Report

A political economy analysis of Malawi's rural water supply sector

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Cover photo: Drillers are contracted by an NGO to install new water points in a drought prone area of Balaka District, Malawi. Credit: Naomi Oates/ODI, 2018.

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The project team involves an interdisciplinary consortium of established researchers in physical and social sciences from:

- British Geological Survey
- Sheffield University
- Overseas Development Institute
- Flinders University, Australia
- Addis Ababa University, Ethiopia
- Makerere University, Uganda
- University of Malawi
- WaterAid UK and country programmes (Ethiopia, Uganda and Malawi)

All findings, conclusions and errors are the authors' own.

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Acronyms

ADC	Area Development Committee
AEC	Area Executive Committee
AfDB	African Development Bank
AM	area mechanic
CBM	community-based management
CDF	Community Development Fund
DCT	District Coordination Team
DDF	District Development Fund
DEC	District Executive Committee
DFID	UK Department for International Development
DWDO	District Water Development Office
GW	groundwater
INGO	international non-governmental organisation
JSR	Joint Sector Review
KII	key informant interview
LDF	Local Development Fund
MP	member of parliament
MoAIWD	Ministry of Agriculture, Irrigation and Water Development (Malawi)
MoFEPD	Ministry of Finance, Economic Planning and Development (Malawi)
NCIC	National Construction Industry Council
NGO	non-governmental organisation
NWDP	National Water Development Programme
PEA	political economy analysis
RWS	rural water supply
SSA	sub-Saharan Africa
SWAp	Sector Wide Approach
UNICEF	United Nations International Children's Emergency Fund
VDC	Village Development Committee
WASH	water, sanitation and hygiene
WESNET	Water and Environmental Sanitation Network
WMA	Water Monitoring Assistant (extension agent)
WPC	Water Point Committee
WSWG	Water, Sanitation and Irrigation Sector Working Group

Executive summary

Many rural communities in sub-Saharan Africa still lack clean water for basic needs such as drinking and washing. Even where water points have been constructed, many break down prematurely or provide inadequate, seasonal or poor quality water supplies. While techno-managerial factors are relevant in explaining these problems, attention is needed to the institutional and political-economic dynamics shaping policy outcomes on the ground.

This report presents the findings from a political economy study of Malawi's rural water supply sector. Combining a review of the literature with in-country interviews at national- and district-level, the analysis identifies the underlying causes of bottlenecks in the service delivery chain, which undermine sustainability and functionality of water points. These relate to structural factors (i.e. the political, economic and institutional context) and actors' practices, influence and incentives.

As in many African countries, the water governance landscape in Malawi is highly complex, involving a wide variety of institutions and individuals, operating within and outside government, and at different levels of decision-making. Not only are policies and regulations incoherent, but institutions 'on paper' inevitably differ from the reality on the ground. As such, roles and responsibilities for delivering water services are blurred, and it is often unclear who is accountable for what, or to whom. This is compounded by significant gaps in communication and coordination, and weak regulation and monitoring. This makes it difficult to determine the causes of non-functionality and therefore to improve service sustainability.

Many of the challenges Malawi's water sector faces are systemic. The political and economic context is characterised by competitive clientelism, where the maintenance of patronage networks takes precedence over fulfilling the formal functions of the state and hinders the ability of officials to make (and implement) policies in the public interest. These relationships are not unique to the water sector and permeate both government and non-governmental (including private sector) spheres of activity. Not only are investment decisions influenced by (often short-term) political interests but, as the decentralisation process demonstrates, there is little incentive for those in power to relinquish control over resources. Moreover, the Ministry of Agriculture, Irrigation and Water Development has limited direct control over the devolution of finances and functions to districts.

The result is that actors on the frontline of service delivery have considerable responsibility for ensuring the sustainability of water services, but little influence on decision-making and very few resources 'to get the job done'. In fact, the water sector as a whole suffers from a shortage of human and financial capacity as compared to other sectors, which are given higher priority by politicians. This gap is only partially filled by development partners.

Our research indicates several interesting coping strategies and innovations (formal and informal) that have emerged in the face of the abovementioned constraints, which could be useful entry points through which to support positive change. These strategies include the development of extension worker networks on the ground, which work closely together and often support one another's activities, helping to overcome resource constraints and institutional fragmentation. Where such coordination mechanisms exist, they should be encouraged and strengthened as much as possible. The training and formalisation of area mechanics as part of the service delivery chain is also addressing the notable gap between Water Point Committees and Water Monitoring Assistants. Increasing the coverage of area mechanics is a priority for government to improve the maintenance and hence sustainability of water points, and more resources are needed in this crucial area of post-construction support.

The increasing collaboration between donors and NGOs, and with government, is another positive sign, and there appears to be growing support from development partners for district governments. But these efforts must go further to address deep-seated institutional constraints, finding arrangements that work – and work better – in the local context, whether they resemble formal decentralised structures 'on paper' or not. Meanwhile, donors such as UNICEF are making concerted efforts to improve the quality of water point construction through the contracting and monitoring of drilling operations, helping to ensure the right incentives are in place for companies to do a good job. Work has also been undertaken to map water points, which is helping to improve the targeting of investments and mitigate political influence on resource allocations. Building the capacity of government to collect, manage and use data continues to be a priority in this regard.

We recommend that central government departments and development partners engaged in water service delivery:

- give greater recognition and support to District Councils and District Water Development Offices, as their role is crucial to delivering sustainable water services
- adhere to basic good practices in developing and implementing programme
- increase attention and funding to neglected areas of the service delivery chain, namely post-construction support and monitoring activities
- avoid ideological approaches to decentralised service delivery, and focus instead on context-specific solutions, including support to successful innovations
- provide spaces to critique dominant approaches to service delivery, as part of an adaptive learning process.

Our key informants recommend that the UpGro Hidden Crisis project:

- involves stakeholders (particularly government) early on during project planning and shares preliminary findings
- engages district-level actors and not only Ministry experts in planning and undertaking the research
- shares findings with *politicians*, as well as technical experts and development partners
- produces *accessible* written outputs (e.g. reports and briefings) and disseminates these widely
- hosts multi-stakeholder workshops or forums in which to discuss the research findings and their implications for policy and practice.

1 Introduction

1.1 Background

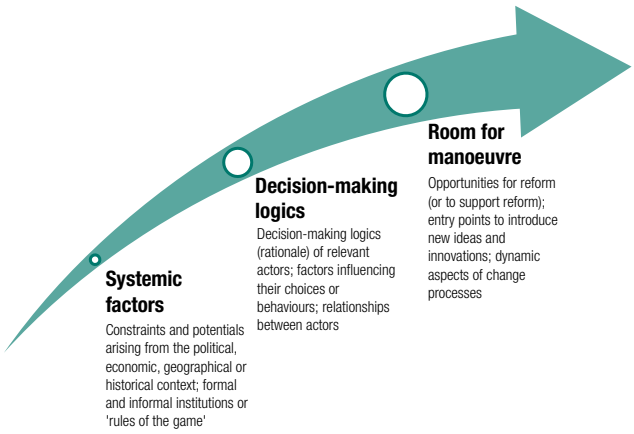
Achieving 'water for all' while ensuring the sustainable management of water resources is a global priority under the Sustainable Development Goals (SDG 6), and increasingly urgent in the context of rapid population growth and climate change. Despite significant progress made to date, many communities in rural sub-Saharan Africa (SSA) still lack clean water for the most basic of needs, such as drinking and washing (WHO/UNICEF, 2015). Even where water points have been constructed, many break down prematurely or provide inadequate, seasonal or poor-quality water supply (e.g. Bonsor et al., 2014; Haysom, 2006; Rietveld et al., 2009; RWSN, 2009; MoEWR, 2012).[1]

Building on research undertaken in Uganda under a catalyst grant (Bonsor et al., 2014), the UpGro Hidden Crisis project seeks to strengthen the evidence base on the sustainability of rural water services in Ethiopia, Malawi and Uganda. Focusing on the most prevalent technology, namely boreholes (deep wells) with handpumps, the project aims improve understanding of the complex, multi-faceted causes of water point failure (or success).

One major gap in current understanding is the ability to identify the extent to which service failures are attributable to local institutional arrangements (e.g. Water Point Committees), as opposed to the broader societal structures and dynamics that shape an environment in which failure is more or less likely (i.e. factors beyond the control of communities). This suggests that a study of water points and their users should be complemented by a diagnosis of the wider political economy of water service delivery. Political economy analysis explores the workings of various governance arrangements and institutions operating at multiple scales and the distribution of power and resources among key actors, which affect service outcomes (Jones, 2015; Franks and Cleaver, 2007; Mollinga, 2008; Harris et al., 2011; Pahl-Wostl et al., 2011).

This report presents preliminary findings from one such political economy analysis, led by the Overseas Development Institute (ODI) in Malawi as part of the UpGro Hidden Crisis project. Although necessarily light-touch due to the limited time available for fieldwork, the analysis usefully reveals some of the informal processes and power dynamics at play in Malawi's rural water supply (RWS) sector that work alongside (and sometimes counter to) formal policies and institutions.

Figure 1 A layered approach to political economy analysis



Source: Mosello et al. (2017)

1.2 Research aim and objectives

The political economy research component of UpGro Hidden Crisis aims to contribute to an understanding of the underlying factors that influence water point (non-) functionality, specifically those factors pertaining to the wider political, institutional and social context of service delivery. Key to this is understanding the motivations and strategies of the actors involved, and the constraints they face in 'getting the job done' (Long, 2001). The research includes investigation of both formal institutions (their mandates and actions) and informal arrangements or interactions that are present in shaping decisions and determining outcomes.

We follow a 'problem-driven' approach to political economy analysis (PEA), meaning that the research focuses on a specific issue, or set of issues, to identify ways in which these might be addressed, rather than providing a general analysis of the sector. In the PEA framework adopted, the problem is conceptualised and analysed according to three layers: structural factors; actors' decision-making logics; and 'room for manoeuvre' (Figure 1) (see Booth and Golooba-Mutebi, 2009; Harris, 2013).

1 Current evidence, albeit patchy and fragmented, suggests more than 30% of new groundwater-based supplies are non-functional within a few years of construction (RWSN, 2009).

Box 1 What is political economy analysis?

The acknowledgement that politics matters has been one of the trademarks of international development thinking and practice over the last decade. Several authors have argued that political and economic factors intrinsically influence whether and how reforms happen, and that poor performance cannot be explained by technical or managerial factors alone (Fritz et al., 2009; Hudson and Leftwich, 2014). With regard to the water sector, Molle (2009) maintains that the development and management of resources is inherently a political process, characterised by shifting political alignments and contestations. Social and political structures, and differentials in access to various forms of capital, shape power relations, interests and positions and therefore decisions, stakes and claims to water resources (Cabral, 1998; Madison, 2007).

Political economy analysis (PEA) has emerged as a useful approach to understanding the dynamics surrounding national and sectoral policy-making and implementation, and has usefully been applied to the water supply and sanitation sector in a number of contexts (e.g. Harris et al., 2011). PEA provides:

A systematic approach to analysing relationships between key structural factors (such as historical processes and environmental issues), institutions (formal and informal rules, norms and arrangements) and actors in a given country or sector context (Jones, 2015; see also Landell-Mills et al., 2007; Booth, 2012; Duncan and Williams, 2012).

Such analysis can be used to support more politically and culturally feasible development strategies, helping to set realistic expectations of what can be achieved and identifying potential entry points for intervention (Booth and Golooba-Mutebi, 2009).

Source: Matoso (2016, unpublished).

In line with this conceptual framing, the UpGro Hidden Crisis political economy research is guided by the following questions:

1. What are the systemic constraints – that is, constraints arising from historical legacies, institutions (formal or informal) or other contextual factors (e.g. geography) – that actors face in delivering sustainable RWS services?
2. What power and influence do different actors have on the policy-making and implementation process, and what are their incentives and motivations? What strategies do different actors employ to 'get the job done'?
3. What are the outcomes of points two and three for RWS sustainability and what opportunities exist to support better ones?

The objective of the fieldwork undertaken in Malawi in 2016 (described in section 1.3) was to interview a range of key stakeholders in the rural water supply sector, at the national and district levels, to:

- **better understand the nature of bottlenecks in the service delivery chain**, from the enabling environment (policies, planning and budgeting, monitoring) to development of water points (targeting of investments, siting, and construction) and their subsequent management (community institutions, backstopping support, supply chains) (see Table 1)
- **begin to unpick the underlying reasons as to why bottlenecks arise**, looking at the stakeholders involved (their capacities, motivations, constraints), institutional structures and processes (formal or informal), and the broader political and economic context that has a bearing on RWS service delivery
- **make recommendations** to the UpGro Hidden Crisis team regarding in-country project engagement and communication.

1.3 Data collection

Data on Malawi's RWS sector was collected from primary and secondary sources, combining a review of research papers and policy documents with in-country interviews and stakeholder mapping.

Literature review: A rapid desk-based review of the general and country-specific literature was undertaken. This enabled us to identify key actors, governance issues and sector bottlenecks (secondary evidence) and, more specifically, to collate evidence, such that exists, on the political economy of decision-making in Malawi.

Fieldwork: Interviews were conducted in-country over a two-week period between May and June 2016. The research team was based primarily in Lilongwe, where government ministries' head offices, development partner organisations and NGOs, as well as several drilling companies and private consultancies, are located. The Lilongwe Rural District Council's offices are also in the capital. Two days were spent in Balaka meeting with stakeholders from the District Water Development Office (DWDO) and local representatives of NGOs active in the district.

Interviews: Individual interviews were the principal method by which we collected qualitative data, targeting key actors in the sector and using a semi-structured format to allow flexibility to explore interesting issues as they arose. Interviewees were selected based on their current role, knowledge and experience, and willingness to grant us a meeting. They included representatives from:

Table 1 Key components of the service delivery chain

Enabling environment	Developing services	Sustaining services
Policy and legislation	Targeting of investments	Water point management, operation and maintenance
Planning and budgeting	The siting process	External support/backstopping
Monitoring and regulation	Water point construction	Supply chains for spare parts

Source: adapted from the AMCOW country status overviews (e.g. World Bank, 2011).

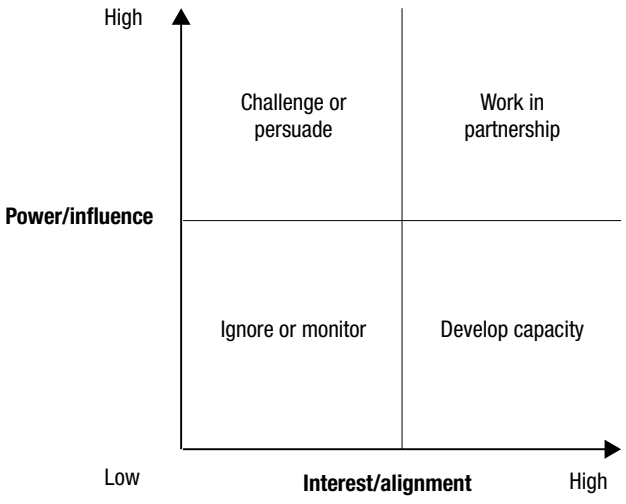
- the Ministry of Agriculture, Irrigation and Water Development (MoAIWD)
- District Water Development Offices (Lilongwe Rural and Balaka)
- development partners either funding or implementing RWS development
- major NGOs in the water, sanitation and hygiene (WASH) sector based in Lilongwe and Balaka
- private-sector players, including drilling companies, consultancies and spare-parts suppliers.

We also conducted a focus group discussion with three area mechanics in Balaka. In total, 21 interviewees participated in the research.

We tailored questions to each interviewee depending on their area of expertise, covering specific aspects of the service delivery chain, and subtly probing to understand the political economy dynamics at hand. We paid particular interest to how participants perceived problems and their own role in addressing them, as well as the ways in which actors 'get the job done' despite various constraints. Each interview was concluded by asking the participant three questions: how the UpGro Hidden Crisis research might be useful to their work; which other stakeholders the project should be targeting; and recommended forums or formats for engagement and dissemination.

Stakeholder mapping: The team undertook a stakeholder mapping exercise at the end of the fieldwork. This exercise helped us to reflect on our findings and to visualise the relationships between actors in terms of their relative influence and interest in the long-term functionality of RWS. We hope that the results of this exercise can in turn inform project engagement strategies with different actors (Figure 2).

Figure 2 A matrix to map actors' influence on, and interest in, a given outcome or project objective



Source: adapted from Young et al. (2014).

1.4 This report

This report presents the findings of the Malawi PEA fieldwork. It examines important systemic factors constraining sector performance – namely the partial decentralisation of service delivery, significant human and financial resource constraints (particularly at district level), and the influence of politics and patronage over planning and implementation. The report then looks in more detail at the actors involved in Malawi's RWS sector, their interests and influence on service delivery. This includes national and district government offices or departments, development partners and international non-governmental organisations (INGOs), the private sector and, to a lesser extent, local communities. Finally, the report provides preliminary conclusions and recommendations to sector stakeholders, and advice to UpGro project partners vis-à-vis project engagement in Malawi.

Box 2 Progress on rural water supply in Malawi

Water development is recognised as key to Malawi's socioeconomic development, and the provision of water and sanitation services is thought to make a significant contribution to public health, as well as positively impacting on children's education and household productivity. Malawi's vision is therefore to achieve universal access to water and sanitation by 2025 (MoFDP, 2011). To this end, the national government has enacted a considerable array of policies and laws, supported by development partners, which aim to improve sector governance.

Malawi has made impressive progress on increasing water supply coverage over the last five decades, surpassing the Millennium Development Goal target on water supply for 2015. Both rural and urban coverage figures are high. During the 2013/14 financial year, 83% of people had access to improved water sources (within a distance of 200 m for urban and 500 m for rural areas) and 93% had an average time to collect drinking water (return trip) of less than 30 minutes (MoIWD, 2014). Around 90% of schools have improved water supply systems (ibid.). Estimates from the WHO/UNICEF Joint Monitoring Programme (JMP) for 2015 are similarly impressive, indicating that coverage for improved water supplies is 90% nationally, 89% in rural areas and 96% in urban areas (WHO/UNICEF, 2015).

Despite the progress made, however, there are serious present and future threats to the sustainability of water supply services in Malawi. Low functionality of RWS is prevalent, with an estimated 25% of water points not working at a given time (MoIWD, 2014).[1] Sector reports also show variations in coverage between districts, and there is a notable difference between urban and rural areas. Hence, access to clean water is by no means equitable.[2] These uneven patterns of service provision and problems of functionality are caused by various bottlenecks in the service delivery chain, as well as broader political-economic structures and actor relationships that shape water governance in Malawi.

1 This is a national average, and figures vary between districts, ranging from 98% in Likoma to 52% in Dedza (MoIWD, 2014).

2 NGO mapping has also shown coverage far lower than average in some areas of Malawi – as low as 22% access to safe water, 5% improved

2 Structural factors affecting rural water services

2.1 Partial decentralisation of service delivery

The 1994 Constitution of Malawi, followed by the 1998 Decentralisation Policy and Local Government Act, have been significant in transferring political and administrative functions from national to local government (O'Neil et al., 2014). These reforms were intended as a vehicle for poverty reduction – particularly the delivery of public goods and services to the population – but also as a means to increase public participation in development planning at local level and foster democratic institutions (O'Neil et al., 2014; Chiweza, 2010).

Under the new governance framework, welfare provision and the promotion of infrastructural development became the responsibility of district offices, including the planning, delivery and maintenance of rural water supplies (Chiweza, 2010; key informant interview (KII) 1). Priorities for each district were to be identified together with communities through bottom-up planning processes and set out in a District Development Plan. Meanwhile central government offices, including the Ministry of Agriculture, Irrigation and Water Development (MoAIWD), retained oversight of policy-making and regulation – in other words, providing the enabling environment for sector development.

Decentralisation has only been partially achieved in reality. Its roll-out was somewhat disjointed, and amendments were later made to the Local Government Act in 2001 and 2010, and to the Local Government Elections Act in 2010, which returned some powers to central government (O'Neil et al., 2014). The process of devolving power and financial resources, rather than just administrative responsibilities, has been particularly slow in the water sector when compared to other sectors (KIIs 5 and 7). Most resources are still controlled centrally by the MoAIWD with minimal involvement from local authorities in planning and budgeting processes. For example, human resources (staff recruitment and salaries) are dealt with centrally. The Ministry also controls the funding channelled through the National Water Development Programme (NWDP) by development partners (KII 1; Lockwood and Kang, 2012). The resources controlled by District Water Development Offices (DWDOs) are 'peanuts' by comparison (KII 18). According to one commentator:

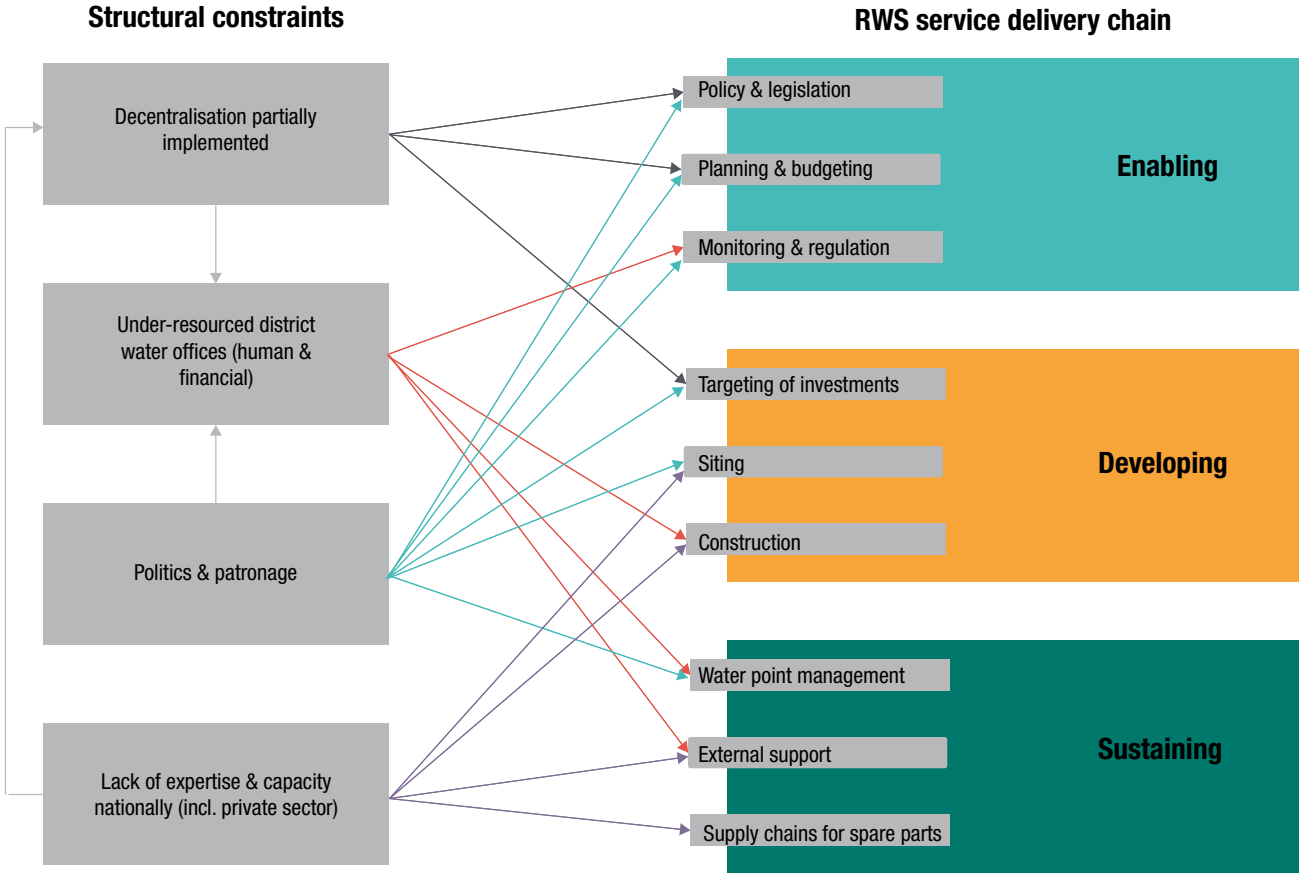
> *The Department of Water Supply is one of the least decentralised, implementation is top-down. The people on the ground are side-lined. (KII 5)*

Because the bulk of financial allocations between and within sectors are decided centrally, DWDOs' ability to respond to local needs and implement the District Development Plan is limited. The result is a mismatch between what communities are asking for – water often being a top priority – and what they receive (KIIs 9 and 17). This lack of responsiveness is exacerbated where communication between the DWDO and central Ministry is particularly poor (KII 11).

Lockwood and Kang (2012) argue that the question of whether the MoAIWD has devolved far enough is one of perspective. First, there are different approaches to building capacity for decentralisation in the sector. Some development partners prefer to strengthen central institutions as a first step, whilst others are working directly with District Councils (see section 3.2). Secondly, the Ministry has devolved most of the resources it receives from the treasury and controls directly (i.e. excluding donor finance, which accounts for most of resources available to the sector). Finally, the Ministry is constrained by bureaucratic procedures when it comes to the formal transfer of its staff to District Councils, which is the remit of the Office of Public Services Management under the Office for the President and Cabinet. The devolution question is therefore not one that the MoAIWD can resolve on its own (ibid.).

Many of these issues are not unique to the water sector. Without pressure from the Office for the President and Cabinet there appears to be little incentive for any sectors to devolve further 'in the current climate' (Lockwood and Kang, 2012: 10). O'Neil et al. (2014)

Figure 3 Linking structural factors to service delivery bottlenecks



Source: authors' own.

argue that the way in which decentralisation has been rolled out (or not) in Malawi is symptomatic of an underlying political economy that is characterised by patronage, personalised politics and shifting allegiances. In short, there are strong incentives for elites to establish institutions that enable them to deliver rewards to their supporters and retain their positions in the ruling party. Meanwhile, there are few incentives for those in power to relinquish control over resources, or to work collectively to deliver national public goods over the long term (see also Chowns, 2014; Chiweza, 2010).[2]

The partial decentralisation of RWS has had several implications for the delivery, sustainability and equity of services (Figure 3). First, as indicated, there is a significant discrepancy between the principle of participatory and bottom-up planning, which, as per national policy, should guide resource allocation, and the current reality, which is highly centralised and top-down. This is likely to hinder the effective targeting of investments to develop and maintain water points, potentially contributing to inequalities in access among districts and communities.

Second, is the problem of underinvestment (detailed further in section 2.2). DWDOs are extremely under-resourced in terms of staffing, transport and funding. This makes it almost impossible for staff to fulfil their role of supervising siting and construction activities, training water point committees and providing backstopping support, which leads to numerous techno-managerial problems that can undermine water point functionality. Thirdly, incomplete decentralisation in the water sector has hindered progress in implementing Malawi's Sector Wide Approach (SWAp). The SWAp is designed on the assumption that service delivery will be decentralised (KII 5) and is intended to improve coordination between different actors and funding agencies at national level, and thus has implications for effective policy-making, planning and investment. We revisit this in Chapter 3 with respect to development partners (donors) and non-governmental organisations (NGOs).

2 For more on the political economy of economic growth and development in Malawi see Booth et al. (2006) and Said and Singini (2014).

2.2 Capacity challenges

2.2.1 Government staffing

Malawi's water sector suffers from chronic staff shortages, particularly at district level. These shortages severely compromise the government's ability to ensure that RWS services are adequate and sustained over time (KIIs 4, 5, 7, 10, 12, 16 and 18; see also Baumann and Danert, 2008). The current vacancy rate for the sector nationally is over 60% (KIIs 4 and 10; see MoIWD, 2014: 10-12): there is, as KII 10 put it, 'no-one on the ground'. The staffing shortage was attributed, by one interviewee, to a government-wide freeze on recruitment 'to make savings', which disproportionately affected the water sector as it was already understaffed (KII 4). Another factor affecting capacity is the short-termism of many donor- and NGO-supported programmes. Coupled with the lack of government funds to cover core functions, this undermines the DWDO's ability to keep posts filled (KII 9).

Remote districts – perceived as 'hardship posts' – are further disadvantaged in the struggle to retain qualified staff (KII 7). Balaka is one such district that suffers from high staff turnover within the District Council and coordination teams, which hinders progress in developing and sustaining water services (Sindani, 2016). The provision of better staff housing, offices and other facilities can incentivise employees to stay and are generally better in larger district centres. But even Lilongwe Rural DWDO – located in Malawi's capital city – suffers from low staffing levels, and key posts were vacant at the time of fieldwork (some have subsequently been filled) (Table 2).

> *The Community Water Supply Assistant is not there. The Water Engineer is also not there. We are ideally supposed to have one Water Monitoring Assistant per Traditional Authority, but we only have 3 WMAs for 18 TAs. The WMA is doing everything – community capacity building, construction and supervision. (KII 17, Lilongwe Rural District)*

In addition to boosting staffing numbers is the need for training and upskilling existing DWDO staff, many of whom do not have the requisite qualifications (KIIs 12 and 17). The situation is perhaps better at national level where 'government does have well experienced staff who know their job well' (KII 3) – but even here Ministry representatives highlighted a general shortage of skills and experience, particularly among 'hydro-geologists who can properly oversee what is happening', most of whom are 'hydro-geologists by experience and not by training' (KII 16). This is a national problem affecting public and private sector alike (KII 8), and clearly has implications for the quality of water point siting and construction (Figure 3). As well as the emigration of highly trained or qualified people – so called 'brain drain' – there appears to be a gap in the training available, most of which is provided through short courses supplemented with on-the-job experience (KII 16).

Development partners identified the human resource gap as a significant barrier to working effectively with, or through, district governments. For this and other reasons (see section 3.2), many donors prefer to channel their funds through the central ministry or NGOs rather than directly to districts (KIIs 1, 10 and 18). The United Nations Children's Fund (UNICEF) are the notable exception to this (KIIs 1, 10 and 18), but even they will sub-contract NGOs to avoid delays in programme implementation, given DWDOs' limited capacity to absorb large amounts of funding (KII 18).

NGOs tend to operate independently of government, though most are keen to adhere to national guidelines and so make efforts to collaborate with district offices. In practice, this often involves funding DWDO staff to participate – for example, providing daily allowances and covering fuel costs for travel to the field (KII 3;

Table 2 Staffing levels for groundwater supplies in Lilongwe Rural and Balaka districts at the time of fieldwork

	Lilongwe Rural	Balaka
District area	6,159 km²	2,193 km²
Population size	1,228,146	316,748
Number of boreholes w/ handpumps	>6,000	1,280
District Water Development Officer	1	0[ii]
Groundwater Development Assistant	0[i]	0
Water Monitoring Assistants (for groundwater)	4[i]	1
Borehole Monitoring Overseers	4	2
Area Mechanics	81	40

Source: Interviews 4, 9, 11, 12 and 17; Balaka and Lilongwe District Water Offices

[i] *By January 2018 the Lilongwe Rural DWDO had 3 additional WMAs and a Groundwater Development Assistant in post.*

[ii] *This post was filled in January 2017. The new officer is currently overseeing two districts.*

Songola, 2011). In return, DWDO staff are expected to fulfil their official functions, particularly monitoring construction activities and conducting training activities for Water Point Committees (WPCs). But the number of available personnel and limited coordination among development partners means that NGOs can find themselves competing for DWDO staff time (KII 13) and may fall back on their own staff instead. This makes it difficult for DWDOs to provide support to communities after programme completion.

2.2.2 Financial resources

The shortage of human resources in Malawi's water sector is closely linked to problems of financing and budget allocation. While monetary constraints affect all sectors to an extent, the water sector appears to suffer from the prioritisation of other sectors of greater political or strategic interest (KIIs 10 and 11; Chowns, 2014; Gutierrez, 2007). KII 10 felt this failure to prioritise the sector in budgets stemmed also from a lack of awareness among MPs about the importance of water and sanitation. For example, in the 2014/15 budget allocation, the water sector received 0.57 billion Malawian kwacha (0.08% of the national budget, and equivalent to US$798,000 at the time of writing). Meanwhile agriculture received 140.67 billion kwacha and education, 81.68 billion kwacha (WESNET, 2014). The percentage budget allocated to the water sector fluctuates and there has been no obvious

Box 3 DWDO funding sources

The primary source of funding for DWDOs is the Ministry of Agriculture, Irrigation and Water Development.[1] In 2016/17, Lilongwe Rural District was allocated 12 million kwacha (US$16,450) for the financial year (KII 17), while Balaka had 3 million kwacha (US$4,130) (KII 12) to invest in water services.[2] To put these figures in perspective, Balaka's entire annual budget does not even cover the cost of constructing one new water point:

> *One borehole costs 4 million kwacha. We had planned for 10 boreholes costing 40 million kwacha, as well as training activities, monitoring and evaluation and so on. We need 100 million kwacha for all this. (KII 12, Balaka)*

Instead, this budget is utilised for recurrent costs such as utility bills and stationery, vehicle maintenance and fuel, whilst development partners finance new infrastructure. District offices may also receive funds through other channels, although these are variable and by no means guaranteed. This includes:

- **Applications to the District Development Fund (DDF) by the District Council.** If successful, these resources can be allocated to any sector, in line with district development plans. In 2015/16 Lilongwe Rural received 260 million kwacha (US$357,000) from the DDF, some of which went to the DWDO (KII 17).
- **Applications to the Constituency Development Fund (CDF) by a Member of Parliament.** The CDF is intended to respond to immediate, short-term community development needs and can be used to implement minor projects in the MP's constituency (MoLGRD, 2014). In 2017 a decision was made to channel 12 million kwacha (US$16,800) per constituency through the CDF for the development of new boreholes. Implementation was ongoing at the time of writing.
- **Funds received directly from development partners.** For example, Lilongwe Rural has benefited from earmarked resources from UNICEF for the provision of water in schools (KII 17). Development partners such as the World Bank are also supporting districts through the Local Development Fund (LDF) mechanism, although usage of the LDF for water and sanitation activities has generally been low (Lockwood and Kang, 2012).
- **Funds received indirectly from development partners.** These are funds channelled through the central ministry, such as the National Water Development Programme, which supports a number of districts (KII 1).
- **Activities funded by NGOs.** For example, in Balaka NGOs have been playing an important role in providing funds for training WPCs (KII 12). Support is being provided by the Red Cross, Project Concern International and United Purpose, among others.

Having multiple sources of funding can be beneficial, but it also confuses lines of accountability. For example, the DWDOs are supposed to report to various Ministry departments, but are also accountable to their District Commissioners and Council. When problems arise 'it can be unclear who is supposed to sort it out' (KII 1).

1 In addition to central government transfers, money is raised through locally generated revenue (taxes, licences, service fees, etc) as well as ceded revenue (i.e. revenue collected by central government on behalf of local government, which is redistributed) (O'Neil et al., 2014: 17). It is unclear how significant these sources of funding are for DWDOs.

2 Exchange rates from XE.com on 5 June 2017. MKW 1.0000 = USD 0.0014. Salaries are paid directly by the Ministry and are not included in these figures.

increasing or decreasing trend over the last five years; at its highest point during this period it reached 3.64% (in 2013/14) (MoIWD, 2014). The water sector's development budget is largely dependent on development partners' contributions, which is not considered sustainable (MoIWD, 2014).

The shortage of financial and human resources available to the RWS not only has implications for the implementation of new RWS programmes (for example, causing delays or compromising the quality of the work) but also the ability of DWDOs to ensure the sustainability of services post-construction (KIIs 1, 10, 11, 12 and 17). There are considerable gaps in skills, knowledge and resources on the ground, despite significant investments being made at national level to establish guidelines for post-construction support and develop monitoring and evaluation frameworks and tools (Sindani, 2016). Theoretically, DWDOs are mandated to play a central role in providing training and technical backstopping to WPCs, who in turn are responsible for managing and maintaining water points on their communities' behalf. This includes follow-up visits and refresher trainings, which rarely happen in practice (KII 17). DWDOs should also monitor and report on functionality, and undertake major repairs but:

> *Minimal funding is available at district level for operation and maintenance. There are few resources for fuel to move around, for example. This is also a challenge for monitoring and evaluation. How do you know what is happening on the ground? (KII 1)*

Availability of (working) vehicles and fuel are particularly crucial for carrying out work in rural locations where the distances between sites, and from the township to remote communities, can be considerable.

Similar capacity challenges arise in collecting groundwater monitoring data. Gauging assistants – responsible for checking water levels in wells – are present in some locations, including Lilongwe Rural district, and report directly to the Ministry's groundwater section. But many gauging stations in need of repair, assistants are unpaid and lack motivation and correct training, and there is a shortage of hydrologists to provide supervision (KII 2 and 17). As such, there are significant gaps in data on groundwater sources and concerns about the quality of data that does exist. This has consequences for the siting of new boreholes (Box 4).

2.2.3 Political influence and patronage

Decisions made regarding the allocation of resources, whether financial or physical, are inevitably political. In Malawi, the prevalence of competitive clientelism and patronage networks means that 'sharing the spoils of office' to maintain political support often takes precedence over fulfilling the functions of the state and hinders the ability of officials to make (and implement) policies in the public interest (Booth et al., 2006: viii; see also Chowns, 2014). Powerful interests may not lie within the water sector alone, but nonetheless shape the delivery of services at several levels. These influences, though sometimes overt, are often subtle and difficult to detect, and entangled with the myriad other factors at play in decision-making processes.

One of the most obvious indicators of political influence in the water sector, and most cited by our interviewees, is the targeting of investments – that is, the prioritising of one constituency or community over others (KIIs 2, 4, 5 and 16). Theoretically, government standards prioritise underserved communities when constructing new water points. This is determined by statistical data on access levels and water-point mapping (KIIs 1 and 2), coupled with the identification of demand through bottom-up

Box 4 Groundwater monitoring

The Ministry has 30 boreholes purely for monitoring purposes in addition to collecting data during water point construction. For these boreholes, data on water quality should be collected every wet and dry season and on water levels, collected manually once a week. It is not always possible, however, to visit on the right day and distances 'can be challenging for field staff' (not to mention the shortage of funds for field visits). Since 2013, most monitoring boreholes have had automatic data loggers installed to record temperature and groundwater levels, but the water quality experts still have to go in person to collect samples.

There is no clear system for data collection and reporting, and most of those doing it are not trained experts. Many gauge readers work for the Surface Water Division of the Ministry (rather than the Groundwater Division), and 'in Mangochi there is a clerical officer' collecting the data. It can be difficult to incentivise regular data collection by gauging assistants, especially when there is no payment and little moral support: 'They like to be visited and asked questions as then they feel that what they are doing is important.' The Ministry is trying to encourage the DWDOs to get take an interest in supporting groundwater monitoring efforts, and to make sure NGOs share their data on newly drilled boreholes. And while most donors prefer to fund infrastructure for service delivery, some funds have been provided by the African Development Bank (AfDB) and the World Bank for groundwater monitoring.

Source: KII 2

planning (KIIs 12 and 17). Donors and NGOs use very similar criteria to government in this regard, although they have their own strategic priorities (KIIs 3, 10 and 16). However, in practice, there is often limited data available to inform investment decisions. In part, this is because data is help by a number of different actors and often not shared with the relevant government offices (KII 3 and 6). There is also limited staff available to keep records updated, and few development partners monitor water points beyond the lifetime of their projects (with some exceptions e.g. see Anscombe, 2011). Hence, districts may simply distribute boreholes equally between constituencies. The process of targeting water infrastructure investments is also vulnerable to clientelism and elite capture.

Firstly, the provision of water points can be a means for MPs and local politicians (councillors) to garner political support and hence votes. Thus, there is an incentive for such individuals to influence the location of water services, in other words to secure investments to their areas and constituencies (KIIs 2 and 4; WaterAid, 2015, unpublished).

> *Despite having these methods and criteria, you do sometimes find yourself supplying a borehole in one area that already has a service … You might have a Minister or other political person who supports a particular area, and derives support from that area, so they get disproportionate investment in that area. (KII 2)*

Patronage tends to follow political party lines, though the extent to which this is the case varies (O'Neil et al., 2014). For example, 'You will find that rural party members are informed first before other stakeholders, which affects their ability to make claims on resources' (KII 5). The net result is an unequal distribution of water services, where some communities have several water points while others remain unserved. A related issue is that politicians often promise free services to their constituents, leading communities to believe that maintenance and repairs will (or should) be done by the government, and thus undermining the community-management model that is enshrined in national policy (KIIs 4 and 7; WaterAid, 2016).

Conversely, however, if a politician does not prioritise clean water supply, their constituency is less likely to benefit from investments. This 'may be an unintentional source of inequality' (KII 2). It therefore also depends on how important politicians view water supply as a vote-winning opportunity. In some instances, self-interest and short-term gain may prevail, contrary to voter interests (KII 9). This in turn can lead to misuse of funds – for example, from the CDF. District governments may also receive directives from the Office of the President to divert resources to activities in other sectors, in line with national (rather than local) priorities or political interests (KII 5).

Secondly, local power dynamics can affect water point siting decisions within a community, even where technical criteria (e.g. using geophysical surveys to locate feasible locations) and social criteria (e.g. convenience for the largest number of households) are prioritised by the implementing agency. A commonly cited issue is that an influential person in the area, such as a chief, wants the borehole to be located near to their own compound or relatives' houses (KII 2, 6 and 16). They might also use their influence to acquire resources intended for water point construction, such as cement.[3] These individuals often have a formal role in decision-making, for example on the Area Development Committee (ADC) as well as commanding authority and respect through traditional institutions, norms and values. This makes it difficult even for government experts to oppose the wishes of these 'big men' (KII 6). Moreover, involving such individuals in development projects is arguably unavoidable, if community buy-in and effective management of the water point post-construction are to be achieved.

Thirdly, there are indications that patronage can play a role in the awarding and fulfilment of contracts for water point construction (KII 6, 7 and 8), although this is likely to vary between contracting agencies and drilling companies, and was not something we were able to explore in sufficient detail during the fieldwork. One interviewee went as far as to say the sector is highly compromised and that deep-seated interests mean there is considerable resistance to reform, including within government (KII 8). While a new regulatory body – the National Water Resources Authority – is being established, it is too early to judge how effective this will be as a positive force for change.

Another sign of political influence may lie in sector performance monitoring – how the water sector measures and reports its performance against planned objectives. In section 2.2, we noted that capacity constraints hinder monitoring efforts, particularly at the district level. One interviewee also hinted at an unwillingness to challenge the assumptions made in national policy regarding effective governance arrangements and to report real non-functionality figures (which could explain why national estimates of water access are surprisingly high). For example:

> *The government will not publicly accept that there are huge flaws in the community-management system, which affects the sustainability of rural water supplies. (KII 5)*

Further research is needed to understand how monitoring and (mis)reporting occurs in practice, and whether/how powerful actors assert their influence, either directly or indirectly.

In summary, national and local elites, and their patronage networks, play an important role in shaping

3 Several interviewees mentioned collusion between corrupt drillers/supervisors and community members, although they did not explicitly attribute the problem to local elites.

planning and investment in the rural water sector, which has wide-ranging implications for the equitability and sustainability of services (Figure 3). What is particularly concerning is the apparent lack of political will to tackle the governance problems that hinder effective service delivery, and the failure to acknowledge these problems in official coverage figures. Despite this, there are various strategies that different actors (institutions, groups or individuals) are employing to 'get the job done'.

3 Actors' interests, incentives and strategies

3.1 Central government

In Malawi, the development and management of rural water supply services is the responsibility of the Ministry of Agriculture, Irrigation and Water Development (MoAIWD). Experts within MoAIWD are responsible for developing policies, strategies and regulations for the sector, and play an important role in planning, budgeting and implementation – for example working with target districts to deliver national programmes (KIIs 1, 2, 4 and 6). The Ministry's three regional offices also provide administrative and technical support to districts. Given its mandate, we categorised the Ministry as having high interest and influence in ensuring that water services are sustainable, in the stakeholder mapping excercise (see Figure 4 – top right quadrant). For rural groundwater supplies intended for domestic use, the two main departments involved are:

1. the Water Resources Department, which is responsible for the development and monitoring of groundwater sources (Groundwater Section) and for water quality (Water Quality Section)
2. the Water Supply Department, which is responsible for operation and maintenance of water points, including the training of Water Point Committees and area mechanics.

In practice, the Ministry does not operate in a vacuum and is subject to external influences. As well as political interests (discussed in section 2.3), the MoAIWD also has to negotiate with its funders, including bilateral and multi-lateral donors, and the Government of Malawi itself. At a basic level, the Ministry has to compete with other sectors for allocations of public money. The Ministry of Finance, Economic Planning and Development (MoFEPD) plays a crucial role as the locus of national planning, fund mobilisation and budgeting decisions (Figure 4 – top left quadrant). As noted in section 2.2, the water sector tends to lose out to other sectors deemed a higher priority for Malawi's socio-economic development. For this, and other reasons, some interviewees were pessimistic about the MoAIWD's *real* influence vis-à-vis the water sector.

> *I don't see much happening on the government's side. I think government is still confused and doesn't know what it is supposed to do. But the government has also not been receiving funding for rural water supply and so it doesn't have much power. (KII 16)*

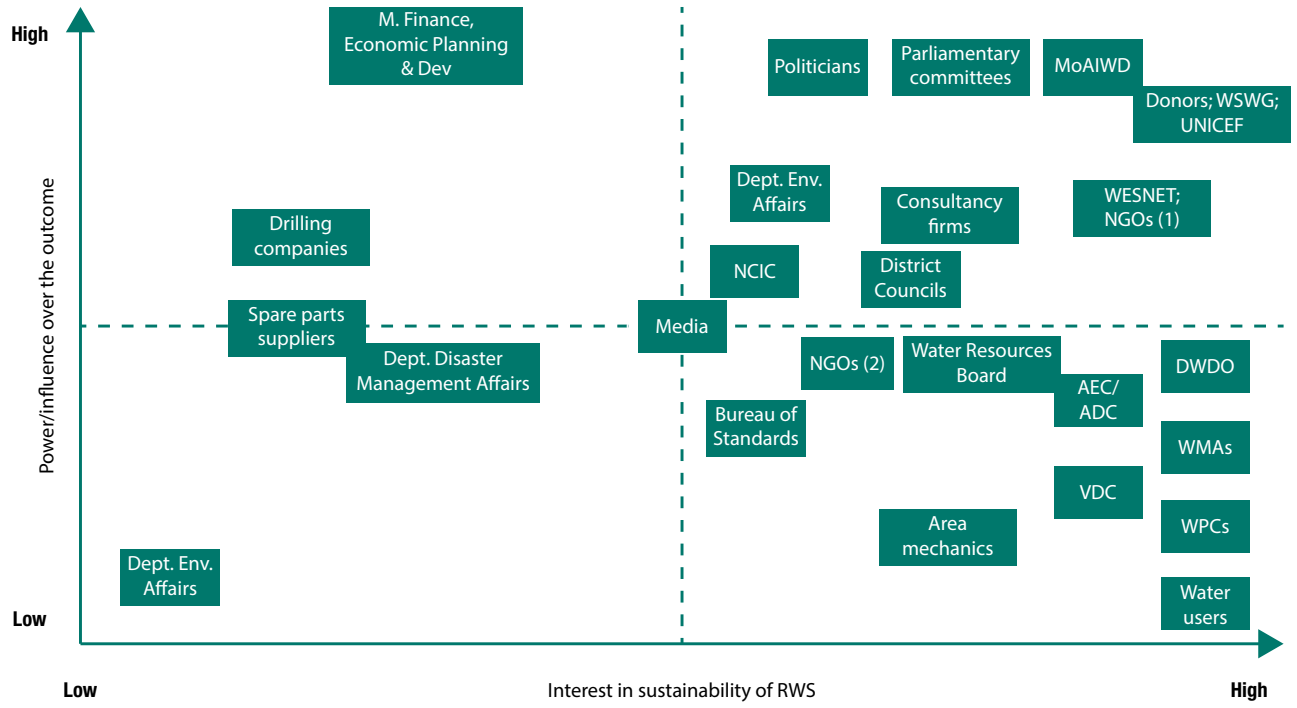
Frequent changes in leadership have also made it difficult to develop strategic priorities and leverage resources at a high level. Since the government merged the water sector with agriculture under one ministry, there are have four ministerial changes over a period of three years (KII 5).

During the mapping exercise, there was some disagreement among participants over the influence of donors on policy-making and planning in the MoAIWD. Some participants were adamant that donors 'couldn't tell the government what to do' whereas others noted that the water sector is very dependent on donor financing. For example, the AfDB channels funds for water infrastructure development through the Ministry but will impose its own rules regarding procurement processes (KII 7). At the very least, donors play an important role in *supporting* government with policy formulation (KII 8), as well as providing much needed funding for infrastructure development.

Evidence from our interviews suggests that the boundaries between government and non-government are somewhat blurred in the water sector. This has implications for the ability of, and incentives for, MoAIWD staff to carry out their work effectively and hold non-government actors to account, and came to the fore with respect to water point construction (i.e. siting and drilling).

Firstly, the Ministry has its own drilling equipment, provided by Japanese International Cooperation Agency (JICA) during a previous collaboration (KIIs 2, 6 and 16). According to interviewees, these drilling rigs are not only used in government-run programmes but also for private drilling operations (KIIs 4 and 6). The latter involves bidding for private contracts, usually tenders advertised by development partners (KII 6). Any money earned through this route should go into a government fund for borehole development (KII 4), with the implication that this is then invested in public services. Clearly this has benefits in terms of raising

Figure 4 Results from the actor mapping exercise



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: authors' own

much-needed finance. However, the arrangements suggest that the Ministry is directly accountable to service providers rather than the reverse, which makes regulation problematic. Anecdotal evidence suggests also that government equipment is sometimes loaned to private contractors on an informal basis, for private gain – though this was difficult to verify.

Secondly, government staff are often employed by drilling contractors as private consultants to undertake site surveys (KIIs 2, 3 and 8). In fact, given the shortage of trained geophysical surveyors in the country, using government experts is considered preferable and could be viewed as a positive strategy to ensure that water points are sited correctly.[4]

> *In some areas, it is very difficult to find water even if you drill to 60 metres. So, I will agree to work on one condition – the hydro-geological survey is done by the water department. We hire those people as we don't have the expertise. (KII 19, drilling contractor)*

Another reason cited for using government experts is their ability to offer cheap rates, as they already have a regular salary. According to one interviewee, this acts as a strong disincentive for private consultancies to invest in developing capacity in this area, as it is difficult to compete (KII 8).

One would assume that it is very difficult for Ministry experts to hold private drilling companies to account when they themselves are sub-contracted to deliver key parts of the work. Not only is there an incentive to secure future work with that company, and hence to overlook malpractice(s) or treat offenders leniently, but as a sub-contractor the expert could be implicated in cases of poor workmanship. In short, there is a potential conflict of interest between the desire to make a personal profit and the Ministry's mandate to ensure the delivery of sustainable services.

3.2 Donors

As depicted in Figure 4, the bilateral and multi-lateral donors investing in Malawi's water sector have a relatively high interest in the sustainability of rural water services, as well as high influence on decision-making (discussed in section 3.1). Donors exert their influence both individually, through their collaborations with the government and NGOs, but also collectively through the Water Sector Working Group (WSWG) (Box 5). But donors are not a homogenous group: they all have different ideological and practical interests, mandates, and accountabilities. One interviewee complained of the lack of common vision and leadership as 'development partners don't have a unified agenda and they all have different plans' (KII 5; see also Gutierrez, 2007). Others thought that donors did coordinate 'somewhat', through their own consultation processes, as well as the WSWG and Joint Sector Review, which were opportunities 'for stakeholders gather under one roof' (KII 7). According to the AfDB, 'there is strong collaboration' among the WASH sector development partners 'who regularly meet to discuss sector issues' (AfDB, 2014: 2).

Donors employ a variety of strategies to implement their programmes, which have different implications for service delivery bottlenecks. To illustrate this point, it is useful to compare the approaches of the AfDB, the UK government Department for International Development (DFID) and UNICEF (Table 3), all of whom are significant investors in RWS in Malawi.

The **AfDB** is currently financing the Sustainable Rural Water Infrastructure for Improved Health and Livelihoods project, through the MoAIWD (AfDB, 2014). Under this project, the Bank provides significant investment in water infrastructure development, particularly gravity-fed schemes, as well as improving sanitation, and capacity building activities (totalling US$40 million).[5] The Bank emphasises strengthening accountability in government procurement processes and financial management, with a view to progressing towards a SWAp model (ibid.). The Bank's approach (Box 3) certainly helps to strengthen the enabling environment for sustainable service delivery, but it potentially reinforces the retention of resources and control at national (Ministry) level.[6]

Rather than working through national institutions, **DFID** gives greater emphasis to collaborating with district governments to develop RWS, though it currently does so indirectly through UNICEF and other NGOs that it funds.[7] Hence, DFID arguably supports a system parallel to government. According to the business case for *Support to the Delivery of Rural Water, Sanitation and Hygiene Services in Malawi* (2012–2015), the

4 In an assessment of UNICEF drilling programmes it was found that 50% or the sample had been sited using 'low cost' methods such as divining sticks, bent wires or even soft drinks bottles (Anscombe, 2011).

5 A small portion of this total is in-kind contribution from the Government of Malawi. Capacity building activities include: training of District Coordination Teams and extension workers, formation and training of WUAs and WPCs, construction of DWDO offices and staff houses, strengthening monitoring systems, and preparing gender responsive WASH Investment Plans.

6 That said, O'Neil et al. (2014) suggest that strengthening Ministries may be a sensible strategy given the current political context.

7 The NGOs are World Vision International, GOAL, Development Aid from People to People (DAPP) and Concern Universal, with WaterAid providing policy and governance support (DFID Malawi, 2012).

Box 5 Coordinating investments in rural water supply

Over the last decade, various initiatives have sought to improve coordination in Malawi's water sector and progress towards a Sector Wide Approach (SWAp) to investment. A review of the DFID-funded Water Policy and Governance project noted several areas of improvement, including the establishment of several key national forums,[1] development of national and district investment plans, and the strengthening of District Coordination Teams in targeted areas (Sindani, 2016). Nonetheless, institutionalisation of the SWAp has been a slow process for a number for reasons. Donors are reluctant to channel their resources through budget support or basket funds, doubting the reliability of government procedures (WaterAid, 2015, unpublished; KIIs 5 and 10). Following the 'Cashgate' scandal of November 2013, considerable uncertainty remains about whether and how a basket-funding approach to development aid might be (re)instated, in any sector (Taylor, 2014).[2]

Despite these challenges the WSWG, in particular, is still an important forum for cooperation among sector stakeholders. Sector working groups are expected to serve as dialogue platforms that feed into higher levels of policy-making, consolidate strategic plans, monitor progress and promote cooperation and coordination, thereby improving efficiency (Taylor, 2014). Most have facilitated meetings between government and donors, while other stakeholders – academia, civil society – have played a fairly minor role. In Taylor's review of sector working group functionality, the WSWG was classified as 'occasionally active'. The main difficulty is that the Secretariat, provided by the Planning Section of the Department of Water Development and Irrigation (MoAIWD), suffers from a paucity of personnel (ibid.)

1 Namely the WSWG, chaired by the Principle Secretary, and subsidiary Technical Working Groups (including one for RWS); the Development Partners Group, chaired by AfDB; the Water and Environmental Network (WESNET) for NGOs; and the Joint Sector Review process.

2 Prior to the 'Cashgate' scandal, some of the more active sector working groups were benefitting from basket funding.

programme was to invest up to £20 million (US$26 million) in new water infrastructure, backstopping support systems for WPCs establishing spare part supply chains, rehabilitating existing water points, and strengthening WASH institutions (DFID Malawi, 2012). The programme also has a WASH Challenge Fund component to support a number of innovations such as self-supply.

Of the three donors, **UNICEF** is collaborating most actively with DWDOs, channelling funds directly through these institutions for water point development and rehabilitation, and community training and support. Interviewees thought the UNICEF model was working well (KIIs 7 and 10), albeit constrained by the DWDOs' staffing capacity. UNICEF Malawi's approach to service delivery focuses on strengthening government systems and capacity building. Among other things, this has enabled the training of area mechanics in the maintenance of water points, and has helped to ensure that District Water Development Officers have the necessary qualifications (UNICEF, 2015).

3.3 District government

There are a range of actors at the district level with both influence and a stake in RWS. District Councils[8] are officially responsible for the overall development of their area and therefore have a relatively high influence on sector activities (Figure 4). Within the council, executive decision-making responsibilities lie with the District Executive Committee (DEC), led by the District Commissioner and supported by District Coordination Teams (DCTs) (CLGF, 2015; KII 1). However, incoherence in government policy and legal frameworks to date have meant that local government is often fragmented and structures informal or ad hoc. For example, local elections were postponed by the President in 2005, and not held until almost a decade later in 2014. In the absence of elected councils and functioning development committees, MPs and Traditional Authorities sought to fill the gap between citizens and government (O'Neil et al., 2014). Things may be changing now that councillors are in place, but the disjuncture between 'rules on paper' and 'rules in use' remains, and MPs and Traditional Authorities continue to have a strong influence on decision-making.

Planning at the district level is a bottom-up process, and as water is generally a high priority for communities,

8 Referred to in the Local Government Act (GoM, 1998) as District Assemblies. The Council is composed of elected ward councillors, Traditional Authorities from the area (as non-voting members), MPs whose constituencies fall in the area, and several non-voting members selected to represent particular interest groups (GoM, 1998).

Table 3 Comparing donor models for the delivery of their water programmes

	Model	Rationale
AfDB	Funds managed by central government (MoAIWD Project Coordination Team), using a dedicated project bank account Activities implemented by District Coordination Teams (except for large and complex gravity-fed schemes) MoAIWD procurement system is used, but adhering to AfDB rules and procedures (and subject to monitoring and reviews)	Supporting government structures and building capacity to implement larger projects; progression towards a SWAp Basket funding currently considered risky in terms of the ability to monitor spending and account for funds
DFID	Programme is managed by UNICEF Contracts awarded to NGOs via UNICEF's procurement system under a competitive bidding process NGOs expected to collaborate with district governments	Best option as identified in DFID's business case UNICEF has the capacity to deliver and is a big player in the WASH sector
UNICEF	Direct support to district governments (i.e. funds dispersed to districts) Development of annual plans with District Councils in line with UNICEF's programme strategy Drilling contracts arranged either through district government, MoAIWD or by UNICEF (three modalities) Some work may be contracted to NGOs due to low DWDO capacity	Keen to support the decentralisation process and build capacity of DWDOs and to avoid the development of parallel structures But also a pressure to deliver programmes and reach beneficiaries (thus engaging NGOs)

Source: KIIs 7, 10 and 18; AfDB (2014); DFID Malawi

'interest' among district governments is also relatively high (though other sectors may be prioritised in practice). The DWDO is the technical lead for the water sector at district level, and the officer in charge reports to the DCT/DEC. Although the DWDO is important locally and theoretically plays a key role in delivering water services, its influence on sector outcomes is limited compared to the District Council and central government institutions. For example, during the fieldwork for this research, Balaka DWDO didn't have an officer in post to represent sectoral interests locally and as such, interviewees felt they had little communication with the MoAIWD.[9] Moreover, DWDO staff at district level are often more junior than their counterparts in other sectors, wielding less influence over resource allocations (Sindani, 2016; WaterAid, 2016).

The lack of financial and human capacity for DWDOs to fulfil their functions was identified as a major structural factor undermining the sustainability of RWS (section 2.2). However, in the face of such constraints one often finds innovation: two coping strategies were mentioned by interviewees, both of which relate to the provision of backstopping support to communities. The first is to enlist the District Environmental Health Office and other district-level extension services in monitoring the functionality and maintenance of water points (KIIs 4 and 17). Health extension workers are present in most villages, whereas there are only a handful of water monitoring assistants in each district.[10]

> *The HSAs [health extension workers] report to the District Environmental Health Officer who report to the District Coordination Team. The Water Monitoring Assistant can then pick up where there is a problem. We are using all these people to get things done, so we are at the mercy of another Ministry and we have to maintain good relationships. (KII 4)*

Using other sectors to relay information helps improve the DWDO's responsiveness when problems arise. But the downside is that DWDOs are then highly dependent on other actors, which may reduce their influence in district-level decision-making still further.

The second coping strategy interviewees identified was 'piggybacking' on NGO projects: not only are DWDOs enlisted in implementing NGO projects as discussed, but the presence of NGOs in their area of operation can also offer opportunities to carry out other work. Transport is one key area of in which this happens. DWDO staff sometimes source funding or fuel from NGOs to support their fieldwork activities, or simply hitch a ride (KII 11). While the reliance on NGO support potentially reduces the influence of the DWDO vis-à-vis monitoring NGO activities and can lead to disjointed (rather than strategic) approaches to planning and investment, it does in the short term enable government staff to do their jobs.

3.4 NGOs

In Malawi's water sector, there are a range of international and local NGOs, as well as civil society organisations such as faith-based initiatives, all of which support water service delivery to rural communities.

9 Fieldwork was conducted in May-June 2016. A DWDO officer was recruited for Balaka in January 2017.

10 According to Lockwood and Kang (2012: p20) a typical district will have around 100 health extension workers (HSAs) to every 1 Water Monitoring Assistant.

While some NGOs focus on water point construction and rehabilitation, several others are working to strengthen government capacity. For example, InterAide specialises in establishing networks of area mechanics. There are also several initiatives to map and monitor water points, with organisations such as Fisherman's Rest, WaterAid, Engineers Without Borders and Water For People playing an active role (Chowns, 2014).

During the stakeholder mapping (Figure 4), the NGOs identified were divided into two broad categories: 1) NGOs with high influence and interest in delivering sustainable services, such as WaterAid and World Vision; and 2) NGOs that are smaller and less influential, or for whom water is only a small part of a larger portfolio of activities. As a group, NGOs supplement government activities (KIIs 12 and 14) and collectively leverage substantial funding for the sector.[11] NGOs with large budgets wield considerable influence, particularly at district level (KIIs 5 and 12):

> *Some [NGOs] have power as they come with money, whereas the districts are cash-strapped. (KII 5)*

A few NGOs, such as World Vision and Concern Universal, also have their own drilling equipment and considerable technical expertise, meaning they are less reliant on private drilling contractors or government personnel (KIIs 10, 14 and 16).

But the presence of NGOs is not without problems. Creating parallel governance structures to that of government confuses accountability lines, and potentially diverts human and financial resources away from state institutions. The sheer number and variety of organisations involved also makes coordinating investments very challenging. A particular concern is coordination with government and adherence to national guidelines for best practice (KIIs 1, 2, 6 and 8; see also WESNET, 2014).

> *Any development intervention coming to a district should go through the DWDO. This is important, since the district becomes responsible once the borehole has been constructed. (KII 1)*

> *NGOs are supposed to follow the same procedures as us [the government] regarding the survey, drilling and water quality tests. Sometimes they don't transmit the data to us. (KII 2)*

Where collaboration is absent, government experts find it difficult to monitor water point functionality or provide the necessary support to communities. It can also lead to a duplication of efforts (Songola, 2011). At worst, the DWDO may not even have a record of where new water points have been sited (Baumann and Danert, 2008). Moreover, relatively few development partners are financing post-construction support and monitoring, such as the training of area mechanics, and 'most stop at establishing the Water Point Committee' (KII 1). This leaves a significant gap between construction and post-construction activities. This is not to say there aren't exceptions: InterAide has been particularly active in supporting the development of Area Mechanic networks, for example (Boulenouar et al., 2017).

Many of the larger NGOs do actively engage with district government offices in planning and implementing their projects (KII 13, 14 and 16), and are advocates for best practice. The introduction of memorandums of understanding between NGOs and district offices is also helping to address coordination issues (KIIs 1 and 9),12 and key donors such as DFID now make it a condition for NGOs receiving their grants to work with district governments (KIIs 10 and 18).

Several NGOs have joined forces under the Water and Environmental Sanitation Network (WESNET) with a view to developing a common strategy and having a united voice in policy dialogue platforms, such as the WSWG (KIIs 3, 5 and 16; see also WESNET, 2014).[13]

> *WESNET is trying to improve coordination in the WASH sector and have been setting up 'chapters' at district level. They sit on the development partners' technical working group, and the sector working group. Although membership is not as desired, they are working on this to include members in strategy formulation, rather than activities simply revolving around the secretariat. This will help to improve leverage. They are currently trying to come up with a five-year strategy. (KII 5).*

Although membership is voluntary and needs to be strengthened (KII 5), having an umbrella body such as WESNET makes it easier for the government to engage with NGOs, both at the district and the national level (KII 1 and 16). WESNET is also tracking government budgets and expenditure, and provides a forum for members to share information and experiences (Sindani, 2016).

11 WESNET (2014) gives a figure of 25 billion kwacha as the total NGO expenditure on WASH for 2013/14 – far greater than the 'on budget' figure cited in section 2.2.

12 Although the WESNET (2014) study found only 10% of organisations had formal MoUs with districts.

13 Humanitarian agencies, such as the Red Cross, coordinate under a WASH cluster during emergency operations. According to WESNET (2014) the Water Supply and Sanitation Collaborative Council (WSSCC) is another major coordinating body, although our interviewees did not mention it. Civil society organisations are also, in principal, represented by the Council for Non-Governmental Organisations in Malawi (CONGOMA), and are required to register with CONGOMA by law (Taylor, 2014).

3.5 Private sector

In Malawi, the private sector plays various roles in the RWS service delivery chain, and can be divided into three main subgroups:

1. **drilling companies,** who are often contracted by the government and development partners to site and construct water points[14]
2. **consultancy firms,** for example with engineering expertise, who may play a role in the design of project interventions (hardware and software) or provide other advisory services
3. **private businesses,** who import pumps and other specialist parts that are manufactured abroad for sale in hardware shops and other outlets.

Drilling companies have a relatively high influence on the functionality of water points, as their work has direct implications for the quality of siting and construction. As their role was hotly debated in the key informant interviews, this is the group we will focus on.[15] Several interviewees claimed that malpractice by private drilling companies, coupled with weak monitoring and regulation of drilling activities, was one of the main causes of premature breakdown of water points in Malawi (KIIs 6, 8, 10 and 16). These companies are driven by profit-making, and as such arguably have little interest in water point sustainability. There is, then, a temptation to cut corners by, for example, using low-quality or second-hand materials (KII 3), failing to test for water quality (KII 3 and 6), not drilling deep enough and/or installing handpumps on low yielding boreholes ('as long as they find water it ends there' – KII 16).

> *The private sector may want to take short cuts. It really requires someone to be on site all the time. But sometimes you may wake up at 8 a.m. and find that they started the work at 4 a.m.! To avoid this issue, we attach a Water Monitoring Assistant, although sometimes there are not enough staff. (KII 6)*

Aside from deliberate malpractice, drillers do not always have the equipment and know-how to properly site and drill boreholes (Anscombe, 2011). Often the connection between water point failure and who drilled (or indeed funded) the borehole is difficult to make, due to the lack of consistent record keeping, hence 'no one is taken to task' for doing a bad job (KII 8; Gutierrez, 2007).

But though there are no doubt problems within Malawi's drilling sector, it is unfair to assume all companies and contractors have the same motivations, experience and technical capacity (KII 6; Anscombe, 2011). Drilling companies face stiff competition in winning contracts, must navigate complicated (and varying) procurement systems and need to maintain good relationships with service providers.

> *To tell the truth it is very difficult to get a contract. The main thing they look at is the price, even if you have a lot of experience. Others will go back to the same contractors who did a good job before for them. (KII 19)*

Moreover, few 'low-hanging fruits' remain; with no quick and easy projects left, drillers are having to work in remoter areas where access is difficult and suitable drilling sites hard to find (KIIs 14 and 19). Drillers are often not paid for 'dry holes', and so their costs can mount up quickly (KIIs 3, 6, 13, 18 and 19).

> *We went to nine schools but we only got three [successful boreholes] – there was no groundwater nearby. So, we had lots of failed drilling attempts. We don't pay contractors for low-yielding boreholes. (KII 18)*

There is perhaps a tendency to make drilling companies a scapegoat for the water sector's problems. In reality, drilling companies do not operate in isolation from other actors but are part of much larger political–economic relationships. Government, NGOs and donors all have an important role to play in ensuring that procurement procedures (including contractual agreements) are transparent, fair and effective, construction is supervised, and monitoring post-construction takes place (KIIs 2, 3, 6, 10, 12, 13, 17 and 18; see also Anscombe, 2011; Baumann and Danert, 2008).

> *Enforcement on water quality is poor. The tests should be done by the government department in theory, but often they are not done. Clients are not paying attention to water quality. The result is lots of abandoned water points. (KII 6)*

Regulators, such as the National Construction Industry Council and Bureau of Standards similarly have a role to play. But in the current political economy, monitoring and enforcement is challenging: not only do 'many contractors have political links' (KII 6, echoed in KII 8) but patronage networks operate at every level (O'Neil et al., 2014; see also Said and Singini, 2014). This means that having a supervisor in place is no guarantee that drilling operations will be to standard, as they may collude with a corrupt contractor or 'there may be a "big man" involved' (KIIs 3 and 6).

14 These companies may do a range of construction-related activities, rather than specialising in drilling boreholes (Interview 19).

15 Groups 2 and 3 were not discussed with interviewees in much detail.

3.6 Area mechanics

Area mechanics are an interesting group of actors in Malawi's rural water supply sector, operating at the sub-district level. Although they are not present in many areas and not currently very influential, those that have been trained play an important role in undertaking repairs to the water points in their local area. As such, they have an interest in contributing to the sustainability of services (Figure 4). In addition to undertaking repairs, area mechanics are expected to play a role in monitoring functionality and reporting issues upwards to the DWDO (KIIs 11, 13 and 14), although this may not always happen in practice (KII 17).[16]

According to national policy, area mechanics are part of the formal governance structure for water service delivery, helping to bridge the gap between WPCs (community representatives) and Water Monitoring Assistants (extension workers) (KII 1). In reality, their position vis-à-vis government and the communities they serve is somewhat unclear. Area mechanics sit on the boundary (such that exists) between citizens, private sector and state institutions, and are variously referred to as volunteers, entrepreneurs and 'a layer' of government (KIIs 1, 4, 11, 13, 14, 17 and 18).

An extension of government? Individuals from the local community are selected by the government (or development partner), usually from an existing pool of WPC members that have received basic training in water point management. These individuals receive further training to enable them to undertake minor and major repairs to the handpumps, for which the government recently produced a set of guidelines and manuals (KII 1). Upon completion of this training, they are typically provided with basic equipment (e.g. overalls and boots, tools and a bicycle) and with an official identification card, so that they are easily recognisable (KII 1, 3, 4 and 14). In short, area mechanics are trained and regulated by government, often with the support of NGOs.

Entrepreneurs or volunteers? Area mechanics are not paid a government salary and are instead expected to arrange with communities any compensation for their services. This means that payments vary between locations or circumstances (KIIs 1 and 11). In some instances, mechanics also play a role in supplying spare parts, although in theory they are only meant to advise communities on what to buy (KII 11 and 13). The following quotes illustrate the apparent confusion over the role of area mechanics and the nature of payment arrangements:

> *The work is voluntary in nature. In some cases [area mechanics] charge for their services but at a reasonable price, for example the Water Point Committee will pay 1,000 MWK for one job. But the prices are not uniform. They may charge more or less, or not at all. The agreement is made with the community. (KII 11; similar remarks made in KIIs 13 and 14)*

> *[The area mechanics] are supposed to be running a business. So, if they have enough water points or contracts they will have a little something for their pockets. There are two types of contract: (1) long term, to service the water point regularly, and (2) to do one-off repairs. It's up to the Water Point Committee as to whether to enter into an agreement with the area mechanic. (KII 17; similar remarks made in KII 18)*

The first of these two KII quotes depicts a process shaped by social obligations, mutual benefit and the need for trust (sentiments echoed by the area mechanics – KII15), while the second advocates a purely economic relationship in which the area mechanic provides a service to make profit (see also MoIWD, 2014: 27). At present, communities have no choice of area mechanic: they are obliged to employ the individual allocated and local to their area. As such, there is no competition between these service providers and little incentive for good service, as might be expected in a market-based model. Moreover, area mechanics are unable to expand their area of operation without first getting permission from the DWDO, and even if they could it is not clear that being an area mechanic is presently a viable livelihood option. Challenges reported include the distances between communities (particularly for individuals who don't own bicycles) and unreliable payment, also needed to cover transport costs (KII 15 – group interview with three area mechanics; Baumann and Danert, 2008).

> *Sometimes we can spend a whole day at the borehole only to get 1,000 kwacha, so our livelihoods are affected. This is not enough. We get this money because people know us and we are from the same community, so we are not respected. Someone from outside can easily be paid lots of money. (KII 15).*

Despite the confusion over the nature of their role and the challenges area mechanics face, the general impression from interviewees was that they are doing a good job (see also Baumann and Danert, 2008). Most area mechanics have the expertise to undertake repairs without assistance from the DWDO and therefore fill a vital gap in support to communities:

> *They are working well. As an office, we haven't had any complaints. In Nkaya we don't have to go for repairs, only monitoring. (KII 11)*

16 In theory, the area mechanics have to report on the number of boreholes repaired each month or quarter, and are given forms to complete for the DWDO (Interview 11). Some area mechanics appear to be reporting to the NGOs that trained them, as well as the DWDO (Interview 15).

They have repaired a number of boreholes that otherwise would not be functioning now. They can do major repairs themselves. (KII 14)

The identification system has also helped to minimise rogue 'bush mechanics' and vandalism, and policy provisions have standardised the training and accreditation of area mechanics. A long-term goal for the sector is to enable area mechanics to play an active role in preventative maintenance, conducting routine checks of water points and reducing the need for more expensive repairs (KII 13). In the short-term, the priority is to increase the coverage of area mechanics nationally. There are presently few trained individuals compared to the number of boreholes and communities that need their services (KII 17).

3.7 Communities and their representatives

A detailed examination of community-level institutions for water management, such as WPCs, was out of the scope of this study, though the UpGro Hidden Crisis project is looking at this aspect of sector governance through survey work and in-depth longitudinal research. Some key points from the political economy interviews may be relevant for this research at community-level:

- Government structures at the sub-district level include the Area Development Committee and Village Development Committee. These play a role in bottom-up planning processes, identifying local priorities for investment.
- Ward Councillors are also consulted in the development of district plans and projects and have considerable influence locally, as well as in the District Council.
- Similarly, traditional leaders (particularly chiefs) are very influential in the local community and form part of formal district government structures. It is difficult for projects to proceed, or for WPCs to succeed, without the support of these individuals.
- The government is currently rolling out a new set of national guidelines and training manuals for post-construction support, including WPC training, spare parts supply chains, and monitoring. At present the training WPCs receive is variable, depending on who is funding the project.
- Financial arrangements appear to vary. There are examples of village savings and loans schemes where the WPC becomes a member and can take loans. Some WPCs have been encouraged to open bank accounts, but often the money is lost to bank charges.
- Affordability of spare parts is a problem. Parts are expensive because they are imported from India. According to MoAIWD experts, the government is trying to remove levies and taxes on these imports. Inter Aide is also working on supply chain issues.

4 Conclusions and recommendations

4.1 Summary of findings

This political economy study sought to understand 'real-life' governance arrangements and dynamics in Malawi's rural water supply sector, at the district and national levels. The report has described some of the key bottlenecks in the service delivery chain that undermine sustainability and functionality of water points, and linked these to underlying structural factors such as the political, economic and institutional context. The report has also explored the incentives and strategies of the different actors involved in rural water service delivery, mapping their relative influence and interest in sector outcomes.

As in many African counties, the water governance landscape in Malawi is highly complex. It involves a wide variety of institutions and individuals, operating within and outside government, and at different levels of decision-making. Not only are policies and regulations incoherent, but 'rules on paper' inevitably differ from 'rules in use'. Roles and responsibilities are therefore often blurred in practice, and who is accountable for what, or to whom, is unclear. These problems are not unique to Malawi's water sector but they are compounded by significant gaps in communication and coordination, and weak regulation and monitoring. This makes it difficult to determine the causes of non-functionality and therefore to improve service sustainability.

Many of the challenges Malawi's water sector faces are systemic. The political and economic context is characterised by competitive clientelism, where the maintenance of patronage networks takes precedence over fulfilling the formal functions of the state and hinders the ability of officials to make (and implement) policies in the public interest. These relationships are not unique to the water sector and permeate both government and non-governmental spheres of activity. Not only are investment decisions influenced by (often short-term) political interests but, as the decentralisation process demonstrates, there is little incentive for those in power to relinquish control over resources. Moreover, the MoAIWD itself has limited control over the devolution of finances and functions to districts.

The result is that actors on the frontline of service delivery have considerable responsibility for ensuring the sustainability of water services, but little influence on decisions made 'at the top' and very few resources 'to get the job done'. In fact, the water sector as a whole suffers from a shortage of human and financial capacity as compared to other sectors, which are given higher priority by politicians, and this gap is only partially filled by development partners.

Given these significant challenges, what are the opportunities to improve water sector governance in Malawi and ensure better outcomes for citizens? What can different actors do? Our research indicates that several interesting coping strategies and innovations (formal and informal) have already emerged in the face of the abovementioned constraints, which could be useful entry points through which to support positive change. These strategies include the development of extension worker networks on the ground, which work closely together and often support one another's activities, helping to overcome resource constraints and institutional fragmentation. Where such coordination mechanisms exist, they should be encouraged and strengthened as much as possible.

The training and formalisation of area mechanics as part of the service delivery chain is also addressing the notable gap between Water Point Committees and Water Monitoring Assistants. Increasing the coverage of area mechanics is a priority for government to improve the maintenance and hence sustainability of water points, and more resources are needed in this crucial area of post-construction support.

The increasing collaboration between donors and NGOs, and with government, is another positive sign, and there appears to be growing support from development partners for district governments. But these efforts must go further, beyond capacity building, to address deeper-seated institutional constraints. This means finding arrangements that work, and work better, in the local context, whether they resemble formal institutional arrangements 'on paper' or not. Meanwhile, donors such as UNICEF are making concerted efforts to improve the quality of water point construction through the contracting and monitoring of drilling operations, helping to ensure the right incentives are in place for companies to do a good job. Sharing experiences – for example, through the WSWG – would be an opportunity

to learn valuable lessons, as well as to harmonise contracting arrangements in the sector.

Finally, work has been undertaken to map water points, which is helping to improve the targeting of investments and mitigate political influence on resource allocations. Building the capacity of government to collect, manage and use data continues to be a priority in this regard. However, it is important to ensure that data are shared amongst stakeholders and monitoring systems harmonised to avoid duplication of efforts.

4.2 Recommendations for government and development partners

Based on the findings of this study and drawing on the existing literature, we make several general – and by no means exhaustive – recommendations aimed **at central government departments and development partners engaged in the RWS sector,** to be refined through the course of the UpGro Hidden Crisis Project. These recommendations focus on *realistic* opportunities to foster positive changes in Malawi's water sector, which means working with or around prevailing political–economic incentives.

They entail: making modest changes to improve service delivery in the short term; and supporting transformative changes in governance in the longer term (see O'Neil et al., 2014). Some activities may contribute to both objectives.

Policy-makers and water service providers should avoid ideological approaches to rural water supply, and focus instead on context-specific solutions.

Work with local stakeholders to identify problems and negotiate solutions that can work in practice, given local circumstances (rather than pursuing unrealistic ideals or blueprints for governance). This may require experimentation with new funding models or alternative institutional arrangements, and accepting that not every sector or district will follow the same pathway. For government, it implies greater flexibility in policy execution, as well as improvements in communication within and among central ministries and their extension workers 'on the ground'. Development partners also need to reflect on the limitations of their own institutional arrangements and programmatic models. This is an important starting point in advocating for change and working with other stakeholders to form coalitions for reform.

The MoAIWD and development partners need to give greater recognition and support to local government in delivering water services.

This means planning activities together with District Councils, DWDOs and WASH coordination teams, rather than top-down programme design, and ensuring they remain informed (e.g. sharing data on new water points). Development partners in particular should try to avoid bypassing local government to create parallel governance structures. On the other hand, they need to be realistic about how services can be sustained by government when projects phase out, ensuring that district-level actors have the capacity to plan, manage resources and address problems as they arise. Involving DWDOs in project management and encouraging NGO project staff to provide mentorship can help to develop the necessary soft skills and enabling environment, without incurring the costs of standalone training programmes (Boulenouar et al., 2017). The DWDO Forum is also an important platform for the MoAIWD and development partners to engage in policy discussions.

Development partners (particularly NGOs) providing water services to communities should adhere to basic good practices in developing and implementing programmes.

In the short term, development partners should be adhering to government guidelines as a minimum standard for siting and construction of water points, and the provision of technical training for those responsible for water point management (e.g. Water Point Committees and area mechanics). Many are already doing this, but not all. Supervision of drilling contractors by qualified staff is crucial to ensure that construction standards are met. In the longer term, this will involve investment in training to develop expertise in the sector, particularly at district government level but also nationally (including the private sector). Sindani (2016) finds that where DCTs are strong, they are able to adopt and enforce minimum standards and guidelines.

Both central government and development partners need to increase attention and funding to neglected areas of the service delivery chain, namely post-construction support and monitoring activities.

To date, most public and donor investment has gone towards the provision new infrastructure and the creation of Water Point Committees, with limited investment in ongoing post-construction activities. Technical capacities and resources need to be put in place at the district level to provide adequate support to communities in maintaining and repairing water points, including refresher trainings

where needed. This means lobbying for an increase in ORT budgets (Other Recurrent Transactions) earmarked for DWDOs, as well as technical and financial support from development partners. It is also important for development partners to support mapping and monitoring efforts beyond the lifetime of specific programmes – particularly, building the capacity of district government to collect, manage and use data (building on efforts at a national level such as Madzi Alipo). This will help to identify malpractice in water point construction, as well as ensuring that investments are targeted to the right areas, helping reduce undue political influence.

The Local Development Fund (LDF) could also be an opportunity to increase the finance available at district level and improve performance monitoring (see Lockwood and Kang, 2012), while Councillors may have a role to play in lobbying central government for the devolution of further resources.

Government departments, donor programmes and NGOs need to provide safe spaces for their staff to critique dominant approaches to service delivery, as part of an adaptive learning process.

The effectiveness of current practices needs to be assessed, instead of assuming that popular approaches are best. This applies particularly to community-based management, which may not always be the right solution and is often applied too rigidly, rather than adapting arrangements to local needs and capacities. Another area where critical review and spaces for co-learning may be useful is around drilling contracts. Sharing evidence regarding successes – what works, when and why – and failures can help to inform future programme design, but opportunities for reflection and learning need to be built into planning processes. For cross-institutional learning, entry points include the WSWG, WESNET and Joint Sector Review processes.

Development partners can play a role in identifying and supporting successful innovations, whether locally specific or nationally relevant, working together with government.

Our research identifies several innovations that could help to improve service outcomes, and there are likely to be many more. For example, in several districts progress has been made building a network of trained area mechanics to help fill the gap between communities and DWDOs. This initiative is being supported by several development partners, particularly InterAide. Area mechanics have also been incorporated in government policies and guidelines for rural water supply governance. Other innovations may be less obvious or more informal in nature. For example, several interviews revealed that communication and support networks among extension workers have helped to overcome capacity gaps in the water sector to some extent. Strengthening District Coordination Teams would help in this regard. With respect to sector monitoring, Sindani (2016) suggests that there are opportunities to use existing data clerks at district level from programmes such as Health Management Information System, National Registration Bureau or Education Information Management system.

4.3 Recommendations for UpGro Hidden Crisis

There are a number of entry points for the UpGro Hidden Crisis to engage different stakeholders in the research and to disseminate findings (summarised in Table 5), some of which are already being used.

Interviewees were keen to emphasise the need for UpGro Hidden Crisis to engage district-level actors and not only Ministry experts in conducting research and to share findings with politicians and development partners. They also highlighted the need to involve stakeholders (particularly government) early on during project planning and to solicit their input on preliminary results. A range of outputs were suggested to maximise engagement with the results by different target audiences: interviewees hoped that the project would go on to: 1) produce accessible written outputs (reports and briefings) and disseminate these widely; and 2) host multi-stakeholder workshops or forums in which to discuss the research findings and their implications for policy and practice.

4.4 Areas for further research

There are a number of interesting research questions that could be explored in further detail, building on the UpGro Hidden Crisis political economy analysis, some of which already being taken up by postgraduate researchers in connection the UpGro project.

1. **The role of area mechanics.** What is the nature of the relationship between area mechanics and the communities they serve? How are payments for their services negotiated? How do area mechanics interact with government (or NGO) staff? How do they perceive their own role? *[Thoko Mtewa is researching area mechanics in Balaka District for her MSc thesis.]*
2. District and sub-district politics and governance. How do local actors seek to assert their influence on resource allocation decisions, and in which arenas? How are different actors connected to one another (socially, political, organisationally)? How are water policies interpreted and implemented by people on the ground? *[Naomi Oates is exploring some of these questions in her PhD, focusing on Balaka and Lilongwe Rural Districts as case studies.]*

3. **High-level politics and decision-making.** What is the process for national planning and budgeting, on paper and in practice? What is the relationship between different government Ministries and agencies, politically speaking? How do powerful interests exert their influence on policy-making, resource allocations and progress reporting?

4. **Procurement and construction processes.** What is the nature of Malawi's drilling sector (e.g. number of companies, sizes, ownership, areas of expertise)? How are contracts awarded and negotiated? What is their content and how does this structure incentives to do a good job (or not)? What role do regulatory authorities play? *[Elizabeth Liddle has been collecting data on some of these questions in Uganda for her PhD.]*

Table 4 Recommendations for research engagement and dissemination of findings from UpGro Hidden Crisis

Who?	What?	How?
MoAIWD (Water Resources and Water Supply Departments)	Technical information on hydrology, functionality, water quality Evidence on community management (the reality) Evidence on siting and construction problems Cross-country learning (findings from Uganda and Ethiopia)	Involving experts in planning and conducting the research Regular feedback of findings through one-to-ones or small group meetings Working with the Ministry to convene a multi-stakeholder workshop / forum Involving WaterAid's policy engagement team Briefing the Minister, Principle Secretary or other senior policy-makers (short meetings, one-pagers)
Malawi National Assembly (parliamentary committees responsible for water)[i]	Making the case for investing in the water sector (e.g. link to Sustainable Development Goals) Highlighting key problem areas	Presentation at a committee meeting Briefing the committee through the chair (e.g. providing a written summary of key messages)
Other sectoral Ministries (health, sanitation, gender and community development)	Highlighting relevant research findings (e.g. on water quality, governance arrangements)	Convene a multi-stakeholder workshop or forum Arrange smaller group meeting (convened by MoAIWD) Sharing project reports with relevant departments
Donors	Highlighting key problem areas Technical information on hydrology, functionality, water quality Evidence on community management (the reality) Evidence on siting and construction problems Cross-country learning (findings from Uganda and Ethiopia)	Engaging with the WSWG technical group of RWS and the Donor Working Group chaired by AfDB (presentations at meetings, dissemination of reports to members, feeding into the Joint Sector Review process) Targeting some of the big players for one-to-one meetings (e.g. UNICEF, UK DFID, AfDB, JICA)
NGOs	Highlighting key problem areas Technical information on hydrology, functionality, water quality Evidence on community management (the reality) Evidence on siting and construction problems Cross-country learning (findings from Uganda and Ethiopia)	Engaging with WESNET through WaterAid's contacts (presentations at meetings, dissemination of reports or briefings to members e.g. via their website) Targeting active NGOs for workshop participation or other meetings to discuss findings (e.g. WaterAid, World Vision, Water For People, Inter Aide) Piggyback on existing events (e.g. NGO week, local conferences)
District water officers and extension workers (DWDO)	General findings (e.g. survey results on functionality patterns) District-specific findings	Involving the DWDO/WMAs in planning and conducting the research Regular feedback of findings through one-to-ones or small group meetings (for example through the DWDO forum) Convening multi-stakeholder workshop or forum
District Coordination Team (DCT) and District Executive Committee (DEC)	General findings (e.g. survey results on functionality patterns) District-specific findings	Keeping the DEC informed of project activities (via the DWDO) Piggy-backing on DCT/DEC meetings to discuss findings Sharing project reports and other briefings
District Commissioners	Making the case for investing in the water sector Highlighting key problem areas (general and district-specific)	One-on-one meetings Sharing project reports Short district-specific briefings (e.g. one-page key messages)
Councillors and traditional authorities	Making the case for investing in the water sector Highlighting key problem areas (general and district-specific)	Piggybacking on DEC and council meetings Sharing project reports Short district-specific briefings
Drilling companies and private consultancies	General findings (e.g. survey results on functionality patterns) Evidence on siting and construction problems, and related governance arrangements	Sharing project reports Convening multi-stakeholder workshop or forum
Civil society and media	Project findings and key messages	WaterAid has worked previously with the National Initiative for Civic Education, Media Group and Media Forum, to facilitate citizen engagement and dissemination of WASH-related information (e.g. around the 2014 elections; see Sindani, 2016)
Wider networks (e.g. RWSN)	Project findings, toolkits, etc. Key messages	Making project outputs readily available online International conferences Engaging with the media in Malawi (e.g. invite a journalist to the workshop and help them write a story)

[i] *Names keep changing. At present the relevant committees are the Health Committee - responsible for water and sanitation - and the Local Authorities and Rural Development Committee – responsible for rural water supply including boreholes.*
Source: interviewees; authors' own suggestions.

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