based management is likely to be substantial. However, there is limited evidence of funding for WUAs, and since the policy was developed the many challenges in the WUA model have been well documented. The PER found that devolution of functions was supported over the five-year period, with district expenditure accounting for 62% of GoM spending; and that the introduction of the Borehole Fund led to a large increase in spending at the district level. However, the analysis of sector performance highlights that there are critical capacity gaps at the district level (particularly related to frontline staff) and that ORT funding is low. Functionality rates have decreased in recent years, highlighting that this critical sector challenge is currently not being fully addressed. These findings are consistent with the 2017/18 sector performance report, which concluded:



Management of rural water supply systems has been a challenge because of inadequate capacity in the local management structures like Water User Associations, Water Point Committees and Area Mechanics. The situation is made worse due to unavailability and increasing prices of spare parts for the Village Level Operation and Maintenance hand pumps.”

54 <https://reliefweb.int/sites/reliefweb.int/files/resources/UNICEF-ESARO-2019-WASH-Financing-Regional-Assessment.pdf>

6.4.3 Alignment with the National Sanitation Policy

The National Sanitation Policy is focused on strengthening coordination at the national level, and achieving universal access in towns, schools, health centres, and rural and urban areas. Since the policy was developed there has been enormous progress towards universal access, with open defecation falling rapidly, and a large number of traditional authorities declared ODF. The sanitation policy envisaged the creation of a new cadre⁵⁵ of government staff to take on sanitation and hygiene promotion. Ultimately, this was not followed through and HSAs took on the responsibilities envisaged for this new cadre. This PER has highlighted that there are concerns surrounding the sufficiency of the number of frontline staff, as well as how well resourced and managed they are. The national sanitation policy also placed a strong emphasis on the incremental improvement of sanitation facilities through sanitation marketing, and the safe treatment and disposal of faecal sludge (particularly in urban areas and towns). These are policy areas that are not clearly reflected in the spending of government or donor programmes. Similarly, the PER was not able to clearly identify spending on improving WASH facilities in schools and hospitals. The latest sector performance report places a heavy emphasis on developing strategies for post-ODF, the implementation of sanitation marketing, and an urgent focus on improving WASH in schools. These are all areas where there are no clear funding streams in GoM budgets.

The costed implementation plan for the National Sanitation and Hygiene Strategy 2018–2028 estimates that on average MWK 9.7 billion⁵⁶ is required annually to implement activities (see Table 24 below). This compares to current (2018/19) government expenditure on sanitation and hygiene of MWK 1.8 billion (2019/20 prices), of which the vast majority is salaries. There is a clear need for additional investment in the sector. Much of the funding for activities in rural sanitation is likely to continue to come from external resources in the short run. However, as outlined in Section 5.2, these are falling rapidly and are increasingly focused towards urban areas. In the context of limited GoM funding for activities (ORT) and the declining external assistance to the sector, there is a need to target and focus effort.

TABLE 24 Cost of implementing the National Sanitation and Hygiene Strategy 2018–2024 (MWK million)

18/19	19/20	20/21	21/22	22/23	23/24	Average
7,696	9,033	10,583	9,914	9,966	11,537	9,788

Source: GoM (2018) National Sanitation and Hygiene Strategy 2018–2028.

55 District Sanitation and Hygiene Coordinators.

56 The prices used in the strategy are unclear.

6.4.4 Alignment with international policy commitments

Many of Malawi's key international policy commitments are subsumed under the national policy commitments, particularly as both the National Water Policy and the National Sanitation Policy place an emphasis on universal access to services. Box 2 outlines some of Malawi's key international policy commitments.

The latest sector report highlights the need to agree an approach to achieving the SDGs, as well as deciding the degree to which global progress indicators can be integrated with national progress indicators (especially in rural sanitation). As Malawi approaches universal access to basic services much of the effort needed to meet the SDGs needs to be focused on raising service levels and ensuring the quality and sustainability of supplies. The level of ambition in the SDGs in respect of 'safely managed' services is substantially above that of the MDGs and their access to 'basic' or 'improved' services. In water, this entails all households having access to improved water at their premises that is free from faecal contamination. In sanitation, this entails that facilities are not shared and that faecal waste is safely disposed of.

Excluding household expenditure, the spending on sanitation and hygiene by the GoM and donors is equivalent to 0.17% of GDP – below the long-standing eThekweni declaration of 0.5%. Similarly, in the last financial year WASH received 0.45% of the government budget, below the 1.5% committed under the Sanitation and Water for All partnership.

BOX 2 International policy commitments

Malawi is a signatory to both the MDGs and the SDGs. In the context of water these commitments include:

- MDG 7: 'ensure environmental sustainability'; and
- SDG 6: 'ensure availability and sustainable management of water and sanitation for all'.

Malawi is also a signatory to the eThekweni Declaration (2013 and 2015), which includes a commitment to allocate 0.5% of GDP to sanitation and hygiene (among other commitments). This commitment is reinforced in the 2015 N'gor Declaration (emanating from the AfricaSan IV conference – organised by the African Ministers' Council on Water (AMCOW)).

Malawi is also part of the Sanitation and Water for All partnership, under which seven standing commitments have been made, including allocating 1.5% of the national budget to the sector, formalising a SWAp, and taking steps to support rural water functionality.

6.4.5 Summary

Overall, all spending is aligned with certain elements of national policy. The critical challenge is that the sector is substantially underfunded against the investment plan and certain aspects of policy receive little attention. Total sector expenditure is focused on water supply in urban areas. This reflects the large sum of funds mobilised from tariffs and the recent focusing of donor expenditure in the urban water sub-sector. The different sub-sectors rely on different funding streams and the sanitation sub-sector is more highly exposed to changes in donor financing. The Borehole Fund has been successful in mobilising funds for the rural water sub-sector, though there are concerns surrounding how efficiently this is being spent and functionality remains a critical issue in rural areas. In sanitation and hygiene, the lack of a dedicated sector fund may be a contributing factor to the extremely low GoM allocations to the sector, as GoM expenditure in this area is almost exclusively associated with salaries. Progress in any of the individual sub-sectors is highly dependent on the degree to which different financing sources align. This PER has highlighted the importance of household, donor, and water board expenditure in achieving sector outcomes. MoAIWD and MoHP have a central role to play in effectively coordinating these funding streams through policy, regulation, and sector leadership.



7. DISCUSSION AND CONCLUSIONS

7.1 Government financing in WASH

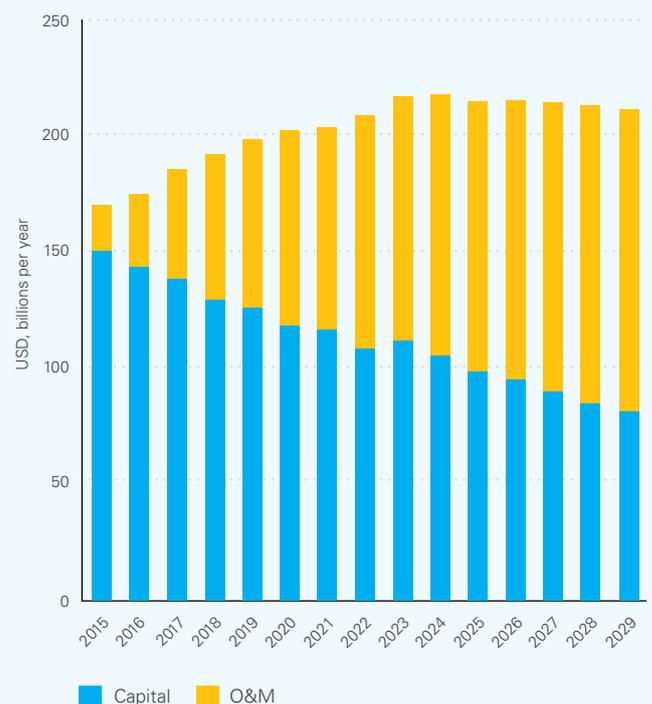
The PER findings highlight that government expenditure is a small proportion of total WASH expenditure. Nonetheless, nearly all funding to the sector (donor or government) relies on government staff to implement programmes. Views expressed during field visits illustrate that government staff are central to effective sector performance.

Despite the reliance on government staff for sector performance, ORT transfers, which are essential for effective staff performance, are insufficient for WASH activities. This is evident from the views expressed by DWDOs and DEHOs via completed PER questionnaires. It is noted that ORT transfers were only 5.6% of total GoM expenditures on WASH in 2018/19, as shown by figures given in Section 5.1. Under GoM policy it is the WUAs and water boards that are largely responsible for O&M expenditures. Despite this, GoM support to O&M remains an important area to focus on.

Figure 44 reproduces World Bank estimates of the global costs of meeting the SDGs. These estimates highlight the increasing importance of O&M expenditures in ensuring access. As the sector approaches universal access to improved services

there will be a need to increasingly invest in maintaining existing services over developing new infrastructure.

FIGURE 44 Global costs of meeting the SDGs



Source: Hutton and Varughese (2016)

Government overall financing of the WASH sector is significantly lower than that of other countries in sub-Saharan Africa, expressed as a percentage of GDP and as spending per capita. As demonstrated in 2.4, the GoM's WASH spending was 0.081% of GDP in 2018/19, much lower than that of Kenya, Ghana, and Mali, and also lower in per capita terms. This is despite Malawi having similar, or lower, access to basic water and sanitation services.

A related concern is Malawi's substantially higher reliance on external financing relative to domestic financing, compared to other countries. As demonstrated in Section 4.2, the GoM's ratio of donor/NGO financing to domestic financing is nearly 9, whereas that of Kenya is just under 3, Zambia 2, and both Mali and Ghana just above 1.

Sector expenditure is dominated by water, and within water towards development expenditures. While this is necessary for expanding services a key sector challenge remains water point functionality, which, overall, is falling across Malawi. Illustrating the point above, despite the relatively high overall allocation to water, the low budget allocation to water ORT is a cause for concern, as is the limited number of frontline staff (WMAs). WMAs and DWDOs interviewed for the PER frequently highlight the limited ORT allocations as a key issue. As Malawi moves towards universal access to basic services there will be need for a re-focusing of expenditure towards maintaining and upgrading services, as opposed to developing new infrastructure. Investments from GoM sources in maintaining services need to be considered in relation to spending by the water boards and non-water board household expenditure.

GoM expenditure in sanitation is overwhelmingly dominated by spending on frontline staff salaries⁵⁷. In many ways, this is appropriate as the GoM approach to sanitation, as set forth in the National Sanitation and Hygiene Strategy 2018–24, relies predominantly on frontline staff conducting promotion activities. In the costed implementation plan for the strategy there are very few activities requiring development expenditures. Staff working on sanitation in the national and district environmental health units have a wide range of responsibilities; this is especially the case with frontline staff (HSAs). Progress in sanitation is heavily dependent on the extent to which these staff are well-resourced and equipped to effectively do their work. As highlighted in Sections 6.1.2 and 6.2.1 the ratio of frontline staff to population varies widely and is well above the established acceptable sector norms in Malawi. As for water, environmental health staff interviewed for the PER frequently highlighted the limited ORT allocations as a key issue.

Allocation of most WASH resources is determined by central government. The result is that key district-level WASH staff (DEHOs and DWDOs) have very limited influence on the overall

allocation of resources. While DEHOs and DWDOs generally report their involvement in the annual budget process at the district level as sufficient, the budget process on which they reported is the planning for limited ORT spending, most of which is absorbed by allowances and fuel for activities; so they confirm their limited scope to influence budgets.

On the other hand, centrally determined conditional grants or funds can have a strong influence on sector expenditure.

This is demonstrated by the sharp increase in district-level development expenditure following the introduction of the centrally determined Borehole Fund. While the introduction of further conditional grants or centrally established funds does not support greater fiscal decentralisation, it presents one of the clearest routes by which sector funding can be managed and spending at the district level can be linked to national policy objectives.

7.2 External WASH financing

Budget support to Malawi has been severely reduced in recent years. With the withdrawal of budget support by some traditional bilateral donors, overall fiscal space for government has been significantly reduced. The result is that allocations, even for small ORT budgets, are constrained.

The composition of external WASH financing has changed substantially. New ODA commitments are predominantly loans, as opposed to grants, and are channelled to the water boards as the implementing agency. This elevates the importance of good collaboration and coordination between the water boards, MoAIWD, district councils, and WUAs in service delivery. The new large commitments to the sector from the World Bank and AfDB are centred on improving infrastructure in urban areas, raising some equity considerations. There are now few large externally funded programmes specifically targeting the rural sub-sector – where the majority of people are without access to basic services, and where the poorest live.

Off-budget external funding through NGOs is likely to remain an important source of expenditure in the sector, though, in line with the trends in bilateral donor funding, this is also projected to fall. This will have consequences for the overall level of development expenditure in the sector. However, a subtler impact is likely to be on the extent to which district-level frontline WASH staff have funding for their work. It is common for NGO-implemented programmes to pay allowances for frontline staff related to travel. Reductions in funding for these programmes is likely to place further pressure on the limited GoM-funded ORT budgets.

While most districts appear to have functional DCTs, most districts report challenges with leading and coordinating the work of donors and NGOs in the district. While some districts report satisfactory aid coordination, the view of many DWDOs and DEHOs is that some donors and NGOs design and

⁵⁷ It should be noted that the salary spend by the GoM on sanitation staff was calculated as a proportion of the total salary spend based on proportions reported by districts. Staff working in environmental health units both at the national and district levels have a diverse set of responsibilities, meaning that 'sanitation' is not their only responsibility.

implement WASH sector plans without satisfactory coordination processes.

Other donor-financing models are possible, even without sector budget support. Section 5.2.4 described Malawi's important and innovative financing models in the health and education sectors, which can be considered for the WASH sector.

7.3 Water board expenditure and performance

The analysis of sector expenditure highlights that the water boards account for a sizeable proportion of sector funding

– over 27.1% when including the household expenditure paid to water boards. This expenditure, and the fees collected from households, is concentrated in urban areas. Furthermore, the analysis highlights that the growth in revenues has primarily been driven by increases in prices, alongside an expansion in services.

There is no regulator in Malawi: as per the Waterworks Act 1995 it is the MoAIWD that regulates tariffs in the sector.

Tariff rates are not widely publicised by either the water boards or MoAIWD⁵⁸. This has led to some complaints in the media regarding the water boards imposing 'secret' tariff rises and a lack of transparency in pricing⁵⁹. A further complexity regarding the GoM management of the water boards is that the water boards report their financial data to the Department of Statutory Corporations in MoFEPD.

The loose regulatory environment, cross-ministerial responsibilities for water board oversight, and the recent substantial water price rises point towards the need to review tariff rates and policy, as well as the need for greater oversight of utility performance. The current tariff policy is relatively pro-poor and there is a substantial cross-subsidy between commercial and institutional rates and kiosk users. However, the overall tariff policy of MoAIWD is not clear, either in policy documents or the Sector Performance Reports. MoAIWD has the legal mandate in this area and should be the lead agency in reviewing and establishing appropriate tariff levels in the short run. In the medium term the establishment of a regulatory authority should be a key consideration when reviewing and updating national policy.

7.4 Household expenditure

As highlighted in Section 5.4, a large proportion of the household expenditure is spent on providers other than the water boards⁶⁰. This expenditure is potentially a 'blind spot' in policymaking as these expenditures are not regularly tracked. This non-water board household expenditure represents 16.8% of funding to the sector – as much as two-thirds of GoM and donor (ODA) expenditure combined.

Of particular interest is the contribution this non-water board

58 Current and historic rates are not published on the water board websites or by MoAIWD, and the water boards all stopped reporting to IBNET in 2014/15.

59 <https://times.mw/blantyre-water-board-raises-tariffs-secretly-again/>

60 Including: fees paid to WUAs, expenditure on self-supply, expenditure on purchasing water from informal providers (non-water board), and expenditure on bottled water.

household expenditure makes to maintaining services through fees paid to WUAs. Community-based management and WUAs have a recognised place in policy, with the stated aim of these being to 'empower the communities to own and manage the piped water supply systems in the market centres and rural areas on their own with minimum support from outside'. WUAs receive minimal support from the GoM, though the frontline district staff (WMAs) have a role in supporting the WUAs. It is also common for NGOs working on water in the districts to engage and work with the WUAs.

Section 6.1.2 outlined the importance of WUAs in maintaining services in Malawi, as well as the challenges associated with the community-based management model in Malawi.

Given the scale of non-water board household expenditure in the sector the lack of dedicated support to WUAs represents a key gap in policy; and leveraging this household expenditure through supporting WUAs to improve and professionalise service delivery represents a large opportunity for enhancing sector efficiency. In any case, such a large volume of sector financing deserves closer attention in policymaking. Specific possible strategies include: more active monitoring of WUA performance by districts; support to improving governance arrangements and financial management of WUAs; dedicated capacity-building support on both of these aspects; and an investment in better linking frontline staff (WMAs) and area mechanics with WUAs. All of the above represent viable areas for investment by the GoM or donors, and in all cases the districts would have a central role in implementation. A common challenge in community-based management models is that service delivery often becomes deeply rooted in local politics. A breakdown in intra-community relations, or in relationships between the WUA and district authorities, can undermine progress. While there is no easy answer to such challenges, clarifying the role of WUAs in policy and more clearly specifying processes for arbitration and governance can contribute to resolving such challenges when they arise.

There are already examples in Malawi of more formalised community-based management under the WUA model⁶¹.

In Lilongwe all WUAs have a specified three-tiered organisational structure, and there is a ban on politically affiliated individuals participating in the WUA management. In recent years the WUAs in Lilongwe have signed service contracts with the water board that more clearly specify the responsibilities of both parties. The water board serves as the point of contact for customer complaints, providing an avenue for issues to be raised relating to WUA performance. While this example does not provide a blueprint for reform in policy it does provide a concrete example of steps that can be taken to formalise the service delivery functions of the WUAs.

61 See WaterAid (2016).

7.5 Financing in emergencies

Most emergency response activities are financed by development partners. In the five years of the PER period, government finance for emergency response totalled only MWK 68 million, about 0.5% of total GoM expenditures on the WASH sector.

DODMA coordinates the activities of development partners, but not budgets. The DODMA WASH cluster activities are known to be substantial, though they are not apparent in any GoM budget or expenditure reports.

7.6 WASH expenditure tracking and general PFM processes

WASH budget allocations and expenditures, especially for sanitation and hygiene, are not easily identifiable, and the IFMIS coding system that is currently used does not allow clear identification of all WASH expenditures. Whereas some elements of WASH are clearly identified, such as the Water sector within district ORT and the Borehole Fund, other elements of WASH cannot be separately identified from non-WASH expenditures. These include PE at both the MDA level and at the district level; ORT within MoAIWD and MoHP, for which there is no separate coding of water supply services and

environmental health departments, respectively; sanitation and hygiene ORT at district level, which is not separately identified within district-level IFMIS; some Development II WASH projects are not separately identified within the IFMIS at MDA level; and individual projects under the CDF and DDF are not separately coded within the district-level IFMIS.

The reliability of data from the district-level IFMIS is still limited, so WASH expenditure tracking is constrained.

Indicators of limited reliability include consistently poor local authority audits results, as well as bank reconciliations not being done and data not being entered into the IFMIS. Examples seen during this PER include: incomplete district data used by NLGFC for consolidating the annual results of all LAs; and PE that has been decentralised since 2017/18 has not been coded to separate sectors (such as health and water).

WASH officers do not and cannot use the IFMIS as a management information tool, meaning opportunities for expenditure management are lost. This lack of access to and use of such financial management information by public sector line managers is common in all sectors in Malawi.



8. RECOMMENDATIONS, WITH LESSONS LEARNT

RECOMMENDATION AREA 1: increased government financing of WASH

Recommendations:

- Increase WASH ORT allocation from central government
- Lobby for enhanced budgetary decentralisation, so that allocations between sectors of expenditures, such as ORT, can be decided at the local authority level.

Lessons learnt contributing to these recommendations:

- Government expenditure is a small proportion of total WASH expenditure. Nonetheless, nearly all funding to the sector (donor or government) relies on government staff to implement programmes.
- Despite the reliance on government staff for sector performance, ORT transfers, which are essential for effective staff performance, are insufficient for WASH activities.
- Government overall financing of the WASH sector is significantly lower than that of other countries in sub-Saharan Africa, expressed as a percentage of GDP and as spending per capita.
- WASH sector ORT is a small proportion of the total GoM WASH financing. As the government has limited fiscal space, an increase in WASH ORT allocation might be the most effective use of limited resources.

- Allocation of most WASH resources is determined by central government.

RECOMMENDATION AREA 2: the use of conditional grants and funds for financing WASH services at district level.

Recommendations:

- The development of a targeted preventative health fund to support sanitation and hygiene promotion may contribute to increasing sector financing, following the example of the Borehole Fund.
- There is a need for strong oversight of these funds by district councils or ministries, departments and agencies (MDA); and there is currently a need to strengthen the oversight of the implementation of the Borehole Fund.

Lessons learnt contributing to these recommendations:

- Centrally determined conditional grants or funds can have a strong influence on sector expenditure.
- Technical oversight of the use of the Borehole Fund (similar to oversight of the CDF), needs to be enhanced in some districts.

RECOMMENDATION AREA 3: enhanced identification of GoM WASH expenditures.

Recommendation:

- Consider having 'sanitation and hygiene' sector (or cost centre) at district level (as for water) to empower environmental health staff with more funds and more attention to sanitation; and would also facilitate better tracking of overall WASH expenditures.

Lessons learnt contributing to this recommendation:

- WASH budget allocations and expenditures, especially for sanitation and hygiene, are not easily identifiable, and the IFMIS coding system that is currently used does not allow clear identification of all WASH expenditures.
- The reliability of data from the district-level IFMIS is still limited, so WASH expenditure tracking is constrained.
- WASH officers do not and cannot use the IFMIS as a management information tool, meaning opportunities for expenditure management are lost.

RECOMMENDATION AREA 4: professionalising the community-based management model.

Recommendations:

- Dedicated capacity-building packages should be developed to support WUAs in service delivery.
- MoAIWD should lead in providing clearer policy guidance on their governance structures and links to the formal sector (water boards or district councils).
- Where appropriate, WUA service delivery functions should be more clearly linked to the service delivery functions of the water boards or district councils.

Lessons learnt contributing to these recommendations:

- A large proportion of the household expenditure is spent on providers other than the water boards, especially WUAs.
- WUAs are important in maintaining services in Malawi, but there are challenges associated with the community-based management model in Malawi.
- Investing in WUA capacity is likely to contribute to improved sector outcomes on functionality if it means non-water board household expenditure is spent more effectively in the sector.
- There are already examples in Malawi of more formalised community-based management under the WUA model.

RECOMMENDATION AREA 5: sufficiency of frontline staff.

Recommendations:

- New recruitment of frontline staff should be prioritised in those districts with the greatest staff deficit per population and in relation to service levels.

Lessons learnt contributing to these recommendations:

- There is a shortage of frontline staff in both the water and sanitation sectors.
- Nearly all funding to the sector (donor or government) relies on government staff to implement programmes.

RECOMMENDATION AREA 6: adjusting to reductions in external funding.

Recommendation:

- In the more constrained external funding environment, there is a need for increased donor and GoM coordinating in prioritising remaining resources around 'core' sector functions that need to be in place (including monitoring and oversight).

Lessons learnt contributing to this recommendation:

- Malawi has substantially higher reliance on external financing relative to domestic financing, compared to other countries.
- Budget support to Malawi has been severely reduced in recent years. The result is that allocations, even for small ORT budgets, are constrained.
- The composition of external WASH financing has changed substantially. New ODA commitments are predominantly loans, as opposed to grants, and are channelled to the water boards as the implementing agency.
- Off-budget external funding through NGOs is likely to remain an important source of expenditure in the sector, though, in line with the trends in bilateral donor funding, this is also projected to fall.
- The new large injections of external resources to the sector that are channelled to water boards underscores the importance of effective sector coordination between the water boards, MDAs, and donors.

RECOMMENDATION AREA 7: adoption of stronger SWAp processes in the WASH sector.

Recommendation:

- It is recommended that stronger SWAp processes be adopted both centrally and at district level, including an added emphasis on aid coordination. This approach could include SWAp funding, preferably at district level, with special fiscal controls.

Lessons learnt contributing to this recommendation:

- While most districts appear to have functional DCTs, most districts report challenges with leading and coordinating the work of donors and NGOs in the district.
- Other donor-financing models are possible, even without sector budget support. The health and education sectors are already adopting innovative approaches that can be mirrored for the WASH sector. The use of stronger SWAp processes can facilitate higher efficiency and effectiveness in the use of donor and NGO resources.

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ANNEX A - DETAILS OF THE BUDGET CYCLE

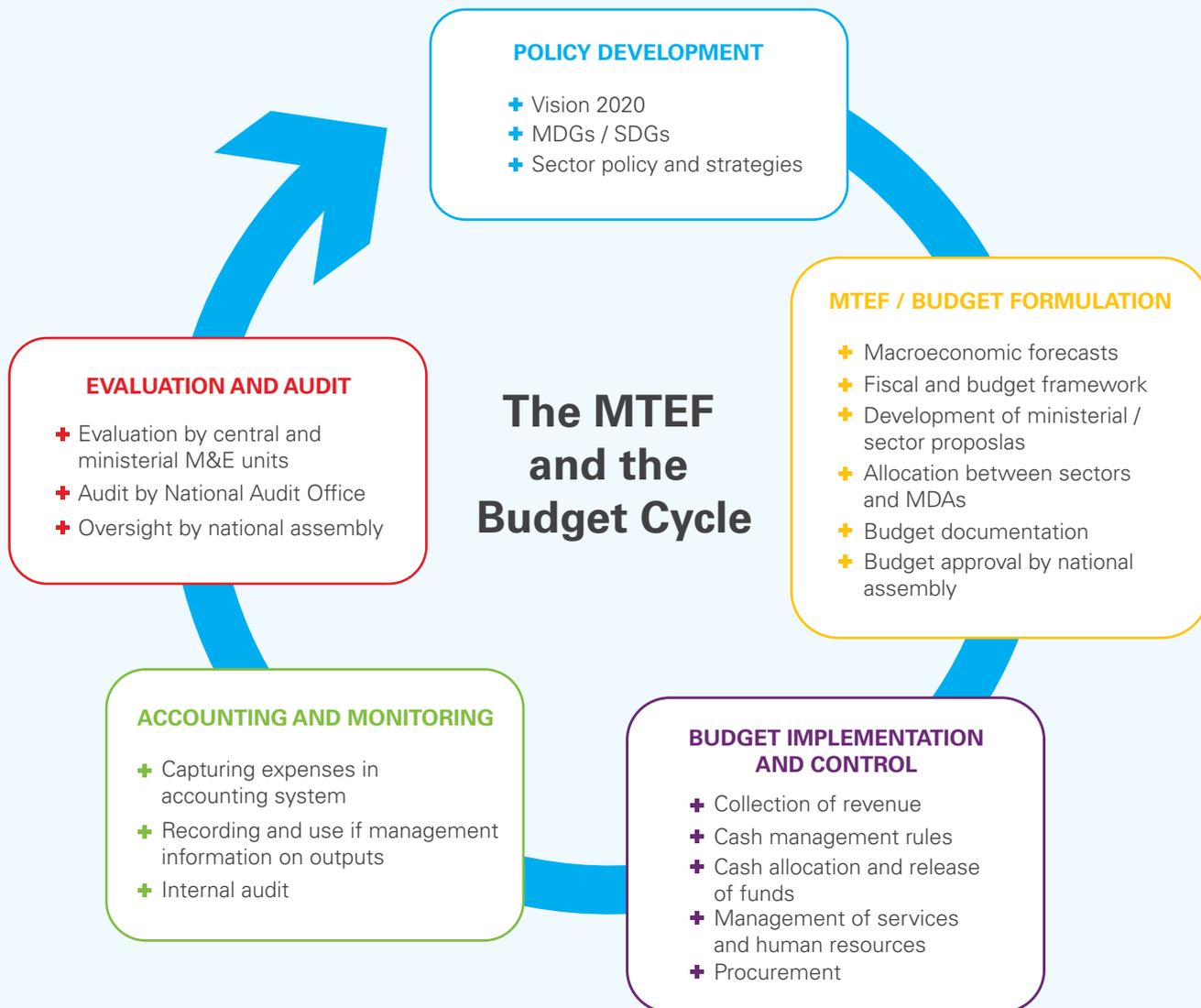
The Third Malawi Growth and Development Strategy (MGDS) III (2017-2022) and the Vision 2020 provide the country's medium and long-term objectives and set the overarching strategy to be implemented through the national budget.

In addition, there is a Public Sector Investment Program (PSIP) which is a five-year rolling plan that outlines development priorities in infrastructure development. The annual process is divided in five key phases: policy development; MTEF/budget preparation; budget implementation and control; accounting and monitoring; and evaluation and audit.

The National Budget runs from the 1st of July to the 30th of June each year. Budget preparation starts in March with the circulation of the budget guidelines and indicative Medium-Term Expenditure Framework (MTEF) ceilings. Ministries, Departments and Agencies (MDAs) are then expected to submit their line-by-line budgets in April and budget hearings are held, after which the final MTEF ceilings are circulated. Final budget submissions from MDAs and the budget consolidation take place in early May. Parliamentary approval is in June or July.

Figure 45 provides details of the activities that take place in each phase, and the table overleaf outlines the key elements within the GoM budget.

FIGURE 45



Source: Authors' own design

Key features of the budgeting system in Malawi include:

- Mid-year reallocations of budgets (virements) can be sought and a mid-year revised budget is presented to Parliament for approval.
- Programme-based budgeting (PBB) was introduced in 2014/15 with six pilot Ministries/Votes. In 2015/16, it was increased to 13 Votes and in 2016/17 it was rolled out to all MDAs. With PBB, the Government of Malawi aims to increase the focus on results in the budget, linking each strategic objective to one programme.
- In 2016/17, the Office of the President and Cabinet instituted Performance Contracts which MDAs are expected to adhere to and report on at the end of the financial year.
- The budget cycle at districts (local authorities) follows a similar process. The National Local Government Finance Committee (NLGFC) has a role in developing formulae used to calculate budget allocation of sectoral totals between each authority.

Laws guiding expenditure control include the Public Financial Management Act (PFMA, 2003), the recently updated Public Procurement and Disposal of Assets Act (2017) and the Public Audit Act (2008).

Accounting is carried out by the 'accounting common service', a cadre of individuals ranging from accounting assistants up to directors of finance. All are under the oversight of the Accountant General, who allocates staff to each MDA. These officers are expected to apply formal accounting and control procedures as set out in Desk Instructions.

The Integrated Financial Management System (IFMIS) is the accounting software that facilitates budgetary control. The Accountant General oversees its operation at the national level, with terminals for IFMIS access and transaction entry distributed around MDAs. IFMIS serves as a control mechanism to ensure that payments do not exceed the respective budget lines.

A different version of IFMIS operates at local authorities. The software at local authorities is substantially different, though coding is largely consistent. Accounting officers at that level recently ceased to be part of the common service due to progress in decentralisation. Instead, the NLGFC has oversight over PFM at local authorities. There are also separate local authority accounting guidelines which cover IFMIS operation and also local revenue collection (e.g. property rates and market fees) as well as controls over the use of this revenue.

Expenditure management processes for each expenditure element are:

- **PE expenditure:** all government employees are paid direct to their bank accounts from the Reserve Bank of Malawi (RBM). Payments are recorded in the GoM salaries software overseen by the Department of Human Resources and Management Development (DHRMD). DHRMD has oversight over new employees, promotions and departures and also over the establishment of new positions. PE budgets at local authority level used to be under the direct control of the sector ministries but they are now devolved to local authorities in that data entry in the DHRMD controlled human resource management information system (HRMIS) software is done at authority level. However, funding is still from the centre and DHRMD still retains control, with authorities not yet authorised to make 'hire and fire' decisions themselves.
- **ORT expenditure:** ORT is funded by Treasury as a lump sum each month against an annual budget total, for each cost centre bank account (e.g. a ministry HQ). The monthly funding should follow the monthly cash-flow set at the time of the budget (though variances are common). Management at the cost centre decides on allocations within the ORT funding received in each month. They are guided by the annual budget ORT line items.
- **At local authorities,** NLGFC is involved with ORT only to the extent that they are the ones that inform the authority how much funding was sent. The money is credited to a cross-sectoral ORT bank account at the authority. Payments from this account are signed by the District Commissioner (DC) and the Director of Finance (DoF). Payments are authorised by the director of the relevant sector.
- **Development expenditure:** development expenditure is generally funded by Treasury against each evidenced stage in a project's activity. In this way, funding is provided to cost centres only when needed.

The above expenditure management description applies to Government expenditures in each sector, including WASH expenditures.

ANNEX B - OVERVIEW OF KEY WASH SECTOR LEGISLATION, POLICY, AND STRATEGY

TABLE 25 Key legislation relevant to the WASH sector

Legislation	Summary
Public Health Act 1949	<ul style="list-style-type: none"> • Gives powers to Sanitation inspectors to enforce sanitation and hygiene in all places both public and private • Regulates implementation of sanitation and hygiene • Sets out procedures of prosecuting
Waterworks Act 1995	<ul style="list-style-type: none"> • Created the Water Boards and gave them power to collect revenues, as well as outlining service delivery responsibilities.
Environment Management Act 1996	<ul style="list-style-type: none"> • Gives powers to the minister to prescribe environmental quality standards generally (inc. noise, air, water, soil, effluent and solid waste) • States that every person shall have a right to a clean and healthy environment
Local Government Act of 1998	<ul style="list-style-type: none"> • 2.(1) d. grants various powers and responsibilities related to water and sanitation in an Assembly/ councils jurisdiction. • 13.(4) grants powers to collect revenue from water supplies and waste collection.
Environment Management Act 1996	<ul style="list-style-type: none"> • Gives powers to the minister to prescribe environmental quality standards generally (inc. noise, air, water, soil, effluent and solid waste) • States that every person shall have a right to a clean and healthy environment
Water Resources Act 2013	<ul style="list-style-type: none"> • Repeals the 1969 Water Resources Act • Establishes the National Water Resources Authority • Defines arrangements surrounding water governance

TABLE 26 Key sector policies

Policy	Details
The National Decentralization Policy 1998	<ul style="list-style-type: none"> • Devolves administration and political authority to the district level; • Integrates governmental agencies at the district and local levels into one administrative unit • Assigns, functions and responsibilities to the various levels of government (including for Water and Sanitation)
National Water Policy 2005	<ul style="list-style-type: none"> • Outlines the overall policy goals in the water sector across key areas. • Outlines M&E arrangements in the sector. • Clarifies institutional responsibilities. • Sets specific objectives up until 2010.
The National Sanitation Policy 2006	<ul style="list-style-type: none"> • Outlines overall policy goals in the sector, and discusses key strategies. • Discusses implementation arrangements at the various institutional levels. • Outlines a sanitation investment plan up to 2011.
National Environmental Health Policy 2018	<ul style="list-style-type: none"> • Sets out the priority areas of: • Promote hygiene at household level. • Promote provision of sustainable sanitary facilities. • Promote the use of sustainable sanitation technologies. • Promote proper management of liquid and solid waste at all levels • Promote Open Defecation Free (ODF) communities. • Strengthen water quality monitoring from source to user-end. • Strengthen water treatment at point of use.

TABLE 27 Key sector strategies

Strategy	Details
Vision 2020	<ul style="list-style-type: none"> The policy framework that “sets out a long-term development perspective for Malawi”.
Malawi Growth Development Strategy II - 2011 – 2016 (MGDS II)	<ul style="list-style-type: none"> Outlines the national development priorities 2011-16. Water development features under Sub-theme 3, and key priority area 7.2. Sanitation features under key priority area 5.2. Estimated budget allocations by priority area are provided. Some specific activities are outlined related to WASH by clear targets not set.
Malawi Growth Development Strategy III - 2017 – 2022 (MGDS III)	<ul style="list-style-type: none"> Outlines the national development priorities 2017-22. Water development features under key priority area 6.2. Sanitation features under priority area 6.6 (health and population). Outlines flagship government projects. As with MGDS II some specific activities are outlined related to WASH by clear targets not set.
National Open Defecation Strategy – 2011-15	<ul style="list-style-type: none"> The strategy aims to align, synchronise and harmonize sanitation and hygiene initiatives and interventions towards meeting the goals of the Malawi Growth and Development Strategy (MGDS) II Set the overall goal of Malawi being ODF by 2015. Outlined key approaches including scaling up CLTS, and increasing the use of Sanitation Marketing.
National Health Sector Strategic Plan (2011 – 2016)	<ul style="list-style-type: none"> Includes some mention of health promotion to prevent communicable diseases (Section 5.2.3.2 – Environmental Health, and a recognition of poor sanitation as a leading risk factor. Outlines promotion activities at the primary health care level as the key strategy under the HSSP 2011-16)
National Health Sector Strategic Plan (2017 – 2022)	<ul style="list-style-type: none"> Reducing environmental risk factors more clearly identified as a key objective (see section 5.2, Objective 2). A wider range of activities are included under a Water and sanitation strategy area, including water quality monitoring and training extension workers in CLTS.
Malawi Water Sector Investment Plan	<ul style="list-style-type: none"> Outlines the water sector investment needs up to 2030 modelled under a range of coverage scenarios. Identifies priority policy and spending areas in the WASH sector as well as identifying institutional issues.
National Sanitation And Hygiene Strategy - 2018 - 2024	<ul style="list-style-type: none"> Comprehensive strategy covering rural and urban sanitation and hygiene. Clear and measurable targets set across key areas. Outlines strategies for: <ul style="list-style-type: none"> Providing and promoting use of improved and accessible sanitation facilities in all public places Promote adoption of safe water and sanitation practices at individual and household levels Improving management and disposal of both liquid and solid waste. Ensure that programs incorporate promotive approaches that is cognisant of context, technology, behavioural science and economics for improved sanitation and hygiene.
Malawi Education Sector Plan: a statement 2008-2017	<ul style="list-style-type: none"> Plan makes on specific mention of water of sanitation in schools.
National Resilience Strategy (Phase I – 2018-2030)	<ul style="list-style-type: none"> Strategy initiated outside of PER timeframe as such will be considered in looking forward. Strategy references existing relevant WASH sector policy. Focus in the WASH sector relates to drought resilience, protecting watersheds and flood control. WASH outcomes included under Pillar 3. Sanitation included with CLTS highlighted as the approach to be used.

TABLE 28 Key sector institutions, their responsibilities, and functions

Institution	Roles and responsibilities
Ministry of Agriculture, Irrigation and Water Development (MoAIWD)	<ul style="list-style-type: none"> The MoAIWD has 7 key departments of which Water and Irrigation is one. The Water and Irrigation department breaks into three technical departments: Water Resources Management and Development Water Supply Services, Irrigation Services The overall mandate of the MoAIWD Water and Irrigation department is to: 'To ensure that water resources are well managed to meet domestic, agricultural and industrial demands as well as improve access to improved sanitation facilities and adoption of safe hygiene practices'
Ministry of Local Government and Rural Development (MLGRD)	<ul style="list-style-type: none"> The MLGRD is responsible for supporting sector ministries to reform their systems in line with decentralisation and support district government to adopt their devolved functions.
Ministry of Health and population (MoHP)	<ul style="list-style-type: none"> The overall goal of MoHP is to improve the health status of all Malawians. Regarding WASH this includes: Promotion of sanitation and hygiene in all places using CLTS, SLTS, PHAST and Sanitation marketing Enforce laws related to sanitation and hygiene (CAP34:01 sections 59-114) Promote household water treatment Provide leadership and oversight of sanitation and hygiene activities at all levels Formulate and revise policies related to sanitation and hygiene Maintaining WASH data bases at all levels Developing standard for sanitation and hygiene in liaison with key stakeholders Responsibilities include environmental sanitation and hygiene. The health sector strategy outlines a role for the MoHP in promoting sanitation through community Led Total Sanitation (CLTS).
Ministry of Education, Science and Technology	<ul style="list-style-type: none"> Responsible from education from primary through to tertiary. With the MOEST the Department of School Health and Nutrition is responsible for scaling up school health and nutrition programs in schools across the country
National Water Resources Authority (NWRA) / Water Resource Board	<ul style="list-style-type: none"> The Water Resources Act 2013 announced the establishment of this authority, but it appears it has yet to be operationalised. Its functions as outlined in the Act were performed by the Water Resources Board for the period under review. While the operationalisation of the NWRA is still underway the functions of the WRB include: Advising on policy related to water abstraction; Managing applications for water abstraction and effluent discharge
Water Boards	<ul style="list-style-type: none"> The five Water Boards are mandated to "provide adequate supply of wholesome water and quality services to urban areas in an efficient and effective manner". They are managed under the MoAIWD and there is no regulator in Malawi.
District Councils	<ul style="list-style-type: none"> District Councils have responsibility for delivering water and sanitation services in their area. The District Water development Officer (DWDO) is the main permanent institution whose mandate is to provide direct support for O&M (outside of the Water Boards in Urban areas). The health department lead on sanitation and hygiene promotion – led by the District environmental Health Officer (DEHO) with EHOs and Health Service Assistants (HSAs) acting as the frontline staff.
Water Users Associations	<ul style="list-style-type: none"> Beyond the District Councils and the Water Boards the WUAs are recognised in policy as having responsibility for the O&M of water systems – under the umbrella of community-based management (CBM) of water supplies. These are not governmental institutions but community-based institutions.

ANNEX C - MAPPING OF KEY DONOR PROJECTS

TABLE 29 Key externally financed projects 2012-2018

Donor	Project	Years	Cost (millions)	Urban/rural	Water/ Sanitation	Implementing partners
World Bank	Lilongwe Water and Sanitation Project	2017-2023	USD 100	Urban	Both	Water Board (Govt.)
	Shire basin management project	2012-2018	USD 136	Unspecified	Both	MoAIWD lead (Govt.)
	Second National Water Development Project	2012-2015	USD 189	Unspecified	Both	MoAIWD lead (Govt.)
AfDB	Malawi shire valley irrigation project	Approved 2017	UAC 0.5	Unspecified	Both	Unknown
	Nkhata bay town water supply and sanitation project	Approved late 2018	UAC 22.5	Unspecified – assumed Urban	Both	Water Board (Govt.)
	Sustainable rural water and sanitation infrastructure for improved and health and livelihoods	Approved 2013	UAC 25.6 +UAC 2.6	Rural	Both	MoAIWD
	Mzimba integrated urban water and sanitation project	Approved 2015	UAC 16.4	Urban	Both	Water Board (Govt.)
	Lilongwe sustainable water supply and sanitation service delivery	Pipeline	UAC 190	Urban	Both	Unknown
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
	Integrated WASH intervention in low income areas in Mzuzu and Karonga	2014-2017	EUR 1.7	Urban	Both	Dutch Red Cross (NGO)
	Peri-Urban Sanitation and Hygiene Project in Mzuzu City	2013-2017	EUR 1.66	Urban	San only	Plan (NGO)
	'Water Fund'*	2013-2018	EUR 23	Rural	Both	UNICEF
DFID	Malawi Water and Sanitation Programme	2012-2016	GBP 19.5	Rural	Both	UNICEF
GSF	The Accelerated Sanitation and Hygiene Practices Programme (ASHPP)	2012-2017	USD ~7.5	Rural	San only	Plan (NGO) and local NGOs
DFAT	Supporting Malawi's National Water Development Program	2010-2012	USD 17m	Unspecified	Both	Funding was to extend AfDB programme

ANNEX D - TECHNICAL NOTE ON THE USE OF JMP AND SURVEY DATA

When using any one survey to assess the level of WASH access great care has to be used in setting these in context of other surveys and comparing to trends and the JMP data, especially as:

- i. the JMP estimates are based on regressions and the JMP apply assumptions to the estimates from individual surveys;
- ii. individual surveys can suffer from measurement error and/or present anomalous results. These may only be apparent in light of following surveys.

Regarding point ii) this can be associated with 'non-sample error' related to training and implementation of the survey.

Such errors are very hard to identify after the fact as these are not measurable. However, the PER team note that between the 2010 and 2016 DHS there was a very large increase in the number of people with improved sanitation. The 2018 census confirms the level of coverage is similar to the 2016 DHS; however the 2008 census presents much higher latrine coverage. In short, the latrine data of the 2010 DHS are seen likely to suffer from measurement error and as such are not used. Rather, where possible the team use 'harder' indicators such as the level of open defecation when analysing progress on sanitation.

A further critical issue in using survey data relates to the classification of latrines as either 'improved' or 'unimproved' in line with the global monitoring definitions⁶². This can pose a challenge for using survey data for the global estimates or for using survey data to estimate 'improved' sanitation. The issues in Malawi is that the vast majority of latrines in rural areas are simple pit latrines with a mud/wood slab. As per the global definition these appear to be improved facilities. However, in

producing the global estimates the JMP assume a proportion of all latrines to be unimproved⁶³. This explains why the JMP estimates can differ from those reported by individual surveys.

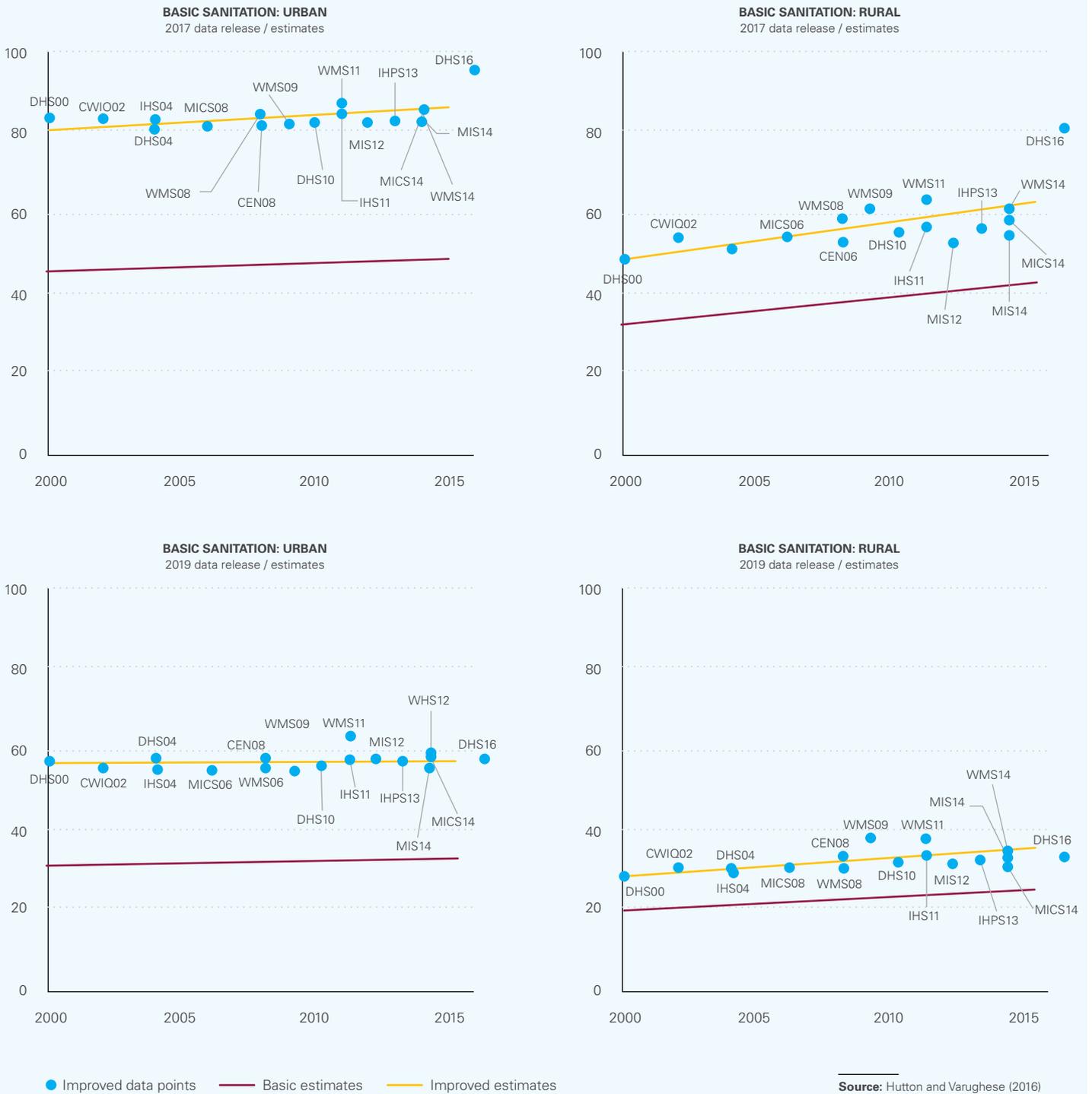
The proportion of latrines that the JMP assume to be unimproved has a very significant influence on the estimates they produce for Malawi. Between the 2017 and 2019 data release these assumptions were revised and led to the JMP substantially revising down their coverage estimates for basic sanitation. The PER team downloaded the country data file for Malawi prior to and then after the 2019 data release. This allows a comparison of how the revised assumptions used by the JMP impact on the figures for improved and basic sanitation. Figure 46 presents the JMP estimates of the same surveys across the two different periods; the differences shown in the estimates are purely due to JMP methodology changes and changes in the assumptions.

Given the challenges unique to Malawi is in estimating 'improved' sanitation regarding the classification of latrines with a mud or wood slab the PER team avoid using this classification in presenting the results of our own analysis. Instead, where latrine data needs to be presented the team present this as 'improved and traditional latrines'. Where 'traditional latrines' refers to those with a wood/mud/rock slab. This change in language reflects the fact that we do not assume a proportion of these latrines to be unimproved; though at the same time we recognise that all may not be of a high standard and refrain from classifying all latrines with a wood/mud/rock slab as 'improved'.

⁶² See WHO/UNICEF JMP (2018).

⁶³ The reason for this is not explicitly put forward by the JMP in report results. However, it is assumed by the evaluation team that the decision to do this likely relates to quality concerns around these latrines and considerations in ensuring the comparability of results between countries

FIGURE 46 JMP sanitation estimates 2017 and 2019 data release



ANNEX E - DISTRICT LEVEL PROGRESS DATA TABLES

The tables in this annex present the data used in the performance analysis. The data are presented disaggregated in two ways. In the 'district only' columns the data is for the whole district (including the cities within that district). In the 'districts and cities' columns the data for the major cities within those districts are presented separately and the figures for the rest of the districts exclude the city figures.

TABLE 30 Access to an improved drinking water source by district and region (2010-2018)

Areas	Districts only				Districts and cities	
	2010 (DHS)	2013 (MICS)	2015 (DHS)	2018 (Census)	2013 (MICS)	2018 (Census)
Malawi	80	86	87	85	86	85
Northern	83	90	87	83	90	83
Chitipa	77	85	88	80	85	80
Karonga	87	88	90	89	88	89
Nkhata Bay	74	75	77	75	75	75
Rumphi	86	91	83	76	91	76
Mzimba	85	95	89	86	94	83
Likoma				88		88
Mzuzu City					100	95
Central	74	84	86	84	84	84
Kasungu	64	73	82	72	73	72
Nkhotakota	77	85	85	80	85	80
Ntchisi	83	85	82	85	85	85
Dowa	70	75	66	78	75	78
Salima	91	93	86	90	93	90
Lilongwe	74	90	92	89	86	85
Mchinji	72	77	87	88	77	88
Dedza	66	86	84	83	86	83
Ntcheu	86	83	97	81	83	81
Lilongwe City					99	96
Southern	84	87	88	87	87	87
Mangochi	82	93	93	89	93	89
Machinga	78	80	74	80	80	80
Zomba	91	93	91	93	92	93
Chiradzulu	89	90	94	93	90	93
Blantyre	90	91	90	92	79	87
Mwanza	85	90	92	86	90	86
Thyolo	67	66	81	75	66	75
Mulanje	91	88	91	86	88	86
Phalombe	91	91	87	90	91	90
Chikwawa	74	92	87	87	92	87
Nsanje	92	87	89	86	87	86
Balaka	89	95	93	92	95	92
Neno	80	74	71	77	74	77
Zomba City					95	96
Blantyre City					99	95

TABLE 31 Open defecation rates by district and region (2010-2018)

Areas	Districts only			Districts and cities		
	2010 (DHS)	2013 (MICS)	2015 (DHS)	2010 (DHS)	2013 (MICS)	2018 (Census)
Malawi	11	5	6	7	5	7
Northern	14	4	7	6	4	6
Chitipa	6	2	2	1	2	1
Karonga	27	3	8	7	3	7
Nkhata Bay	17	6	8	7	6	7
Rumphi	5	1	2	4	1	4
Mzimba	14	4	8	7	5	9
Likoma				8		8
Mzuzu City					-	1
Central	12	4	5	7	4	7
Kasungu	17	4	6	6	4	6
Nkhotakota	21	5	3	11	5	11
Ntchisi	8	3	4	5	3	5
Dowa	10	6	4	6	6	6
Salima	20	9	7	7	9	7
Lilongwe	10	2	4	7	4	10
Mchinji	11	9	11	13	9	13
Dedza	11	3	6	8	3	8
Ntcheu	2	2	2	8	2	8
Lilongwe City					-	1
Southern	9	6	7	7	6	7
Mangochi	10	4	6	4	4	4
Machinga	8	6	10	8	6	8
Zomba	8	3	11	6	3	7
Chiradzulu	2	2	4	8	2	8
Blantyre	3	2	3	3	4	7
Mwanza	10	9	8	6	9	6
Thyolo	6	4	10	9	4	9
Mulanje	14	10	4	9	10	9
Phalombe	16	9	4	7	9	7
Chikwawa	17	12	14	11	12	11
Nsanje	20	16	14	16	16	16
Balaka	9	7	3	5	7	5
Neno	18	7	7	9	7	9
Zomba City						0
Blantyre City					0	0

TABLE 32 Access to an improved or traditional latrine by district and region (2010-2018)

Areas	Districts only			Districts and cities		
	2010 (DHS)	2013 (MICS)	2015 (DHS)	2010 (DHS)	2013 (MICS)	2018 (Census)
Malawi	14	62	83	63	62	63
Northern	8	86	84	63	86	63
Chitipa	6	73	97	63	73	63
Karonga	4	90	83	66	90	66
Nkhata Bay	10	61	65	59	61	59
Rumphi	10	97	92	69	97	69
Mzimba	10	90	86	62	90	56
Likoma				57		57
Mzuzu City					97	85
Central	15	78	83	62	78	62
Kasungu	5	82	71	64	82	64
Nkhotakota	9	95	88	55	95	55
Ntchisi	7	97	87	60	97	60
Dowa	12	61	81	61	61	61
Salima	13	57	82	64	57	64
Lilongwe	27	97	85	67	95	56
Mchinji	8	83	68	57	83	57
Dedza	12	61	90	51	61	51
Ntcheu	11	22	91	59	22	59
Lilongwe City					100	87
Southern	14	44	82	63	44	63
Mangochi	11	27	87	62	27	62
Machinga	13	56	77	58	56	58
Zomba	19	71	71	64	68	60
Chiradzulu	5	22	89	57	22	57
Blantyre	32	62	94	78	46	63
Mwanza	8	37	76	66	37	66
Thyolo	8	19	78	58	19	58
Mulanje	9	20	84	64	20	64
Phalombe	7	58	85	57	58	57
Chikwawa	5	47	75	58	47	58
Nsanje	4	44	75	54	44	54
Balaka	14	32	82	62	32	62
Neno	3	49	89	61	49	61
Zomba City					92	91
Blantyre City					72	87

FIGURE 47 District level progress on improved water and open defecation

Source: MICS 2013 and census 2018

ANNEX F - HOUSEHOLD EXPENDITURE ESTIMATES BY DISTRICT

The analysis in this PER has highlighted that household expenditure is a very significant proportion of total sector expenditure. The household estimates were produced based on expenditure surveys: the Integrated Household Survey 3 and 4. In these surveys households report the expenditure on certain items in the previous month. Water expenditure is reported in questions F37 in the surveys and soap reported in I05 and I06.

The analysis of the raw data was done by the authors. The estimates use the population weights reported in the survey. The estimated number of households is based on a linear

interpolation between the surveys. The survey data are publicly available:

- **IHS 3:** <https://microdata.worldbank.org/index.php/catalog/1003> [accessed October 2019]
- **IHS 4:** <https://microdata.worldbank.org/index.php/catalog/2936> [accessed October 2019]

TABLE 33 Household water expenditure estimates 2016 (IHS 4)

Area	Mean monthly expenditure (MWK)	Standard Error	95% confidence interval		Number of HHs*	Estimated annual household expenditure (MWK)
			lower band	upper band		
Malawi	777	43	693	861	3,766,571	35,139,643,304.42
						-
Urban	3,113	214	2,692	3533.556	602,651	22,511,865,559
Rural	228	19	191	264.4466	3,163,920	8,649,225,756
						-
North	925	108	713	1,137	445,485	4,944,979,354
Central	685	56	574	795	1,609,631	13,222,573,033
Southern	837	71	697	977	1,711,455	17,187,740,761
						-
Chitipa	117	64	-9	243	47,102	66,039,863
Karonga	528	272	-6	1,062	71,098	450,534,261
Nkhatabay	438	165	114	763	49,890	262,328,892
Rumphi	784	337	123	1,446	44,711	420,869,051
Mzimba	344	186	-21	708	184,844	762,101,631
Likoma	1,883	171	1,548	2,219	2,711	61,262,896
Mzuzu City	3,438	408	2,638	4,238	45,129	1,861,822,272
Kasungu	221	103	19	423	169,003	447,325,162
Nkhotakota	263	77	111	414	76,171	240,070,995
Ntchisi	152	71	11	292	65,826	119,785,999
Dowa	187	62	66	308	164,854	370,253,841
Salima	287	122	48	526	99,430	342,384,394
Lilongwe	411	130	157	666	362,092	1,787,135,627
Mchinji	791	94	608	975	126,957	1,205,791,800
Dedza	83	29	26	140	185,433	185,292,317
Ntcheu	148	77	-3	300	146,176	259,995,713
Lilongwe City	2,947	315	2,329	3,566	213,689	7,557,827,299
Mangochi	287	115	62	513	238,650	822,802,557
Machinga	798	111	581	1,016	154,077	1,476,214,337
Zomba Non-City	323	87	151	494	170,122	658,381,241
Chiradzulu	85	12	62	109	86,422	88,576,661
Blantyre	305	112	85	525	104,060	380,499,969
Mwanza	234	86	64	404	28,527	80,018,345
Thyolo	72	25	24	120	167,190	144,444,717
Mulanje	162	73	19	305	153,006	297,932,749
Phalombe	58	11	36	80	94,089	65,645,801
Chikwawa	167	80	11	324	120,810	242,827,454
Nsanje	153	71	14	291	61,515	112,593,568
Balaka	600	127	350	850	96,125	691,707,464
Neno	83	17	50	116	30,113	29,983,615
Zomba City	2,225	399	1,441	3,009	23,729	633,552,769
Blantyre City	4,344	468	3,425	5,264	183,019	9,541,192,984

Source: Authors' analysis of IHS 4 data

*the number of households is based on a linear interpolation between the two censuses

TABLE 34 Household water expenditure estimates 2010 (IHS 3)

Area	Mean monthly expenditure (MWK)	Standard error	95% confidence interval		Number of HHs	Estimated annual household expenditure (MWK)
			lower band	upper band		
Malawi	158	14	131	186	3,111,328	5,914,306,456
						-
Urban	863	93	680	1,046	497,812	5,153,957,081
Rural	28	6	16	40	2,613,515	884,290,285
						-
North	119	16	88	150	364,814	520,185,961
Central	130	18	96	165	1,299,495	2,031,788,709
Southern	194	25	144	244	1,447,019	3,360,374,487
						-
Chitipa	61	36	-10	133	39,427	29,095,378
Karonga	146	61	26	266	59,533	104,432,550
Nkhatabay	51	27	-2	104	43,394	26,708,539
Rumphi	126	54	20	232	37,662	56,936,465
Mzimba	2	2	-2	6	150,811	3,314,470
Likoma					2,168	-
Mzuzu City	793	119	559	1,027	31,819	302,683,519
Kasungu	53	42	-30	135	136,962	86,322,081
Nkhotakota	67	46	-23	157	64,988	52,375,693
Ntchisi	37	36	-34	108	51,284	22,970,642
Dowa	98	69	-36	233	130,660	154,230,050
Salima	37	19	1	74	81,047	36,381,915
Lilongwe	51	43	-34	135	293,662	178,058,582
Mchinji	52	46	-38	142	103,432	64,745,704
Dedza	16	11	-5	37	153,721	29,615,762
Ntcheu	67	28	13	122	119,783	96,586,224
Lilongwe City	639	116	411	866	163,956	1,257,016,009
Mangochi	18	13	-7	44	195,983	43,179,019
Machinga	40	28	-16	95	123,782	59,090,806
Zomba Non-City	29	5	20	39	147,447	52,166,884
Chiradzulu	95	46	5	186	74,036	84,695,504
Blantyre	50	24	3	96	86,351	51,344,128
Mwanza	91	44	4	179	23,071	25,268,728
Thyolo	41	18	6	77	146,448	72,923,178
Mulanje	23	11	0	45	131,581	36,050,709
Phalombe	48	25	-1	97	79,813	46,239,549
Chikwawa	20	11	-1	41	101,639	24,162,443
Nsanje	22	11	0	44	54,142	14,301,254
Balaka	64	20	25	103	79,775	61,363,878
Neno	15	4	8	22	25,981	4,659,970
Zomba City	845	130	590	1,100	19,939	202,237,076
Blantyre City	1,223	228	777	1,670	157,032	2,305,404,160

Source: Authors' analysis of IHS 3 data

*the number of households is based on a linear interpolation between the two censuses

TABLE 35 Household soap expenditure estimates 2016 (IHS 4)

Area	Mean monthly expenditure (MWK)	Standard error	95% confidence interval		Number of HHs*	Estimated annual household expenditure (MWK)
			lower band	upper band		
Malawi	875	10	854	895	3,766,571	39,529,722,388
						-
Urban	1,369	35	1,300	1,439	602,651	9,902,389,734
Rural	758	10	739	777	3,163,920	28,784,570,680
						-
North	1,016	20	978	1,055	445,485	5,433,881,226
Central	921	18	886	955	1,609,631	17,782,035,618
Southern	803	14	776	830	1,711,455	16,487,799,561
						-
Chitipa	843	27	791	895	47,102	476,357,650
Karonga	1,034	46	944	1,125	71,098	882,424,580
Nkhatabay	1,134	66	1,004	1,265	49,890	679,191,741
Rumphi	971	47	879	1,062	44,711	520,875,629
Mzimba	928	39	851	1,004	184,844	2,057,457,914
Likoma	1,148	56	1,038	1,258	2,711	37,356,268
Mzuzu City	1,170	55	1,063	1,278	45,129	633,862,777
Kasungu	948	56	838	1,057	169,003	1,921,707,376
Nkhotakota	967	52	865	1,068	76,171	883,694,266
Ntchisi	940	48	846	1,035	65,826	742,840,230
Dowa	836	46	747	926	164,854	1,654,797,924
Salima	707	43	622	792	99,430	843,622,134
Lilongwe	814	35	746	883	362,092	3,538,927,308
Mchinji	862	40	785	940	126,957	1,313,691,658
Dedza	656	45	568	745	185,433	1,460,806,203
Ntcheu	693	50	595	791	146,176	1,215,516,906
Lilongwe City	1,544	72	1,402	1,686	213,689	3,958,871,077
Mangochi	736	39	659	814	238,650	2,108,719,847
Machinga	784	57	673	895	154,077	1,449,856,932
Zomba Non-City	802	51	703	901	170,122	1,637,159,783
Chiradzulu	660	28	605	715	86,422	684,142,645
Blantyre	951	52	849	1,053	104,060	1,187,391,240
Mwanza	727	44	642	813	28,527	248,965,297
Thyolo	650	42	568	732	167,190	1,303,683,352
Mulanje	621	41	541	701	153,006	1,140,047,357
Phalombe	445	25	397	494	94,089	502,809,260
Chikwawa	578	40	500	657	120,810	838,457,761
Nsanje	560	52	458	662	61,515	413,366,596
Balaka	804	57	692	917	96,125	927,968,603
Neno	734	42	652	816	30,113	265,278,965
Zomba City	1,433	135	1,167	1,698	23,729	407,979,289
Blantyre City	1,414	50	1,315	1,513	183,019	3,106,110,087

Source: Authors' analysis of IHS 4 data

*the number of households is based on a linear interpolation between the two censuses

TABLE 36 Household soap expenditure estimates 2010 (IHS 3)

Area	Mean monthly expenditure (MWK)	Standard error	95% confidence interval		Number of HHs	Estimated annual household expenditure (MWK)
			lower band	upper band		
Malawi	243	4	236	251	3,111,328	9,083,805,926
						-
Urban	385	16	353	417	497,812	2,301,655,020
Rural	217	3	211	224	2,613,515	6,807,136,559
						-
North	245	7	230	259	364,814	1,070,613,948
Central	281	7	268	295	1,299,495	4,385,983,637
Southern	210	5	201	219	1,447,019	3,645,930,992
						-
Chitipa	232	18	198	267	39,427	109,896,080
Karonga	228	10	209	248	59,533	162,923,723
Nkhatabay	258	18	223	293	43,394	134,305,709
Rumphi	250	12	227	272	37,662	112,854,869
Mzimba	220	12	197	244	150,811	398,906,584
Likoma					2,168	-
Mzuzu City	381	42	299	464	31,819	145,566,424
Kasungu	385	18	350	420	136,962	633,229,686
Nkhotakota	268	24	221	315	64,988	208,794,572
Ntchisi	295	22	251	339	51,284	181,403,970
Dowa	375	19	338	412	130,660	588,005,905
Salima	187	15	157	217	81,047	181,667,504
Lilongwe	222	16	191	254	293,662	783,689,554
Mchinji	253	20	214	293	103,432	314,485,877
Dedza	153	11	131	175	153,721	282,387,811
Ntcheu	167	10	146	187	119,783	239,521,089
Lilongwe City	468	39	391	545	163,956	920,142,664
Mangochi	175	6	164	187	195,983	412,071,533
Machinga	167	8	151	183	123,782	247,929,990
Zomba Non-City	218	12	195	241	147,447	386,200,333
Chiradzulu	274	22	231	317	74,036	243,369,741
Blantyre	266	24	220	313	86,351	275,851,758
Mwanza	183	13	158	208	23,071	50,592,867
Thyolo	166	7	153	180	146,448	291,853,056
Mulanje	219	17	187	252	131,581	345,992,028
Phalombe	233	22	190	277	79,813	223,412,213
Chikwawa	130	11	108	152	101,639	158,406,929
Nsanje	121	8	105	138	54,142	78,770,500
Balaka	164	12	141	187	79,775	157,219,485
Neno	182	9	165	199	25,981	56,801,087
Zomba City	460	48	366	553	19,939	109,966,396
Blantyre City	310	25	261	358	157,032	583,384,014

Source: Authors' analysis of IHS 3 data

* the number of households is based on a linear interpolation between the two censuses

TABLE 37 Household expenditure 2010-2016 (MWK 2016 prices)

	2010 (MWK Bn -2010 prices)	2010 (MWK Bn – 2016 prices)	2016 (MWK Bn – 2016 prices)	Average HH expenditure (2016-MWK)
Malawi	5.91	16.04	35.14	9,329
Urban	5.15	13.98	22.51	37,355
Rural	0.88	2.40	8.65	2,734
North	0.52	1.41	4.94	11,100
Central	2.03	5.51	13.22	8,215
Southern	3.36	9.12	17.19	10,043

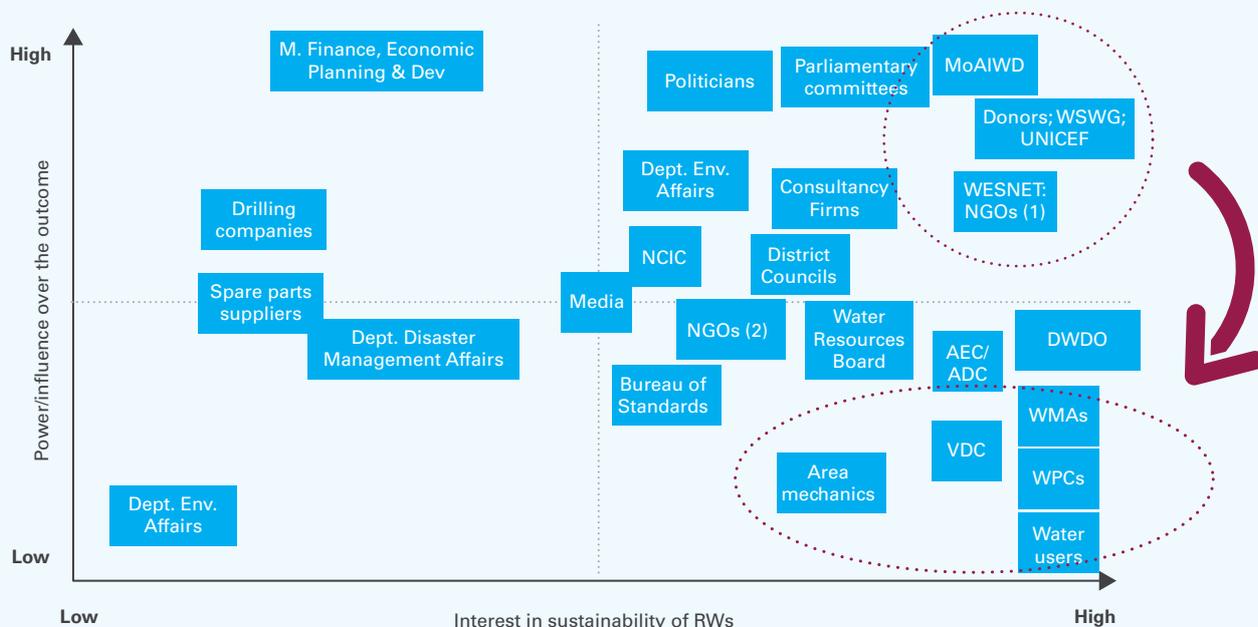
Source: Authors' analysis of IHS 3 and IHS4 data

ANNEX G - STAKEHOLDER MAPPING IN RURAL WATER SUPPLIES

As part of a political economy analysis ODI conducted a stakeholder mapping to assess the power and interest of different groups in maintaining water supplies. This is reproduced in Figure 48. This mapping seeks to highlight that those at the frontline of maintaining functionality have the least power or influence. While those with the most power/influence

and interest in maintaining supplies are predominantly funding and policy making organisations. In the view of the PER team this strengthens the case for those organisations with the most influence supporting those at the frontline with aligned interests in water point functionality.

FIGURE 48 Rural water supply stakeholder mapping



KEY
ADC Area Development Committee; **AEC** Area Executive Committee; **Dept.** Department; **Dev.** Development; **District Council** District Commissioner, District Executive Committee, District Coordination Team, Traditional Authorities; **DWDO** District Water Development Office; **Env.** Environment; **M.** Ministry; **MoAIWD** Ministry of Agriculture, Irrigation and Water Development; **NCIC** National Construction Industry Council; **NGOs (1)** Water for People, World Vision, WaterAid, Concern Universal (United Purpose); **NGOs (2)** Eagles Relief, InterAide, Care Malawi, PCI, Concern Worldwide, GOAL Malawi, Red Cross; **VDC** Village Development Committee; **WESNET** Water and Environmental Sanitation Network; **WMA** Water Monitoring Assistant (extension agent); **WPC** Water Point Committee; **WSWG** Water Sector Working Group

Source: ODI (2018) – blue circles and arrow added by PER authors' for illustrative purposes

ANNEX H - SECTOR STAFFING AND PE COSTS

As part of the data collection for the PER a questionnaire was sent to all districts asking them to report on staffing levels. Below we present the results of these returns for the districts that responded.

TABLE 38 District-level staffing – sanitation

	CHPO	DEHO	SEHO	EHO	AEHO	AHEO	SAE- HO	SHSA	H.S.As	SHPO	ACHO	Total	Change over previous four years	Population	HAS: population
Mwanza		1		5	4			40	30			80	-10	130,949	4,365
Neno		1		8				37	28			74	-6	138,291	4,939
Blantyre		1		3	7			52	615			678	-381	1,251,484	2,035
Balaka		1	1	1	8				264			275	-26	438,379	1,661
Karonga		1	1			4	1	45	115			167	-18	365,028	3,174
Mulanje	1		1	1	7		2	45	342			399	-30	684,107	2,000
Nkhotakota		1			8				208			217	-	393,077	1,890
Thyolo	1	1	1				1	48	401			453	0	721,456	1,799
Zomba	1			2	7			52	533			595	-38	851,737	1,598
Dowa					16				416			432	-2	772,569	1,857
Chiradzulu		1		4	8				205			218	-	356,875	1,741
Likoma		1			2				8			11	-	14,527	1,816
Chikwawa		1		11				42	224			278	0	564,684	2,521
Nsanje		1	1		6	1		42	112		4	167	-	299,168	2,671
Rumphi		1			7				133			141	-	229,161	1,723
Dedza		1		11				42	359			413	-41	830,512	2,313
Kasungu	1		1	2	10			43	463			520	-	842,953	1,821
Machinga		1		4	5				311			321	-	735,438	2,365
Mchinji		1	1	2	7				330			341	-	602,305	1,825
Chitipa		1	1	2	4		1	44	77			130	-	234,927	3,051
Salima		1	1	2	14		3		274			295	-72	478,346	1,746
Lilongwe		1		7		20			1127			1155	-36	2,626,901	2,331
Nkhata bay	1	1			4				136			142	-	284,681	2,093
Ntchisi					12			48	127			187	-	317,069	2,497
Mangochi		1		18				49	437			505	-30	1,148,611	2,628
Phalombe		1		11					218	1		231	0	429,450	1,970
Ntcheu	1		1		5			48	309			364	-	659,608	2,135
Mzimba	1	2	0	16	7	0	0	29	549	1	0	605	-	1,161,456	2,116
Totals	6	21	10	94	141	25	8	677	7802	1	4	8789		17,563,749	2,251
Annual cost per individual (MWK m)	5.9	4.1	3.8	3.2	1.8	1.8	2.1	1.2	1.3	1.2	1.8	-			
Total annual PE estimate (MWK m)	41.1	94.0	38.5	351.5	269.7	45.6	16.8	813.0	10,649.8	2.3	7.3	12,329.4			

Source: district reports to PER team

TABLE 39 District-level staffing – water

	DWDO	SCWSO	CWSO	ACWSO	Water supervisor	AHO	WMA	Water Asst.	Gauging Asst.	GWDA	BMO	Plant operator	AHRMO	WPO	Total	Changes in comparison with 4 previous years	Population	WMA Population
Chiradzulu				1			4								5	3	356,875	89,218.75
Chikwawa	1			1		1	3	1			2			2	11	0	564,684	188,228.00
Salima		1		1			3				2		1		8	1	478,346	159,448.67
Phalombe	1				1		2					1			5	0	429,450	214,725.00
Dowa		1					4				1		1		7	2	772,569	193,142.25
Karonga			1				4				1				6	1	365,028	91,257.00
Ntcheu			1		3		6	1			1				12	0	659,608	109,934.67
Mangochi	1				4		17				2				24		1,148,611	67,565.35
Balaka			1				2				3	6	1		13		438,379	219,189.50
Blantyre	1						3				3				7	0	1,251,484	417,161.33
Chitipa				1			4			1	1	1			8	2	234,927	58,731.75
Dedza				2							2				4	0	830,512	-
Kasungu	1							3			2				6	0	842,953	-
Mchinji			1	1			3								5	-	602,305	200,768.33
Mwanza				1			1								2	-3	130,949	130,949.00
Mzimba			1				4				2				7		1,161,456	290,364.00
NkhataBay	1						1	1		1	2				6	0	284,681	284,681.00
Nkhotakota		1				1	2		1						5	0	393,077	196,538.50
Thyolo	1					1	3	1							6	0	721,456	240,485.33
Zomba		1	2							1	4				8	0	851,737	-
Mulanje		1					2				1				4	-2	684,107	342,053.50
Lilongwe		1		1		1	4			1	4				12		2,626,901	656,725.25
Ntchisi				2						1					3	0	317,069	-
Nsanje	1						1			1	1				4	-3	299,168	299,168.00
Likoma	1											2			3	0	14,527	-
Rumphi		1				2	4				3				10	-	229,161	57,290.25
Machinga							1			1	2				4	-	735,438	735,438.00
Neno							2				1				3	-2	138,291	69,145.50
Totals	9	7	7	11	8	6	80	7	1	7	40	10	3	2	198		17,563,749	219,546.86
Annual cost per individual (MWK m)	2.7	2.6	2.6	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3				
Total annual PE estimate (MWK m)	24.3	18.2	18.2	16.5	12	9	112	9.1	1.3	9.1	52	13	3.9	2.6	301.2			

Source: district reports to PER team

ANNEX I - STAKEHOLDERS INTERVIEWED

Area	Name	Role
District-level stakeholders interviewed		
Nkhotakota District	Dr Matchaya	DC
	Malani Moyo	Acting DPD
	Mr Nyasulu	Acting DOF
	Ephraim Mbewa	DEHO
	Enea Mfipa	WASH Coordinator
	Maggie Mugala	HSA
	Mr Nkhuwa	WMA
	Mr Chimutu	WUA
Rumphi District	Steve Chima	Director of Administration
	Frank Mkandawire	Director of Planning and Development
	Musandide Fredrick Misinjo	Director of Finance
	John Mpoha	District Environmental Health Officer
	Mkanani	WASH Coordinator
	John Chingawale	District Water Development Officer
	Alfred Chiwaka	Health Surveillance Assistant
	Godfrey Mhango	Health Surveillance Assistant
	Sara Msisya	Health Surveillance Assistant
	Steve Msowoya	Water Monitoring Assistant
	Suzgo Viyuwi	Chairperson of Ng'onga WUA
	Bridget kamunga	Member of Ng;onga WUA
	Fika Mtete	Member of Ng'onga WUA
Phalombe District	Osman Bwanali	Director of Administration (DoA)
	Joseph Mtiza	Director of Finance
	Smith Majoni	Local Development Fund Officer
	Dave Chibani	Disaster Management Officer
	Chimwemwe Jella	DEHO
	Boston Tambala	DWDO
	Funny Mbingwani	Health Surveillance Assistant
	John Limited	Health Surveillance Assistant
	Mr Masuku	Health Surveillance Assistant
	George Mpombwe	Migowi Water User Association Board Chairperson
	Vera Mangondo	Migowi Water User Association Board member
	Minjolo Makheala	Migowi Water User Association Board Treasurer
	Kefati Maenje	Migowi Water User Association Board secretary
	Jennifer Chinjiko	Migowi Water User Association Office clerk
	Stanford Khumbanyiwa	Caretaker
	Jean Manyozo	Migowi Water User Association Board member
	Princess Makina	Migowi Water User Association Board Vice secretary
	Alex Saad	Water Monitoring Assistant
	Levi Kadambo	Water Monitoring Assistant
	Patron Kalonga	Water Supervisor
Chikwawa District	Douglas Moffatt	Chief DPD
	Crispen Songola	DWDO
	Veronica Nkukumila	DEHO
	Peter Ngondo	EHO

Chikwawa District	Francis Kadzokoya	District Disaster Management Officer
	Tanya Hendricks	Research Intern, DoDMA
	Philemon Sande	Acting Misiufolo WUA Scheme Manager
	Pastor E. Jombo	Secretary, Misiufolo WUA
	Roy Ulili	Misiufolo WUA Chair
	Raphael Kalima	Misiufolo WUA Treasurer
	Mtsogoli Ganamba	Senior HSA
	Mcmocks Khembo	Senior HSA
	McRobreez Lundu	Senior HSA
	Elizabeth Kwelepeta	Water for People Chikwawa District Coordinator
Mangochi District	Mr. Sadi	Director of Finance
	Mr. Edward Maferano	Assistant. Director of Finance
	Mr. Kondwani Andrea	District Water Development Officer
	Mr. Hassan Maluwa	Senior Water Monitoring Assistant/ICT
	Mr. Hendricks Banda	Coordinator (Local Utility Operator), Koche Water Users Association
	Mr. Caesar Mpata	Member, Koche Water Users Association
	Mr. Bright Kuyaka	Treasurer, Koche Water Users Association
	Mr. Enerst Kaphuka	Director of Planning
	Mrs. Ellian M. Makunje	Monitoring & Evaluation Officer
	Mr. C Mamba	District Environmental Health Officer
	Mr. Vincent Dumba	Health Surveillance Assistant
	Mr. Boyd Nkhonjera	Health Surveillance Assistant
	Machinga District	Mr. William Zuza
Mr. Kaliya		DEHO
Mr Zuza		WASH Coordinator
Mr. Steven Meja		District Water and Development Officer
Mr. John Twaya		Treasurer, MKula Water Users Association
Mr. Chibundo		Water Monitoring Assistant
Mr. Solomon Mkundika		Director of Finance
Mr. Mike Kanthumba		Senior Health Surveillance Assistant
Mr. Wasili Akimu		Scheme Manager, Mkula Water User Association-Machinga
Mr. MacMillan Mbewe		Board Chair, Mkula Water User Association
Kasungu District	Charles Mwenda	DWDO
	Kazonde	EHO
	Acklean Thomas	WMA's
	Blessings Nkhoma	DPD
	Charles Manzi	DOF
District questionnaire respondents		
Ntchisi District Council	James Mtonga	District Environment Health Officer
Nkhatabay District Council	Wilson Kamanga	EHO - WASH Coordinator
Blantyre District Council	Penjani Chunda	District Environmental Health Officer
Balaka District Council	Thomas Mchipha	Principal Environmental Health officer- (District Environmental Health Officer)
Karonga District Council	Lewis Tukula	District Environmental Health Officer/Principal Environmental Health Officer
Mulanje District Council	Thomson Kajombo	Chief Preventive Health Officer
Nkhotakota District Council	Chandiwira jere	DEHO
Thyolo District Council	George Chitimbe	Chief Preventive Health Officer, head of EH department
Mzimba South	Jimmy Chilinda	WASH coordinator (Mzimba South DHO)
Zomba District Council	Innocent Mvula	CHIEF PREVENTIVE HEALTH OFFICER

Dowa District Council	Joseph Lwesya	EHO - WASH
Chiradzulu District Council	Noel H Zondola	District Environmental Health Officer
Likoma District Council	Owner Ngulube	DEHO
Chikwawa District Council	Veronica Mkukumila	DEHO
Nsanje District Council	Fred Minyaliwa	District Environmental Health Officer
Rumphi District Council	O'John Mpoha	DEHO
Dedza District Council	Rudolf Zinkanda Banda	District Environmental Health Officer
Kasungu District Council	Ben Mitochi	District Environmental Health Officer
Machinga District Council	Mathews Jason Kalaya	District Environmental Health Officer
Mchinji District Council	Robson Kayira	District Environmental Health Officer
Chitipa District Council	Sam Madongo Chirwa	Principal Environmental Health Officer (PEHO)
Salima District Council	Reuben Chikadza	District Environmental Health Officer
Lilongwe District Council	Paul Chunga	District Environmental Health Officer
Mwanza District Council	Blessings Chitsime	District Environmental Health Officer
Neno District Council	Margaret Chinguwo Mikwamba	District Environmental Health Officer
Mzimba North District Health Office	Grace Funsani	Principal Environmental Health Officer
Mangochi District Council	Dr. Kondwani Mamba	District Environmental Health Officer
Phalombe District Council	Chimwemwe Dickson Jella	District Environmental Health Officer
Ntcheu District Council	Bosco Kaluwa	Chief Preventive Health Officer
Chiradzulu District Council	Macpherson Kuseli	Assistant Community Water Supply Officer
Chikwawa District Council	Chrispine Songola	DWDO
Salima District Council	Waki Martin Chungwa	District Water Development Officer
Phalombe District Council	Boston Tambala	District Water Development Officer
Dowa District Council	Timothy Banda	District Water Development Officer
Karonga District Council	Jacob Mkandawire	Community Water Supply and Sanitation Officer
Ntcheu District Council	Onances Luke Nyirenda	DWDO
Mangochi District Council	Kondwani Andreah	District Water Development Officer
Balaka District Council	Bridget C. Banda	Community Water Supply Sanitation Officer
Blantyre District Council	Kizito Uzamba	Acting District Water Development Officer
Chitipa District Council	Harry Chambukeni Mlauzi	District water development officer
Dedza district council	Zione Kamtambe	District water development officer
Kasungu District Council	Charles Mwenda	Charles Mwenda
Mchinji District Council	Mike Chilimadzi	District Water Development Officer
Mwanza District Council	Laston Chagunda	District Water Development Officer(DWDO)
Mmbelwa District Council	Kings Mdhluli	Community Water Supply Officer.
Nkhata-Bay District Council	Alex Mwanjasi Mwakikunga	District Water Development Officer
Nkhotakota District Council	Ephraim Chasiya Mbewa	District Water Development Officer
Thyolo District Council	JAMES E. MSELELA	DISTRICT WATER DEVELOPMENT OFFICER
Zomba District Council	Davis Tayanjana Bonga	District Water Development officer
Mulanje District Council	Edwin Mchirikizo	Senior Community Water Supply and Sanitation Officer, SCWSSO (administratively called District Water Development Officer, DWDO)
Lilongwe District Council	Marvel Tibu	Senior Community Water Supply and Sanitation Officer
Ntchisi District Council	Peter N. Moyo	District Water Development Officer
Nsanje District Council	John Chilapula	Acting District Water Development Officer
Likoma District Council	Vincent Horowanya	DWDO
Rumphi District Council	John Chingawale	DWDO
Machinga District Council	Steve Meja	District Water Development Officer
Neno District Council	James Yolamu Mando	Water Monitoring Assistant (Ag : DWDO)

ANNEX J - SPECIFIC SOURCES, ASSUMPTIONS AND CALCULATIONS

BOX 3 Sources, assumptions and calculations of water sector GoM expenditures

The following approaches:

PE in districts is based on numbers of water staff in each job reported by DWDOs in each district for 2018/19, multiplied by average PE costs for each job. The result for 2018/19 is then pro-rated over each previous year based on GoM-wide total pay in each year, given that DWDOs were reporting no significance change in staff numbers over the 5 years.

ORT in districts is based on Treasury reports of funding of the Water sector in each year, assuming that 95% of this funding is used in the year on Water ORT.

Development in districts is based on Treasury reports of funding to each of the Borehole Fund, the District Development Fund (DDF) and the Constituency Development Fund (CDF), with the assumptions that 100%, 20% and 5% were spent on Water in each year for each of the Borehole Fund, DDF and CDF respectively. These proportions are estimates for each fund based on the average result reported by 11 districts.

Development in cities is based on the information that, in Lilongwe City Council, none of the Borehole Fund was used in 2017/18 and only 13% in 2018/19⁶⁴. The same outcome has been applied to all 4 cities.

Locally Generated Revenue. No data is available for water sector expenditure implemented using LGR, but such expenditure is understood to be rare and low.

PE in MoAIWD department is based on IFMIS data for all Water and Irrigation departments in each year. Since the IFMIS data does not distinguish the Water Supplies department alone, the department's proportion of the total has been estimated.

ORT in MoAIWD department has been similarly based on IFMIS data with an estimate for the Water Supplies department's share.

Development Part 2 in MoAIWD is based on identification of those projects budgeted in each year by MoAIWD that are concerned with water supplies. The proportions funded and spent are based on IFMIS data, and clarified in consultation with the MoAIWD.

Emergency is based on consultation with the Department of Disaster Management Affairs.

64. The reason for this is that City planning regulations (all four cities) prohibit construction of boreholes in high density locations (where they are needed most) due to pit latrines which are found in almost all of the high density locations. The density of pit latrines there is comparatively low.

PE in districts is based on numbers of environmental health staff in each job reported by DEHOs in each district for 2018/19, multiplied by average PE costs for each job. The result for 2018/19 is then pro-rated over each previous year based on GoM-wide total pay in each year, given that DEHOs were reporting no significance change in staff numbers over the 5 years.

ORT in districts is based on Treasury reports of funding of the Health sector in each year, assuming that 1.5% of this funding is used in the year on H&S.

Development in districts is based on Treasury reports of funding to each of the District Development Fund (DDF) and the Constituency Development Fund (CDF), with the assumptions that 3% and 1% were spent on in each year for each of DDF and CDF respectively. These proportions are estimates for each fund.

Locally Generated Revenue in districts. No data is available for H&S expenditure implemented using LGR, but such use is understood to be rare and low.

PE in cities is based on data from Lilongwe City Council extrapolated to all 4 cities. PE in Lilongwe City Council includes sewerage officers and 10% of the cost of preventive health officers (10% being an estimate of the proportion of the time spent on WASH).

ORT in cities is based on data from Lilongwe City Council extrapolated to all 4 cities. It includes the sewerage and 10% of preventive health. Note that all this ORT is funded by Local Government Revenue.

PE in MoHP environmental health is based on IFMIS data for all MoHP in each year. Since the IFMIS data does not distinguish the environmental health department alone, the department's proportion of the total has been estimated.

ORT in MoHP department has been similarly based on IFMIS data with an estimate for H&S's share.

Development Part 2 in MoHP is zero as no MoHP development Part 2 projects have been recognised as being for H&S.

Emergency is based on consultation with the Department of Disaster Management Affairs.

BOX 5 Assumptions for sub-sector analysis

GoM: Expenditure through the water sector has been separately identified by source above (e.g. through MoAIWD vs MoHP). Also, expenditures through city councils have been classified as urban. In addition, 5% of MDA PE and ORT expenditure has been assumed to be incurred on support of the urban sub-sector.

Donor expenditure has been analysed into sub-sectors using CRS codes and making appropriate assumptions (e.g. that the code for 'large water systems' represents urban). Some extrapolations were made using data provided through the DP questionnaires, especially for the period after the latest CRS data (i.e. for beyond 31 December 2017).

Expenditures through Water Boards are assumed to be exclusively urban.



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