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Vol 24 | Issue 2 | February 2022



Official Journal of the World Water Council

Water Policy



ISSN 1996-9759
E-ISSN 1366-7017
iwaponline.com/wp

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Environmental and social consequences for moving beyond archaic legislation and policy: delay and disjoint in water governance, Malawi

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ABSTRACT

As in many sub-Saharan African countries with increasing demand for natural resources, how to move from archaic water legislation to new and up-to-date policies that cover both environmental and social consequences of water governance has become an issue. This study reviews Malawi's current governance framework and recommends a framework that takes Malawi's developmental needs into account. Our review of the state of water legislation shows that there is a lack of enforcement of the policies themselves and the public is not even aware of its existence. Lack of enforcement and public awareness have resulted in environmental degradation which is creating a lot of environmental problems for the citizens of Malawi. This work recommends future efforts in rationale evidence-based policy and legislation review that involves and is supported by multiple stakeholders. We also recommend the need for routine policy and legislation reviews in order to take advantage of cutting-edge solutions to water management issues. This will not only enhance general awareness of key environmental policies and legislation but benefit from coordinated efforts from various players to arrest the ongoing environmental degradation resulting from an incoherent policy and apathy from Malawians.

Key words: Archaic, IWRM, Malawi, Policy review, Sub-Saharan Africa, Water governance principles

HIGHLIGHTS

- Lack of routine or *ad hoc* policy and legislation reviews has serious environmental and social consequences.
- Key consequences include degradation of natural resources, uncoordinated efforts in implementing policy, and limited enforcement of the policy and legislation.
- Enhanced stakeholder collaboration in formulation and implementation would ease the burden for a single-line ministry.

INTRODUCTION

Rapid global population growth and unprecedented urbanization have increased pressure on and demand for natural resources, especially water. Over the decades, the pressure on water resources has forced the world to rethink the use of water and its management paradigms such as Integrated Water Resources Management (IWRM), Integrated Land and Water Management (ILWRM), Integrated Catchment Management (ICM), and Water Demand Management (WDM) (Fielding *et al.*, 2013; Lopez-Gunn *et al.*, 2014; Salmoral *et al.*, 2017;

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Rollason *et al.*, 2018). These paradigms are further supported by the Sustainable Development Goals, particularly goal number six which seeks to ensure water is sustainably managed and is available to all (UN, 2015). To ensure sustainable water resources management at all levels, these paradigms have been incorporated into regional, national, and local water governance frameworks – which include political, social, economic, and administrative systems (Gupta & Pahl-Wostl, 2013; Woodhouse & Muller, 2017).

There are numerous water management paradigms, and they have all focused on achieving the sustainable use of the water resources for ecosystem protection and economic growth rather than the local voice. Common water governance principles consist of transparency, inclusiveness, coherence and integration, equity, accountability, efficiency, responsiveness, sustainability, legitimacy, fairness, capability, and adaptability (Rogers & Hall, 2003; Lockwood *et al.*, 2010; Akhmouch & Correia, 2016). At a local level, national water policies and legislation have thus been developed to incorporate these principles so that they appropriately guide water resources management, development, and service delivery. While it would have been assumed that the availability of several water governance paradigms would enhance appropriate water management, others have attributed water problems to governance (Rogers & Hall, 2003; Bakker *et al.*, 2008). Olsson & Head (2015) indicate that governance goes beyond traditional hierarchical state activity, regulation and public management. Tortajada (2010) defined ‘water governance’ as comprising of social, political, economic and administrative organizations and institutions, as well as their relationships to water resource development and management. According to United Nations, water governance includes political, economic and social processes and institutions through which governments, private sector and civil society make decisions about how best to use, allocate, develop and manage water resources (UN, 2016). Water governance also includes policies that shape and manage water resources, and this includes the delivery of water services for both domestic and industrial uses (UN, 2014; Haque, 2019). Governing water means formulation, establishment, implementation, and monitoring of water policies, legislation, and institutions. It explains the obligations of the government, civil society, and private-sector bodies enabling local communities in accessing water resources and services. Water governance observes how stakeholders comply with the rules and regulations and roles assigned to them. The sector itself is a part of broader socio-political and economic developments and is influenced by actions taken by leaders of other cross-sectoral bodies (Haque, 2019).

Inclusivity and coordinated efforts are critical attributes to water governance. This is in recognition that challenges facing natural resources are complex and dynamic not only because of climate change but also because of socio-political reasons (Adams & Boateng, 2018). Consequently, regulatory frameworks require updating and reviewing to incorporate emerging and cross-cutting issues. For instance, in Malawi, with technical support from the Global Water Partnership of Southern Africa (GWP-SA), Integrated Water Resources Management and Water Efficiency (IWRM/WE 2008–2012) plan was developed (Malawi Government, 2008) as with other countries in southern Africa. While the plan’s goal was ‘ensuring the coordinated development and management of water, land, and related resources by maximising economic and social welfare without compromising the sustainability of environmental systems’, it also required that water regulatory frameworks including the policy, acts, and guidelines incorporate IWRM principles. As many countries in southern Africa had updated and reviewed their policies and legislation since independence, Malawi was slow to implement the recommendations not only from the international community but also by the recommendations from the evidence obtained through studies in Malawi (Mulwafu & Msosa, 2005; Mkandawire & Mulwafu, 2006; Chipofya *et al.*, 2009; Chiluwe & Nkhata, 2014).

In Malawi, efforts to repeal the Water Resources Act of 1969 started with the development of a water policy in 1994. The legislation had lots of gaps as far as water resources management was concerned. For instance, Chiluwe & Nkhata (2014) noted that the Water Resources Act of 1969 never had provisions for water supply and sanitation and yet it is a crucial component considering the current natural environment. They suggested

the lack of such an important component in the legislation could be attributed to the fact that the legislation was developed at a time when water supply and sanitation-related problems and awareness were not common. As such there was a great need to repeal or amend the legislation of 1969. Chiluwe & Nkhata (2014) also highlighted the lack of adherence to the governance principles such as participation, transparency, and accountability. The Water Resources Act of 1969 was only repealed in 2013. However, its accompanying regulations were developed, vetted, and gazetted in 2018. The delay in developing its regulations also meant that fees and fines related to water use only came to effect in 2018. For instance, the raw water abstraction fee was Three Thousand Malawi Kwacha (MK3,000.00) (equivalent to 3.62 USD at 1 USD = 828). While the legislation and policy served their purpose in providing general guidance for water resources management and development, its accompanying operationalization tools were obsolete. Without up-to-date legislation, policy, regulations, and other related guidelines, the whole regulatory framework remains weak and can have detrimental effects on the environment and water resources in particular.

This paper aims to review the environmental and social consequences of moving from colonial legislation to the current policy of water governance in Malawi. By critically analysing the impacts of the delays, the paper provides evidence for supporting future policy and legislation formulation. The paper also goes further to assess the public awareness of the water resources regulatory framework. The rest of the paper is organized as follows: Overview of water governance in Malawi provides an overview of the water regulatory framework of Malawi. Methods describes the methodical approach employed in this study to collect and analyse data, and Results and discussion presents results and discusses environmental and social consequences attributed to delay and disjoint in water governance. Policy recommendation provides policy recommendations based on the findings, and lastly, Conclusions presents a conclusion.

OVERVIEW OF WATER GOVERNANCE IN MALAWI

Key players in the water sector

Post-independence water resources management in Malawi has been very slow to evolve. Chipofya *et al.* (2009) observed that even after independence in 1964, the institutional framework was that of the pre-independence era. Notable changes were only traced after multi-party democracy in 1994 where a number of key policies and legislation were introduced, and sectors were being reorganized. However, how various sectors have been organized under different ministerial portfolios has been the centre of informal debates in Malawi. Each ruling party has often reorganized the sectors and changed its names aligning to their development manifestos. Since 1994, water affairs have been put under different ministries. It used to be a standalone ministry (Ministry of Water Development); however, it was later combined with the irrigation sector (Ministry of Irrigation and Water Development) in 1998. In 2014, water was put together with agriculture (Ministry of Agriculture, Irrigation and Water Development). While these changes may have been easy at a higher level in terms of names, their practicalities on the ground have seen challenges and critiques including resources allocation (B.A. Chunga, 2017, personal communication, 9 June). Reporting lines for district or regional officers have often changed creating bureaucratic and financial challenges in implementing a number of water resources management and development activities. While the financial challenges may not be directly attributed to constant portfolio changes for ministries, the water, sanitation, and hygiene (WASH) has seen less and less budgetary allocation from the national treasury. For instance, UNICEF Malawi (2019) reported that despite an overall increase in budgetary allocation in Fiscal Year (FY) 2018/2019, Malawi allocated 1.1% of its budget to WASH compared to 1.4% in Mozambique, 2.3% in Zambia, and 2.4% in Tanzania. The report further observed that in FY 2018/2019, the water sector was one of the least funded compared to other social sectors, with only 1.6% of the total budget while education

received 23.7%, health 9.8%, and social welfare 4.8%. Generally, the budget is still below the 1.5% recommended level under the eThekweni Declaration (2008) signed by Malawi. Reduced funding to the sector has crippled a number of developmental initiatives in the sector including catchment protection and WASH interventions.

Currently, the Ministry of Forestry and Natural Resources is responsible for the management of water resources in Malawi since 2019. It has four sub-sectors: forestry, environment, mines, and water (Figure 1). The forestry and environment sub-sectors are primarily responsible for planning and providing technical extension guidelines and facilitating development in forestry and environment. The water sub-sector manages and develops water resources for the sustainable, effective, and efficient provision of potable water and sanitation services. The water sub-sector has two technical departments. First, the Department of Water Resources (DWR) mainly deals with water quality and water resources development and management, and secondly, the Department of Water Supply and Sanitation (DWSS) oversees water supply and sanitation services and is supported by five water supply boards which are statutory corporations. The water boards include Blantyre Water Board (serving the city of Blantyre and its surrounding areas); Central Region Water Board (serving all districts and towns in the central region of the country); Lilongwe Water Board (supplying water in the city of Lilongwe and its surrounding areas); Northern Region Water Board (serving Mzuzu city and all districts and towns in the northern region); and Southern Region Water Board (supplying water to all districts and towns in the southern region). The National Water Resources Authority (NWRA) (previously known as the Water Resources Board, under the DWR) is another key player in the water resources management and development with several catchment management committees (CMCs) in all major catchments. The NWRA was established by the Water Resources Act of 2013 to, among many functions, develop principles, guidelines, and procedures for the allocation of water resources, and monitor, and from time to time reassess, the National Water Policy and the National Water Resources Master Plan (Malawi Government, 2013).

Regulatory framework

The Water Resources Act 2013, Waterworks Act 1995, National Water Policy 2005, and the Water Resources Regulations 2018 are the main pieces of legislation guiding water resources management in Malawi. The

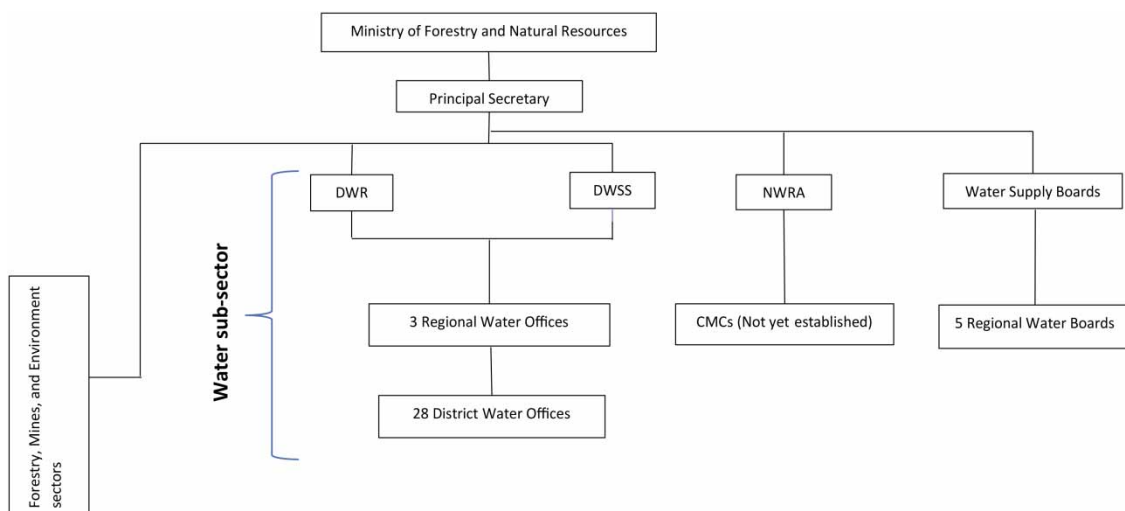


Fig. 1 | Structure of the Ministry of Forestry and Natural Resources (as of November 2021).

above policies and legislation are meant to guide the management and development of water resources in order to achieve water sector outcomes which, in turn, contribute to the overall country's long-term goals enshrined in the Malawi Vision 2063 (Nation Planning Commission, 2020). The first policy to guide the country in the sustainable use of water and sanitation was developed in 1994 and was then referred to as Water Resources Management Policy and Strategies. Until then, the only guiding document in the water sector was the Water Resources Act of 1969. Through the 1994 policy, the government created a standalone ministry responsible for water affairs. It further established three regional water utility companies and reconstituted the urban water utility companies of Blantyre and Lilongwe Water Boards. The 1994 policy had however emphasized mainly the water services delivery. Little was done for the overall management and conservation of water resources which in the face of climate change are considered crucial to ensure water resources security, i.e. water of good quality and right quantity (Malawi Government, 2005). The policy was eventually revised in 2000 to strengthen the management aspect considered weak in the 1994 policy. In 2003, however, the government with the support from the World Bank carried out a number of studies, one of which comprehensively assessed the policy and legislation in the water sector. The Mott MacDonald report of 2003 entitled 'Strengthening of the Water Resources Board' had noted that the policy was still not clear and too verbose. It further noted that the policy is not in line with the international context of water resources management based on the Dublin principles of stakeholder participation and inclusiveness. It was established that rural communities and other stakeholders largely blamed for deforestation and environmental degradation are not part of decision-making processes in the water sector. It thus recommended reviewing both the Water Resources Act of 1969 and Water Resources Management Policy and Strategy of 2000 (Mott MacDonald and Malawi Government, 2003). The outcome was the revised policy adopted in 2005 as the National Water Policy. It addressed most of the gaps identified in the policy of 2000. Among the key recommendations was to establish an independent agency, the NWRA, to regulate water resources management and development which would have community or catchment committees to ensure grass-root levels decision-making by involving rural stakeholders.

METHODS

Study site

The study was conducted in Malawi. Meetings and workshops were conducted in 27 out of the 28 districts of Malawi. In-depth interviews and focus group discussions (FDGs) were conducted in three catchments each in the northern, central, and southern regions of the country.

Data collection

This study employs a qualitative methodology to gain an in-depth and contextual understanding of the effects of the obsolete regulatory framework and lack of awareness of it on the environment in Malawi and why there is the need to rethink their existence and make room for up-to-date and properly functioning policies to ensure that Malawians have adequate quantity and quality of water for domestic use and livelihoods (Sandberg & Alvesson, 2011; Yilmaz, 2013; Saldaña, 2014).

This study used one-on-one in-depth interviews and FDGs to generate data for analysis. Several issues were considered in deciding on the above-mentioned methods. They include the fact that the existing framework for water management in Malawi is obsolete, and therefore a new and more up-to-date framework would add value to the existing literature. Other considerations included a comparatively lower cost of data collection and the relative ease of conducting fieldwork and analysis. One-on-one in-depth interviews and FDGs were used to gather detailed information from individuals and focused on the following areas: (i) review period of

policy and legislation; (ii) factors affecting the review process; (iii) impacts of archaic policy and legislation; and (iv) public involvement or awareness.

Interviews and FGDs were conducted in three selected catchments: South Rukuru in the north, Linthipe in central and South West Lakeshore in the southern region of Malawi under a catchment research study. Participants for the interviews and FGDs included government officials at all levels (i.e., headquarters, regional office, district office, and local area), academics, private sector, civil society, water utility companies, and local communities with varied local organizations including irrigation clubs and conservation committees. A total of 55 in-depth interviews in Linthipe (29), South Rukuru (33), and South West Lakeshore (17) and four FGDs (6–8 participants) were additionally conducted in Linthipe and South Rukuru catchments. [Table 1](#) provides a summary of interviews and FGDs conducted. Participants were recruited purposively with inclusion criteria including level of knowledge, willingness to participate, and gender. Interviews were conducted in the preferred language of the participant, either Tumbuka or Chewa or English.

The awareness workshops were part of the Licensing Reform Campaign for Water Resources in Malawi aiming at informing the general public on existing legal frameworks and mandates of the NWRA as an agency entrusted with water resources management and development as well as explaining to the water users the importance of licensing raw water abstraction. Apart from informing the general public in these workshops, views, questions, and observations from the general public were recorded and synthesized to give a meaning of the general public perception and experience of their involvement in water resources management. The campaign saw members of the interim staff of the NWRA conducting awareness meetings in 27 out of the 28 districts from November 2014 to April 2015. Participants to the meetings comprised members of the District Council including the head of departments of all represented sectors, members of parliament, water users association representatives, and non-governmental organizations.

Data analysis

[Savin-Baden & Major \(2013\)](#) define data analysis as ‘breaking data into meaningful parts’ or simply making sense of the data. [Bernard and colleagues](#) argue that ‘looking for regularities is the quintessential qualitative act, and it is common to all traditions of scholarship, across the humanities and the sciences’ ([Bernard & Ryan, 2010](#)). Researchers who depend on qualitative methods look for and name themes in texts and then tell stories about the relationships between the themes and also how research participant characteristics account for the existence of certain themes and the absence of others ([Harrel & Bradley, 2009](#); [Bernard & Ryan, 2010](#)). In this study, all interviews were audio- and video-recorded and detailed notes were taken of any non-verbal communication that

Table 1 | Summary of interviews, FGDs and district workshops.

Phase and duration	Catchment/region	In-depth interviews	FGDs
In-depth interviews and FGDs	Linthipe	29	2
	South Rukuru	33	2
	South West Lakeshore	17	0
Total		55	4
		District workshops	
District Workshop – awareness of the legislation	Northern Region	5	
	Central Region	8	
	Southern Region	14	
Total		27	

had occurred. The analysis of qualitative data came down to thoroughly and repeatedly reading through all the interviews, comparing the data, and then interpreting them with the research question(s) in mind. Coding (summarizing) was done to find quotes and sections of texts that are interesting in view of the research question(s) we intended to answer. Coding is about assigning phrases to relevant information in the data to help address the research question(s). It is also about reducing the data but not losing the meaning behind the information collected. In this study, coding was done manually.

RESULTS AND DISCUSSION

The key findings are grouped under six main headings including (i) updating of policy and legislation; (ii) lack of enforcement; (iii) lack of public awareness; (iv) environmental degradation; (v) lack of coordinated efforts; and (vi) loss of trust in government.

Updating of policy and legislation

The study, through an analysis of the literature and current legislation and policies, interviews, and FDGs, generally found that the regulatory framework in Malawi lacked critical routine reviews despite the awareness of the need to review and update policies and laws. The Water Resources Act of 1969 was only repealed in 2013 and took another five more years to have its accompanying regulations and operationalization tools (Water Resources Regulations 2018) to be developed and gazetted. While the National Water Policy had been reviewed a few times in 1998 and 2005, there have been some delays. The natural environment is constantly changing due to climate change and other factors (Dilling *et al.*, 2015). It is thus imperative that policies and regulations governing environmental management are also up-to-date to safeguard the natural resources taking into consideration of the emerging issues. Defra (2010) mentioned that ‘it is vital that policies are formulated with the flexibility to respond to changing circumstances’. This flexibility entails whenever necessary or indeed periodically, policies are reviewed appropriately. The Water Resources Act was enacted in 1969 when perhaps the current challenges facing the natural environment such as climate change and those facing the water sector specifically such as pollution and drought were not as common and threatening. For instance, like many other parts of the world, Malawi has recently suffered frequent droughts and floods. In fact, during the data collection period, it was observed that some residents in the capital Lilongwe had dry taps of water for weeks, which worsened the sanitation situation in the city as observed by Adams (2018).

In terms of policy, it was found that the current policy has not been reviewed since 2005 even though one of the policy’s strategies required that it be reviewed regularly. It is apparent that social and environmental change is always taking place and a policy that was reviewed in 2005 may be long overdue. For instance, policy principle number 3.4.17 states that ‘there shall be no agricultural and infrastructure construction activities below the 477-metre above mean sea level contour line along Lake Malawi and below the 100-year flood water level along rivers, except where written authority from the responsible minister is granted’. However, with reports of continued reduction of lake levels due to reduction of annual inflows (Kumambala & Ervine, 2010; Mtilatila *et al.*, 2020), it is not clear if the principle can still be valid. Earlier, there had been calls to review contour line absolute figures as this will depend on the morphology along the lake. In addition, the principle has also not been translated into regulations to guide monitoring and enforcement.

It was also revealed that several reasons are resulting in a lack of routine reviews and implementation of the policies and legislation. One key reason reported was lack of political will in matters of water resources management and environment. Highlighting the existing lapses in political will towards water resources management especially reviewing of policies and legislation, the government official said the following:

'I think it's the way people politicise water – because politicians look at short-term and immediate results. Issues of water policies, legislation may not have immediate results compared to, for instance, the provision of boreholes. Borehole provision has an immediate impact and appeals to people in respective constituencies. Such initiatives or programs are supported by most politicians unlike policy or legislation review. Consequently, few resources are allocated towards reviewing water policy and legislation.' (Government officer)

Interviews with the ministry officials indicated that the current legislation (Water Resources Act 2013) was not put in place on time. The ministry attempted several times presenting the bill to the parliamentary committee on agriculture and natural resources and cabinet in order to lobby them for support. In most of those lobbying sessions, the officials were not successful in convincing the cabinet despite clear evidence that the previous legislation was obsolete and was not addressing current challenges affecting the sector. For instance, the new legislation legally established the NWRA, as a standalone statutory corporation to take over the duties previously handled by the Water Resources Board as was in the repealed legislation of 1969. However, upon knowing that a new statutory corporation will be established, it was reason enough to refuse the bill on the understanding that there are a lot of institutions already in the water sector with a similar mandate to the proposed new institution.

The review of legislation and policy has recently been a subject of concern as far as the environment is concerned. Mpandeli *et al.* (2018), for instance, urge for institutional framework review and policy convergence towards climate change adaptation in southern Africa. Delay in updating colonial legislation and policy as found in Malawi is similar to other countries in sub-Saharan Africa as most countries carried out policy and legislation reviews during the same period. Despite the legislation and policies being reviewed, studies observe a lack of operationalization. For instance, while noting the review of water and sanitation policy and legislation in Burundi, Kenya, Tanzania, Zambia, Lesotho, Rwanda, and Mozambique, Magawa (2021) laments the lack of actualization of legislation and policy.

Lack of enforcement

IWRM concepts recommend that water resources should be managed in a holistic manner using a basin or watershed or catchment as the appropriate unit for operational management (Molle, 2009; OECD and United Nations, 2014). However, to implement a holistic management style, a number of institutional structures are required. In recognition of this requirement, the National Water Policy of 2005 in its strategies recommended the establishment of Catchment Management Authorities and devolving water resources management to catchment level using the IWRM approach (see National Water Policy 2005, water resources management and development specific strategy 4.2.3).

After failing to implement the provisions of the National Water Policy of 2005, there have not been any operational CMCs in Malawi to coordinate and monitor catchment development programmes. CMCs act as a link between the public or individual resource users and the decision-makers by creating information-sharing platforms and enhancing composite decision-making where local users contribute.

When the 1969 water resources legislation was repealed, the new Act (Water Resources Act 2013) established comprehensive institutions including the NWRA, CMCs, Water Users Associations, and Water Tribunals which the previous legislation did not provide for. While seemingly local catchment committees and other institutions must be established and operational, the reluctance shown by the government to fully operationalize it is not well understood. One government official explained the complexity around the lack of implementation of the provisions in the policy and legislation as follows:

‘The delays in establishing the catchment management committees and starting with NWRA as its overall main organisation is marred with several bureaucracies. The process keeps on moving from one office to another. The delays are also because of lack of finances. The new organisation will need seed funds for its operationalization and currently, the government is struggling in that area.’ (Government officer)

Since 2013 (8 years now), when the new legislation established these key institutions such as NWRA and its related institutions (CMCs, Water Tribunals, and others), they are not fully operational. The NWRA is still run by interim staff on secondment from the DWR. The absence of a not fully set up authority has affected a number of key activities including the development of principles, guidelines, and procedures for water resources allocation; monitoring and reassessment of the National Water Policy and the National Water Resources Plan; and regulation of water resources quality and protection of water catchments (Malawi Government, 2013). These powers and functions of NWRA are crucial for ensuring water resources security and thereby contributing to sustainable development.

Most reforms in the water sector have generally been motivated by concepts like IWRM. Principles advocated by IWRM are well thought out and could benefit the water resources management at large despite its inherent problems as outlined elsewhere (Agyenim & Gupta, 2012; Giordano & Shah, 2014; Swatuk, 2015). Malawi, like other developing countries, reformed its legislation and policy and incorporated IWRM principles. However, these reforms have not been fully supported in terms of implementation by governments and other developmental partners. Mtisi & Nicol (2015), while acknowledging policy reforms in favour of IWRM principles, noted that implementation has been slow and uneven among countries. For instance, they reported that in South Africa, Zimbabwe, Uganda, and Ethiopia, implementation has been marred by institutional complexity and lack of capacity which resonate with the study findings for Malawi.

Lack of public awareness

During the nationwide district workshops, it was observed that the general public was not aware of the two important documents (Water Resources Act and National Water Policy) guiding water resources management and development in Malawi. In 27 out of 28 districts where workshops were held, participants expressed unfamiliarity with the policy and legislation. Only those who were working directly under the ministry responsible for water affairs knew about the two documents. Some of the participants even expressed unfamiliarity with the existing government agency (Water Resources Board) that was administering the water rights as empowered by the Act of 1969 under the DWR. Expressing unfamiliarity with the key legislation, policy, and existing institutional structures, some participants said the following:

‘To be honest I have been working in government but I was not aware of the Water Resources Board. I only thought generally the Ministry of Water Development does process water rights. But that there is a special section dedicated to that, I did not know. And I am sure I am not the only one.’ (Member of the District Office)

Another participant added that:

‘I have no idea at all. This meeting is acting as an eye-opener. I thought everyone can abstract raw water anyhow as he or she requires without applying to the government seeking consent.’ (Member of the rural community)

In spite of its key role in allocating water resources, the Water Resources Board was never fully known to the same public it was serving. For instance, some rural irrigation farmers only claimed to have heard about the

Water Resources Board and water rights from the Department of Irrigation officials during the setting up of an irrigation water users association in the area. While this is commendable as it shows coordinated efforts from different stakeholders in managing water resources such important information should be clear by explaining why water rights are important in managing water resources. The National Water Policy 2005 provides for promoting public and private sector participation in water resources management, development, supply, and conservation.

Some of the key principles of water reforms and or water governance such as transparency, inclusiveness call for greater stakeholder engagement. In practice, however, as evidenced in Malawi, the engagement has often left out rural communities which unfortunately are key for the protection and restoration of water resources catchments. The exclusion of rural communities in managing water resources is common in sub-Saharan Africa. For instance, in Zimbabwe and South Africa, [Chikozho \(2006\)](#) highlighted that while rural communities are being asked to contribute to the reforms, their benefits from such reforms remain abstract.

Environmental degradation

Reports of water resources degradation through soil erosion, deforestation, sedimentation, and waste disposal have been reported in Malawi ([GoM, 2010, 2015a, 2015b, 2015c](#); [Chidya *et al.*, 2011](#); [Chimtenge *et al.*, 2014](#); [Pullanikkatil *et al.*, 2015, 2016](#)). Throughout the field surveys, some of these have been observed and stakeholders alluded to it. However, this study has found that such environmental degradation is also linked to using archaic policy and legislation including lack of enforcement thereof.

Degradation is related to several resource users' activities such as sand mining, farming, and charcoal burning. Unfortunately, the regulatory framework had for a long time used non-punitive and un-restrictive measures to control some anthropogenic activities which would lead to natural resources degradation. For instance, until 2013 the fines for lack of adherence such as unlawful disposal of effluents by industries cost the polluter only a few cents. Furthermore, application fees for the abstraction of raw water and discharge of effluent had been so low. Until the newly drafted water resources regulations were promulgated in 2018, the application fee for raw water abstraction since 1969 has been Three Thousand Malawian Kwacha (equivalent to approximately 4 USD currently). Such low fees highly affect service delivery in terms of water resources assessment before water rights applications are approved. This has thus led to the allocation of water among users without comprehensive assessments, and in some instances, it may even have led to over-allocation of water resources in a catchment.

Water resources degradation has also come about because of lack of knowledge among resource users, especially local communities around catchments. The unawareness of best practices in farming and what the policy or legislation advocates leave out the community carrying out the very activities which would lead to water resources degradation. For instance, the policy has clearly mentioned the need to leave out a buffer zone along water bodies to avoid degradation of water resources. However, it is evident that most users have not taken that into consideration as most of them are not aware. Furthermore, it is sometimes a lack of choices as a result of policies that make it impossible for local people to access land they need for their livelihoods. While governments have developed policies, have often paid lip services in terms of providing alternative means that would support rural livelihoods. Thus, it is ideal to follow Ostrom's concept of polycentrism that local decisions must be nested within the state structures ([Mansbridge, 2014](#)).

There has been unlawful abstraction of water as a result of users not being aware that they are supposed to lawfully apply for water rights. This is most evident in areas (mostly towns and cities) serviced by Water Boards with respect to groundwater abstraction. Most boreholes drilled in towns and cities where Water Boards are supposed to supply water are illegal (i.e., drilled without a licence from the Authority). In addition to the lack of awareness

of the water rights by the public, sometimes people drill in order to run away from paying hefty water bills from water boards. This, therefore, borders both on increased awareness and enforcement of the necessary regulations. Consequently, the unlawful abstraction may lead to over-abstraction from a particular aquifer or stream. Over-abstraction of the river may render it prone to pollution as the river's natural diluting capacity is reduced due to low levels of flow. The unlawful abstraction of water for surface water has also led to conflicts ensuing between downstream and upstream users. For instance, the NWRA (then Water Resources Board) was involved in resolving water abstraction conflicts between upstream and downstream users in Bwanje River, South West Lakeshore catchment in Southern Malawi.

Lack of coordinated efforts

Currently, water resources legislation and policies are framed under the IWRM rubric. It calls for integrated and coordinated efforts in the decision-making and implementation of the activities by all stakeholders. However, there has been a disjoint among key stakeholders in the sector. Water by its nature is life and hence there are a number of industries and sectors which depend on it including agriculture, (water) transport, fisheries, energy (hydro-power), mining, tourism, forestry, and disaster management. It is, therefore, expected that strong links exist among these sectors and their stakeholders. Unfortunately, this study observed that it is not the case.

Such uncoordinated efforts have led to individual sectors implementing their own activities within the catchment without the knowledge of the other. One forestry officer indicated this disjoint as follows.

'We routinely conduct monitoring of the forest reserve as Forestry Department probably once a month. It would have been better if we had done this in collaboration with the Water Board. The Water Board also benefits a lot from our activities, but we don't join with them. Our only interest mainly is curbing deforestation.' (Forestry Officer, Regional office)

A joint water resources management would optimize the resources from each organization. The usual problem of finances would have been lessened as an activity which would have been jointly funded. The lack of this key link affects the level and efficiency of catchment conservation and protection activities. Furthermore, there are many actors or non-governmental organizations (NGOs) in the WASH sector who are uncoordinated. While there is some sort of coordination where NGOs fall through umbrella organizations such as the Water and Environmental Sanitation Network (WESNET) which was established in 2005 and legally registered with the government in 2011, many are still operating in silos. This has resulted in water resources projects such as the drilling of boreholes that are implemented without the knowledge of the government. This has subsequently led to substandard outcomes such as non-functionality of boreholes in rural areas. A policy and legislation that is up-to-date and appropriately implemented should be able to avert a number of challenges in the sector.

Loss of trust in government

The uninformed local community, especially irrigation water users, have been left with no choice but to speculate on actions by the government. This was evident during the district workshops and FDGs with community members where irrigation farming club members said they did not understand why they were asked to process water rights for water abstraction. Farmers thought the government is just in the business of raising money through water rights. One member of the irrigation farming club had said the following of their knowledge of water rights:

'We only hear that they talked of water rights, conservation activities and the like. Some of those things we can understand but we still can't understand some. For example, water rights? Why should we pay for water while

we know here in the village water comes naturally in those streams and then kept in the dam? (Member of an irrigation club – Water Users Association)

This is because they were not clearly sensitized to why government administers the water rights system and what is the use of the water right fees which the government collects.

The non-payment of water rights' fees by water users affected the service delivery by the then Water Resources Board. This impact on service delivery was exacerbated by the fact that all fees that the Water Resources Board collected were remitted to treasury and were therefore not immediately available for the Water Resources Board's own operations. This anomaly has however been corrected in the current Water Resources Act 2013 where the NWRA has been authorized to collect fees and charges and use the fees so collected for its own operations. Although this is the case, non-payment of the fees and charges is still a major obstacle to the financial sustainability of the current Authority.

POLICY RECOMMENDATION

Most of the policy and legislation in sub-Saharan Africa have had a colonial footprint. Its framing and purpose served the purpose of the colonial era and most of them are now obsolete. While some may have remained relevant, most of them required reviews to reflect and respond to new challenges the region is facing. Of the many problems affecting policy and legislation development and implementation is the lack of capacity and finances. Based on the findings, this paper proposes the following policy recommendation with regard to development, review, and implementation.

- It is recommended that government and other development partners allocate adequate resources to manage water resources in Malawi using a basin or watershed or catchment as the appropriate unit for operational management. Institutional structures should be put in place and made operational for enforcement.
- The government must ensure that periodic reviews of policies and legislation are adhered to as provided for.
- It is recommended that a public education programme must be put in place or enhanced with all media houses mandated to inform the general public about water resources management.
- Government should also take charge of communicating water resources management plans and implementation to the general public on a regular basis.
- It is recommended that stricter punitive restrictive measures to control some of the anthropogenic activities which lead to natural resources degradation be fully enforced as provided for the current legislation.

CONCLUSIONS

This article has comprehensively provided an overview of the water governance in Malawi focusing on the transition from archaic legislation and policy framework to the current landscape which is motivated by principles of IWRM and good water governance. It has further provided empirical evidence of key issues surrounding such a transition typical for the sub-Saharan Africa region including lack of review of the policy and legislation, poor enforcement or implementation of the legislation and policy, lack of public awareness, and environmental consequences that result from archaic policy and legislation.

Water policy and legislation are key guiding documents that, when timely updated and reviewed responding to current challenges, would have knock-on effective on a number of sectors for socio-economic development. Thus, while this is known and has been advocated throughout the world, Malawi as in other sub-Saharan African countries has lagged behind in updating the policy and legislation and implementing the reforms. Such a lapse can cause detrimental effects on the environment.

FUNDING

Part of this study was funded by the Commonwealth Scholarship Commission, UK.

DATA AVAILABILITY STATEMENT

All relevant data are included in the paper or its Supplementary Information.

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First received 15 November 2021; accepted in revised form 5 January 2022. Available online 25 January 2022