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Governing WASH for disaster risk reduction in Karonga Town, Malawi

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ABSTRACT

This paper presents a critical analysis of the water, sanitation and hygiene (WASH) governance and service delivery situation in the context of disaster risk reduction in Karonga Town in Malawi. The institutional arrangements, the role of actors and their capacity challenges are examined against policy and legal frameworks and financing mechanisms. Empirical data presented in this paper is drawn from interviews and documentary analysis. The paper shows that despite their importance, the interlinkages between WASH and disaster risks in policy and practice receive very limited attention in Karonga. The paper shows that the governance of WASH services is negatively impacted by a multiplicity of factors including the absence of a specific local and national WASH legal framework; a situation which is aggravated by the absence of a governance structure for the town. Specifically, while the local council has the mandate derived from the Local Government Act for governance and enforcement of WASH services, the responsibility is also placed in Northern Region Water Board (NRWB). This disconnect creates room for conflicts between the local council, and the NRWB as well as residents. In the absence of a specific legal and governance framework for the town, the delivery of services is based on imposed rural oriented organizational structures which impede initiatives for the urban focused interventions as it is based on village orientations governed by traditional chiefs. The paper suggests that in order to improve the governance and delivery of WASH services, and thereby reduce disaster risks, there is a need to promulgate a WASH law and to build the capacity of the local council to enforce this law and to recognize the interlinkages between WASH and disaster risk and other pressing issues.

1. Introduction

Lack of access to safe water, sanitation and hygiene (WASH) services is a central issue for urban disaster risks because it is a primary medium through which natural hazards are felt [17,51,52,59,62]. Disaster risks and WASH services are interrelated since poor WASH services may lead to disasters while disasters may degrade WASH services leading to amplified disaster risks [23,52] (Fig. 1). For example, earthquakes may damage pipes for the water distribution system, which in turn may lead to contamination; thereby enhancing the risk of fecal-oral infections [8].

Progress towards improved WASH service delivery is constrained by failure to recognize the role of governance in influencing provision and access to WASH services and infrastructure as well as its relationship to disasters. In this context, governance refers to interconnected regulatory practices, institutions, organizations, norms, and frameworks that are utilized at various geographical, political and social scales to govern WASH related issues, services and infrastructure [21,46,49,53,54,55]. WASH related disaster governance embraces

multiple organizations and actors at multiple scales, including utilities, service providers, informal organizations, civil society organizations, private institutions, governmental organizations and other institutional actors in WASH.

The governance of WASH is both a challenge and a solution to disaster risk reduction and management in urban centres [52]. Part of the challenge lies in the fact that ways of improving WASH governance in urban centres are unclear [7,33,57]. In some instances, the governance of WASH is complicated by the neglect and weak capacity of central and local governments [27]. Furthermore, there are shortcomings regarding WASH governance across diverse contexts including a lack of knowledge and understanding of the interlinkages between WASH and disaster risks in urban centres [19,20,26,48,52,56].

Weak governance and lack of data sharing limit the learning potential between different actors and stakeholders, thereby affecting monitoring, enforcement and technical support at the state or district level [31]. Furthermore, insufficient technical assistance inhibits the technical and administrative management of WASH service delivery, ultimately impacting the quality of WASH service delivery at the local

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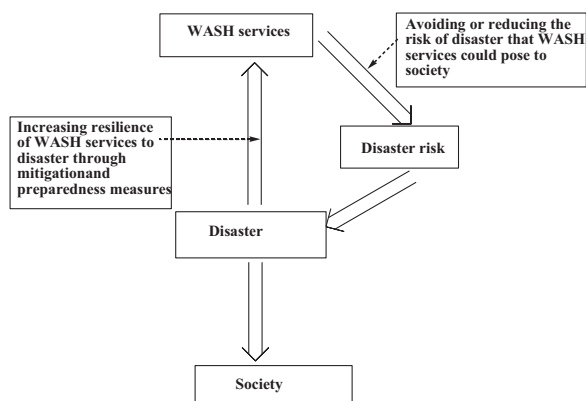


Fig. 1. Linkages between WASH services and disaster risk in urban areas (Source: GlobalWASH Cluster [23]).

level [31,60]. This situation may be more serious in small urban centres where multiple hazards impact on livelihoods and the already poor health indicators among others [1,31,34]. Attempts at WASH sector reforms across urban sub-Saharan Africa have been challenged by weak institutions, ill coordinated interventions as well as inconsistent measures for defining access to services [18,25,39,45]. For example, in Malawi, the Ministry of Irrigation and Water Development, Ministry of Health, water boards and the city councils have related roles in WASH delivery, yet there are no clear jurisdictional boundaries between and among them [1]. Such inconsistency can affect governance of WASH services delivery and leads to duplication of efforts and inefficient use of resources.

In light of these issues and research gaps, an analysis of WASH governance for disaster risk reduction in Karonga Town, Malawi, was therefore undertaken to determine how the absence of specific legislation, bylaws and governance structures affect WASH service delivery. Specifically, the objectives of the analysis were: (a) to evaluate the existing instruments for WASH governance (b) to analyse the institutional roles and capacity of various actors in WASH governance for disaster risk reduction and (c) to assess the factors impacting WASH governance for disaster risk reduction in Karonga Town.

2. Methods

We illustrate our arguments by presenting findings from research undertaken in Karonga, Malawi as part of the Urban Africa: Risk Knowledge research programme (www.urbanark.org). The case focuses on analyzing a range of political, social, economic and administrative systems that influence WASH services. Data was collected through stakeholder consultations and documentary analysis from October 2015 to March 2016. Semi-structured questionnaires were administered to 35 purposively selected key stakeholders directly involved in WASH governance for disaster risk reduction in Karonga Town. The semi-structured questionnaire used during stakeholder consultations included some open-ended questions, and so generated both quantitative and qualitative data. The 35 participants in stakeholder consultations were drawn from the local government (50%), non-governmental organizations (21%), central government (17%), community leaders/local entrepreneurs/service providers (8%) and public utility providers (4%). Analysis of policy documents, policy briefs, internal administrative documents, technical reports, policy guides, plans, strategies, and laws was done to elicit additional information on WASH governance.

Data was further validated through stakeholder consultative workshops. The stakeholder consultative workshops were organized at Karonga Town and at national levels. The participants to the stakeholder consultative workshops were drawn from both the public and private sectors. The consultative workshop in Karonga had 30 purposively selected key stakeholders while the national workshop was

attended by 50 key stakeholders. The results of the questionnaires, stakeholder consultations and documentary analysis were then analysed and categorized thematically based on the following major topics: (1) disaster risk and WASH situation, (2) WASH governance and delivery instruments (i.e. policies, legislative framework and financing and incentive structures) for disaster risk reduction, (3) institutional roles for WASH governance, and (4) factors hindering effective WASH governance and service delivery.

3. Results and discussion

3.1. Disaster risk and wash situation

Over time, Karonga Town has been directly affected by a series of disasters such as earthquake, strong winds, drought and floods. The occurrence of multiple every day, small and large disaster risks have the potential to worsen WASH related risks. These disasters also affect both quantity and quality of water in addition to damaging sanitary facilities [29]. However, like other small towns there are considerable variations in the levels of knowledge of disaster occurrence and people's vulnerability to disaster risks. This could be attributed to the limited political attention towards the development and governance of small towns.

Unsafe WASH services is one of the everyday risks impacting on the population, especially those from low income areas of the town. For example, 86% of households have access to safe drinking water while 14% use unsafe water [40]. The interviews revealed that the construction of handwashing facilities in the town is not a priority. Furthermore, in the absence of a sewerage system, the town has a very poor sanitation situation with over half the households (51.1%) using traditional pit latrines, 4.2% using neighbours' pit latrines and 3.7% not having toilets [42]. The situation is worsened by the low capacity and lack of maintenance of sludge ponds which tend to overflow or get flooded during the rainy season and end-up polluting water resources [29].

Additional WASH related risks in Karonga Town include construction of pit latrines or graveyards located less than 100 m from shallow wells/boreholes/streams, stagnant waters close to boreholes and shallow wells, and lack of proper drainage systems. Similar observations were made by Manda and Wanda [42], who reported that, among others, 28.5% of the pit latrines and graveyards were located less than 100 m away from shallow wells/boreholes/streams and posed a major sanitary risks impacting on the water sources. Construction sites, failed septic systems, illegal discharges, indiscriminate disposal of wastes and improper siting and construction of sanitary facilities such as pit latrines and solid waste disposal sites also contribute substantial amounts of contaminants to runoff. When contaminants therein reach Lake Malawi, rivers or groundwater sources, they result in water pollution [13,14].

The quality of water is also compromised by pollution coming from uranium mining at Kayelekeru which is reportedly releasing some of the waste into the nearby rivers that eventually empty into Lake Malawi [13,14]. There is evidence of uranium fallout into Sere, Champwasha, and Champanji Rivers (0.22–42.5 µg/l), which flows into North Rukuru. Radon gas was found to vary from > 7–42 Bq/l. Some of the concentrations were above the WHO human threshold for safe drinking water of 30 µg/l [13,44]. Generally communities around Karonga Town have expressed concern about the pollution of the lake and river which are their source of livelihood [12].

3.1.1. WASH-disaster risk linkages

Access to safe water, sanitation and hygiene is one of the factors that form entry points for disaster risk reduction [9]. Urban risks can be classified as ranging from everyday risks, small disasters and large disasters based on scale and intensity of the risks [2,9,10,16]. Whereas everyday risks refer to those that lead to less than 3 deaths or 10 injuries, small disasters are those that can kill 3–9 people [10]. Each of the everyday risks, small disasters and large disasters could be further

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